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The Relationship of Pathological Narcissism to Empathic Functioning

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by

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ABSTRACT

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This study examined the relationship of pathological (grandiose and vulnerable) expressions of narcissism to empathic functioning by comparing performance-based and self-report assessments of empathy. Current research suggests that narcissism is related to more impairments in affective than cognitive empathy, and that narcissistic individuals over-report their empathic capabilities overall on self-report measures because empathy is a socially-desirable trait, and they may wish to appear more empathic in order to manage the positive impression of others. Hierarchical regression analyses were conducted in an undergraduate college sample of eighty-nine participants using a cross-sectional study design. It was hypothesized that self-reported pathological (grandiose and vulnerable) narcissism would be uniquely associated with better cognitive and poorer affective empathy on two performance-based measures of empathy rather than to one self-report assessment of empathy when controlling for social desirability.

Results: Better cognitive empathy on one performance-based task of empathy was uniquely related to vulnerable narcissism rather than to poorer self-reported cognitive empathy when controlling for social desirability. There were aspects to the results that were contrary to expectations. First, poorer (as opposed to better) self-reported cognitive empathy was associated with vulnerable narcissism, and this association was explained

by lower rather than higher social desirability. Second, while better cognitive empathy on one performance-based task of empathy was uniquely related to vulnerable narcissism as predicted, this relationship was represented only by the negative stimuli score (for negative emotional faces only) of the performance-based task rather than to its global score. Post hoc analyses determined that psychopathological (e.g. depression symptoms, general psychiatric symptoms, and borderline personality disorder features) and demographic (e.g. gender) scores did not account for the association between vulnerable narcissism and better cognitive empathy for negative stimuli only on a performance-based task of empathy.

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CHAPTER ONE

Introduction

Lack of empathy is a criterion of narcissistic personality disorder in the DSM-V (DSM-5; APA, 2013) and is associated with narcissistic personality traits (Ronningstam, 2016); however, given the multidimensionality of both empathy and narcissism as constructs, it has been difficult to pinpoint what a lack of empathy in narcissism means. Empathy research across various academic fields has limited its scope by delineating three forms of empathy: affective empathy, cognitive empathy, and prosocial concern (Zaki & Ochsner, 2012). Though sometimes termed differently, these forms of empathy can be defined as vicariously taking on another person's feelings, thinking about another person's emotions, and wishing that another person's emotional state will improve, respectively (Zaki, 2017).

The extant research on the topics of narcissism and empathy have determined that narcissism is associated with deficient affective empathy, and that cognitive empathy is either better, comparable or dysfunctional compared to healthy controls (Baskin-Sommers, Krusemark, & Ronningstam, 2014). However, studies on the relationship between narcissism and empathy have been limited in part by their reliance on self-report measures, which have proven to be vulnerable to social desirability biases generally (Fazio & Olson, 2003), and for narcissistic patients in particular (Ritter et al., 2011). Given that fewer studies have used behavioral measures of empathy to study its deficiency in narcissism, the particulars of the relationship remain unclear. Additionally, a limited number of studies have examined empathic functioning in vulnerable versus grandiose narcissism, two forms of narcissism that have been defined in empirical studies

as representing two distinct expressions of the disorder (Miller, Price, Gentile, Lynam, & Campbell, 2012; Dickinson & Pincus, 2003; Wink, 1991).

This study has two major aims. The first aim is to identify if there are unique associations between narcissism (including its two expressions, vulnerability and grandiosity) and two subtypes of empathy (cognitive versus affective) on two performance-based tasks and one self-report measure of empathy. The second aim is to identify if narcissism and its two expressions, vulnerability and grandiosity, are better characterized by performance-based measures of empathy than by self-report when controlling for social desirability. Both of the study's aims will aid in the diagnosis and treatment of narcissism by clarifying what constitutes a lack of empathy in different expressions of narcissism, as well as what types of measurements most accurately identify these constructs.

CHAPTER TWO

Literature Review

2.1 Empathy

The term, empathy was coined by the English psychologist Edward B. Titchener in an attempt to approximate a definition of *Einfühlung*, a concept that had been developed in the 19th and early 20th centuries within the field of German aesthetic philosophy by theorists such as Theodor Lipps (Wispé, 1986). Lipps' (1903) formulation of *Einfühlung*, which literally means "feeling into," described the act of projecting oneself into another person or environment in order to comprehend the experience and feeling of inhabiting a self or place separate from one's own (Ganczarek, Hünefeldt, & Olivetti Belardinelli, 2018). As researchers in the last 40 years have attempted to measure empathy as a construct, the number of definitions for it have increased (Cuff, Brown, Taylor, & Howat, 2016). Coll et al. (2017) argues that a standard definition of empathy emerges from the wealth of research on the construct from the fields of psychology and cognitive neuroscience: the adoption of another person's affective state that causes the person who empathizes and the empathic target to experience a similar state. More specifically, the person who empathizes is considered empathic if they correctly *identify* and *share* the empathic target's emotions. Empathy has also been defined in contradistinction to sympathy, which represents a motivational component where a person wishes for another's emotional state to improve (Zaki, 2017). Because studies have shown that concern for others predicts prosocial action whereas empathy does not (Jordan, Amir, & Bloom, 2016), the study of each construct (empathy and sympathy) has largely been kept separate.

The aforementioned ability to *identify* versus *share* another's emotions form the foundation of two separate but interrelated aspects of the construct: cognitive and affective empathy (for a review, see Perry & Shamay-Tsoory, 2013). Affective empathy represents the experience of emotion elicited by another person or emotional stimulus, whereas cognitive empathy represents the mental recognition and comprehension of an emotion (Cuff et al., 2014). When research on empathy was still in its nascent stages, there was more of a question as to whether it should be considered a unidimensional versus multidimensional construct. According to the unicentric (core dimensional or unidimensional) model definition of empathy, cognitive efforts such as those involved in imagining another person's perspective precede affective responses because affect is possible only as a consequence of cognitive processes; thus, an affective response may happen after the person who empathizes imagines another person's perspective, or it may not (Israelashvili & Karniol, 2018). The multidimensional model conversely posits that cognitive and affective processes are separate but related, and that both are fundamental aspects of the empathic process (Davis, 1983).

2.1.1 Subtypes of empathy: cognitive versus affective

The term, cognitive empathy can be defined as the ability to understand and mentally represent another person's state of mind (Baron-Cohen & Wheelright, 2004), and thus shares many features of Theory of Mind, which also includes within its definition the understanding that another person has her own intentions or desires separate from one's own (Premack & Woodruff, 1978). Affective empathy is the emotional response that one person may have in reaction to another person's emotional state, which includes sharing or resonating with the emotions of others (Zaki & Ochsner,

2012). Although there is consensus on the position that affective and cognitive processes are related, current psychology and neuroscience research have found evidence for the assertion that there are two distinct brain systems involved in each process.

Current research has shown that the two brain systems involved in cognitive versus affective empathy consist of different regions, but that these regions are neuroanatomically dissociable from one another (for a review, see Marsh, 2018). The mentalizing "network" is found to consist of the temporoparietal junction, precuneus, and medial prefrontal cortex; these areas are activated when participants are asked to infer the mental states of others, whereas watching negative videos yields increased activation in the anterior insula and mid-cingulate gyrus (Marsh, 2018). Thus, different areas of the brain are activated when an individual sees another person in pain than when they are made to more explicitly divine their specific intentions, for example. Developmental studies also show that emotional contagion, or the phenomenon of having one person's emotions and related behaviors directly trigger similar emotions, occurs in babies, whereas the skills required to engage in mentalizing do not develop until a child is 3 or 4 years of age (de Wall, 2008). Shamay-Tsoory, Aharon-Peretz and Perry (2009) conducted a study in which participants with lesions in the ventromedial prefrontal (VM) or inferior frontal gyrus (IFG) cortices and healthy controls were given tasks that required them to a.) correctly identify the emotions reflected in 52 pictures of different pairs of eyes b.) read a story and answer questions to indicate whether they understood the ability of one character to represent another's mental state and c.) complete a self-report, the Interpersonal Reactivity Index, on different facets of empathy (Davis, 1983; detailed later in this document). It was found that the IFG was associated with emotional empathy and

the VM with cognitive empathy; patients with VM damage showed deficits in cognitive empathy and theory of mind, but had intact emotion recognition and emotional empathy. Conversely, patients with IFG lesions were extremely impaired on the tasks of emotional empathy and emotion recognition. This study is one among many fMRI studies indicating that different regions of the brain are involved in acts involving emotion recognition than in those involving theory of mind (Preckel, Kanske & Singer, 2018; Marsh, 2018; Allen, et al., 2017; Eres, Decety, Louis, & Molenberghs, 2015; McCall & Singer, 2013; Hein & Singer, 2008).

2.1.2 Measurement of cognitive versus affective empathy

Because of the myriad ways in which empathy has been defined, it has proven to be a difficult construct to measure. It can be argued that empathy has still not achieved *construct validity* (Cronbach & Meehl, 1955), which reflects the extent to which a test, scale or tool adequately measures the construct it purports to measure. The distinction between cognitive and affective empathy has provided research on empathy with a road map of sorts: by distinguishing between these two distinct but related aspects of empathy, measures of the construct have been developed to tap into the two processes cognitive and affective empathy each represent.

Cognitive empathy is often measured by a score of *empathic accuracy*, which is how accurately an individual can identify the thoughts or feelings of another person, or "the extent to which such everyday mind reading attempts are successful" (Ickes, 2009, p. 57). The term, empathic accuracy was first introduced by Ickes, Stinson, Bisonnette, & Garcia (1990) in a study that measured it in the unstructured interactions of 38 mixed-sex (male-female) dyads; in this study, each member of a couple was instructed to write

down their thoughts and feelings in response to a taped recording of them interacting, and were then asked to write down what they thought the other person was thinking or feeling after viewing the video a second time. Thus, the experiment established a correct response (what one person was thinking or feeling initially) that could be matched against what the other person guessed, which is how studies measuring empathic accuracy have established scores for the construct, whether participants have established their own correct responses, or have chosen from a list determined by the task (Zaki, Bolger & Ochsner, 2009; Pickett, Gardner, & Knowles, 2004; Simpson, Oriña, Ickes, & Dovidio, 2003).

There is some debate on whether affective empathy should be measured based on congruency between what a target individual feels and whether the "empathizer" is feeling the same emotion; in other words, researchers differ on whether someone is affectively resonating with another person if the two affective states are not the same (Cuff et al., 2014). Coll et al. (2017) argue that affect sharing should not be based on the congruency between the empathizer's affective response and the target's affect, but on the extent to which the empathizer's empathic response corresponds to what the empathizer believes to be the target's state, even if the empathizer is not accurately identifying what the target is feeling. On the other hand, Hein & Singer (2008) argue that the accuracy with which someone identifies another's emotion is what distinguishes empathy from sympathy; when an individual sympathizes with another person, their affect is incongruent (e.g., I feel the prosocial desire to help in response to your feelings of sadness), whereas empathy implies that an individual feels another's emotion as their own. If Coll et al.'s (2017) argument is given credence, then it suffices to have a measure

of affective empathy assess how much the participant empathizes with a target, and not measure additionally whether the participant is accurate in identifying what emotion the target is experiencing.

2.1.3 Self report versus performance-based measures of empathy

The discipline of social-cognitive neuroscience began to influence the development of empathy measures starting in the 1990's by encouraging the inclusion of physiological components such as heart rate and skin conductance; however, this influence did not curb the development of self-report measures in the field (Neumann, Chan, Boyle, Wang, & Westbury, 2015). Many authors of self-report instruments that measure the construct of empathy acknowledge that social desirability is a hindering factor in the validity of their measures: because empathy is seen as a favorable trait, it is reasonable to assume that a participant may over-report their empathic capabilities (Vachon & Lynam, 2016; Melchers, Montag, Markett, & Reuter, 2015; Reniers, Corcoran, Drake, Shryane, & Völlm, 2011; Spreng, McKinnon, Mar, & Levine, 2009; Dziobek et al., 2008; Baron-Cohen & Wheelwright, 2004). Performance-based measures of empathy provide fewer opportunities for participants to respond to questions with the hypothetical interpreter of their responses in mind.

Additionally, self-report measures of empathy are not as ecologically valid as performance-based tasks (Ritter et al., 2011; Dziobek et al., 2008). This means that in order to accurately assess an individual's empathy, it is important to recreate a real-life situation as much as possible. To rate one's empathy after imagining a scenario based on a self-report question is less ecologically valid than having a picture or video presented because the participant is relieved of the task of reflecting on their behavior in a

hypothetical scenario. Since self-report questionnaires measure how one perceives one's self, while the behavioral measures generally assess abilities, it is perhaps unsurprising that studies that employ both self report and performance based measures of empathy have found that they do not correlate well with one another (Melchers et al., 2015; Zaki et al., 2009). Thus, studies that employ the use of both self-report and behavioral measures have the advantage of tapping into the different dimensions of the empathy construct.

Overall, current research on the study of empathy points to the importance of using measures that a.) distinguish affective from cognitive empathy and thus conceive of empathy as multidimensional b.) use empathic accuracy to assess cognitive empathy c.) are more ecologically valid.

