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Clarifying the association between the subtypes of narcissism and suicide risk

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CLARIFYING THE ASSOCIATION BETWEEN THE

SUBTYPES OF NARCISSISM AND SUICIDE RISK

by

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ABSTRACT

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Further research is needed to clarify the relationship between narcissism and suicidality. Ambiguous findings yielded by prior investigations may be attributed to the heterogeneity of the two distinct forms of narcissism (i.e., grandiose and vulnerable). The current study aimed to examine the association between the components of the interpersonal-psychological theory of suicidal behavior (i.e., thwarted belongingness, perceived burdensomeness, and the acquired capability for suicide) and the two narcissism subtypes. The potential indirect effect of emotion dysregulation, a construct linked to the development of suicide risk, on the relationship between the forms of narcissism and the components of suicide risk was also evaluated. The sample was comprised of 162 undergraduate students currently enrolled at a public university in southern Mississippi. Participants provided responses to a series of self-report questionnaires and completed behavioral measures pertaining to two of the constructs being assessed. Structural equation modeling was utilized to examine the mediating role of emotion dysregulation in the association between the subtypes of narcissism and suicide risk factors. It was hypothesized that vulnerable narcissism would be associated with elevated levels of thwarted belongingness and perceived burdensomeness and a diminished acquired capability for suicide. Whereas, grandiose narcissism was hypothesized to predict low endorsements of thwarted belongingness and perceived

burdensomeness and heightened levels of the acquired capability. It was further

hypothesized that emotion dysregulation would statistically account for the proposed

relationships. Results were largely inconsistent with hypotheses. Only the anticipated

associations between both forms of narcissism and emotion dysregulation were

supported.

DEDICATION

I dedicate this work to Aliwishus and Attila, my two constant sources of love, acceptance, and support.

ACKNOWLEDGMENTS

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LIST OF ABBREVIATIONS

ACSS	Acquired Capability for Suicide Scale
BSS	Beck Scale for Suicide Ideation
CDC	Centers for Disease Control and Prevention
CFI	Comparative Fit Index
DERS	Difficulties in Emotion Regulation Scale
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
HSNS	Hypersensitive Narcissism Scale
INQ	Interpersonal Needs Questionnaire
IPTS	Interpersonal-Psychological Theory of Suicidal Behavior
M	Mean
NMR	Negative Mood Regulation Scale
NPIC	Narcissistic Personality Inventory for Children
PANAS	Positive and Negative Affect Schedule
PASAT-C	Paced Auditory Serial Addition Task-Computerized Version
PNI	Pathological Narcissism Inventory
RFL	Reasons for Living Inventory
RMSEA	Root Mean Square Error of Approximation
SD	Standard Deviation
TLI	Tucker-Lewis Index

CHAPTER I

INTRODUCTION

The present study examined the relationship between the two subtypes of narcissism and various components of suicide risk. Suicide, defined as intentional infliction of acute physical harm upon oneself with at least some intent to die (Crosby, Gfroerer, Han, Ortega, & Parks, 2011), is currently the 10th leading cause of death in the U.S. (Centers for Disease Control and Prevention [CDC], 2012) and constitutes a substantial national health concern. At least 38,000 deaths are attributed to suicide each year in the U.S. alone. Additionally, approximately 633,000 Americans present in emergency rooms every year with severe self-injury. Over the course of the past year, more than 1 million individuals reported attempting suicide and greater than 2 million individuals endorsed experiencing suicidal ideation (CDC, 2012). Furthermore, the CDC estimates that the cost of the average suicide is $1,061,170 and that suicide costs society approximately $34.6 billion a year in combined medical bills and lost work (CDC, 2012).

A combination of individual, relational, community, and societal factors contribute to suicide risk. Risk factors are typically defined as characteristics associated with suicidal behavior; however, they do not necessarily constitute direct causes of suicidality. Risk factors commonly associated with suicide include prior attempts; the presence of psychological disorders, particularly major depressive disorder; hopelessness; social isolation; access to lethal methods; family history of suicide; lack of access to mental health treatment; impulsivity; significant loss; aggressive behavior; history of alcohol and/or substance abuse; unwillingness to pursue psychological treatment due to stigma; maltreatment or abuse during one's formative years; cultural and spiritual beliefs;

severe or chronic physical illness; and local suicide clusters (Bostwick & Pankratz, 2000; Brezo, Paris, & Turecki, 2006; Martikainen, Bartley, & Lahelma, 2002; McLean, Maxwell, Platt, Harris, & Jepson, 2008; Neeleman, 2001).

One can conceptualize risk for lethal self-harm by utilizing the interpersonal-psychological theory of suicidal behavior (IPTS; Joiner, 2005). The theory posits that to die by suicide, an individual must possess both the desire for death and the acquired capability for suicidal behavior. The first component implicated by the IPTS, the desire for death, is comprised of two separate psychological constructs, feelings of thwarted belongingness and perceptions of burdensomeness. Thwarted belongingness is described as a perceived lack of meaningful interpersonal relationships and sense of alienation (Joiner, 2005). Additionally, previous research has provided evidence of a strong link between low feelings of belongingness and suicidal behavior in a range of diverse populations (Bonner & Rich, 1987; Osgood & Brant, 1990; Prinstein, Boergers, Spirito, Little, & Grapentine, 2000; Roberts, Roberts, & Chen, 1998). Perceived burdensomeness is characterized by an individual's belief that he/she is a burden and that family, peers, and society would be better off without him/her (Joiner, 2005). Research findings have indicated that perceived burdensomeness significantly predicts attempt status and current level of ideation (Van Orden, Lynam, Hollar, & Joiner, 2006).

The acquired capability is characterized by an elevated pain tolerance and a diminished fear of death/bodily harm (Joiner, 2005). Despite preliminary evidence suggesting a significant portion of the variation in this construct is attributed to genetics (Smith et al., 2012), it is generally conceptualized as developing through a gradual process of habituation which occurs in response to repetitive exposure to painful and/or

provocative events. Through this habituation process, individuals acquire the capacity to engage in acts of self-harm as a reaction to experiences that serve to change their perception of the pain and fear associated with severe suicidal behavior (Joiner, 2005). When both components of suicidal desire are experienced in tandem, individuals who possess the acquired capability exhibit an increased propensity to enact lethal self-harm. Alternatively, an individual who does not possess the acquired capability for suicidal behavior cannot engage in self-injurious behavior even if he/she exhibits a strong desire for death. Consistent with this notion, research examining the interactive nature of the IPTS has yielded findings which support the proposed three-way interaction between these components of suicide risk. Specifically, results indicated that the interaction between a diminished sense of belonging, heightened perceptions of burdensomeness, and greater levels of the acquired capability significantly predicts attempt status (e.g., Anestis & Joiner, 2011; Joiner et al., 2009; for a full description of the empirical status of the IPTS, see Van Orden et al., 2010).

One recent focus of suicide research utilizing the IPTS has been the association between various personality disorders and certain aspects of suicidality. Personality disorders are characterized by pervasive and enduring patterns of behavior, emotion, and cognition. Furthermore, some of these disorders have been of particular interest since they are characterized by personality traits that have been associated with heightened levels of suicidality (e.g., aggression, social isolation) in the literature (Mann et al., 1999; Prinstein et al., 2001; Spruijt & de Goode, 1997). According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), there are ten distinct personality disorders. These ten disorders are divided into three clusters (i.e., A, B, and C) and the

diagnoses classified within each cluster share key features that tend to overlap with one another. The vast majority of this research has investigated cluster B personality disorders, characterized by dramatic, emotional, and erratic behavior (e.g., Anestis, Gratz, Bagge, & Tull, 2012).

The specific disorders which comprise cluster B are borderline personality disorder, histrionic personality disorder, antisocial personality disorder, and narcissistic personality disorder. Individuals diagnosed with a cluster B disorder have an increased proclivity to exhibit personality traits associated with greater suicide risk (McGirr et al., 2009). Furthermore, research has demonstrated that individuals diagnosed with a cluster B personality disorder are more likely to engage in acts of lethal self-harm. For instance, in one study examining predictors of future suicidal behavior in a sample of psychiatric patients who endorsed current ideation, cluster B personality disorders were associated with an elevated number of suicide attempts (May, Klonsky, & Klein, 2012). However, most research has focused primarily on the relationship between borderline personality disorder and/or antisocial personality disorder and suicidal behavior (Krysinska, Heller, & De Leo, 2006); few empirical studies have examined the association between narcissism and suicidality. Additionally, although recent research on the IPTS has focused on the relationship between borderline personality disorder and suicidality (Anestis et al., 2012), this theory has not been utilized to examine the association between other cluster B personality disorders/traits and suicidality.

Narcissistic personality disorder is characterized by a sense of grandiosity, longing for admiration, and absence of empathy (American Psychiatric Association, 2013). Prior research suggests that narcissistic personality disorder is related to distinct

aspects of suicidal behavior relative to other cluster B personality disorders and, therefore, warrants scientific investigation. Specifically, findings have indicated that suicide attempts initiated by individuals diagnosed with narcissistic personality disorder are associated with increased lethality and diminished impulsivity compared to the attempts of individuals diagnosed with the remaining three cluster B disorders (Blasco-Fonticilla, Baca-Garcia, Cervic, & Perez-Rodriquez, 2009). Yet, few studies have examined the relationship between either narcissistic personality disorder or narcissistic traits and suicide risk. The aim of the proposed study is to further the current literature pertaining to cluster B disorders and suicidality by specifically examining the association between narcissism and the various components of suicide risk. Trait narcissism is related to, yet distinct from, narcissistic personality disorder. Research has demonstrated that scores on a measure of trait narcissism are significantly correlated with the criteria for narcissistic personality disorder outlined in the DSM-5. Furthermore, individuals characterized as high on trait narcissism may also endorse symptoms of narcissistic personality disorder (Miller & Campbell, 2010). There are three primary distinctions that can be utilized to distinguish between the two psychological constructs. First, narcissism is conceptualized as a dimensional construct, whereas narcissistic personality disorder is considered categorical. Second, empirical research suggests that narcissism is comprised of two divergent subtypes, while narcissistic personality disorder represents a homogeneous construct. Third, trait narcissism is typically assessed in nonclinical populations (Miller & Campbell, 2010).