2.2 Narcissism

Narcissism is studied both as a collection of traits and as a clinical disorder. The disorder is termed pathological narcissism or narcissistic personality disorder (NPD), and is characterized according to the Diagnostic Statistical Manual by a pervasive pattern of grandiosity (in fantasy or behavior), need for admiration, and lack of empathy (DSM-5; APA, 2013). In the early stages of its composition, writers of the DSM-5 proposed that NPD be removed from the nomenclature in order to decrease the comorbidity of personality disorders generally and, in response, researchers cited the prevalence of the disorder in order to prove that it should remain included (Levy, Meehan, Cain, & Ellison, 2013; Trull, 2014).

In terms of prevalence, social psychology research in the past two decades has posited that narcissistic traits and correlates of narcissism have increased in college and community samples (Twenge, Miller, & Campbell, 2014). In general, these studies have

administered the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) to participants. However, there has been some debate about whether the NPI measures all facets of NPD given the fact that it mainly captures the grandiose presentation of the disorder (Wright & Edershile, 2018; Pincus, 2013). Thus, the claim that narcissism has increased in college and community samples has been disputed (Paris, 2014; Trull, 2014) because studies that have reported an increase in the disorder may have only shown an increase in one expression of it (grandiosity). Importantly, one of the most recent studies analyzing North American university students using the NPI across three decades (1990s, 2000s, and 2010s) found that there was a significant decrease in narcissism levels from the 1990s to the 2010s, and that the traits of leadership, vanity and entitlement showed declines in particular (Wetzel et. al, 2017). Studies on the prevalence of narcissistic personality disorder show similar inconsistencies, with results showing a range of prevalence from 1-6% (Trull, 2014; Ronningstam, 2011).

As with the exploration of narcissism's prevalence, studies on the risks associated with narcissistic traits and narcissistic personality disorder remain difficult areas of research from which to draw definitive conclusions given narcissism's limited construct validity (Miller et al, 2014). NPD has primarily been researched using clinical case reports and psychodynamic theory, while empirical methods have been used to study narcissistic traits (Blais & Little, 2010). There is some evidence to suggest that violent behavior is associated with narcissism: though NPD diagnostic traits have not specifically been found to predict violent behavior, pathological narcissism and low levels of empathy in combination have been found to increase the risk of violent behavior and

conviction of violent crimes (Lowenstein, Purvis, & Rose, 2016; Logan & Johnstone, 2010).

In terms of psychopathology, narcissistic personality disorder has been found to share traits with a few key disorders, some of which are more closely associated with psychological risk than narcissism per se. Miller, Lynam, Hyatt, and Campbell (2017) examined meta-analyses and expert ratings in order to determine which psychiatric disorders have the five-factor model profile that most closely resembles that of NPD. The five-factor model (FFM) of personality consists of the domains of neuroticism versus emotional stability, extraversion versus introversion, openness to experience versus closed, agreeableness versus antagonism, and conscientiousness versus disinhibition. It was found that the FFM trait profiles associated with NPD are most similar to that of psychopathy, as well as antisocial and histrionic personality disorder.

2.2.1 *Two expressions of narcissism: vulnerable versus grandiose*

Across the fields of clinical, social, and personality psychology, there are consistent descriptions of two expressions of narcissistic pathology: one defined by grandiosity, and the other by vulnerability (Cain, Pincus, & Ansell, 2008; Miller & Campbell, 2010; Houlcroft, Bore, & Munro, 2012; Miller, Gentile, Wilson, & Campbell, 2013). The grandiose expression of narcissism is characterized by a wish to be admired, as well as self-oriented interpersonal patterns that involve taking advantage of others, blaming others for hardship, or generally expecting special treatment (Ronningstam, 2016). Grandiose narcissists also exhibit the traits of extraversion, entitlement, exhibitionism, aggression, and self-importance, and often engage in grandiose fantasies (Pincus & Roche, 2011; Lobbestael, Baumeister, Fiebig, & Eckel, 2014; Di Pierro et al,

2018). Vulnerable narcissism is conversely characterized by feelings of intense shame that often accompany the acknowledgement of one's own ambition, and interpersonal tendencies that are driven by hypersensitivity to threatened self-esteem and the avoidance of anything that may endanger self-enhancement (Pincus & Roche, 2011). According to a meta-analysis conducted by Miller et al. (2014), vulnerable narcissism, which shares qualities with those exhibited by "shy" narcissists (Akhtar, 2000), is associated positively with the trait of neuroticism, and negatively associated with agreeableness, extraversion, and conscientiousness. It has also been found that vulnerable narcissism is associated with introversion, low self-esteem, and anxiety (Wink, 1991; Pincus et al., 2009; Thomas, Wright, Lukowitsky, Donnellan, & Hopwood, 2012).

The criteria for narcissistic personality disorder in the current DSM (fifth edition, 2013) represent the more grandiose expression of narcissism, which means that key aspects of narcissistic pathology are excluded from it (Miller, Lynam, Hyatt, & Campbell, 2017). This also means that if a study employs the use of the Structured Clinical Interview for DSM-V (SCID), then it must account for the fact that the vulnerable expression of narcissism may be missed, and that it may behoove the study to use measures that attempt to delineate the two expressions. Crucially, despite the obvious phenotypic differences between these two expressions of narcissism, there is substantial research to suggest that fluctuations between vulnerability and grandiosity are common (Gore & Widiger, 2016; Roche, Pincus, Conroy, Hyde, & Ram, 2013; Ronningstam, 2009). In other words, a narcissistic individual may oscillate between expressing vulnerable versus grandiose traits depending on life circumstances. For example, Ronningstam (2016) argues that threats to self-esteem caused by changes in the lifespan

(e.g., the move from adolescence to adulthood, or from adulthood to old age) may cause a temporary increase in grandiose thinking. These considerations are important for understanding the conceptualization of narcissism, particularly as vulnerable versus grandiose self-states may affect empathic abilities.

The data on fluctuations between vulnerable and grandiose expressions within narcissism give credence to the conceptualization proposed by Wright & Edershile (2018) that vulnerability may represent narcissism at the borderline level of organization. This theory is buttressed by research indicating that vulnerability is often associated with traits of various DSM personality disorders, as well as with a general tendency to become behaviorally dysregulated (Miller & Maples, 2011). Indeed, despite a lack of consensus in social and clinical psychology on key issues such as the prevalence of high self-esteem in narcissism (Ackerman, Hands, Donnellan, Hopwood & Witt, 2017), research across both disciplines has found a relationship between vulnerability and lower levels of psychological functioning. For example, in the social psychology domain, it was recently found that levels of shame in vulnerable narcissism predicted problem drinking and gambling in a non-clinical sample (Bilevicius et al., 2019). In clinical psychology, vulnerable narcissism has been found to be associated with higher levels of non-secure attachment styles (Dickinson & Pincus, 2003). Recently, Fossati, Feeney, Pincus, Borroni, & Maffei (2015) found in a community sample a positive association between adult attachment insecurities and PNI vulnerability; specifically, they found that need for approval and an anxious/ambivalent and dismissing attachment style were positively related to narcissistic vulnerability. In yet another recent study examining the differences between vulnerability and grandiosity, self-report data showed that vulnerability as

measured by the PNI and the Five-Factor Narcissism Inventory, Short Form (FFNI-SF; Glover et al., 2012) was negatively associated with multiple measures of life satisfaction, including autonomy, environmental mastery, personal growth, positive relations, purpose, and self-acceptance (Kaufman, Weiss, Miller, & Campbell, 2020).

2.3 *Empathy deficits in narcissism*

Within the fields of psychoanalysis and clinical psychology, lack of empathy has long been included in the conceptualization of narcissism: Otto Kernberg (1985) postulates that narcissistic personalities are self-centered and unempathic in part because they have not internalized positive representations of relationships with others, which causes them to both dismiss other people's concerns, as well as seek approbation from them. Furthermore, Kernberg posits that the pathological grandiose self develops in childhood due to failures in parental empathy as a compensatory effort to combat feelings of inadequacy. As a consequence, others are perceived by the narcissist as weak or unworthy of empathy in order to bolster the grandiose self (Krizan & Johar, 2012). Heinz Kohut (1977), though he differs significantly from Kernberg in his theories on the psychotherapeutic technique used to treat narcissism, similarly conceives of the lack of empathy in narcissistic patients as a result of their parental figures' empathic failures: the narcissistic child's longings and desires are not adequately mirrored by his mother (for example), and in adult life this deficit manifests in myriad ways, including an inability to adequately empathize with others.

2.3.1 *Performance-based studies on empathy deficits in narcissism: cognitive versus affective*

Recent research on processes of empathy in narcissism has examined behaviors related to affective versus cognitive empathy amongst narcissistic patients or individuals by using performance-based tasks. Thus far, studies have suggested that narcissism is associated with deficient affective empathy, and that cognitive empathy is either better, comparable or dysfunctional compared to healthy controls (Di Pierro, Di Sarno, Preti, Di Mattei, & Madeddu, 2018; Baskin-Sommers, Krusemark, & Ronningstam, 2014).

Ritter et al. (2011) conducted a study examining the empathic capabilities of NPD patients, healthy controls, and borderline personality disorder (BPD) patients using the Multifaceted Empathy Test (MET; Foell, Brislin, Drislane, Dziobek, & Patrick, 2018) and the Movie for the Assessment of Social Cognition (MASC; Dziobek et al., 2006). In order to measure cognitive empathy, the MET requires participants to view pictures of individuals in emotionally charged situations, and asks them to identify the pictured individuals' mental state. To measure affective empathy, the MET also requires participants to rate their level of empathic concern for the pictured individuals (Dziobek et al., 2008). The MASC is a test of cognitive empathy that requires participants to watch a 15-minute movie that involves characters in various social situations, and asks participants to answer questions about the intentions and reactions of the characters (Dziobek et al., 2006). Results from this study indicated that patients with NPD performed worse on the affective empathy portion of the MET than healthy controls, and that there was no difference in MET cognitive empathy between NPD patients and healthy controls. However, there was a trend towards a significant difference between NPD patients and healthy controls on MASC cognitive empathy, with NPD patients performing worse in MASC cognitive empathy.

In order to test whether those with narcissistic traits are deficient in affective empathy, Czarna, Wróbel, Dufner, and Zeigler-Hill (2015) measured community members' level of emotional contagion by asking participants to rate their mood before and after viewing three-minute videos depicting emotional situations; these situations were developed to induce both positive and negative emotions. According to their scores on the NPI, narcissism predicted low emotional contagion for positive emotions, and no significant effects were found when testing contagion with negative emotions. These findings are in line with another study that examined emotion recognition generally in NPD patients (Marissen, Deen, & Franken, 2012), and found that NPD patients performed worse on a facial emotion recognition task compared to healthy controls. Furthermore, the study indicated that NPD patients were specifically deficient in identifying the emotions of fear and disgust. Given that damage to the insula has been shown to blunt both the experience of disgust and the recognition of it in facial expressions (Baskin-Sommers et al., 2014), these results provide evidence that there may be a potential differential between the emotions with which narcissistic patients or individuals can empathize.

Hepper, Hart, and Sedikides (2014) employed a behavioral task to measure narcissism and empathy by first administering a self-report of narcissism, the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979), to undergraduate women and then showing them a 10-min documentary video describing a woman's experiences of domestic violence. Half of the participants were asked to employ a perspective-taking technique as they watched the video in which they imagined how the subject of the documentary felt; after watching the video, participants were then asked to rate how

much they empathized with the woman in the documentary. Results showed that participants who scored high in narcissism on the NPI reported significantly higher empathy for the documentary's subject when they had been instructed to take her perspective. These results suggest that with certain interventions that encourage perspective-taking, those with narcissistic traits can better engage in empathic processes.

Besides the behavioral studies described, multiple self-report studies conducted in the last decade have indicated a negative association between narcissistic traits and empathic concern, emotional empathy, cognitive empathy and perspective-taking (Di Pierro, Di Sarno, Preti, Di Mattei, & Madeddu, 2018; Leunissen, Sedikides, & Wildschut, 2017; Hepper, Hart, Meek, Cisek, & Sedikides, 2014; Vonk, Zeigler-Hill, Mayhew, & Mercer, 2013). Using self reports of empathy, narcissism and personality organization, Di Pierro, Di Sarno, Preti, Di Mattei, & Madeddu (2018) found that narcissism was positively associated with cognitive empathy and negatively associated with affective empathy, and that instability of self and other representations mediated the negative association between narcissism and affective empathy. Thus, while studies that employ performance-based tasks have shown a trend towards weaker abilities in affective versus cognitive empathy within narcissism, studies that use self-report alone have shown limited empathy is correlated with narcissism more generally. This is in part due to the limitations of self-report specifically when examining narcissism, which will be detailed below.

2.3.2 *Measurement of empathy deficits in narcissism*

In general it has been found that participants may over-report their empathic abilities for reasons related to social desirability (Vachon & Lynam, 2016; Melchers et al,

2015; Reniers et al., 2011; Spreng et al., 2009; Dziobek et al, 2008; Baron-Cohen & Wheelwright, 2004; Raskin, Novacek, & Hogan, 1991). When studying narcissistic patients or individuals, however, there is an added risk related to using self-report measures alone: narcissistic patients may wish to hide their vulnerabilities, and thus their responses on self-report measures may represent an inflated version of their abilities (Di Sarno, Di Pierro & Madeddu, 2018; Baskin & Sommers et al., 2014).

The aforementioned study conducted by Czarna, Wróbel, Dufner, and Zeigler-Hill (2015), which measured community members' level of emotional contagion by asking participants to rate their mood before and after viewing three-minute videos depicting emotional situations, found that narcissism predicted low actual emotional contagion of positive emotions as measured by their task; however, individuals with high levels of narcissism believed that they were more prone to emotional contagion of positive emotions according to self-report. Thus, the results on the relationship between narcissism and emotional contagion were inversely correlated with one another: while participants high in narcissism reported that they could adequately "catch" the positive emotions of others via self-report, the implicit task used to measure emotional contagion showed that the opposite was true.

A similar relationship was found in a study conducted by Marissen, Deen, & Franken (2012). In this study, healthy controls, NPD patients and a psychopathological control group of patients with Cluster C personality disorders were given a facial recognition task that required them to correctly identify emotions in pictures that showed individuals expressing a range of emotions (e.g., fear, anger, disgust, happiness, and sadness). It was found that, compared to healthy controls, patients with NPD were less

accurate in recognizing emotional expressions, specifically the emotions of fear and disgust. However, on the subscale of affective empathy on the IRI (Davis, 1983), no difference in empathic abilities between healthy controls and NPD patients was found. Thus, there was a discrepancy between the implicit measure of emotion recognition, and the self-reported ability of empathy, which is related to the process of recognizing emotions in others.

A discrepant relationship between empathy scores on self-report versus behavioral tasks has also been found in studies examining the relationship between psychopathy and empathy. Kernberg (1985) originally suggested that narcissism may be at the core of psychopathy, suggesting a fundamental relationship between the two; for this reason, it is relevant to review research studies on psychopathy and empathy in order to extrapolate findings relevant to the study of narcissism. In a study examining incarcerated men with high and low psychopathic traits compared to healthy controls (Pfabigan et al., 2015), participants' skin conductance responses (an indicator of physiological arousal) were examined while they viewed videos of individuals experiencing auditory pain. In addition, data on self-reported empathy and participant reactions to the videos (e.g., How unpleasant was watching the video for you?) was collected. It was found that participants in the high and low psychopathic trait groups did experience an increase in physiological arousal, and that participants with low psychopathic traits reported significantly high ratings of state measures of empathy. Additionally, those in the high psychopathic trait group reported comparable state empathy ratings to those of the healthy controls. Thus, there was a discrepancy between self-report and physiological data amongst individuals with high psychopathic traits.

Another study examining psychopathic offenders (Robinson & Rogers, 2015) sought to identify if individuals with high psychopathic traits would adequately raise their cognitive and affective empathy scores on measures of empathy including the IRI (Davis, 1983) when specifically instructed to do so. In order to measure participants' ability to increase self-reported empathy scores, they were asked to answer questions as if they needed to convince a court that they were innocent of a crime. It was found that participants were able to significantly raise their cognitive empathy scores on self-report measures after instruction, and that affective empathy scores showed a marked increase as well. The authors suggest that empathy scales can be susceptible to positive impression management, particularly amongst individuals with psychopathic traits.

2.3.3 *Empathy deficits in subtypes of narcissism*

The research on empathy deficits in vulnerable versus grandiose narcissism is limited, and the extant studies provide mixed insight into possible differences in empathic abilities between the two expressions. This is in part because the studies that have examined the two narcissistic expressions have not always used the same measures. Vonk et. al (2013) found that general narcissism and the traits of exploitativeness/entitlement and grandiose exhibitionism (traits that are within the subtype of grandiosity) were negatively associated with theory of mind, perspective-taking, and empathy; in this study, the Pathological Narcissism Scale (PNI; Pincus et al., 2009) was used to measure narcissism, and the Interpersonal Reactivity Index (IRI; Davis, 1983) was used to measure empathy. Conversely, Ritter et al. (2011) found that patients determined to have narcissistic personality disorder on the Structured Clinical Interview for DSM-V (SCID) were deficient in emotional but not cognitive empathy on the Multifaceted Empathy Test

(Foell et. al, 2018), which is a performance-based measure. Thus, both studies found a relationship between grandiosity and cognitive empathy, but in inverse directions.

Some studies that have explored the relationship between grandiosity and correlates of empathy have found an inverse relationship between the two. Miller et al. (2013) examined how grandiosity and vulnerability on the PNI relate to participants' scores on the interpersonal circumplex model of personality (IPC), which is a circular model of individuals' relationships with others that groups individuals along orthogonal axes of agency (traits that reflect status and power) and communion (traits that reflect friendliness and warmth) (Plutchik, 1997). It was found that grandiose narcissism was most strongly linked with high agency and low communion, while vulnerable narcissism was most strongly linked with low communion. Along similar lines, Lamkin, Clifton, Campbell, & Miller (2014) examined grandiosity and vulnerability on the PNI with social network analysis, which requires participants to list 30 individuals (alters) perceived as most important to them within the past year, and to rate the personality of these alters as well as characteristics of the relationships with them, including frequency of arguing with each alter, frequency of envying each alter, and frequency of comparing self to each alter (among others). It was found that individuals low on grandiosity viewed more central members of their networks more positively, whereas those high on grandiosity were equally critical of both central and non-central alters.

Studies that have found a relationship between narcissistic vulnerability and empathy have also shown mixed results regarding the relationship between the two. Lannin, Guyll, Krizan, Madon, & Cornish (2014) used a mock counseling session in order to assess behavior to help a peer under high versus low social pressure, and found

that vulnerable narcissism predicted less helping under low social pressure, and was also associated with less empathy and forgiveness compared to grandiose narcissism. Given-Wilson, McIlwain, & Warburton (2011) found a statistical trend short of significance between high covert (vulnerable) narcissism and lack of empathic concern and perspective-taking on the IRI (Davis, 1983). Miller et al. (2018) used the Levels of Personality Functioning Scale (LPF; APA, 2013) in conjunction with the Structured Clinical Interview for DSM-V (SCID) to explore empathic deficits in vulnerable versus grandiose narcissism, and found that vulnerable narcissism and neuroticism were positively related to interviewer ratings of Criterion A personality dysfunction in identity, self-direction, empathy, and intimacy.

Lastly, the most recent study (Luchner & Tantleff-Dunn, 2016) to explore the relationship between subtypes of empathy and narcissism found that both cognitive and affective empathy on the IRI (Davis, 1983) were negatively associated with vulnerable narcissism on the PNI (Pincus et al., 2009). In addition, it was found that higher levels of vulnerable narcissism were associated with the personal distress and fantasy subscales on the IRI (Davis, 1983). The authors argue that the personal distress and fantasy subscales represent maladaptive affective and cognitive empathy, respectively. As a result, they posit that the results show how vulnerable narcissists may become more easily overwhelmed by others' emotions because of an unstable sense of self (Luchner & Tantleff-Dunn, 2016). However, like many studies examining the subtypes of narcissism and empathy, this study is limited by its methodology: because it is a self-report measure, the IRI (Davis, 1983) may not be capable of distinguishing between maladaptive and adaptive forms of cognitive and affective empathy.

2.4 Synthesis of the Literature

Based on the review of relevant literature to the topics of empathy and narcissism, we posit that a.) measures of empathy are valid if they distinguish affective from cognitive empathy, use empathic accuracy to assess cognitive empathy, and are ecologically valid (e.g. do not rely on self-report alone) b.) neural and behavioral studies examining narcissism and empathy show that there may be disengagement amongst narcissistic individuals from participation in social processes, including empathic ones c.) performance-based studies examining narcissism and empathy suggest that narcissism is associated with deficient affective empathy, as well as with increased, comparable or dysfunctional cognitive empathy d.) narcissistic patients' responses on self-report measures may represent an inflated version of their abilities, and thus is not an accurate way of measuring their empathic capacities e.) there is limited research on differences in empathic functioning between the two expressions of narcissism, vulnerability and grandiosity.

Thus, this study has two major aims. The first aim is to identify if there are distinct associations between narcissism (including its two expressions, vulnerability and grandiosity) and two subtypes of empathy (cognitive versus affective) on two performance-based tasks and one self-report of empathy. The second aim is to identify if narcissism and its two expressions, vulnerability and grandiosity, are better characterized by performance-based measures of empathy than by self-report when controlling for social desirability.

The findings of this study have the potential to provide important methodological, clinical and diagnostic insight. Regarding methodology, the study's findings may further

clarify how best to measure empathy deficits in narcissism, specifically regarding the use of performance-based versus self-report measures. By including an analysis of empathic functioning in the vulnerable and grandiose expressions of narcissism, this study will also help identify what features of narcissism should be included in its diagnosis in both clinical and research contexts. Specifically, the study may reveal key aspects of the vulnerable presentation, and how this expression illuminates the etiology of narcissistic disorders that have hitherto been developed in psychoanalytic theory, but have been given limited empirical validation. Lastly, understanding how narcissism is associated with affective versus cognitive empathy deficits provides opportunities to inform what clinical interventions are necessary to target lack of empathy in narcissistic disorders.

CHAPTER THREE

Methods

3.1. Overview

A total of eighty-nine participants were recruited via the SONA system at City College, which is a web-based participant pool management system that allows students to participate in research studies for class credits. Participants had to be at least 18 years of age and proficient in English in order to take part in the study. There were no other exclusion criteria. In order to recruit for this study, we visited classrooms to inform students of the opportunity to participate, as well as posted flyers throughout the CCNY campus. Participants could sign up to participate through the SONA website, and received a total of 3 SONA class credits in exchange for their time. All recruitment was done through the Social and Psychopathology Laboratory at City College.

3.2. Participants

Eighty-nine participants completed the study. Of these eighty-nine participants, 65.2% identified as female ($N = 58$). The age range of the sample fell between 18 and 36 ($M = 20.66$, $SD = 3.67$). The majority of participants (24.7%) reported an annual income of between $15,000 and $24,999. Ethnically, 39.3% identified as Hispanic/Latino/Latina/Latinx. In terms of race, 36% identified as Asian, 16.9% identified as Black or African American, 11.2% identified as White, 10.1% identified as More than one race, 2.2% identified as American Indian or Alaskan Native, 1.1% identified as Native Hawaiian or Other Pacific Islander, and 22.5% indicated their race as separate from the aforementioned categories. The entirety of the demographics data is summarized in Table 1, including the racial categories participants indicated by write-in.

3.3. Procedure

Participants were invited for one session, which lasted between two and half and three hours. Identifying information of participants in this study remained anonymous to the principal investigator in the following manner: after participants were consented, they were assigned an identification number that was attached to all of their data, and their name was not connected to their data in any way. After participants were consented for the study, they completed two tasks on a computer in the Social and Psychopathology Laboratory: the Movie for the Assessment of Social Cognition (Dziobek et al., 2006) and the Multifaceted Empathy Test (Dziobek et al., 2008). Taken together, the two tasks take about an hour to an hour and fifteen minutes to complete. After the tasks were completed, participants were asked to sit at a computer in one of the available booths in the laboratory and fill out online self-report questionnaires, which were presented through QUALTRICS. The self-report section of the study took about an hour and fifteen minutes to an hour and thirty minutes.

3.4. Measures

3.4.1 Self-report measures

Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983). The BSI consists of 53 items that capture nine symptom dimensions: Somatization, Obsession Compulsion, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic anxiety, Paranoid ideation and Psychoticism. The authors report good internal consistency reliability for the nine dimensions, ranging from .71 on Psychoticism to .85 on Depression. The BSI also yields three global indices of distress: Global Severity Index, Positive Symptom Distress Index, and Positive Symptom Total. These three indices

measure current or past level of symptomatology, intensity of symptoms, and number of reported symptoms, respectively. The BSI is the short version of the SCL-R-90 (Derogatis,1975, 1977). This study used only the Global Severity Index, which had a substantial internal consistency reliability (alpha) coefficient (α=.97).

The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). The CES-D is a 20-item screening test for depression and depressive disorders that asks participants to rate how often in the last week they have experienced symptoms related to depression, such as restless sleep and poor appetite. Participants rate their depressive symptoms on a scale from "Rarely or none of the time (less than 1 day), Some or a little of the time (1-2 days), Occasionally or a moderate amount of time (3-4 days), and Most or all of the time (5-7 days)." Scores range from 0 to 60, with high scores indicating more depressive symptoms. The scale has high internal consistency with Cronbach's alpha (coefficients of .85 with a normal population and .90 with a patient population) across studies, acceptable test-retest reliability, excellent concurrent validity by clinical and self-report criteria, and substantial evidence of construct validity (Radloff, 1977). In the current study, the internal consistency reliability (alpha) coefficient was significant (α=.83).

Interpersonal Reactivity Index (IRI; Davis, 1983). The IRI is a well-validated empathy questionnaire that yields four subscales: empathic concern, perspective taking, fantasy and personal distress (Davis, 1983). Empathic concern and perspective taking are the subscales that are used to measure affective and cognitive empathy, respectively (Melchers et al., 2015). The fantasy and personal distress subscales have been criticized by Baron-Cohen and colleagues (Baron-Cohen &

Wheelright, 2004) for measuring indices correlated with empathy, as opposed to empathy per se; they argue that the fantasy subscale measures imagination, while the personal distress subscale measures emotional self-control. The IRI subscales were revealed to have good retest reliability, with values ranging from .61 to .81 (Davis, 1983). Importantly, the IRI does not yield a total empathy subscale due to the orthogonality of the subscales (Davis, 1983). In the current study, the internal consistency reliability (alpha) coefficients for the two subscales confirmed the scale's reliability: the alpha coefficient was .69 for perspective-taking and .75 for empathic concern.