Previous research suggests that there are two distinct forms of pathological narcissism: grandiose narcissism, characterized by grandiosity, dominance, and

aggression, and vulnerable narcissism, defined as a sense of entitlement masked by inhibition and modesty (Zeigler-Hill, Clark, & Pickard, 2008). The concept of these two divergent subtypes has become widely accepted due to mounting empirical evidence (Miller et al., 2011). Research examining the potential relationship between narcissism and lethal self-harm has yielded inconsistent findings. Svindseth and colleagues conducted a study which investigated numerous aspects of narcissism in 186 patients in an acute psychiatric care unit. An analysis of variance revealed a significant association between narcissism and suicidal ideation (Svindseth, Nottestad, Wallin, Roaldset, & Dahl, 2008). In contrast, Freudenstein et al. (2012) utilized a sample consisting of 100 patients at a university-affiliated psychiatric adolescent inpatient unit. Results indicated that low scores on a measure of narcissism were predictive of severe suicidal behavior (Freudenstein et al., 2012). Both of these prior investigations utilized the Narcissistic Personality Inventory to assess for narcissism, which indicates that differing conceptualizations of the same construct fails to account for these ambiguous findings. Perhaps examining the relationship between the broadband construct of narcissism and suicidality opposed to focusing on the association between each distinct form of narcissistic expression and suicidal ideation or behavior may be responsible for these inconsistencies. Thus, these contradictory results might be attributed to the heterogeneity of narcissism (Miller & Campbell, 2010) and the differential relations of its subcomponents to various clinical outcomes (Dickinson & Pincus, 2003; Wink, 1991).

Individuals who exhibit vulnerable narcissism have a propensity to seek the validation and approval of others to both enhance and maintain their self-esteem. This reliance on external validation may result in an increased sensitivity to negative

emotional states when the desired approval is not obtained (Zeigler-Hill et al., 2008). Additionally, previous studies examining the effect of narcissism on social relationships have reported significant associations with hostility towards others (Bushman & Baumeister, 1998), interpersonal difficulties attributed to domineering and vindictive behavior (Dickinson & Pincus, 2003; Pincus & Wiggins, 1990), and an attachment style characterized as cold, defensive, and emotionally detached (Smolewska & Dion, 2005). This documented relationship between narcissism and poor social skills could serve to impair interpersonal connectedness and a lack of positive peer relationships would theoretically impact individuals who exhibit vulnerable narcissism more severely due to their propensity to rely on others for validation and approval. Furthermore, this impairment may serve to precipitate feelings of thwarted belongingness in individuals characterized by vulnerable narcissism, thereby increasing the likelihood of suicidal desire.

Prior research has demonstrated that grandiose narcissism is not associated with an increased sensitivity to interpersonal rejection (Besser & Priel, 2010). Grandiose narcissism has also been shown to predict greater utilization of adaptive humor styles which emphasize affiliation and self-enhancement and promote positive relationships with others (Zeigler-Hill & Besser, 2011). An interpersonal analysis examining the two subtypes of narcissism found that individuals with grandiose narcissism denied experiencing interpersonal distress despite indicating domineering and vindictive interpersonal issues during a diagnostic interview (Dickinson & Pincus, 2003). The results of this analysis further indicated that individuals with high grandiose narcissism scores reported adult attachment styles reflective of positive self-representations

(Dickinson & Pincus, 2003). These prior findings suggest that individuals with grandiose narcissism may exhibit a diminished capacity to detect peer difficulties and tend to perceive themselves as having positive relationships with others. The interpersonal qualities associated with this subtype of narcissism support a potential association between grandiose narcissism and low levels of thwarted belongingness.

Narcissism may also be linked to perceived burdensomeness, the second construct comprising suicidal desire. Although past research has not specifically examined the relationship between narcissism and perceived burdensomeness, an association between narcissism and internalizing problems (i.e., anxiety and depression) has been documented in the literature (Barry & Malkin, 2010). Depression can be conceptualized as consisting of a variety of emotional, behavioral, and cognitive components. The DSM-5 provides diagnostic criteria for major depressive disorder which capture the key symptoms exhibited by individuals experiencing clinically significant levels of depression. One of the primary symptoms listed in the DSM-5 describes feelings of worthlessness and inappropriate guilt. This specific criterion seems to mirror the concept of perceived burdensomeness and suggests that individuals suffering from depression are likely to endorse a heightened sense of burdensomeness. Furthermore, research has provided evidence supporting a significant relationship between increased depressive symptoms and elevated perceptions of burdensomeness (Jahn, Cukrowicz, Linton, & Prabhu, 2011). Thus, the reported association between narcissism and internalizing disorders suggests that a similar link between narcissism and perceived burdensomeness may exist. A study conducted by Barry and Malkin (2010) found that psychopathy-linked narcissism was linked to greater internalizing problems, while narcissism assessed with the Narcissistic

Personality Inventory for Children (NPIC; Barry, Frick, & Killian, 2003) predicted

decreased endorsements of internalizing issues. Researchers posited that these mixed

results may be attributed to the divergent subtypes of narcissism, suggesting that the

NPIC primarily measures grandiose narcissism, whereas psychopathy-linked narcissism

more accurately represents vulnerable narcissism. Therefore, these findings provide

support for differential relationships between the two forms of narcissism. Specifically,

results indicate that grandiose narcissism may be linked to diminished perceptions of

burdensomeness, while vulnerable narcissism is likely to exhibit an association with

increased levels of perceived burdensomeness.

One's self-esteem may have an impact on his/her sensitivity to perceptions of

burdensomeness. Zeigler-Hill and Besser (2011) reported an association between

vulnerable narcissism and low levels of self-esteem as well as a link between grandiose

narcissism and high levels of self-esteem. These findings suggest that individuals with

vulnerable narcissism may have a greater propensity to experience feelings of perceived

burdensomeness due to the low levels of self-esteem that characterize this subtype. The

results further suggest that individuals with grandiose narcissism may be less vulnerable

to perceptions of burdensomeness because of their elevated self-esteem.

Prior research is indicative of a potential relationship between narcissism and the

acquired capability for suicide. Although research has yet to directly examine the

association between these two variables, a link between narcissism and aggression has

been documented in past literature. Specifically, individuals with an elevated number of

narcissistic traits tend to demonstrate greater levels of unprovoked aggression (Reidy,

Foster, & Zeichner, 2010). One investigation examining the personality characteristics

associated with the two divergent forms of narcissism reported a relationship between grandiose narcissism and intense aggression. The findings yielded by this study also suggested that vulnerable narcissism is not associated with aggression (Wink, 1991). More recent research has reexamined the link between vulnerable narcissism and aggression. Okada (2010) found that vulnerable narcissism was predictive of anger and hostility, but not significantly associated with physical or verbal aggression. These results suggest that although individuals characterized by vulnerable narcissism exhibit a greater propensity to experience the emotional and cognitive components of aggression, they do not typically engage in the behavioral components. Heightened levels of behavioral aggression could theoretically result in increased exposure to painful and/or provocative events. Additionally, certain types of aggression are conceptualized as painful and/or provocative events (e.g., physical aggression). According to the IPTS, repeated exposure to painful and/or provocative experiences facilitates habituation to the physiological pain and fear associated with lethal self-harm, thereby increasing the acquired capability for suicide. Thus, these findings provide support for a potential relationship between narcissism and elevated levels of the acquired capability. Furthermore, the literature suggests that only one subtype of narcissism (i.e., grandiose) will predict a heightened acquired capability for suicide.

The proposed differential relationships between the heterogeneous subtypes of narcissism and the components of suicide risk may be explained by emotion dysregulation. The construct of emotion dysregulation is generally conceptualized as the awareness, understanding, acceptance, and regulation of emotions and the capacity to engage in goal-directed behavior while experiencing negative emotional states (Gratz &

Roemer, 2004). Specifically, emotion dysregulation may serve to mediate the associations between the predictor (i.e., grandiose and vulnerable narcissism) and criterion (i.e., the acquired capability for suicide, thwarted belongingness, and perceived burdensomeness) variables.

Research is indicative of an association between grandiose narcissism and diminished emotion dysregulation. Specifically, individuals with grandiose narcissism have been found to regulate their self-esteem and emotions by utilizing overt coping strategies (e.g., self-aggrandizement, devaluation of peers; Morf & Rhodewalt, 2001). According to the self-regulation theory of narcissistic functioning, self-regulation in individuals with high grandiose narcissism scores is largely driven by their inflated senses of self (Morf & Rhodewalt, 2001). Individuals with grandiose narcissism are heavily invested in promoting their self-perceived superiority and hypervigilant in their attempts to identify and diffuse possible threats to their grandiose self-perceptions (Morf & Rhodewalt, 2001). Individuals with high grandiose narcissism scores are also characterized by an affinity for direct competition against peers and often respond with self-protective behaviors (e.g., derogation, devaluation) when threatened by comparison to a superior performer or by negative feedback (Kernis & Sun, 1994; Morf & Rhodewalt, 1993; Morf, Weir, & Davidov, 2000). Additionally, Zeigler-Hill and Besser (2011) reported an association between grandiose narcissism and a tendency to engage in adaptive forms of humor that foster positive peer relationships and indirectly regulate self-esteem. Although none of the aforementioned studies directly measured dysregulated emotions, these findings indicate that grandiose narcissism is associated with a number of coping strategies aimed at self-regulation and avoidance of negative emotions. Thus, the

numerous emotion regulation strategies associated with this subtype suggest that grandiose narcissism may be related to an enhanced ability to regulate one's emotions.

Individuals with vulnerable narcissism are comparatively less equipped to use self-enhancement techniques to modulate their self-esteem. Individuals with high vulnerable narcissism scores primarily rely on the external feedback they receive from peers to manage their self-esteem. Zeigler-Hill and Besser (2011) reported an association between vulnerable narcissism and the use of maladaptive humor, which can be damaging to peer relationships. Furthermore, research has indicated that this subtype is associated with an increased vulnerability to interpersonal threat (e.g., humiliation, betrayal; Besser & Priel, 2010). These findings suggest that vulnerable narcissism is linked to deficits in emotion regulation strategies and a greater need for external validation. Thus, the literature provides support for a potential relationship between vulnerable narcissism and diminished emotion regulation.

Previous research has indicated that borderline personality disorder, another cluster B disorder, is associated with emotion dysregulation (Gratz, Rosenthal, Tull, Lejuez, & Gunderson, 2006). Findings suggest that borderline personality disorder can be characterized by an unwillingness to experience distress, one specific aspect of emotion dysregulation. Additionally, participants with borderline personality disorder are less willing to tolerate emotional distress in order to engage in goal-directed behavior or to encounter a potentially distressing situation relative to subjects without a personality disorder (Gratz et al., 2006). Vulnerable narcissism might also be theoretically conceptualized as involving an extreme aversion to emotional distress. Unlike grandiose narcissism, vulnerable narcissism is characterized by self-esteem that relies heavily upon

peer validation and approval. Thus, individuals who exhibit vulnerable narcissism are more likely to be detrimentally affected by negative perceptions of themselves expressed by others and may also be prone to experiencing more intense emotional distress due to their reliance on peer evaluation. Furthermore, if vulnerable narcissism can be conceptualized as involving an inability to tolerate emotional distress, these findings suggest that individuals who endorse high levels of vulnerable narcissism are less likely to develop the acquired capability. This prior literature documenting a link between emotion dysregulation and a relevant cluster B personality disorder provides further support for a relationship between narcissism and elevated emotion dysregulation.