Marlowe-Crowne Social Desirability Scale (MCSDS; Crowne & Marlowe, 1960). The MCSDS is a 33-item measure that yields a total social desirability score. The MCSDS was developed with a sample of college undergraduates in an American university and was found to have strong reliability (.88). Since its validation, the MCSDS has been used in samples across multiple countries and short forms have been validated as well (Reynolds, 1982; Lambert, Spencer, & Holden, 2016). In the current study, the internal consistency reliability (alpha) coefficient was significant (α=.80).

Pathological Narcissism Inventory (PNI; Pincus et al., 2009). The PNI is a 52-item measure that yields 9 subscales: contingent self-esteem, exploitativeness, self-sacrificing self-enhancement, hiding the self, grandiose fantasy, devaluing, entitlement rage, grandiosity, vulnerability and pathological narcissism. The PNI was developed with a sample of 796 predominantly White college undergraduates and principal components analysis of the PNI items yielded a range of alphas from .49 to .81 (Pincus

et al., 2009). In the current study, the internal consistency reliability (alpha) coefficient was significant (α=.93).

The Structured Clinical Interview for DSM-IV Axis II screening questionnaire (SCID-II-SQ; First et al., 1997). The original SCID-II Questionnaire consists of 117 yes-no questions, each corresponding to a criterion of one of the personality disorder diagnoses. For example, the questions include "Have you often become frantic when you thought that someone you really cared about was going to leave you?" to diagnose Borderline Personality Disorder and "Do most people fail to appreciate your very special talents or accomplishments?" to diagnose Narcissistic Personality Disorder. This study will use a 4-point dimensional scoring of the SCID (0 = never or not at all, 1 = sometimes or a little, 2 = often or moderately, 3 = very often or extreme); this 4-point format has been used in a previous study (Meyer, Pilkonis, & Beevers, 2004). Higher scores indicate higher levels of personality pathology. Ouimette and Klein (1995) reported reasonable stability of the SCID-II-SQ scales over 10 weeks with a nonclinical sample. Meyer and colleagues (2004) reported internal consistency: the Cronbach's α for the 7-point item avoidant scale was .79, the 15-item borderline scale was .86, and the 6-item schizoid scale was .55. In the present study, the internal consistency reliability (alpha) coefficient for the 15-item borderline scale was not significant (α=.54). However, as Meyer et al. (2004) argue, an alpha coefficient that is above .50 is considered to be at the minimally acceptable threshold for internal consistency. This study will make use only of the BPD symptom score.

3.4.2 Performance-based measures

Multifaceted Empathy Test (MET; Foell et. al, 2018). The MET is a behavioral task

that requires participants to look at 40 photographic images of emotional scenes, each of which is accompanied by one target word and three distractor words. Participants' accuracy in choosing the target word constitutes the cognitive empathy score, and there are two additional cognitive empathy scores yielded: one for only the participants' accuracy in identifying the emotions in negatively-valenced pictures, and another for positively-valenced pictures. Participants are also asked to rate how much they empathize with the person in the photograph from a scale of 1 (not at all) to 9 (very much); these responses constitute three affective empathy scores: one in response to all the photographs, one in response to the negatively-valenced photographs, and one in response to the positively-valenced photographs. The MET was first developed in German (Dziobek et al., 2008), and then translated into English by Foell et al. (2018) using multiple translators. Cronbach's alpha for the cognitive empathy scale was low (α=.51); after performing greatest lower bound (glb) analysis that controlled for variations in accuracy of responding to items within a test, the reality estimate of glb was .75. For the emotional empathy scales, reliability was high: Cronbach's alpha was .93 for affective empathy for positive pictures, and .94 for affective empathy for negative pictures. Similarly, in the current study, Cronbach's alpha was low for the total cognitive empathy scale (α=.48), as well as for the cognitive empathy for negative pictures only (α=.20) and positive pictures only (α=.32). Also similar to Foell et al.'s (2018) study, Cronbach's alpha for the current study's emotional empathy scores were high: 91 for the total emotional empathy score, .92 for the positive pictures only score, and .94 for the negative pictures only score.

Movie for the Assessment of Social Cognition (MASC; Dziobek et al., 2006). The

MASC is a test of cognitive empathy that requires participants to watch a 15-minute movie that involves characters in various social situations, and asks participants to answer questions about the intentions and reactions of the characters. There are four subscales in the MASC: cognitive empathy (total score), recognize emotions, recognize thoughts, and recognize intentions. The MASC was found to have good internal consistency (Cronbach's alpha was 0.84 for the total empathy score) and test-retest reliability comparing two administrations 12 months apart; the intraclass correlation coefficients (ICCs) equaled .97 for the whole sample.

3.5 Hypotheses

Aim 1: To identify if there are distinct associations between narcissism (including its two expressions, vulnerability and grandiosity) and two subtypes of empathy (cognitive versus affective) on two performance-based tasks and one self-report of empathy.

H1a: Better cognitive empathy and poorer affective empathy on the Multifaceted Empathy Test (MET) and Movie for the Assessment of Social Cognition (MASC) will be associated with greater pathological narcissism on the Pathological Narcissism Inventory (PNI). We will also investigate the association between these empathy measures and the two manifestations of pathological narcissism: vulnerability and grandiosity.

H1b: Better cognitive empathy (perspective-taking) and poorer affective empathy (empathic concern) on the Interpersonal Reactivity Index (IRI) will be associated with greater pathological narcissism on the PNI. We will also investigate the association between this self-report and the two manifestations of pathological narcissism: vulnerability and grandiosity.

Aim 2: To identify if empathic abilities in narcissism and its two expressions,

vulnerability and grandiosity, are better characterized by performance-based measures of empathy than by self-report when controlling for social desirability.

H2: Pathological narcissistic traits will be uniquely related to performance-based measures of empathy (i.e., MET and MASC) rather than to self-report (i.e., IRI) when controlling for social desirability. We will also examine this hypothesis focusing on the two major expressions of pathological narcissism: vulnerability and grandiosity.

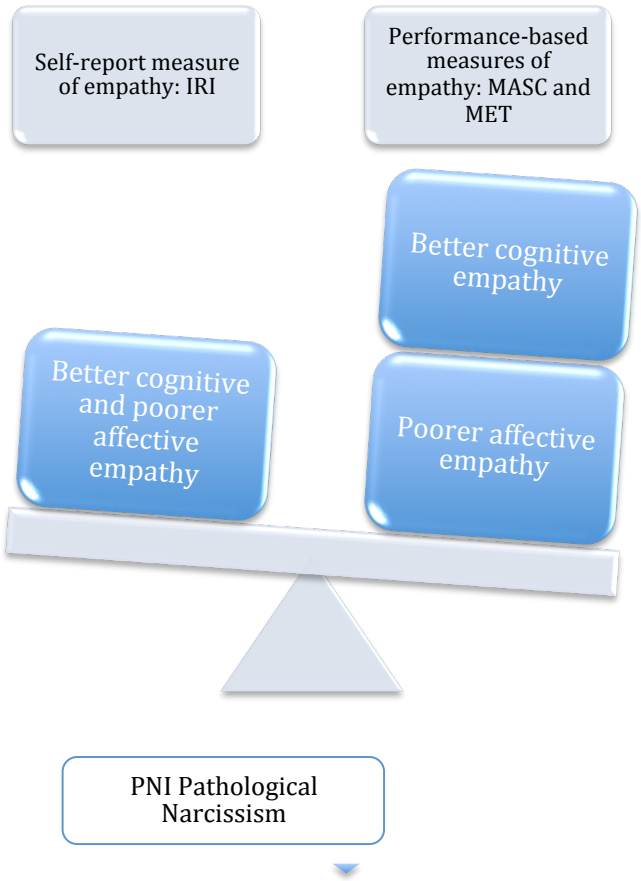

Figure 1. Hypotheses 1a and 1b

3.6. Data Analysis

The mean and standard deviations for the following measures were computed: pathological narcissism, vulnerability and grandiosity on the PNI; cognitive empathy on the MASC, one of the performance-based tasks of empathy; cognitive and affective

empathy for all pictures, only positive pictures, and only negative pictures on the MET, the other performance-based task of empathy; perspective-taking (cognitive empathy) and empathic concern (affective empathy) on the IRI, a self-report measure of empathy; BPD symptoms on the SCID-II questionnaire; CES-D; BSI; MCSDS. Correlations among all the empathy scales were also conducted: cognitive empathy on the MASC, cognitive and affective empathy for all pictures, only positive pictures, and only negative pictures on the MET, and perspective-taking (cognitive empathy) and empathic concern (affective empathy) on the IRI. Lastly, correlations among the PNI (pathological narcissism total score, narcissistic vulnerability, and narcissistic grandiosity) and all of the aforementioned empathy scales were calculated. Partial correlations between PNI grandiosity and the empathy scales controlling for PNI vulnerability were conducted, as suggested by Crowe, Lynam, Campbell & Miller, 2019.

Based on correlation results, we performed a hierarchical regression analysis to test which empathy measures were uniquely associated with PNI scales, when controlling for social desirability.

Secondly, we performed hierarchical regression analyses to test if empathy measures uniquely linked to pathological narcissism (Model 1) maintain their effect when controlling for demographic (i.e., gender) and psychopathological variables (i.e., depression symptoms, general psychiatric symptoms, and borderline symptoms; Model 2).

CHAPTER FOUR

Results

4.1 Correlations among the empathy measures

Prior to testing the study's hypotheses, the relationship between the primary variables of the current investigation were examined. Cognitive empathy on the MASC was significantly positively correlated with cognitive empathy on the MET; MASC cognitive empathy was positively correlated with affective empathy on the MET, but not significantly. Additionally, cognitive empathy on the MASC was significantly positively correlated with both perspective-taking (cognitive empathy) and empathic concern (affective empathy) on the IRI. The MET cognitive empathy subscale significantly positively correlated only with perspective-taking (cognitive empathy), but not significantly with empathic concern (affective empathy) on the IRI. These correlations are summarized in Table 3.

4.2 Testing the hypotheses

4.2.1 Identifying associations between all measures of empathy and PNI grandiosity, vulnerability, and pathological narcissism

Hypothesis 1a predicted that better cognitive empathy and poorer affective empathy on the Multifaceted Empathy Test (MET) and Movie for the Assessment of Social Cognition (MASC), two performance-based tasks of empathy, would be associated with greater pathological narcissism on the Pathological Narcissism Inventory (PNI); pathological narcissism's two manifestations, vulnerability and grandiosity, would also be explored. Relatedly, hypothesis 1b predicted that better cognitive empathy (perspective-taking) and poorer affective empathy (empathic concern) on the Interpersonal Reactivity

Index (IRI), a self-report measure of empathy, would be associated with greater pathological narcissism on the Pathological Narcissism Inventory (PNI); pathological narcissism's two manifestations, vulnerability and grandiosity, would also be explored. This hypothesis was partially supported.

In order to test hypotheses 1a and 1b, correlations between the PNI and all empathy measures were examined (Table 4). Contrary to hypothesis 1a, it was found that there was no significant correlation between cognitive empathy on the MASC and the three narcissism scores on the PNI: vulnerability, grandiosity, and pathological narcissism total score. Also contrary to expectations, there was no significant correlation between the global cognitive empathy and global affective empathy scores on the MET and the three narcissism scores on the PNI. However, there was a significant positive correlation between cognitive empathy on the MET for negative pictures only and both pathological narcissism and vulnerability on the PNI. Regarding hypothesis 1b, it was found that while IRI empathic concern (affective empathy) had no significant relationship with any PNI subscale, there was a significant negative correlation between IRI perspective-taking (cognitive empathy) and vulnerability on the PNI (see Table 4). Regarding hypotheses 1a and 1b, no empathy measures were found to be associated with PNI grandiosity.

4.2.2 Unique associations between narcissism and measures of empathy

Hypothesis 2 stated that empathic abilities and deficits associated with pathological narcissism and its two manifestations, vulnerability and grandiosity, would be uniquely related to performance-based measures of empathy (i.e., MET and MASC) and not to self-report (i.e., IRI) when controlling for social desirability. After testing hypothesis 1a, we found that no empathy measures were associated with PNI grandiosity,

only one empathy measure (MET cognitive empathy for negative pictures only) was associated with PNI pathological narcissism, and two empathy measures (better MET cognitive empathy for negative pictures and poorer IRI perspective-taking) were associated with PNI vulnerability. Thus, we conducted a multiple regression analysis predicting PNI vulnerability in order to test hypothesis 2. We did not conduct a regression analysis of pathological narcissism because only one empathy measure was associated with it, and we did not conduct a regression analysis of PNI grandiosity because no empathy measures were associated with it.