Research utilizing the IPTS has indicated a complicated relationship between emotion dysregulation and the components of suicide risk. Individuals characterized by elevated levels of emotion dysregulation have a greater propensity to desire death, whereas individuals with diminished levels of emotion dysregulation are more likely to possess a heightened acquired capability (e.g., Anestis, Bagge, Tull, & Joiner, 2011; Anestis, Bender, Selby, Ribeiro, & Joiner, 2011; Bender, Anestis, Anestis, Gordon, & Joiner, 2012). These results suggest that individuals who experience emotional distress as intolerable may exhibit an increased likelihood for suicidal desire, but are less inherently capable of engaging in suicidal behavior (Anestis et al., 2012). Research has also suggested that difficulties pertaining to emotion regulation are related to increased suicidal ideation (Rajappa, Gallagher, & Miranda, 2012). Based on these findings, it is hypothesized that grandiose narcissism will be linked to elevated levels of the acquired capability and low suicidal desire, whereas vulnerable narcissism will be associated with

diminished acquired capability for suicide and increased desire. It is further hypothesized that emotion dysregulation will serve to mediate each of the anticipated relationships.

The current study aimed to clarify the relationship between the two subtypes of narcissism and the components of suicide risk. Prior research pertaining to cluster B personality disorders and suicidality has focused almost entirely on the association between borderline personality disorder and/or antisocial personality disorder and acts of lethal self-harm (Krysinska et al., 2006). Studies that have examined the link between narcissism and suicidal behavior have yielded ambiguous findings (Freudenstein et al., 2012; Svindseth et al., 2008). These inconsistent results may be attributed to the heterogeneous nature of the subtypes of narcissism. No previous studies have investigated suicidality in light of these two distinct forms of narcissism. Furthermore, the present study was the first to utilize the IPTS to examine the association between narcissism and suicidality. Structural equation modeling was utilized to test the following hypotheses pertaining to narcissism and suicide risk:

1. Vulnerable narcissism will be associated with increased suicidal desire; grandiose narcissism will be related to diminished suicidal desire.

2. Grandiose narcissism will predict an elevated acquired capability for suicide; vulnerable narcissism will be associated with low acquired capability.

3. Vulnerable narcissism will exhibit a relationship with heightened levels of emotion dysregulation; grandiose narcissism will be related to diminished emotion dysregulation.

4. Emotion dysregulation will serve to mediate the relationship between the two subtypes of narcissism and both suicide risk factors.

CHAPTER II

METHOD

Participants

The sample consisted of 162 undergraduate students currently attending a public university in southern Mississippi. Participants were primarily female (79%) and ranged in age from 18 to 57 years old ($M = 21.05$, $SD = 5.36$). In terms of racial composition, 39.5% of subjects were White, 50% were African American, 1.2% were Hispanic or Latino(a), 1.9% were Asian or Pacific Islander, and 4.3% were classified as Other.

Measures

Predictor Variables

Pathological Narcissism Inventory (PNI; Pincus et al., 2009). The PNI is a 52-item self-report questionnaire utilized to assess variations in pathological narcissism (Pincus et al., 2009). The assessment tool is comprised of seven subscales which load onto two higher order factors (i.e., vulnerable narcissism and grandiose narcissism; Wright, Lukowitsky, Pincus, & Conroy, 2010). Prior research utilizing a large sample of undergraduate students yielded results consistent with the theoretical structure of the PNI, providing support for the validity of the measure in such samples. Additionally, previous research examining each of the assessment's individual subscales reported internal consistency coefficients within the range of acceptable values (Pincus et al., 2009). Empirical findings have further indicated that PNI total scores exhibit the anticipated correlations with psychological measures of self-esteem, empathy, shame, primitive defenses, identity diffusion, impaired reality testing, aggression, and diminished moral values in a sample of college students. In a clinical sample, PNI scores were predictive of

suicidal behavior (Pincus et al., 2009). In regards to the PNI's vulnerable narcissism scales, past research has yielded results suggesting that the vulnerable narcissism scales are significantly associated with the Hypersensitive Narcissism Scale (HSNS; Hendin & Cheek, 1997), a more established measure of vulnerable narcissism, and indicators of borderline personality disorder, a theoretically-relevant psychological disorder (Miller et al., 2010). Vulnerable narcissism composite scores have been shown to exhibit systematic associations with the maladaptive schemas of mistrust, subjugation, dependence, abandonment, and entitlement. Alternatively, a relationship between grandiose narcissism composite scores and mistrust, insufficient self-control, a sense of entitlement, self-sacrifice, and unrelenting standards was reported (Ziegler-Hill, Green, Arnau, Sisemore, & Meyers, 2010). These findings provide support for the convergent and criterion validity of scores obtained with the grandiose and vulnerable narcissism scales. The Cronbach's alpha values for the grandiose and vulnerable narcissism scales in the current study were .88 and .95, respectively.

Covariates

Sex. Sex was utilized as a covariate in the proposed study to ensure that significant results cannot be better explained by sex differences due to the association between females and heightened suicidal desire and the link between males and greater levels of the acquired capability that has been documented in previous research (Anestis et al., 2011).

Mediating Variable

Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004). The DERS is a self-report questionnaire comprised of 36 items that assess for clinically

significant deficits in emotion regulation. Items are associated with one of six subscales: Lack of Emotional Awareness, Lack of Emotional Clarity, Difficulties Controlling Impulsive Behaviors When Distressed, Difficulties Engaging in Goal-Directed Behavior When Distressed, Nonacceptance of Negative Emotional Responses, and Limited Access to Effective Emotion Regulation Strategies. The scale also yields a total score indicative of global difficulties regulating negative affect. Participants respond to items using a 5-point Likert scale ranging from 1 (*almost never*) to 5 (*almost always*). Past studies have provided evidence supporting the reliability of the DERS. DERS scores have displayed test-retest reliability over a period of 4 to 8 weeks in a sample of undergraduates (Gratz & Roemer, 2004). Additionally, the DERS has demonstrated high internal consistency among college students (e.g., Cronbach's alpha = .93; Gratz & Roemer, 2004). In regards to construct validity, scores obtained on the DERS and another commonly utilized measure of emotion regulation, the Negative Mood Regulation Scale (NMR; Catanzaro & Mearns, 1990) are highly correlated in university samples (Gratz & Roemer, 2004). Furthermore, DERS scores in young adults have been associated with frequency of intentional self-harm and frequency of intimate partner abuse (Gratz & Roemer, 2004), two behaviors linked to emotion dysregulation (e.g., Briere & Gil, 1998; Gratz, 2003; Jakupcak, Lisak, & Roemer, 2002). The internal consistency in this sample was .95.

Paced Auditory Serial Addition Test – Computerized Version (PASAT-C; Lejuez, Kahler, & Brown, 2003). A computerized version of the PASAT was utilized as a behavioral measure of emotion regulation in the proposed study. During the task, a series of numbers are presented on the computer screen. As new numbers appear, subjects are required to add the most recent number listed to the number directly preceding it.

Additionally, participants must indicate the calculated sum by selecting the appropriate value from the list of potential numerical solutions featured on the computer screen before the subsequent number is provided. The PASAT-C is comprised of three levels which increase in difficulty and duration. The length of the initial level is three minutes, the second level is five minutes long, and the final level consists of up to fifteen minutes. The latency between number presentations also varies with level. Specifically, the latency is three seconds for level 1, one and one-half seconds for level 2, and one second for level 3. Each time the participant correctly indicates the most recent sum, he or she earns a point. Each time the participant incorrectly indicates the most recent sum, a loud and aversive explosion noise is emitted. The computerized version of the PASAT-C also features an escape option which allows participants to terminate the task at any time. However, subjects who chose to discontinue the task prior to completion were required to complete an additional 15 minute component of the study consisting of solving anagrams. Participants were provided with this information prior to beginning the PASAT-C so that there is some incentive to attempt to complete the task. Subjects also completed a brief self-report questionnaire prior to and directly following the task in order to examine the emotions induced by the PASAT-C. Prior studies that have utilized a computerized version of the PASAT-C to assess willingness to tolerate distress have reported a significant association between PASAT-C latency to termination scores and measures of self-reported emotion dysregulation and experiential avoidance (Gratz et al., 2006).

Although initially developed as a means of cognitive assessment, the PASAT-C has been shown to induce negative emotional states. Specifically, the PASAT-C promotes feelings of anxiety, anger, frustration, and irritability. Furthermore, research has

demonstrated that these emotions have been consistently elicited among participants, even when diverse samples were utilized (Brown, Lejuez, Kahler, & Strong, 2002; Lejuez et al., 2003). Thus, these results provide support for the construct validity of the PASAT-C. In regards to predictive validity, findings have indicated that PASAT-C scores predict premature treatment termination among substance users in a residential treatment facility (Daughters et al., 2005).

There were several inconsistencies between the original computerized adaptation of the PASAT and the version of the PASAT-C obtained from Inquisit and utilized in the current investigation. As previously mentioned, the PASAT-C typically emits an aversive explosive sound when participants endorse an incorrect response; however, the version of the PASAT-C offered by Inquisit did not include this feature. The PASAT-C implemented in this study provided feedback pertaining to the validity of participant responses solely during the practice section of the task. The words "correct" and "incorrect" flashed on the computer screen following each numerical selection throughout the entirety of the practice portion, but not during completion of the task. The Inquisit version of the PASAT-C also excluded periodic assessments of negative affect which are traditionally utilized to determine whether distress was successfully induced by the computerized task. To address the absence of distress measures, the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegan, 1988) was administered directly prior to and immediately following initiation of the PASAT-C. Examination of the difference between mean negative affect scores endorsed by participants on the pre-($M = -.03$, $SE = .66$) and post-PANAS ($M = -.98$, $SE = 1.08$) were indicative of a lack of a

significant difference ($t(322) = .75$, $p = .45$), which suggests that the version of the PASAT-C utilized in the current investigation failed to produce emotional distress.