In the hierarchical regression analysis of PNI vulnerability, we used as predictors the two empathy scores that significantly correlated with PNI vulnerability: MET cognitive empathy for negative pictures and IRI perspective-taking (cognitive empathy) in Model 1, and the self-report measure of social desirability (MCSDS) in Model 2. We were interested in whether the performance-based task of empathy was a better predictor of vulnerable narcissism than the self-report when controlling for social desirability, and thus compared the predictors by examining the standardized partial regression coefficients ("beta weights") of each. We found that better MET cognitive empathy for negative pictures ($\beta = .326$, $p = .001$) and poorer IRI perspective-taking ($\beta = -.389$, $p = .000$) were equally significant predictors of PNI vulnerability in Model 1. However, in Model 2, when poorer social desirability ($\beta = -.599$, $p = .000$) was included, poorer IRI perspective-taking ($\beta = -.118$, $p = .190$) was no longer significantly associated with PNI vulnerability, while MET cognitive empathy for negative pictures ($\beta = .194$, $p = .020$) remained a significant predictor. The full regression analysis is presented in Table 5.

Hypothesis 2 was thus partially supported. One performance-based task of

empathy, the MET, was uniquely associated with PNI vulnerability compared to self-report (the IRI) when controlling for social desirability. However, it should be stated that the relationship between PNI vulnerability and the self-report measures of empathy and social desirability were in a different direction than expected: social desirability was negatively associated with PNI vulnerability, and this accounted for the relationship between negative self-reported cognitive empathy on the IRI and PNI vulnerability.

4.3 Post hoc analyses

4.3.1 Confounding variables

In order to identify potential confounding variables, the sample's demographic characteristics, depression symptoms, general psychiatric symptoms, and Borderline Personality Disorder (BPD) features were examined. A one-way ANOVA revealed that there were no significant differences between racial categories on any of the study's primary variables (the PNI, MASC, or MET). An independent-samples t-test was conducted on all of the primary variables in order to see if there were significant differences between male- and female-identified patients, and it was found that there were no significant differences between male- and female-identified participants on any of the study's primary variables (the PNI, MASC, or MET).

In order to control for gender, depression symptoms, general psychiatric symptoms, and (BPD) symptoms, we ran two hierarchical regression analyses for each of the two dependent variables: pathological narcissism and vulnerability. In the hierarchical regression of pathological narcissism, we ran in the first stage the one predictor of pathological narcissism, MET cognitive empathy for negative pictures only, and in the second stage we included all potential confounding predictors: gender, depression

symptoms, general psychiatric symptoms, and (BPD) symptoms. The findings of this hierarchical regression analysis are summarized in Table 6.

In the hierarchical regression of vulnerability, we wanted to confirm whether the effect of MET cognitive empathy for negative pictures was confirmed when controlling for confounding variables related to demographics and psychopathology. Thus, we ran in the first stage MET cognitive empathy for negative pictures only, and in the second stage we included all potential confounding predictors: gender, depression symptoms, general psychiatric symptoms, and (BPD) symptoms. The findings of this hierarchical regression analysis are summarized in Table 7.

After controlling for gender, BPD symptoms, depression symptoms, and general psychiatric symptoms, MET cognitive empathy for negative pictures only was still significantly associated with pathological narcissism and vulnerability on the PNI. Thus, our hypotheses were strengthened by these post-hoc analyses because BPD symptoms, depression symptoms, and general psychiatric symptoms did not impact the association between MET cognitive empathy for negative pictures only and PNI pathological and vulnerable narcissism.

CHAPTER FIVE

Discussion

The present study examined the relationship between narcissism and its two expressions, vulnerability and grandiosity, and cognitive and affective empathy on two performance-based tasks (the MASC and the MET) and one self-report (the IRI) of empathy. There were two major aims of this study. The first aim was to identify if there are unique associations between narcissism (including its two expressions, vulnerability and grandiosity) and two subtypes of empathy (cognitive versus affective) on two performance-based tasks and one self-report of empathy. Secondly, this study sought to identify if empathic abilities in narcissism and its two expressions, vulnerability and grandiosity, are better characterized by performance-based measures of empathy than by self-report.

This study has three important findings: 1.) Higher narcissistic vulnerability was associated with higher cognitive empathy for negative stimuli only on a performance-based task 2.) Higher narcissistic vulnerability was associated with lower self-reported cognitive empathy 3.) Both lower self-reported cognitive empathy and higher performance-based cognitive empathy (for negative stimuli only) were associated with higher PNI vulnerability. However, social desirability accounted for the association between higher narcissistic vulnerability and lower self-reported cognitive empathy. These results will be discussed in detail below.

5.1 PNI Vulnerability and Grandiosity subscales

Prior to a more in-depth discussion of the study's core hypotheses, it is necessary to review the primary narcissism measure, the PNI, so that its patterns of association

within the present study can be better understood. Specifically, this section will explore why no empathy measures were associated with the PNI grandiosity subscale, and why the vulnerability subscale and pathological narcissism total scores followed similar patterns of association with the study's empathy measures.

The PNI was first developed by Cain et al. (2008) because a widely-used self-report, the Narcissistic Personality Inventory (NPI: Raskin & Hall, 1979) was found to capture a limited range of narcissistic traits. Specifically, the NPI has been criticized for representing the more grandiose expressions of narcissism, while failing to capture criteria more associated with narcissistic vulnerability, such as grandiose fantasies, excessive need for admiration, envy, and lack of empathy. In recent years, the PNI has been evaluated for its ability to measure grandiosity, and questions have been raised about how well it differentiates vulnerability from grandiosity (Kaufman, Weiss, Miller, & Campbell, 2020). Miller et al. (2014) conducted an analysis comparing multiple measures of narcissism and found that while the NPI and the Five-Factor Narcissism Inventory (FFNI; Glover, Miller, Lynam, Crego, & Widiger, 2012) best predicted grandiose narcissism, the vulnerability subscales of the FFNI and the PNI were most associated with expert ratings of vulnerable narcissism. This study shed light on why the PNI might not capture grandiosity by demonstrating the ways in which PNI grandiosity overemphasizes negative emotionality/fragility and does not represent those traits related to antagonism, a trait that is central to grandiosity. Similarly, Miller, Lynam, and Campbell (2016) conducted a study using the NPI, PNI, and Personality Diagnostic Questionnaire (PDQ-4; Hyler, 1994) to assess how strong were the associations each self-report had with the traits of NPD in Section III of the DSM-5 (DSM-5; APA, 2013). The authors found that only the subscale

of exploitativeness on the PNI (a subscale within the grandiosity subscale) was associated with the DSM-5 ratings of NPD, while the grandiosity, vulnerability and pathological narcissism scales did not have a relationship with NPD expert clinician ratings at all.

While some posit that the PNI is a better measure of vulnerability because the grandiosity subscale does not adequately capture grandiose narcissism, others have argued that the PNI does, in fact, adequately differentiate between the two expressions. In a recent study by Edershile, Simms, & Wright (2019) examining the nomological networks of PNI grandiosity and vulnerability using hierarchical regression, the authors argue that when accounting for the shared variance between PNI grandiosity and vulnerability, the positive associations between grandiosity and negative emotionality/fragility become non-significant. They further argue that the PNI taps into more pathological manifestations of narcissism, and it misses the aspects of grandiosity not associated with maladaptivity or clinical distress. Regardless of whether the PNI adequately distinguishes grandiosity from vulnerability, Edershile et al.'s (2019) results confirm similar analyses positing that PNI vulnerability must be partialed out of the grandiosity subscale if the latter is used to measure grandiosity, as was done in the present study.

For the purposes of this study, it suffices to say that because both PNI vulnerability and the PNI pathological narcissism total score have consistently shown to be strong indicators of narcissistic vulnerability (Crowe et al., 2019), it is unsurprising that PNI pathological narcissism and vulnerability shared similar patterns of associations in the current study. While greater PNI pathological narcissism was associated with higher cognitive empathy for negative stimuli only on the MET, PNI vulnerable

narcissism was associated with MET for negative stimuli only as well as lower self-reported cognitive empathy. Thus, the pathological narcissism score's association with the performance-based task may have been driven by its vulnerability components. Additionally, it is possible that because this study used a non-clinical sample, the more adaptive aspects of grandiosity that Edershile et al. (2019) argue are missing from the PNI did not emerge. For these reasons, the conceptualization of the present study's results will be grounded in what they reveal about narcissistic vulnerability, and narcissism as a disorder that is constituted by fluctuations between the two (Gore & Widiger, 2016; Roche, Pincus, Conroy, Hyde, & Ram, 2013; Ronningstam, 2009; Pincus, Cain & Wright, 2014), while keeping in mind that grandiose features within the present study's sample may not have been fully represented.

5.2 Main Finding: Higher PNI Vulnerability and Enhanced Cognitive Empathy on the Multifaceted Empathy Test for negative pictures only

Our first hypothesis predicted that better cognitive and poorer affective empathy on the Multifaceted Empathy Test (MET) and Movie for the Assessment of Social Cognition (MASC) would be associated with greater pathological narcissism on the Pathological Narcissism Inventory (PNI). We found that better cognitive empathy on the MET was associated with PNI vulnerability, but for negative emotional expressions of others only.

As a review, the MET asks participants to view a picture of a person and select from a list of four which emotions the person is feeling: the greater the accuracy with which a participant identifies the pictured person's emotion, the higher the cognitive empathy score. Half of the pictures in the MET depict negative emotions, while the other

half are positively-valenced. Thus, the task yields distinct cognitive empathy scores for negative and positive emotions.

To the best of the authors knowledge, no study to date that employs the MET specifically to examine empathic abilities in psychopathology has found that enhanced cognitive empathy is associated with narcissism or psychopathy. For example, the only other study besides the present one to use the MET and the MASC to explore the relationship between empathy and narcissism, Ritter et al. (2011), found no difference on either MET or MASC cognitive empathy between healthy controls and NPD patients. In studies of psychopathy, similar cognitive and reduced affective empathy scores on the MET have been found in psychopathy patients compared to healthy controls (Foell et al., 2018; Oliver, Neufeld, Dziobek, & Mitchell, 2016; Domes, Hollerbach, Vohs, Mokros, & Habermeyer, 2013).

In this study, participants who were better able to identify negative emotions on the MET (e.g., "distraught" or "frustrated") had higher PNI vulnerability scores. This suggests that there is a relationship between narcissistic vulnerability and enhanced ability to accurately detect negative emotions, which is consistent with prior literature on the topic. Wai & Tiliopoulos, (2012) employed a facial identification task very similar to the MET (one that asks participants to identify the emotions of pictured subjects) and found that narcissism was associated with an increased ability to identify angry faces, but not associated with an increased ability to identify happy, sad, or fearful faces. Konrath, Corneille, Bushman, & Luminet (2014) found similar results in a study examining narcissism and performance on the "Reading the mind in the eyes" test (Baron-Cohen et al., 2001), which requires participants to identify the emotions of pictured individuals'

eyes. They found that higher narcissistic exploitativeness was associated with increased accuracy in emotion recognition. Lastly, De Panfilis et al. (2019) sought to examine the threshold at which those with narcissistic traits recognize affect by employing a task that measures how well participants can identify emotions at varying intensities (25%, 50% or 75%). The results showed that narcissistic individuals (as measured by the SCID-II Questionnaire; First et al., 1997) were the fastest at identifying negative emotions (sadness, fear, anger, or disgust) when they were shown at 25% intensity, the lowest threshold represented by the task. Importantly, narcissistic participants were able to correctly differentiate negative emotions from one another, and were adept at identifying neutral emotions at 100% intensity; thus, the accuracy with which participants high in narcissism identified subtle, negative facial expressions could not be explained by a bias towards seeing negative valence in photographs more generally, as has been shown in BPD patients (Herpertz & Bertsch, 2013).

In Ronningstam's (2011, p. 255) proposal for an alternate definition of NPD, she describes vulnerability in narcissism as, "evident by exaggerated reactivity. These individuals react strongly to perceived challenges or threats to self-esteem (i.e., humiliation, defeats, criticism and failure to measure up), with overt or covert intense feelings (anger, hostility, envy, rage, harsh self-criticism, shame)." This clinical picture posits the narcissistic individual as so bereft of a stable sense of self that his self-esteem and sense of agency is always in danger of being compromised by the negative behavior of another person. The findings of the present study provide empirical support for this theoretical formulation: in order to protect themselves from perennial threats to their self-esteem, narcissistic individuals may be vigilant to negative affects expressed by others. By

becoming adept at recognizing negative emotions, the vulnerable narcissist can better protect himself from the shame and self-criticism he fears he will inevitably experience as a result of another person's judgment and disapproval. Psychoanalytic perspectives that inform this theory will be discussed in a subsequent section (see below).

5.3 Main Finding: Higher PNI Vulnerability and lower cognitive empathy (perspective-taking) on the Interpersonal Reactivity Index

Hypothesis 1a in the current study predicted that better cognitive empathy (perspective-taking) and poorer affective empathy (empathic concern) on the Interpersonal Reactivity Index (IRI) would be associated with greater pathological narcissism on the PNI. We found that poorer cognitive empathy on the IRI was associated with greater vulnerability on the PNI.