Outcome Variables

Interpersonal Needs Questionnaire (INQ; Van Orden, Witte, Gordon, Bender, & Joiner, 2008; Van Orden, Cukrowicz, Witte, & Joiner, 2012). The INQ is a self-report questionnaire that was designed to measure thwarted belongingness and perceived burdensomeness, the two components of suicidal desire proposed in the IPTS. The INQ is typically administered in a 25- or 15-item version; however, an 18-item version was utilized in the present study. This version has previously been administered in undergraduate populations (e.g., Davidson, Wingate, Grant, Judah, & Mills, 2011; Rasmussen & Wingate, 2011). Scale items are evaluated utilizing a Likert scale with higher scores on this measure indicating more severe suicidal desire. Items assessing both perceived burdensomeness (Cronbach's alpha = .89) and thwarted belongingness (Cronbach's alpha = .85) have demonstrated high internal consistency in an undergraduate sample. Prior research has also supported the construct validity of this measure. Specifically, thwarted belongingness has been found to be more highly correlated with loneliness, a theoretically related construct, than perceived burdensomeness (Van Orden et al., 2008). In a study examining the psychometric properties of the INQ in young adults, thwarted belongingness was found to be related to four conceptually similar constructs and perceived burdensomeness was linked to three related psychological constructs, providing support for the measure's convergent validity. Results further indicated that heightened levels of both thwarted belongingness and perceived burdensomeness were associated with future suicidal ideation, which suggests

that the INQ has predictive validity when utilized to assess a sample of young adults. The Cronbach's alpha values for the perceived burdensomeness and thwarted belongingness subscales in the current sample were .87 and .89, respectively.

Acquired Capability for Suicide Scale (ACSS; Bender, Gordon, Bresin, & Joiner, 2011). The ACSS is a 20-item self-report measure utilized to assess participants' capacity to engage in suicidal behavior. The IPTS posits that the acquired capability can be conceptualized as a heightened tolerance for physical pain and a diminished fear of death/bodily harm. Subjects respond to the ACSS by rating each item on a Likert scale ranging from 0 (*not at all like me*) to 4 (*very much like me*). Prior research conducted utilizing a sample of college students suggests that the ACSS exhibits adequate discriminant and construct validity in this population. Specifically, findings indicated that the ACSS is negatively correlated with the Fear of Suicide subscale of the Reasons for Living Inventory (RFL; Linehan, Goodstein, Nielsen, & Chile, 1983), a measure designed to assess a related, opposing construct (Bender et al., 2011). Additionally, the ACSS is strongly associated with an item on the Beck Scale for Suicide Ideation (BSS; Beck, Brown, & Steer, 1997) that pertains to one's courage to take his/her own life (Bender et al., 2011). Furthermore, previous research examining two distinct samples of college students in various geographic locations reported acceptable Cronbach's alpha values, providing support for internal consistency among the items comprising the scale (Bender et al., 2012). The internal consistency in this sample was .80.

Pressure Algometer. A pressure algometer was utilized to assess each subject's tolerance for physical pain. Prior to exerting and measuring pressure using the algometer, a research assistant explained the function of the assessment tool and the protocol

pertaining to where the instrument is applied. Pressure was consistently administered underneath the knuckle of the second digit on the participant's right hand. Participants provided a verbal indication when they began to experience the sensation of pain (i.e., pain threshold). In a subsequent administration, subjects said the word "stop" when the amount of pain became too aversive to persist (i.e., pain tolerance). When pressure was applied, the algometer was positioned perpendicularly to the participant's skin. A trained research assistant exerted pressure at a rate of approximately 1 pound per 5 second interval until pain threshold and/or tolerance was determined. A limit of 25 pounds of pressure was utilized due to a tendency for the tip of the algometer to warp at greater levels of pressure, thereby diminishing reliability. The research assistant stopped administering pressure with the device immediately after each subject provided a verbal indication of his/her pain threshold and/or tolerance. The algometer features a digital screen which continuously displays the amount of pressure being applied. Additionally, the amount of pressure exerted when use of the device is discontinued remains on the digital display. The weight of the pressure administered with the algometer served as a measure of pain tolerance when structural equation modeling was performed. Five separate trials of pain tolerance were administered and the amount of pressure exerted during each trial was averaged to obtain a more reliable measurement (Anestis et al., 2011). The Cronbach's alpha values for the pain tolerance and threshold scores obtained from this sample were .96 and .97, respectively.

Procedure

The study protocol was approved by The University of Southern Mississippi's Institutional Review Board prior to being implemented. All participants were recruited

from undergraduate psychology courses and given course credit as compensation for their participation. Additionally, subjects were required to read and sign an informed consent form prior to their involvement in the study. All data collection took place in the Suicide and Emotion Dysregulation laboratory at the University of Southern Mississippi. Self-report questionnaires were completed on lab computers and behavioral measures were administered by trained research assistants.

Data Analytic Procedure

Structural equation modeling was utilized to assess the mediating role of emotion dysregulation in the relationship between the two subtypes of narcissism and the components of suicide risk. It is important to note that although the term mediation is utilized to describe the role of emotion dysregulation in this document, the anticipated research findings cannot be utilized to determine true mediation due to the cross-sectional design of the study. In the proposed model, narcissism constitutes the predictor variable, emotion dysregulation acts as the mediator, and both acquired capability and suicidal desire are the outcome variables. The two narcissism subscales serve as observed variables, each of which is predicted to exhibit significant indirect effects on the outcomes (i.e., the latent variables of suicidal desire and the acquired capability) through the latent variable of emotion dysregulation. Sex was utilized as a covariate in the analysis. To account for the tendency of the two subtypes of narcissism to be highly correlated, the shared variance between grandiose and vulnerable narcissism scales was controlled for. This technique has previously been used by Zeigler-Hill and Besser (2011) to examine the relationship between the two subtypes of narcissism (i.e., grandiose and vulnerable narcissism) and self-esteem. Researchers identified a significant association

between grandiose narcissism and high self-esteem that only emerged when vulnerable narcissism was controlled for. These results were attributed to the shared pathological features that categorize both subtypes.

Two mediation models were constructed to examine the proposed relationships. The initial, unconstrained model, tested the following hypotheses:

1. Vulnerable narcissism will be linked to elevated levels of suicidal desire; grandiose narcissism will be associated with less suicidal desire.

2. Grandiose narcissism will be related to a greater acquired capability for suicide; vulnerable narcissism will be linked to a diminished acquired capability.

3. Vulnerable narcissism will be associated with heightened emotion dysregulation; grandiose narcissism will be linked to low emotion dysregulation.

A second, identical model was used to evaluate the hypothesis that emotion dysregulation will mediate the relationship between the two forms of narcissism and both suicide risk factors. Each model consists of three separate sets of pathways labeled A, B, and C. The A pathways reflect the association between each predictor variable (i.e., grandiose and vulnerable narcissism) and the proposed mediator (i.e., emotion dysregulation). The relationship between the mediator (i.e., emotion dysregulation) and the criterion variables (i.e., the desire for death and the acquired capability for suicide) is represented by the B pathways. The C pathways include the association between the predictor (i.e., grandiose and vulnerable narcissism) and criterion variables (i.e., the desire for death and the acquired capability for suicide).

In the subsequent model, the C paths between each subtype of narcissism and both components of the IPTS were constrained to 0 to assess for mediation. Mediation

was primarily evaluated by comparing the chi-square statistics for both models. A *p*-value exceeding .05 is typically considered indicative of acceptable model fit. Ideally, one model would satisfy this criterion. In order to assess the fit of the proposed model, several additional fit indices were examined. Specifically, the comparative fit index (CFI), root mean square error of approximation (RMSEA), and Tucker-Lewis Index (TLI) were utilized. Indices were considered indicative of good fit if CFI values exceeded .95, RMSEA values were less than .06, and TLI values were greater than .9 (Hu & Bentler, 1999). Additionally, a significance value of $p = .05$ was used to assess the individual parameters associated with the model.

CHAPTER III

RESULTS

The correlations and descriptive statistics for the variables utilized to perform structural equation modeling are displayed in Table 1. Prior to conducting any statistical analyses, each of the variables was examined for normality. A number of variables (i.e., thwarted belongingness, perceived burdensomeness, pain tolerance assessed with the pressure algometer, completion of the PASAT-C, and grandiose narcissism) exhibited significant skew (> |-3.37|) and/or kurtosis (> 12.56). Blom's transformation was utilized to transform each of the aforementioned variables in order to obtain a more normalized distribution of scores. After the transformation was preformed, each of the variables were characterized by acceptable levels of skew (< 1.63) and kurtosis (< |-1.38|). To facilitate interpretation, non-transformed variables are provided in Table 1; however, all analyses were conducted using transformed variables.

Initially, the planned analyses described in the method section were conducted; however, AMOS indicated that the results yielded by each analysis were not admissible due to an insufficient number of constraints on each of the models. Imposing additional constraints revealed that the proposed models only produced admissible solutions when the pathways between the latent variable of emotion dysregulation and the observed indicators of the construct (i.e., completion of the PASAT-C, DERS scores) as well as the pathways between the latent variable of acquired capability and the observed indicators representative of that construct (i.e., pain tolerance assessed with the algometer, ACSS scores) were constrained to 1. Examination of the bivariate correlations between the observed variables associated with each latent construct were indicative of a

Table 1

Correlations and descriptive statistics for variables utilized in primary analyses

	Vulnerable Narcissism	Grandiose Narcissism	Emotion Dysregulation	Thwarted Belonging	Perceived Burden	ACSS Scores	Pain Tolerance
Vulnerable Narcissism	-						
Grandiose Narcissism	*.57	-					
Emotion Dysregulation	*.56	.11	-				
Thwarted Belonging	*.42	.12	*.51	-			
Perceived Burden	*.40	.14	*.57	*.72	-		
ACSS Scores	-.01	.04	.02	-.01	.05	-	
Pain Tolerance	.09	.02	-.00	.05	-.01	*.25	-
Mean	2.13	2.80	78.97	23.06	13.31	46.96	10.70
SD	.90	.82	23.7	11.60	6.55	12.26	5.58
Minimum	0	0	37	10	8	12	1.10
Maximum	4.09	4.49	153	62	44	81	25

Note: * = significant at p < .01 level; SD = standard deviation; Thwarted Belonging = Thwarted Belongingness; Perceived Burden = Perceived Burdensomeness; ACSS = Acquired Capability for Suicide Scale.

nonsignificant correlation ($r = .04$, $p = .62$) between the observed indicators of emotion

dyregulation and a significant, but small correlation ($r = .23$, $p=.004$) between the

observed variables comprising the acquired capability. These values suggest that the need

for additional constraints on the model could primarily be attributed to the absence of a

strong correlation among either pair of observed indicators. Furthermore, the

nonsignificant correlation between PASAT-C completion and DERS scores suggested

that the two observed indicators failed to assess the same latent construct. Due to the

greater empirical support for the validity and reliability of the DERS as a measure of

emotion dysregulation, DERS scores were maintained as an observed indicator and

PASAT-C completion was removed from the model. Additionally, the DERS subscales

were utilized to create six distinct observed indicators of emotion dysregulation.

To address the lack of a sufficiently strong correlation between the two observed

indicators of the acquired capability, the model was run using both means of assessment

as a single observed variable representing the construct of acquired capability.

Essentially, the model was initially run, with and without the C pathways constrained to

0, utilizing ACSS scores as an observed variable and subsequently run, with and without

imposing constraints on the C pathways, using pain tolerance assessed with the algometer

as an observed variable. This course of action was decided upon due to the significant

bivariate correlation between each measure of the acquired capability, which suggested

that the same construct was assessed, yet slightly different results were produced through

self-report measures relative to behavioral tasks.

Findings revealed that neither the unconstrained ($x^2 = 135.883$, $p < .001$; CFI =

.889; RMSEA = .108; TLI = .836) nor the constrained ($x^2 = 139.771$, $p < .001$; CFI =

.884; RMSEA = .104; TLI = .849) model utilizing ACSS scores as an observed variable

yielded fit indices which satisfied the criteria for acceptable model fit. Results further

indicated that both the unconstrained (x^2 = 133.285, p < .001; CFI = .887; RMSEA =

.107; TLI = .842) and constrained (x^2 = 141.492, p < .001; CFI = .882; RMSEA = .105;

TLI = .847) model using pain tolerance assessed with the algometer as an observed

variable also failed to meet the established guidelines for adequate model fit. A chi-

squared goodness of fit comparison was not examined since none of the models

demonstrated sufficient fit. The factor loadings for the observed indicators of emotion

dysregulation and suicidal desire were significant in each of the four models, ranging

from .33 to .92 and from .80 to .88, respectively.

In both unconstrained models, grandiose narcissism was significantly correlated

with emotion dysregulation (r's > |-.23|, p's = .004) and failed to exhibit a significant

correlation with either the acquired capability for suicide (r's < |.09|, p's > .404) or

suicidal desire (r's < |-.07|, p's > .416). In both unconstrained models, vulnerable

narcissism demonstrated a significant correlation with emotion dysregulation (r's > .71,

p's < .001) and was not significantly correlated with suicidal desire (r's < .20, p's >

.057). In the unconstrained model which utilized pain tolerance as an observed indicator

of the acquired capability, vulnerable narcissism was significantly correlated with this

construct (r = .26, p = .028), whereas vulnerable narcissism was not significantly

correlated with the acquired capability (r = -.07, p = .559), in the unconstrained model

using ACSS scores as an observed indicator. In the each of the unconstrained models,

emotion dysregulation exhibited a significant correlation with suicidal desire (r's > .58,

p's < .001) and was not significantly correlated with the acquired capability for suicide

(*r's* < |.16|, *p's* > .153).

In the constrained models, grandiose narcissism was significantly correlated with

emotion dysregulation (*r's* >|-.24|, *p's* < .003). Vulnerable narcissism, also exhibited a

significant correlation with emotion dysregulation (*r's* > .73, *p's* < .001) in both of the

constrained models. Emotion dysregulation was significantly correlated with suicidal

desire (*r's* > .70, *p's* < .001) and failed to demonstrate a significant correlation with the

acquired capability in each constrained model (*r's* < |.01|, *p's* > .907).

The findings associated with each of the four models are presented in Table 2.

Additionally, the results produced by the full structural models are displayed in Figures 1,

2, 3, and 4. These findings suggest that neither of the proposed models constitute an

accurate conceptualization of the complex relationship between the two subtypes of

narcissism, emotion dysregulation, and the components of suicide risk.

Table 2

Goodness of fit statistics for all models

	x^2	CFI	RMSEA	TLI
Unconstrained ACSS Model	*135.883	.889	.108	.836
Constrained ACSS Model	*139.771	.884	.104	.849
Unconstrained Algometer Model	*133.285	.887	.107	.842
Constrained Algometer Model	*141.492	.882	.105	.847

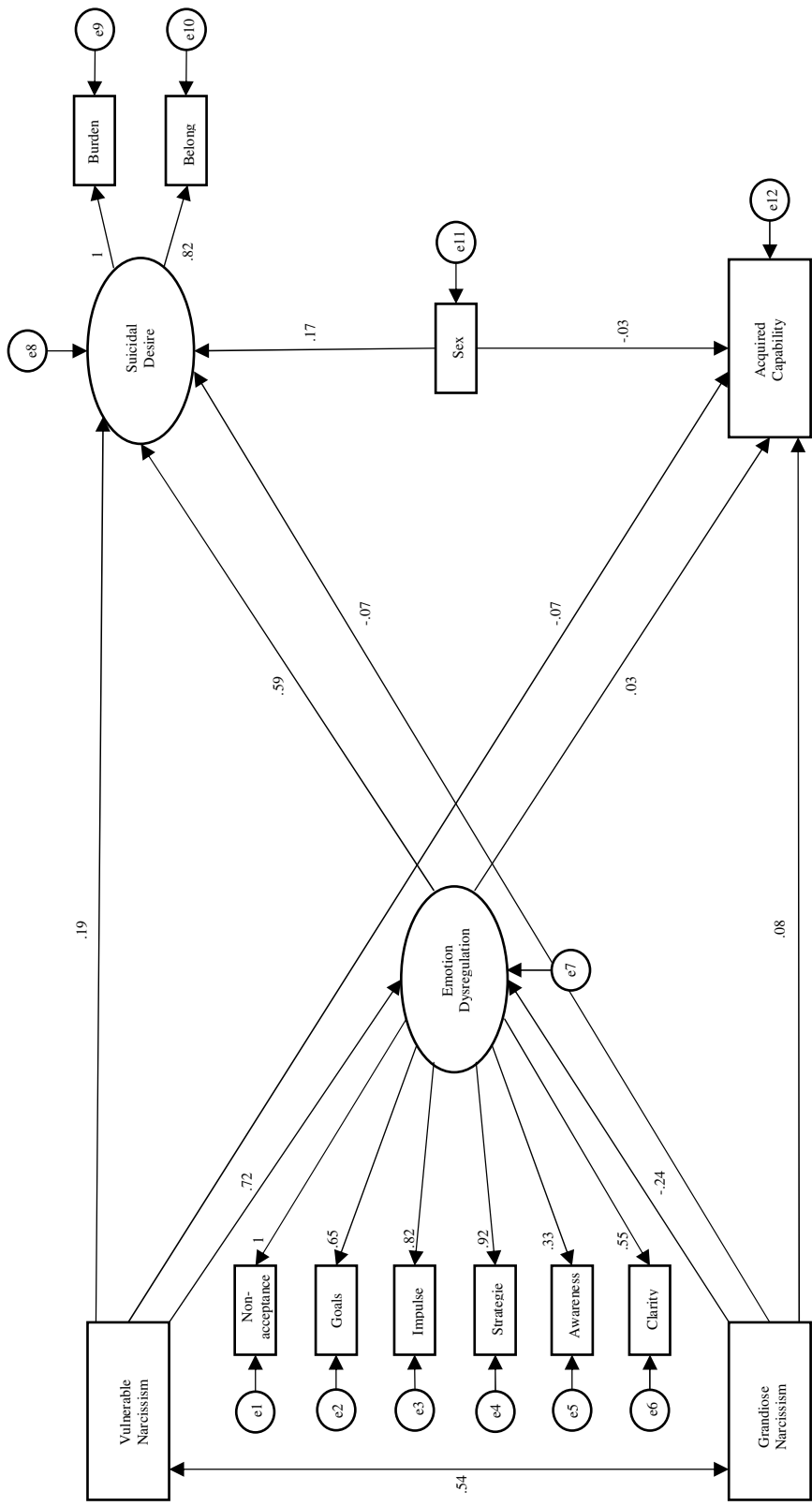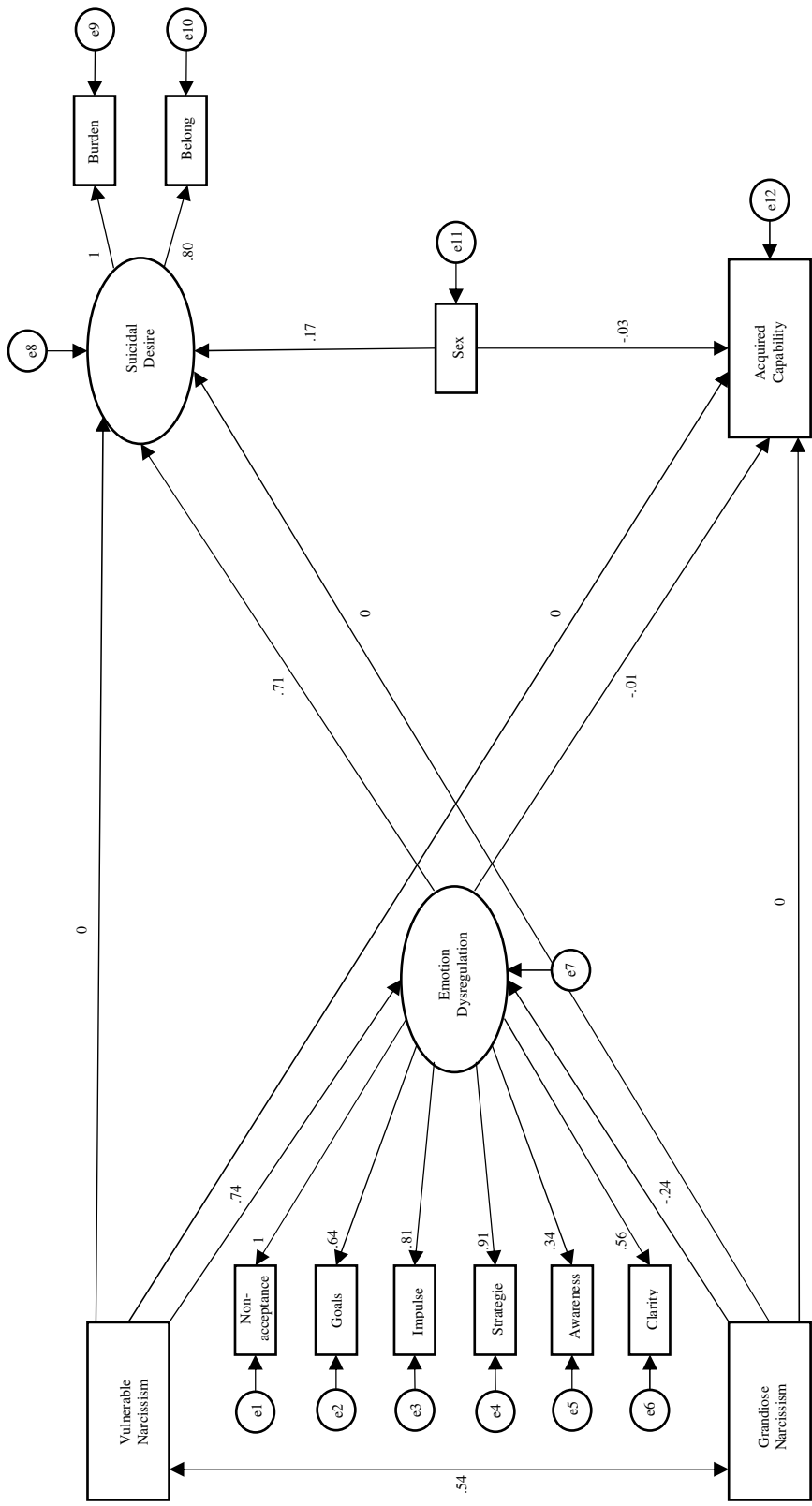Note: * = significant at p < .001 level

Figure 1. Unconstrained model using ACSS scores as an observed indicator of the acquired capability for suicide.