The fact that poorer performance on this one subscale of the IRI was associated with vulnerable narcissism indicates that a compromised self-reported ability to imagine another person's experience in the abstract (e.g., "I try to look at everybody's side of a disagreement before I make a decision") was associated with higher narcissism. Studies on self-reported empathic capacity and narcissism have shown mixed results, but studies researching narcissism that employ the IRI have generally found an inverse relationship between its subscales and narcissism; specifically, lower perspective-taking has been associated with higher narcissism (Uzuegbu, Agbo, & Ebulum, 2018; Luchner & Tantleff-Dunn, 2016; Marcoux et al., 2014; Vonk, Zeigler-Hill, Mayhew, & Mercer, 2013). The difficulty in making conclusions from these findings is that studies that employ the IRI have not been consistent in the narcissism measures they use, nor in the samples they recruit (clinical versus community or undergraduate). For example, Marissen, Deen, &

Franken (2012) found no difference in self-reported empathy on the IRI between healthy controls and patients with NPD, as measured by the Structured Clinical Interview for DSM-V (SCID), while Marcoux et al. (2014) found that NPD patients reported lower IRI perspective-taking; in the latter study, however, patients were diagnosed as NPD based on a clinical interview adapted from the Structural Interview for Personality Organization (Stern et al., 2010), the Psychopathy Checklist-Revised semi-structured interview (PCL-R) (Hare, 2003), and medical and criminal records. It is therefore difficult to generalize the results of Marissen, Deen, & Franken (2012) and Marcoux et al. (2014), though both indicate that narcissism is generally not associated with better perspective-taking on the IRI.

Studies that explore the relationship between IRI perspective-taking and psychopathy have had more consistent results than those that examine narcissism, and they have generally found a relationship between higher psychopathy and lower levels of self-reported perspective-taking on the IRI (Robinson & Rogers, 2015; Pfabigan et al., 2015; Brouns et al., 2013; Brook & Kosson, 2013). Exceptions to these studies' findings have included results showing no difference in perspective-taking between psychopathic individuals and healthy controls (Domes, Hollerbach, Vohs, Mokros, & Habermeyer, 2013). Additionally, poorer IRI perspective-taking has been found in adolescents with Autism spectrum conditions, such as Asperger Syndrome (AS) (Rueda, Fernández-Berrocal, & Baron-Cohen, 2015) as well as in schizophrenia (Lee, Zaki, Harvey, Ochsner, & Green, 2011).

On the IRI, the perspective-taking subscale measures how easily a participant adopts the views of another person, and most of the subscale's questions reflect a desire to

adopt another's view by consistently employing use of the phrase, "I try to…" For example, the subscale asks to rate how well the following questions describe the participant: "I sometimes try to understand my friends better by imagining how things look from their perspective" and "When I'm upset at someone, I usually try to 'put myself in his shoes' for a while." Ritter et al. (2011) found that patients with NPD reported significantly lower scores on IRI perspective-taking compared to healthy controls, and concluded that perspective-taking may measure not cognitive empathy per se (or the ability to correctly identify the emotions of others), but rather a motivation to do so. Ritter et al. (2011) made this conclusion in part by contrasting their participants' lower IRI perspective-taking scores with the fact that MET cognitive empathy scores for NPD patients were no different from healthy controls.

The consistency between the current study's findings on IRI perspective-taking and those in the study conducted by Ritter at al. (2011) suggests that higher narcissism in both clinical and undergraduate student samples may be related to lower IRI perspective-taking because perspective-taking on the IRI measures neither a participant's true cognitive empathy ability nor their own assessment of cognitive empathy, but rather how much they *desire* to be cognitively empathic. Thus, despite the fact that the IRI is hampered by reporting biases like most self-report measures (Bringle, Phillips, & Hudson, 2004), it may accurately assess the motivation to be empathic, as opposed to empathic ability. This conclusion has been made by multiple studies employing the IRI: in a recent meta-analytic review examining studies of affective versus cognitive empathy deficits in narcissism, studies that employ the IRI specifically were found to show a negative relationship between self-reported empathy and narcissism (Urbonaviciute &

Hepper, 2020). This finding is so prevalent, in fact, that it has been argued that cognitive empathy scores yielded by self-report measures such as the IRI currently lack adequate validity evidence to represent the construct of cognitive empathy ability (Murphy & Lilienfeld, 2019).

Regarding the common finding that narcissism is associated with lower motivation to consider another's perspective (as opposed to a compromised *ability* to do so), some have argued that it is the result of self-protection (De Panfilis et al., 2019); in other words, those with narcissistic traits may decline to engage in empathic processes for fear of experiencing or showing vulnerability. It is important to remember that the IRI (Davis, 1983) contains four subscales: perspective-taking, empathic concern, personal distress, and fantasy. While perspective-taking and empathic concern roughly map onto the constructs of cognitive and affective empathy, respectively, (i.e., perspective-taking assesses the extent to which individuals spontaneously adopt others' points of view and empathic concern assesses the extent of individuals' feelings of compassion and concern for others), personal distress measures the "feelings of anxiety and discomfort" that a person may experience as a result of "another's negative experience" (Davis, 1983, p. 116). This multidimensional view of empathy is supported by current theories in social neuroscience and psychology that draw a distinction between self- and other-oriented empathic responses. An other-oriented empathic response takes the form of feeling for another person with limited to no distress on the part of the empathizer, whereas a self-oriented response is marked by feeling overwhelming empathic or personal distress that may impede the ability to share another person's perspective (O'Connor, Berry, Lewis, & Stiver, 2011). A lower score on perspective-taking on the IRI, therefore, may represent a

lack of motivation to empathize given a fear of experiencing vicariously induced negative emotions that threaten the self.

5.4 Summary of MET and IRI findings: Psychoanalytic perspectives

In summary, two of the present study's three main findings suggest that narcissism is characterized by an enhanced ability to recognize negative affect and by a lack of motivation to cognitively empathize with others. There is what appears to be a contradiction within these findings: on the one hand, the narcissistic individual lacks a desire to take the perspective of another, generally answering "no" to questions such as, "I sometimes try to understand my friends better by imagining how things look from their perspective." On the other hand, the narcissistic individual seeks the identification of negative affect in the other, possibly in order to disconfirm their fear that the other thinks poorly of them, and thus may pose a threat to his contingent and precarious self-esteem. However, when viewed through the lens of psychoanalytic theory, particularly that of object relations and attachment theory, these two proclivities (to disavow perspective-taking and actively engage in negative affect recognition) both represent behaviors driven by internalized representations of self and other that are theorized to be characteristic of narcissism.

Both Kernberg (1985) and Kohut (1977) theorize that misattuned parenting lays the groundwork for narcissistic pathology: either overly rejecting or overinvolved parents fail to adequately mirror their child's burgeoning sense of self, which results in a fusion of the mature ego with the grandiose self, a proto-self born of exhibitionism and demands for attention. Kohut (1971) asserts that in the narcissistic individual, the grandiose self battles with the mature ego, which it contaminates with archaic, grandiose strivings that the

mature ego cannot reasonably harness. Similarly, in Kernberg's conceptualization, the actual self (mature ego) and the grandiose self are fused, resulting in an individual's unrealistic expectations of the self that can be maintained without the perceived need for anyone else's input. Kernberg (1985, p. 231) also theorizes that "unacceptable self images" are projected onto objects that the narcissistic individual can devalue. Thus, the narcissistic self concept is a self-contained system in which no other person is considered or required except as the screen on which to project negative aspects of the self, and thus the potential for either approval or rejection is obviated on the conscious level. On the unconscious level, however, there is a persistent desire for approval that seeks to compensate for the self-esteem deficits of early childhood. We argue that it is the conscious disavowal of approval that may account for our finding that narcissism is associated with a lack of motivation to take another person's perspective, while the unconscious desire for approval explains our finding on enhanced negative affect recognition in narcissism.

Regarding the connection between unconscious desire for approval and enhanced affect recognition in narcissism, individuals with narcissism may become adept at seeking out and identifying negative affect in others because they rely excessively on external positive feedback to support their precarious self-esteem (De Panfilis et al., 2019). Importantly, recent research in the areas of object relations and mentalization theory have also suggested that a hyperattunement to the affect of others is related to *epistemic mistrust*. Epistemic trust is defined as an individual's willingness to consider new social communication as trustworthy and relevant, both on a personal and more generalizable level. As Diamond, Yeomans, Stern, and Kernberg (in press) highlight, Peter Fonagy and

his colleagues have argued that those with narcissistic disorders may lack the ability to mentalize, or the ability to understand the mental state of one's self and others, because misattuned parenting has led them to develop epistemic mistrust. As a consequence, these narcissistic individuals become both generally mistrustful of social communication and hyperattuned to the needs of others "in order to insure psychic survival" (Diamond et al., in press, p. 29). In other words, the unstable parental environment, contrasted with the maternal holding environment that Winnicott (1960) argues is necessary to ensure a proper transition to autonomy, induces a (mal)adaptive response in the narcissistic individual, one that requires him to become exceedingly adept at anticipating the needs of others so that he may know whether another person represents a threat to him. It is not difficult to imagine that by contrast, one who received more even parenting may become equally attuned to both positively- and negatively-valenced environmental cues.

Lastly, the aforementioned theory that the narcissistic individual projects negative aspects of the self onto the other (Kernberg, 1985) provides a meaningful theoretical explanation for the two findings of compromised self-reported perspective-taking and enhanced negative affect recognition, one that has also found empirical support in recent research. If narcissism is associated with a relentless projection of negative aspects onto the other due to a fusing of the grandiose self with the actual self (i.e., confusing the idea of who one is with who one wants to be) (Kernberg, 1985), an enhanced ability to identify negative affect may represent the narcissistic individual's attempt to maintain the separation between idealized images of the self and split off, devalued aspects of the self that are projected onto the other. The phenomenon of narcissistic projection was given empirical validation in a recent study examining self-other differentiation in an

undergraduate sample (Karan, Diamond, Grinband, & Fertuck, 2019). The authors measured the accuracy of differentiating one's own image relative to that of another person by using a task that asked participants to detect an image of themselves morphed at varying degrees with faces of other people. It was found that vulnerable narcissism in particular was associated with a tendency to see one's self in an image, though not with a compromised ability to differentiate one's self from another person. Taken together with this study's findings, there is a consistent picture of what characterizes the narcissistic intrapsychic landscape: while narcissism is associated with relatively intact reality testing, it is also marked by porous boundaries between self and other, and a concomitant ability to see the projected, negative aspect of the self in another person. This accounts for the frequent observations in clinical contexts of narcissistic patients as both self-involved or apathetic about the opinions of others, and as hyperattuned to the possibility of being excluded by others from whom they are not well differentiated (Diamond et al., in press).

5.5 Main Finding: Social Desirability on the Marlowe-Crowne Social Desirability Scale

Our second hypothesis predicted that pathological narcissistic traits would be uniquely related to performance-based measures of empathy (i.e., MET and MASC) rather than to self-report (i.e., IRI) when controlling for social desirability. We found that PNI vulnerability was uniquely related to better cognitive empathy on the MET for negative pictures only rather than to lower IRI perspective-taking when controlling for MCSDS social desirability. Thus, the hypothesis was supported, but in a different direction than expected: we expected that higher self-reported empathy would be associated with narcissism, and that higher social desirability would account for higher self-reported empathy. Instead, lower self-reported empathy was associated with narcissism, and this

was accounted for by lower social desirability.

We hypothesized that pathological narcissistic traits would be uniquely related to performance-based measures of empathy rather than to self-report because of extant research that show clear discrepancies between self-reported empathy and empathy as measured by more ecologically-valid tasks within narcissism: specifically, narcissistic individuals have been found to over-report empathic abilities but display compromised empathy on tasks within the same study (Marissen, Deen, & Franken, 2012; Czarna, Wróbel, Dufner, and Zeigler-Hill, 2015). These findings, when examined alongside research that shows how individuals in general over-report their empathic abilities for reasons related to social desirability (Vachon & Lynam, 2016; Melchers et al, 2015; Reniers et al., 2011; Spreng et al., 2009; Dziobek et al, 2008; Baron-Cohen & Wheelwright, 2004; Raskin, Novacek, & Hogan, 1991), led us to hypothesize in the current study that performance-based tasks of empathy would more accurately capture empathic ability in narcissism than self-report. Furthermore, social desirability is theorized to help regulate self-esteem in individuals who desire the acceptance, recognition, and approval of others (Raskin, Novacek, & Hogan, 1991), and has been conceptualized as a two-factor construct consisting both of self-deception (i.e., exaggerating one's own positive traits to fit one's own ideals) and other-deception (i.e., impression management wherein one presents oneself positively in order to impress others) (Paulhus, 2002). If we conceptualize narcissism as in part defined by such a desire for approval, we reasoned that those high in narcissism may wish to inhibit responding in a way that could lead to social rejection.

The finding that, contrary to expectations, vulnerable narcissism was associated

with lower social desirability requires an analysis of what relationship social desirability has to narcissism in current research on the topic. In studies that directly examine narcissism and social desirability, it has generally been found that, consistent with the present study's results, the two are inversely related. Raskin et al. (1991) found that narcissism and component social desirability were negatively related, while Barry, Lui, & Anderson (2017) found a negative relationship between vulnerable narcissism on the PNI and social desirability amongst adolescents. The authors argue that the tendency in vulnerable narcissism to devalue others and internalize symptoms may account for a limited interest in impression management. This is consistent with theories on the narcissistic tendency to denigrate others for not meeting unrealistic expectations (Diamond et al., in press), which explains a lack of interest in impression management. In other words, if the other is often denigrated because they contain split-off, projected negative aspects of the narcissist's self-conception, it follows that this other person's opinion would not be valued.