Figure 2. Constrained model using ACSS scores as an observed indicator of the acquired capability for suicide.
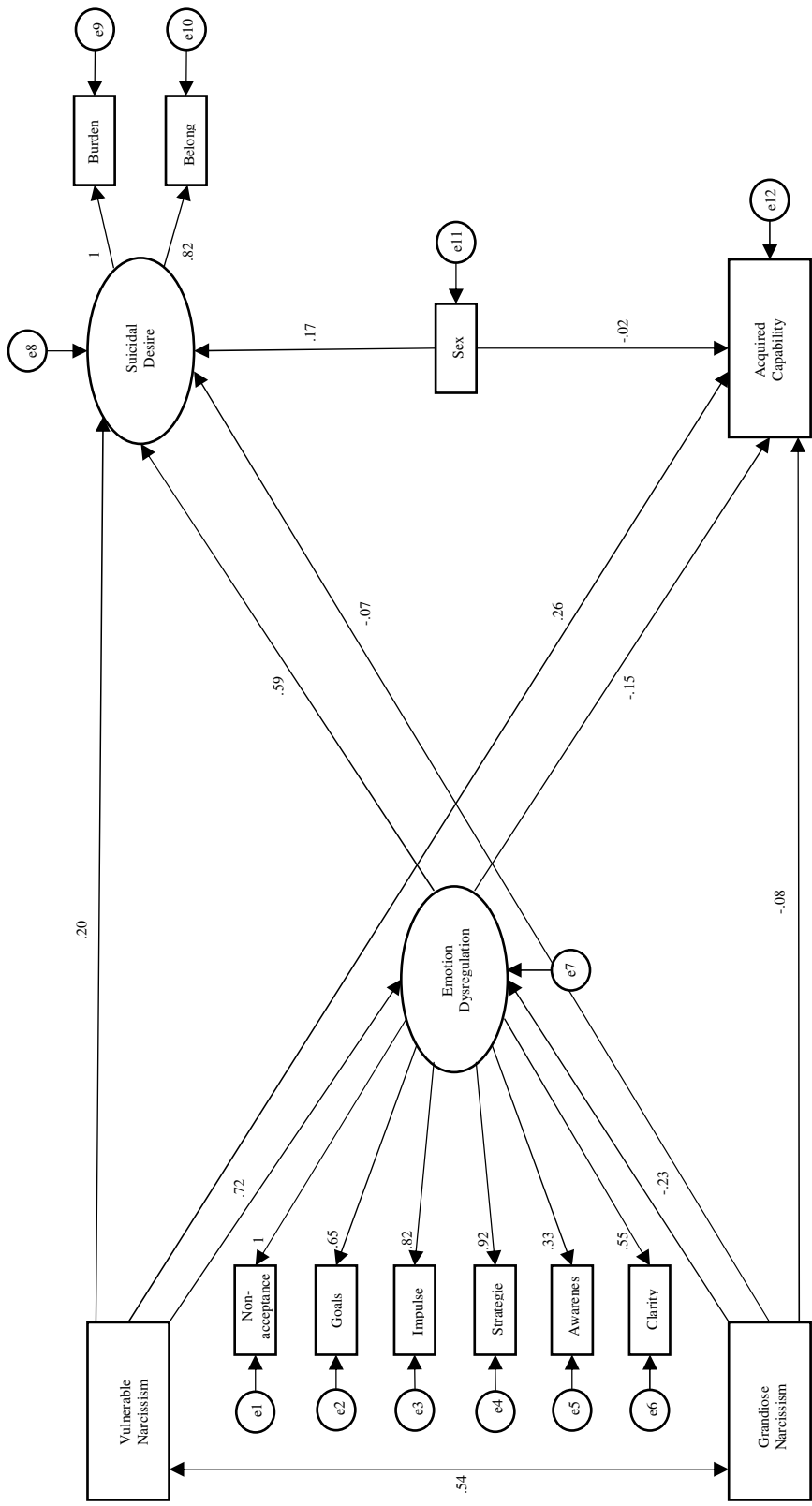
Figure 3. Unconstrained model using algometer scores as an observed indicator of the acquired capability for suicide.
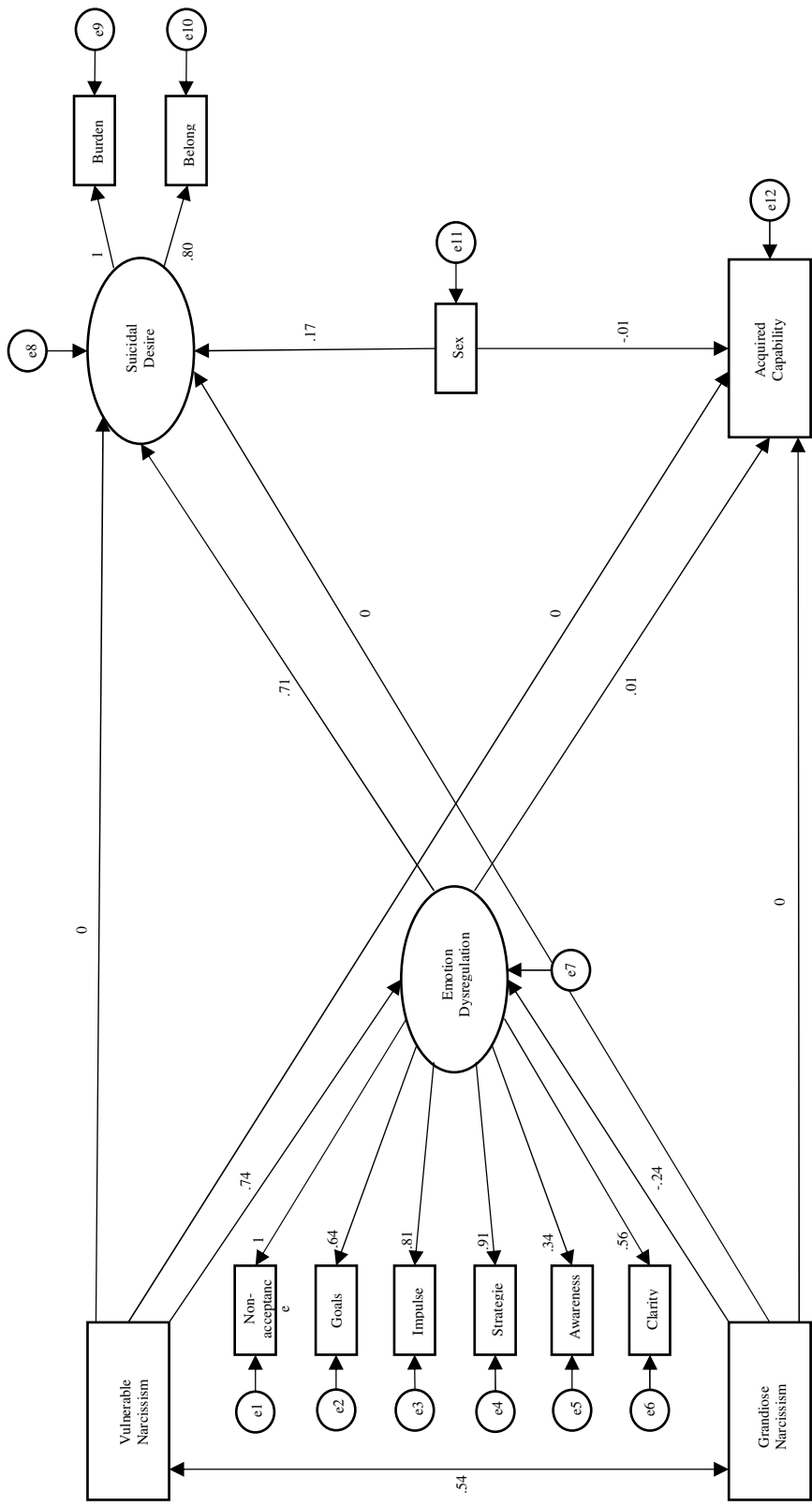
Figure 4. Constrained model using algometer scores as an observed indicator of the acquired capability for suicide.

CHAPTER IV

DISCUSSION

The primary aim of the present study was to examine the indirect effect of the two forms of narcissistic expression (vulnerable and grandiose) on the components of suicide risk through emotion dysregulation. It was hypothesized that vulnerable narcissism would be associated with heightened suicidal desire, a diminished acquired capability for suicide, and greater emotion dysregulation, whereas grandiose narcissism would predict reduced suicidal desire, an elevated acquired capability, and diminished emotion dysregulation. It was further hypothesized that emotion dysregulation would mediate the relationship between the two forms of narcissism and the risk factors for suicide. Results failed to support the anticipated association between vulnerable and grandiose narcissism and either of the components of suicide risk or the proposed mediation model; however, findings were consistent with the hypothesized relationship between both subtypes of narcissism and emotion dysregulation.

The results yielded by this investigation are consistent with the current literature and indicate that grandiose narcissism is associated with diminished emotion dysregulation (e.g., Morf & Rhodewalt, 2001; Zeigler-Hill & Besser, 2011), whereas vulnerable narcissism predicts increased emotion dysregulation (Gratz et al., 2006). This suggests that grandiose narcissism may be characterized by reduced emotional lability, diminished intensity of emotions, a greater abundance of emotion regulation strategies, and an enhanced capacity to engage in goal-directed behavior while experiencing distress. In contrast, vulnerable narcissism appears to be characterized by heightened emotional lability, greater emotional intensity, a scarcity of strategies aimed at emotion

regulation, and a limited capacity to pursue goal-directed behavior while under distress. Since elevated emotion dysregulation typically predicts heightened endorsements of suicidal desire and lower emotion dysregulation is associated with an increased acquired capability (Anestis et al., 2011; Anestis et al., 2011; Bender et. al, 2012), the lack of a significant association between either narcissism subtype and any of the suicide risk factors is surprising. One might expect that the forms of narcissistic expression would exhibit an indirect effect on the components of risk through emotion dysregulation; however, this was not the case. Perhaps the tendency of the two types of narcissism to covary or oscillate with one another (Campbell & Miller, 2011; Ronningstam, 2009) may have diminished the strength of the association between emotion dysregulation and the risk factors for suicide. Since expression of the narcissistic subtypes exhibits a propensity toward fluctuation, this may serve to reduce the detrimental impact of both heightened and diminished emotion dysregulation on the development of the components of suicide risk. The capacity to over- and/or under-report certain behaviors and cognitions as a means of impression management represents a second possible explanation for these findings. Individuals with high levels of vulnerable narcissism may have chosen to conceal their feelings of burdensomeness and thwarted belongingness when responding to self-report measures because they deemed these perceptions to be less deserving of external validation. Yet, this explanation fails to account for the lack of a converse relationship between grandiose narcissism and suicidal desire or the absence of a significant link between either subtype and the acquired capability when self-report measures were examined.

The results regarding the differential relationships between the two highly correlated forms of narcissistic expression and emotion dysregulation indicate that the distinct interpersonal qualities characteristic of each narcissism subtype may exert a significant impact on affective dysregulation. The drive to pursue external validation as a means of maintaining and enhancing one's self-esteem that is associated with vulnerable narcissism (Zeigler-Hill et al., 2008) may constitute the primary interpersonal attribute responsible for producing frequent and severe emotional distress in this subtype. These findings suggest that individuals who endorse high levels of vulnerable narcissism feel the urge to quickly reduce the sensation of aversive emotions and accomplish this task by engaging in maladaptive coping strategies (e.g., non-suicidal self-injury, substance use, risky sexual behavior). These coping strategies are often characterized as destructive behaviors which provide immediate benefits (e.g., alleviating distress) and negative long term consequences (e.g., addiction, legal issues) and are commonly utilized by individuals with elevated emotional dysregulation in order to diminish distress (Daughters et al., 2005; Messman-Moore, Walsh, & DiLillo, 2010; Nock & Mendes, 2008). Furthermore, repetitive engagement in these behaviors may lead to a number of detrimental clinical outcomes such as the development of substance use and dependence disorders and suicidal behavior. These findings serve to emphasize the importance of promoting the development of effective skills aimed at emotion regulation when treating individuals who report heightened vulnerable narcissism.

The current study revealed an unexpected association between vulnerable narcissism and the acquired capability for suicide when the path coefficients yielded by behavioral and self-report measures of the acquired capability were compared. Self-report

assessments of the acquired capability were indicative of a nonsignificant negative relationship between vulnerable narcissism and the capacity to inflict lethal self-harm. Alternatively, pain tolerance scores obtained with the pressure algometer suggested a significant positive association between vulnerable narcissism and the acquired capability for suicide. The results produced by behavioral measures seem counterintuitive given the link between this subtype and heightened emotion dysregulation; however, prior research has demonstrated that individuals who endorse an elevated number of other cluster B personality disorder traits characterized by emotion dysregulation (i.e., borderline personality disorder) are able to overcome their diminished capacity to endure the physical pain and fear associated with a suicide attempt through repeated exposure to painful and/or provocative events (Anestis et al., 2012). The literature suggests that these individuals are more likely to utilize maladaptive coping mechanisms aimed at increasing emotion regulation (e.g., non-suicidal self-injury, substance use, risky sexual behavior) due to their inherent tendency to experience frequent and severe emotional distress and their lack of effective emotion regulation strategies. Thus, it is possible that individuals with high levels of vulnerable narcissism may engage in similar behaviors when aversive emotions are experienced, which serve to facilitate their acquisition of the capability to inflict lethal self-harm in the same manner. However, engagement in these negative coping strategies at the high frequency required to develop a significantly elevated acquired capability for suicide has only been reported in clinical samples (Anestis et al., 2012; Anestis, Pennings, Lavender, Tull, & Gratz, 2013) and was, therefore, unanticipated in an undergraduate sample.

The presence of an association between vulnerable narcissism and a heightened tolerance for physiological pain may be indicative of an important distinction between this form of narcissistic expression and borderline traits. Perhaps this relationship can be attributed to the inherent tendency of individuals who exhibit elevated levels of vulnerable narcissism to partake in behaviors they deem deserving of external validation. Specifically, these individuals may expect to elicit praise and social acceptance from their peers through engagement in risk-taking behavior which constitutes painful and/or provocative events. This perception could theoretically have a more salient effect in an undergraduate sample due to the increased prevalence of certain risky behaviors among college students.

According to the literature, a number of risk-taking behaviors (e.g., alcohol and drug use, reckless driving, risky sexual behaviors) which have been shown to evoke pain and/or provocation occur at a higher frequency in undergraduate populations. Prior research examining the impact of these risky behaviors on the development of the acquired capability for suicide within an undergraduate sample failed to demonstrate a significant relationship. However, engagement in risk-taking behavior was found to predict heightened endorsements of fear and anxiety (Mitchell, Jahn, & Cukrowicz, 2014). This suggests that repeated exposure to the painful and/or provocative events commonly experienced by college students does not diminish the intensity of the aversive emotions induced by these behaviors and may be attributed to the potential legal ramifications associated with these acts. Yet, it seems unlikely that greater apprehension regarding the potential negative consequences of risk-taking would prevent or diminish the habituation to physiological pain produced by repetitive exposure to painful and/or

provocative events. The lack of a significant relationship between vulnerable narcissism and the acquired capability for suicide assessed with the ACSS and the positive association between this subtype and an elevated tolerance for pain appears to be consistent with engagement in these risk-taking behaviors amongst undergraduates. Additionally, the emotional distress elicited by these activities could promote further engagement in maladaptive behaviors aimed at alleviating negative affective sensations (e.g., non-suicidal self-injury) among individuals with high levels of vulnerable narcissism due to their heightened emotion dysregulation.

A number of limitations should be noted. First, the behavioral measure of emotion dysregulation utilized in the investigation failed to assess for the intended construct. As a result, completion of the PASAT-C was excluded from the model and the DERS subscales were used as observed indicators of emotion dysregulation. The failure of the PASAT-C to induce emotional distress may be attributed to the absence of an aversive explosive sound when participants endorsed incorrect responses. Specifically, the lack of a penalty for, or perhaps even awareness of, incorrect responses may have detrimentally affected the capacity of this task to generate negative emotions in study participants. The insufficient strength of the correlation between algometer findings and self-report data on the ACSS constitutes a second limitation of the current investigation. To remedy this complication, the constrained and unconstrained versions of the proposed model were examined twice, initially using ACSS scores as a single observed variable indicative of the acquired capability and subsequently, using pain tolerance to represent the capability for suicidal behavior. This prevented one unitary model utilizing pain tolerance assessed with the algometer and ACSS scores as simultaneous observed indicators of the latent

construct of the acquired capability from being analyzed, thus, diminishing the comprehensive nature of the model.

The inability of the study to evaluate true mediation represents a third limitation. The cross-sectional design of the investigation prevented conclusions pertaining to directionally from being formulated and true mediation from being examined. Additional limitations include the use of a convenience sample of undergraduate students and the typical concerns regarding the veracity of self-report data. The utilization of college students suggests that the study sample did not constitute an accurate representation of the target population, therefore, reducing the generalizability of results. Additionally, self-report questionnaires rely heavily upon the accuracy of subjects' memories and their propensity to endorse honest responses. The aforementioned concern may be particularly relevant in regards to the current investigation due to certain personality features associated with each subtype of narcissism that was examined. Specifically, grandiose narcissism is characterized by a preoccupation with expressing self-perceived superiority, whereas vulnerable narcissism is often characterized by engagement in behavior perceived as deserving of praise and validation. The difference in the strength and direction of the relationship between vulnerable narcissism assessed with self-report measures of the acquired capability relative to pain tolerance scores assessed with the algometer may be attributed to this tendency to engage in positive impression management exhibited by individuals with elevated endorsements of vulnerable narcissism.

The present study also possessed a number of strengths. The proposed model examined the potential mediating role of emotion dysregulation in the relationship

between the two subtypes of narcissism and the primary components of suicide risk, as opposed to evaluating a simple main effects model. This is consistent with the recent movement toward conducting suicide research that examines more complex models capable of identifying risk or resiliency factors which either mediate or moderate the association between previously established vulnerabilities and suicidal behavior. The investigation also utilized structural equation modeling to test the hypothesized relationships between variables, as opposed to relying on less sophisticated statistical methods. This analytical design allowed the anticipated associations between constructs to be evaluated in a simultaneous and more comprehensive manner relative to other possible analyses. Furthermore, the study used both self-report measures and behavioral tasks to assess for the acquired capability to account for the potential limitations commonly associated with the accuracy of self-report data.

Future investigations should strive to address the aforementioned limitations of the present study and clarify the underlying mechanisms responsible for the link between vulnerable narcissism and a heightened pain tolerance. The generalizability of the findings produced by this investigation could be enhanced by examining a sample that is more likely to endorse elevated narcissistic traits (e.g., clinical, military) and, thus, more representative of the target population. The inclusion of a greater number of behavioral tasks in addition to self-report measures would serve to diminish the potential concerns with the veracity of the behaviors and cognitions endorsed by participants. A more accurate behavioral assessment of emotion dysregulation as well as a measure of pain tolerance and/or fear of death that exhibits a stronger correlation with the ACSS constitute two potentially beneficial additions to the current protocol. Similarly, including

a measure of non-suicidal self-injury could aid in the identification of the underlying

mechanisms driving the unanticipated relationship between vulnerable narcissism and a

heightened tolerance for physical pain. Lastly, conducting a longitudinal study would

allow a true mediation model to be tested.

APPENDIX A

INSTITUTIONAL REVIEW BOARD NOTICE OF COMMITTEE ACTION

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
  Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **13083001**
PROJECT TITLE: **The Relationship between Narcissistic Personality Traits, Emotion Dysregulation, and Suicidality**
PROJECT TYPE: **Thesis**
RESEARCHER(S): **Stephanie Pennings**
COLLEGE/DIVISION: **College of Education and Psychology**
DEPARTMENT: **Psychology**
FUNDING AGENCY/SPONSOR: **N/A**
IRB COMMITTEE ACTION: **Expedited Review Approval**
PERIOD OF APPROVAL: **09/18/2013 to 09/17/2014**

Lawrence A. Hosman, Ph.D.
Institutional Review Board

THE UNIVERSITY OF
SOUTHERN MISSISSIPPI.