On the other hand, one could also posit that it is specifically low self-esteem in vulnerable narcissism that leads to an attenuated desire for other's approval: the vulnerable narcissist sees himself as inferior, and thus may defensively lack a conscious interest in convincing someone else of his worth. The impulse to care less (or not at all) about the approval of others is thus akin to the social avoidance characteristic of vulnerable narcissism, which has been described as an attempt to protect the ego, and can take the form of avoiding interpersonal relationships in order to reduce the risk of social rejection (Ronningstam, 2011). This is aligned with yet another study delineating grandiose and vulnerable narcissism on the PNI, which found a relationship between

vulnerable narcissism and the coping strategies of denial and behavioral (but not mental) disengagement in response to stress (Fernie, Fung & Nikčević, 2016). Thus, when avoidance has not worked initially and the vulnerable narcissist is faced with a stressful situation, they may deny and attempt to disengage so as to further protect a self that is perennially threatened by the actions of others.

5.6.1 Narcissism and Psychopathology

Though not included in the current study's primary aims, we were interested in examining whether our empathy measures were significantly associated with narcissism when controlling for psychopathological (i.e., BPD symptoms and depression and general psychiatric symptoms) and demographic (i.e., gender) variables. We found that after controlling for these variables, higher cognitive empathy for negative pictures only on the MET was still significantly associated with vulnerable and pathological narcissism on the PNI.

Regarding psychopathological variables, we first examined whether the sample's BPD symptoms accounted for the variance in vulnerable narcissism explained by higher MET cognitive empathy for negative pictures. We were interested in this because vulnerable narcissistic and BPD traits are positively associated (Euler et al., 2018). Specifically, in an undergraduate sample, anxiety, depression, self-consciousness, and vulnerability to stress were positively correlated with vulnerable narcissism and BPD (Miller et al., 2017). Further, in the Emerging Models and Measures (Section III) in the Alternative Model for Personality Disorders (AMPD) of the DSM-5, negative affect traits such as depressivity and anxiousness are suggested to help determine presentations of vulnerable narcissism, which is consistent with prior research on the topic showing that

vulnerable narcissism is associated with traits of neuroticism (Miller et al., 2017). Current research has consequently examined how inclusion of vulnerable narcissistic traits affects differential diagnosis, i.e., does including affective lability in the assessment of narcissism help differentiate NPD from antisocial PD, or does it run the risk of creating overlap with BPD. Using clinician ratings from the Structured Interview for DSM-IV Personality (SIDP-IV), Stanton & Zimmerman (2018) found that expanding the criteria for NPD by including affective lability increased how much BPD and NPD diagnoses co-occurred. However, the authors emphasize that SIDP-IV items typically used to assess BPD were included in the expanded configurations of NPD in the study, so the finding may be particular to the methodology used.

In a study using the PNI that similarly investigated the relationship between narcissistic traits and emotion regulation, Di Pierro, Di Sarno & Madeddu (2017) found that distinct subscales on the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) were uniquely related to both PNI vulnerable narcissism and self-reported BPD symptoms. Specifically, vulnerable narcissism was associated with a lack of interest in or awareness of emotions, while BPD symptoms were associated with impulsivity and difficulty accomplishing goals while in a negative emotional state. The authors posit that their findings indicate that vulnerable narcissism is characterized by a unique clinical picture separate from that of BPD: on the one hand, those who have BPD are more susceptible to the immediate experience of a negative affective state, whereas vulnerable narcissists are adept at defensively becoming detached from emotional experiences in order to preserve their self-image. Taken together with the current study's findings that BPD symptoms do *not* account for the relationship between enhanced cognitive empathy

on the MET and vulnerable narcissism, and that vulnerable narcissism is associated with lower social desirability, a clinical picture of the vulnerable narcissist emerges. This clinical picture reveals the vulnerable narcissist as outwardly uninterested in the emotions of one's self and others, but covertly very adept in empathizing with the negative affect that another person is expressing in order to resist threats to their contingent and precarious self-esteem.

We were interested also in whether MET cognitive empathy for negative emotional expressions of others was uniquely associated with pathological and vulnerable narcissism after controlling for depression and general psychiatric symptoms. We were especially interested in psychiatric symptoms and their relationship to vulnerable narcissism because of the extant research on vulnerable narcissism and depressive or anxious temperament. In a study examining PNI scores in a college sample, Tritt, Ryder, Ring, and Pincus (2009) found that vulnerability, but not grandiosity, is related to depressive, anxious, cyclothymic, and asthenic temperament in a college sample, and that vulnerability's relationship to these constructs cannot be explained by vulnerability's shared variance with neuroticism, for example. Importantly, depressive personality also may be positively correlated with vulnerable narcissism in both clinical and non-clinical samples (Huprich, Luchner, Roberts, & Pouliot, 2012).

If in the present study, depression and general psychiatric symptoms did not account for the relationship between vulnerable narcissism and MET cognitive empathy for negative pictures only, what does this mean about how depression and vulnerable narcissism interrelate? Depressive symptoms often co-occur with narcissistic pathology because depression is a reaction to faltering narcissistic defenses (Fjermestad-Noll et al.,

2020). This theory is supported by empirical evidence that shows how depressive tendencies related to self-definition and self-criticism are associated with narcissistic vulnerability in a psychiatric outpatient sample (Kealy, Tsai, & Ogrodniczuk, 2012), and that perfectionism mediates the positive relationship between depressive symptoms and increased vulnerability on the PNI (Marčinko et al., 2014). Thus, depression appears to emerge in vulnerable narcissism specifically when threats to self-esteem confirm a negative self-view. Depression and general psychiatric symptom scores may not have affected the relationship between MET cognitive empathy for negative pictures only and vulnerable narcissism in the present study because the ability to identify negative affect in the other may be a core feature of vulnerable narcissism regardless of whether there is a co-occurrence of psychiatric symptoms. If the identification of negative affect in the other is an attempt to protect against perennial threats to self-esteem, then it follows that this ability would hold constant whether the vulnerable narcissistic individual is experiencing significant distress or not.

5.6.2 Narcissism and Gender Differences

This study found no statistically significant difference between female- and male-identified participants across the PNI's three main subscales: vulnerability, grandiosity, and pathological narcissism. Similarly, there was no significant difference across gender in the empathy subscales that had a significant association with the PNI: MET cognitive empathy for negative pictures only and IRI perspective-taking. Only the empathic concern subscale on the IRI and cognitive empathy on the MASC showed a significant gender difference, and in both of these subscales, female-identified participants scored higher.

To our knowledge, there are no extant studies on the topic of empathy deficit

differences across genders in narcissism in either a clinical or non-clinical population. Research on gender differences in narcissism are somewhat more prevalent, though it remains an under-researched area. Studies examining data from the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) found that rates of NPD were higher for men (7.7%) than women (4.8%) (Stinson et al., 2008) and that NPD was more prevalent in those who identify their race as Black than those who identify as White or Hispanic (Pulay & Grant, 2013). In a study specifically examining gender invariance on the PNI in undergraduates, the authors found that the PNI was invariant across gender (Wright, Lukowitsky, Pincus, & Conroy, 2010); this finding is consistent with that of the current undergraduate study, though more research is needed to confirm whether the gender invariance holds in clinical rather than college samples. Additionally, future research should examine gender differences across the vulnerability and grandiosity subscales of the PNI in order to determine whether there is no difference between them across gender lines, as was found both in the current study and in a meta-analytic review employing the PNI and other measures (Grijalva et al., 2015). It is important to clarify gender differences in narcissism because lay assumptions posit that narcissism is higher in male- rather than female-identified individuals. Understanding what gender differences truly exist can aid in improving treatment of narcissistic patients, as the perpetuation of lay assumptions contributes to unconscious cultural stereotypes that can negatively impact patient care (McDowell, Goldhammer, Potter, & Keuroghlian, 2020).

5.7 Clinical Implications

Findings from the current study have key clinical implications for the treatment of narcissism because they offer a more nuanced picture of the disorder, including what

differentiates the vulnerable from the grandiose presentation. The differences between vulnerable and grandiose presentations may affect the treatment of narcissism: when patients experience a state characterized more by vulnerability, they miss therapy appointments less frequently and make more regular use of crisis and partial hospitalization services (Pincus et al., 2009). In a follow-up study examining PNI scores and treatment outcome variables in a community mental health center, Ellison, Levy, Cain, Ansell, & Pincus, (2013) found that grandiosity was associated with decreased utilization of clinical services as well as increased client-initiated drop out rates, relative to narcissistically vulnerable clients. Given that a narcissistic individual may fluctuate between grandiose and vulnerable self-states (Gore & Widiger, 2016; Roche, Pincus, Conroy, Hyde, & Ram, 2013; Ronningstam, 2009), attending to which self-state a narcissistic patient is experiencing may facilitate the therapist's ability to adjust her technique accordingly. For example, a narcissistic patient with a more grandiose presentation may balk at the interpretation of an instance of projection, one that attempts to elucidate how the patient views his spouse as unempathic in ways he cannot recognize in himself. That same patient may eventually attend therapy in a more vulnerable state, one in which his self-esteem has been diminished by this spouse's suggestion that they divorce. In this vulnerable state where the patient is feeling unsure of himself, the therapist may better navigate the process of working through what role the patient plays in his rocky relationships because he is in a state in which he is more desirous of acceptance from the therapist. If the therapist can attend to the narcissistic patient's self-state, it may prevent premature drop out from treatment, as well as strengthen the therapeutic alliance between the therapist and the narcissistic patient generally.

What the results of the present study offer specifically to better understanding the treatment of narcissism is insight into experiences that are particular to the vulnerable self-state. As argued previously, we conceptualize the association between vulnerable narcissism and increased cognitive empathy for negative stimuli only on the MET as related in part to the contingent self-esteem inherent in vulnerable narcissism. If the vulnerable narcissist can better identify negative affect in the other, then he can protect against perennial threats to his self-esteem and general self-concept. The association between greater vulnerable narcissism and lower social desirability concerns similarly suggests that avoidance of feedback from another person in vulnerability represents an attempt to bolster and shore up lower self-esteem. This is supported by theories that propose avoidance of social relationships in vulnerable narcissism represents an attempt to reduce social rejection risk (Ronningstam, 2011). If a clinician is cognizant of this aspect of the narcissistic patient's experience—his tendency to seek out confirmation or disconfirmation in the other of his own fragile self-concept—then the clinician may better navigate the common counter-transferential response to narcissistic patients of avoiding interpretations of narcissistic defenses for fear of harming the narcissist's fragile and precarious self-esteem. For example, in the previous example, a narcissistic patient may consider himself to be more empathic than his spouse, and this assertion may be a defensive attempt not to examine his own inability to mentalize the experiences of those closest to him. If the therapist is invested in the treatment and thus feels empathy herself for the patient, then she will understandably feel some trepidation at showing him how his own self-centeredness detrimentally affects his relationships. However, the therapist does this patient a disservice if she avoids interpreting the patient's inability to mentalize

his loved ones for fear of damaging his self-esteem. If both therapist and patient can survive the process of challenging a narcissistic patient by confronting them with social realities (e.g., a bitterly disappointed spouse) and their proclivity to avoid such realities, treatment goals can pivot to developing self-esteem that is not primarily contingent on the recognition of others (Tritt et al., 2009) and fostering insight into primary feelings of fear and shame (Ronningstam & Baskin-Sommers, 2013). Additionally, the hyperattunement of the narcissistic patient to negative affect in the other may serve as a useful tool in helping him to develop the broader ability to mentalize the experience of another person (Diamond et al., in press).

5.8 Limitations and future directions

One of the main limitations of the present study is the use of non-clinical undergraduate students. The participants were not diagnosed with clinical or semi-structured interviews for any clinical disorders such as NPD, and thus the results may not generalize to a clinical sample. It is also possible that some of our measure's subscales did not emerge as having significant associations with other measures because the sample was non-clinical. For example, one of our performance-based measures (the MASC) was not associated with our self-report measure of narcissism, the PNI. The MASC was developed using a sample of individuals with Asperger syndrome (Dziobek et al., 2006), and has primarily been used to study clinical samples, including those who meet criteria for NPD and individuals with psychopathic traits (Ritter et al., 2011; Sharp et al., 2014). Thus, it is possible that a non-clinical sample such as the one used in the current study could not as easily tap into the cognitive empathy score of the MASC. However, it should be noted that there was a negative relationship between PNI pathological narcissism and cognitive

empathy on the MASC in the current sample that approached clinical significance. Future studies would benefit from employing the MASC with both the PNI and a diagnostic interview that could identify NPD patients so that the MASC cognitive empathy score's relationship with narcissism can be explored.

Additionally, it would be beneficial to use the PNI in a clinical sample so as to further clarify if the PNI captures more pathological manifestations of narcissism, as argued by Edershile et al. (2019); it is possible that unlike in the present study, the grandiosity subscale may have been associated with the study's empathy measures if given to clinically diagnosed NPD participants. Employing clinical interviews conducted by mental health professionals allows for a more nuanced picture of a participant's personality pathology, and thus research exploring similar aims to the present study could be improved by using both self-report and diagnostic interviews as indicators of pathology.

Future longitudinal studies should also be used to explore causal effects between the PNI and both the MET and IRI, as the current cross-sectional study's results cannot lay claims to causality. Longitudinal studies are also of particular interest in expanding upon the current study's findings because they can examine the fluctuations between grandiosity and vulnerability that narcissistic patients and individuals commonly exhibit (Gore & Widiger, 2016; Roche, Pincus, Conroy, Hyde, & Ram, 2013; Ronningstam, 2009), which cannot be measured by self-report. In a recent study by Wright et al. (2017), psychiatric outpatients who met NPD criteria completed a 21-day ecological momentary assessment (EMA) protocol using smartphones in order to measure participants' reported perceptions of interactions with their partners. It was found that narcissistic vulnerability

was most prevalent when participants felt challenged or controlled. This study was able to assess how narcissism is related to specific behaviors triggered by interpersonal and affective processes, and serves as a model for how future studies examining empathy deficits in narcissism may be developed. EMA protocols could allow researchers to identify whether a vulnerable versus grandiose self-state affects empathic abilities in a moment-to-moment interaction, which may offer more insight into what is behind empathy deficits in narcissism than performance-based measures of empathy can provide.

5.9 Conclusion

This is the first study to examine the relationship between empathy and narcissism using the two performance-based tasks of empathy, the MASC and MET, in an undergraduate sample. It is also the first study to the authors' knowledge that looks directly at differences in empathy on these performance-based tasks between two expressions of narcissism, vulnerability and grandiosity. We did not find that better cognitive and poorer affective empathy on both the performance-based tasks and the self-report, the IRI, were associated with PNI narcissism. Instead, we found that poorer cognitive empathy on the IRI and better cognitive empathy on the MET for negative emotional faces was associated with PNI vulnerability. Additionally, we found that PNI vulnerability was uniquely related to a performance-based task of empathy, the MET for negative emotional faces, rather than to the self-report, the IRI when controlling for social desirability. However, contrary to expected, it was lower (as opposed to higher) social desirability that accounted for the variance in vulnerable narcissism explained by lower cognitive empathy on the self report, the IRI.

Our hypotheses were based in prior research on the relationship between

narcissism and empathy that shows narcissism to be associated with deficient affective and better, comparable or dysfunctional cognitive empathy compared to healthy controls (Di Pierro, Di Sarno, Preti, Di Mattei, & Madeddu, 2018; Baskin-Sommers, Krusemark, & Ronningstam, 2014). We were also informed by studies that show how narcissistic participants over-report empathic abilities but display compromised empathy on tasks within the same study (Marissen, Deen, & Franken, 2012; Czarna, Wróbel, Dufner, and Zeigler-Hill, 2015). The clinical picture of a narcissistic individual that emerges from our study's hypotheses is one who is concerned with having socially desirable traits, and who fails to affectively resonate with others but can cognitively empathize for potentially nefarious purposes such as manipulation; this clinical portrait is one that is often referenced in literature on the Dark Tetrad personality traits, which include Machiavellianism, narcissism, psychopathy, and sadism (Turner, Foster, & Webster, 2019; Pajevicc, Vukosavljevic-Gvozden, Stevanovic, & Neumann, 2018; Pfabgian et al., 2015). It is also a conceptualization that shares more with the current criteria for NPD in the DSM-5 (DSM-5; APA, 2013): the NPD patient "requires excessive admiration," "is interpersonally exploitative," and "lacks empathy or is unwilling to recognize or identify with the feelings and needs of others."

In contrast to that of our study's hypotheses, the clinical picture of narcissism that emerges from our results is one that, rather than conforming only to a more grandiose presentation, is characterized by grandiose and vulnerable features, and aligns with psychoanalytically-informed theories on the etiology of the disorder. Our finding that vulnerable narcissism was associated with better cognitive empathy on the MET for negative emotional faces is consistent with prior research on the topic showing an

enhanced ability in narcissism to read negativity in faces (Panfilis et al., 2019; Wai & Tiliopoulos, 2012), and provides empirical support for theories that highlight how narcissistic vulnerability is driven by efforts to protect a sense of self crippled by contingent self-esteem (Ronningstam, 2011). The finding also clarifies how, as posited in the current research on mentalization, those with narcissistic disorders fail to adequately understand the mind of another person because their capacity to read another's affect is bound up in their general mistrust of social communication, and that this mistrust (engendered by inconsistent parenting) motivates a hyperattunement to the needs and approval of others (Diamond et al., in press). The narcissistic patient thus recognizes affect in the other as a means of ensuring that they do not represent a psychic threat; this recognition serves the purpose only of assessing whether the narcissistic patient's precarious sense of self is either accepted or rejected.

Our finding that lower self-reported social desirability accounted for the association between vulnerable narcissism and lower self-reported cognitive empathy, in addition to supporting prior research on narcissism and social desirability (Barry, Lui, & Anderson, 2017; Raskin, Novacek, & Hogan, 1991), further enriches the conceptualization of vulnerable narcissism underpinned by our MET finding. A lack of interest in impression management, which undergirds the lack of motivation to take another person's perspective in narcissism, supports the theory that narcissism is characterized by attempts to protect a fragile ego; these attempts may take the form either of social avoidance generally (Ronningstam, 2011) or of avoiding empathic processes so as not to lose control or experience negative feelings (Di Pierro et al., 2018). We conceive of a lower interest in socially desirability as related both to a disengagement from social-emotional processes as

a means of ego protection, as well as part of a general pattern in narcissism to see the other not as a subject of their own, but rather an object that contains split-off, negative aspects of the self, and thus can be easily dismissed or denigrated.

Taken together, our findings lend empirical support to a conceptualization of narcissism that is based less on outward behaviors and symptoms, and more on the dynamic shifts in interpersonal functioning and self-concept that we believe are characteristic of narcissistic disorders. Our findings also support the inclusion of the vulnerable presentation in the DSM-5's Alternative Model for Personality Disorders (AMPD) of NPD. The AMPD offers a more specific description of impaired empathy in narcissism that includes the excessive attunement "to reactions of others, but only if perceived as relevant to self." This more fine-tuned understanding of empathy deficits in NPD incorporates what aspects of the vulnerable presentation may specifically affect the ability to empathize. Additionally, it is our hope that lack of empathy can be understood not only as a feature of the narcissistic phenotype, but also as related to the unconscious processes that constitute the disorder's intrapsychic landscape. A better understanding of these processes can pave a clearer path towards more targeted treatment of both NPD and narcissistic traits.

Table 1

Descriptive characteristics of the demographics ($N = 89$)

Variable	N	%
Gender Identity		
Female	58	65.2
Male	30	33.7
Non-binary	1	1.1
Race		
American Indian or Alaskan Native	2	2.2
Asian	32	36.0
Native Hawaiian or Other Pacific Islander	1	1.1
Black or African American	15	16.9
White	10	11.2
More than one race	9	10.1
Race not listed or indicated[1]	20	22.5
Ethnicity		
Hispanic/Latino/Latina/Latinx	35	39.3
Not Hispanic/Latino/Latina/Latinx	54	60.7
Sexual Orientation		
Straight	74	83.1
Gay	3	3.4
Bisexual	9	10.1
Queer	1	1.1
Sexual orientation not listed	2	2.2
Household Income (annual, USD)		
<10,000	13	14.6
10,000 - 14,999	10	11.2
15,000 - 24,999	22	24.7
25,000 - 34,999	11	12.4
35,000 - 49,999	8	9
50,000 - 74,999	8	9
75,000 - 99,999	8	9
Greater than 99,999	9	10.1
Born in the US (yes)	63	70.8

[1] Of the 20 students who indicated "Response not above" when selecting their race, 5 did not write in a race and 15 wrote in the following responses: Hispanic, Middle Eastern, Dominican, South Asian, Central American, and Mexican

Table 2
Pathological Narcissism Inventory (N = 89)

	Mean	SD	Range
Pathological Narcissism Inventory (PNI) Pathological Narcissism	2.60	.64	.96 - 3.85
Pathological Narcissism Inventory (PNI) Vulnerability	2.33	.88	.33 - 4.15
Pathological Narcissism Inventory (PNI) Grandiosity	2.86	.65	1.20 - 4.90

Table 2.1
Performance-based empathy measures (N = 89)

	Mean	SD	Range
Movie for the Assessment of Social Cognition (MASC) Cognitive Empathy	33.50	3.45	26 - 42
Multifaceted Empathy Test (MET) Cognitive Empathy	.62	.10	.41 - .84
Multifaceted Empathy Test (MET) Cognitive Empathy Positive	.67	.12	.42 - .92
Multifaceted Empathy Test (MET) Cognitive Empathy Negative	.57	.11	.29 - .82
Multifaceted Empathy Test (MET) Affective Empathy	5.42	1.20	1.50 - 7.73
Multifaceted Empathy Test (MET) Affective Empathy Positive	5.35	1.63	1.00 - 8.21
Multifaceted Empathy Test (MET) Affective Empathy Negative	5.53	1.78	1.14 - 8.36

Table 2.2
Self-report empathy measure (N = 89)

	Mean	SD	Range
Interpersonal Reactivity Index Perspective-taking	20.33	4.09	10 – 28
Interpersonal Reactivity Index Empathic Concern	20.58	4.54	8 – 28

Table 2.3
Clinical self-report measures and age (N = 89)

	Mean	SD	Range
SCID-II Questionnaire BPD symptoms	28.97	7.33	16 - 53
Center for Epidemiologic Studies Depression Scale (CES-D)	16.33	8.28	4 - 36
Psychiatric Symptoms (BSI)	29.96	33.1	0 - 126
Social Desirability (MCSDS)	18.44	5.63	6 - 31
Age	20.66	3.67	18 - 36

Table 3
Correlations among empathy measures ($N = 89$)

Variables	MASC Cognitive Empathy	MET Cognitive Empathy	MET Affective Empathy	IRI Perspective-taking	IRI Empathic Concern
MASC Cognitive Empathy	-----				
MET Cognitive Empathy	.29**	-----			
MET Affective Empathy	.03	-.12	-----		
IRI Perspective-taking	.22*	.26*	.16	-----	
IRI Empathic Concern	.31**	.17	.09	.44**	-----

Note. MASC = Movie for the Assessment of Social Cognition; MET = Multifaceted Empathy Test; IRI = Interpersonal Reactivity Index; IRI Perspective-taking approximates cognitive empathy; IRI Empathic Concern approximates affective empathy

* $p < .05$. ** $p < .01$.

Table 4

Correlations among MASC, MET, and IRI empathy and PNI narcissism ($N = 89$)

Variables	PNI Grandiosity[a]	PNI Vulnerability	PNI Pathological Narcissism
MASC Cognitive Empathy	-.10	-.16	-.19
MET Cognitive Empathy	.12	.15	.19
MET Cognitive Empathy Positive	.10	.01	.06
MET Cognitive Empathy Negative	.17	.24*	.25*
MET Affective Empathy	.04	-.05	-.03
MET Affective Empathy Positive	.14	-.09	-.01
MET Affective Empathy Negative	-.09	.02	-.03
IRI Perspective-taking	.19	-.33**	-.20
IRI Empathic Concern	.16	-.17	-.08

Note.

[a] Correlations of PNI Grandiosity with all the empathy measures are controlled for PNI Vulnerability (Crowe et al., 2019)

* $p < .05$. ** $p < .01$.

Table 5

Hierarchical Regression Predicting Vulnerability from IRI perspective-taking and MET Cognitive Empathy, controlling for MCSDS Social Desirability ($N = 89$)

	Vulnerability			
	Model 1		Model 2	
	B	β	B	β
Constant	2.59		3.70	
MET CE Negative	2.56	.326***	1.52	.194*
IRI Perspective-taking	-.084	-.389***	-.026	-.118
MCSDS Scores			-.094	-.599***
R^2	.206		.488	
F	11.02***		26.70***	
ΔR^2			.282	

Note. IRI = Interpersonal Reactivity Index; MCSDS = Marlowe–Crowne Social Desirability Scale

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

Table 6
Hierarchical Regression Predicting Pathological Narcissism from MET Cognitive Empathy for Negative Pictures Controlling for Gender, BSI scores, CESD scores, and BPD symptoms ($N = 89$)

	Pathological Narcissism			
	Model 1		Model 2	
	B	β	B	β
Constant	1.81		1.34	
MET CE Negative	1.31	.244*	1.18	.220*
Gender			.024	.019
BSI Scores			.007	.358*
CESD Scores			.007	.084
BPD Symptoms			.007	.475
R^2	.060		.285	
F	4.31*		5.10***	
ΔR^2			.225***	

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

Table 7
Hierarchical Regression Predicting Vulnerability from MET Cognitive Empathy for Negative Pictures, Controlling for Gender, BSI scores, CESD scores, and BPD Symptoms ($N = 89$)

	Vulnerability			
	Model 1		Model 2	
	B	β	B	β
Constant	1.28		.227	
MET CE Negative	1.75	.229*	1.44	.188*
Gender			.143	.078
BSI Scores			.014	.532***
CESD Scores			.008	.068
BPD Symptoms			.016	.136
R^2	.052		.473	
F	3.75*		11.50 ***	
ΔR^2			.421	

Note. IRI = Interpersonal Reactivity Index
* $p < .05$, ** $p < .01$, *** $p < .001$

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