INSTITUTIONAL REVIEW BOARD
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NOTICE OF COMMITTEE ACTION

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- If approved, the maximum period of approval is limited to twelve months.
  Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **CH13083001**
PROJECT TITLE: **The Relationship between Narcissistic Personality Traits, Emotion Dysregulation, and Suicidality**
PROJECT TYPE: **Change to a Previously Approved Project**
RESEARCHER(S): **Stephanie Pennings**
COLLEGE/DIVISION: **College of Education and Psychology**
DEPARTMENT: **Psychology**
FUNDING AGENCY/SPONSOR: **N/A**
IRB COMMITTEE ACTION: **Expedited Review Approval**
PERIOD OF APPROVAL: **04/08/2014 to 04/07/2015**

Lawrence A. Hosman, Ph.D.
Institutional Review Board

REFERENCES

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

Anestis, M. D., Bagge, C. L., Tull, M. T., & Joiner, T. E. (2011). Clarifying the role of emotion dysregulation in the interpersonal-psychological theory of suicidal behavior in an undergraduate sample. *Journal of Psychiatric Research, 45*, 603-611.

Anestis, M. D., Bender, T. W., Selby, E. A., Ribeiro, J. D., & Joiner, T. E. (2011). Sex and emotion in the acquired capability for suicide. *Archives of Suicide Research, 15(2)*, 172-182.

Anestis, M. D., Gratz, K. L., Bagge, C. L., & Tull, M. T. (2012). The interactive role of distress tolerance and borderline personality disorder in suicide attempts among substance users in residential treatment. *Comprehensive Psychiatry*, *53*(8), 1208-1216.

Anestis, M. D., & Joiner, T. E. (2011). Examining the role of emotion in suicidality: Negative urgency as an amplifier of the relationship between components of the interpersonal–psychological theory of suicidal behavior and lifetime number of suicide attempts. *Journal of Affective Disorders*, *129(1),* 261-269.

Anestis, M. D., Pennings, S. M., Lavender, J. M., Tull, M. T., & Gratz, K. L. (2013). Low distress tolerance as an indirect risk factor for suicidal behavior: Considering the explanatory role of non-suicidal self-injury. *Comprehensive psychiatry*, *54*(7), 996-1002.

Barry, C. T., Frick, P. J., & Killian, A. L. (2003). The relation of narcissism and self-esteem to conduct problems in children: A preliminary investigation. *Journal of Clinical Child and Adolescent Psychology, 32,* 139-152.

Barry, C. T., & Malkin, M. L. (2010). The relation between adolescent narcissism and internalizing problems depends on the conceptualization of narcissism. *Journal Of Research In Personality*, *44*(6), 684-690.

Beck, A.T., Brown, G. K., & Steer, R. A. (1997). Psychometric characteristics of the Scale for Suicide Ideation with psychiatric outpatients. *Behavior Research and Therapy*, *35*, 1039-1046.

Bender, T. W., Anestis, M. D., Anestis, J. C., Gordon, K. H., & Joiner, T. E. (2012). Affective and behavioral paths toward the acquired capacity for suicide. *Journal of Social and Clinical Psychology, 31(1)*, 81-100.

Bender, T. W., Gordon, K. H., Bresin, K., & Joiner, T. E. (2011). Impulsivity and suicidality: A test of the mediation role of painful experiences. *Journal of Affective Disorders, 129*, 301-307.

Besser, A., & Priel, B. (2010). Grandiose narcissism versus vulnerable narcissism in threatening situations: Emotional reactions to achievement failure and interpersonal rejection. *Journal of Social and Clinical Psychology, 29,*874-902.

Blasco-Fontecilla, H., Baca-Garcia, E., Cervic, K., & Perez-Rodriquez, M. (2009). Specific features of suicidal behavior in patients with narcissistic personality disorder. *Journal of Clinical Psychiatry, 70(11)*, 1538-1587.

Bonner, R. L., & Rich, A. R. (1987). Toward a predictive model of suicidal ideation and behavior: Some preliminary data in college students. *Suicide and Life-Threatening Behavior, 17,* 50–63.

Bostwick, J. M., & Pankratz, V. S. (2000). Affective disorders and suicide risk: A reexamination. *American Journal of Psychiatry, 157(12),* 1925-1932.

Brezo, J., Paris, J., & Turecki, G. (2006). Personality traits as correlates of suicidal ideation, suicide attempts, and suicide completions: A systematic review. *Acta Psychiatrica Scandinavica, 113(3),* 180-206.

Briere, J., & Gil, E. (1998). Self-mutilation in clinical and general population samples: Prevalence, correlates, and functions. *American Journal of Orthopsychiatry, 68,* 609–620.

Brown, R. A., Lejuez, C. W., Kahler, C. W., & Strong, D. (2002). Distress tolerance and duration of past smoking cessation attempts. *Journal of Abnormal Psychology, 111*, 180-185.

Bushman, B. J., & Baumeister, R. F. (1998). Threatened egotism, narcissism, self-esteem, and direct and displaced aggression: Does self-love or self-hate lead to violence? *Journal of Personality and Social Psychology, 75(1),* 219-229.

Campbell, W. K., & Miller, J. D. (Eds.). (2011). The handbook of narcissism and narcissistic personality disorder: Theoretical approaches, empirical findings, and treatments. New York: Wiley.

Catanzaro, S. J., & Mearns, J. (1990). Measuring generalized expectancies for negative mood regulation: Initial scale development and implications. *Journal of Personality Assessment*, *54*(3-4), 546-563.

Centers for Disease Control and Prevention (2012). Web-Based Injury Statistics Query

  and Reporting System (WISQARS). Available at

  http://www.cdc.gov/injury/wisqars/index.html. Accessed February 6, 2012.

Crosby, A., Gfroerer, J., Han, B., Ortega, L., & Parks, S. E. (2011). *Suicidal Thoughts*

  and Behaviors Among Adults Aged ≥ 18 Years--United States, 2008-2009. US

  Department of Health and Human Services, Centers for Disease Control and

  Prevention.

Daughters, S. B., Lejuez, C. W., Bornovalova, M. A., Kahler, C. W., Strong, D. R., &

  Brown, R. A. (2005). Distress Tolerance as a Predictor of Early Treatment

  Dropout in a Residential Substance Abuse Treatment Facility. *Journal of*

  Abnormal Psychology, 114(4), 729-734.

Davidson, C. L., Wingate, L. R., Grant, D. M., Judah, M. R., & Mills, A. C. (2011).

  Interpersonal suicide risk and ideation: The influence of depression and social

  anxiety. *Journal of Social and Clinical Psychology*, *30*(8), 842-855.

Dickinson, K. A., & Pincus, A. L. (2003). Interpersonal analysis of grandiose and

  vulnerable narcissism. *Journal of Personality Disorders, 17(3)*, 188-207.

Freudenstein, O., Valevski, A., Apter, A., Zohar, A., Shoval, G., Nahshoni, E., Weizman,

  A., & Zalsman, G. (2012). Perfectionism, narcissism, and depression in suicidal

  and nonsuicidal adolescent inpatients. *Comprehensive Psychiatry, 53(6)*, 74-752.

Gratz, K. L. (2003). Risk factors for and functions of deliberate self-harm: An empirical

  and conceptual review. *Clinical Psychology: Science and Practice, 10,* 192–205.

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation

  and dysregulation: Development, factor structure, and initial validation of the

Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment, 25*, 41-54.

Gratz, K. L., Rosenthal, M. Z., Tull, M. T., Lejuez, C. W., & Gunderson, J. G. (2006). An experimental investigation of emotion dysregulation in borderline personality disorder. *Journal of Abnormal Psychology, 115*, 850-855.

Hendin, H. M., & Cheek, J. M. (1997). Assessing hypersensitive narcissism: A reexamination of Murray's Narcissism Scale. *Journal of Research in Personality, 31,* 588–599.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1-55.

Jahn, D. R., Cukrowicz, K. C., Linton, K., & Prabhu, F. (2011). The mediating effect of perceived burdensomeness on the relation between depressive symptoms and suicide ideation in a community sample of older adults. *Aging & Mental Health*, *15*(2), 214-220.

Jakupcak, M., Lisak, D., & Roemer, L. (2002). The role of masculine ideology and masculine gender role stress in men's perpetration of aggression and violence in relationships. *Psychology of Men and Masculinity, 3,* 97–106.

Joiner, T. E. (2005). *Why People Die by Suicide.* Cambridge, MA: Harvard University Press.

Joiner, T. E., Van Orden, K. A., Witte, T. K., Selby, E. A., Ribeiro, J. D., Lewis, R., & Rudd, M. D. (2009). Main predictions of the interpersonal-psychological theory

of suicidal behavior: Empirical tests in two samples of young adults. *Journal of Abnormal Psychology*, *118*(3), 634-646.

Kernis, M. H., & Sun, C. (1994). Narcissism and reactions to interpersonal feedback. *Journal of Research in Personality, 28,* 4-13.

Krysinska, K., Heller, T. S., & De Leo, D. (2006). Suicide and deliberate self-harm in personality disorders. *Current Opinion in Psychiatry, 19(1)*, 95-101.

Lejuez, C. W., Kahler, C. W., & Brown, R. A. (2003). A modified computer version of the Paced Auditory Serial Addition Task (PASAT) as a laboratory-based stressor. *Behavior Therapist, 26*, 290-293.

Linehan, M. M., Goodstein, J. L., Nielsen, S. L., & Chiles, J. A. (1983). Reasons for staying alive when you are thinking of killing yourself: The Reasons for Living Inventory. *Journal of Consulting and Clinical Psychology, 51*, 276-286.

Mann, J. J. Waternaux, C. Haas, G. L., & Malone, K. M. (1999). Toward a clinical model of suicidal behavior in psychiatric patients. *American Journal of Psychiatry, 156,* 181–189.

Martikainen, P., Bartley, M., & Lahelma, E. (2002) Psychosocial determinants of health in social epidemiology. *International Journal of Epidemiology, 31,* 1091-1093.

May, A. M., Klonsky, D., & Klein, D. N. (2012). Predicting future suicide attempts among depressed suicide ideators: A 10-year longitudinal study. *Journal of Psychiatric Research, 46(7)*, 946-952.

Messman-Moore, T. L., Walsh, K. L., & DiLillo, D. (2010). Emotion dysregulation and risky sexual behavior in revictimization. *Child Abuse & Neglect*, *34*(12), 967-976.

McGirr, A., Alda, M., Séguin, M., Cabot, S., Lesage, A., & Turecki, G. (2009). Familial

aggregation of suicide explained by cluster B traits: A three-group family study of

suicide controlling for major depressive disorder. *The American Journal of*

Psychiatry, *166*(10), 1124-1134.

McLean, J., Maxwell, M., Platt, S., Harris, F. M., & Jepson, R. (2008). Risk and

protective factors for suicide and suicidal behaviour: a literature review.

Edinburgh, Scotland, UK: Scottish Government Social Research. 2008. Available

at http://www.scotland.gov.uk/Publications/2008/11/28141444/0. Accessed

February 7, 2012.

Miller, J. D. & Campbell, W. K. (2010). The case for using research on trait narcissism as

a building block for understanding narcissistic personality disorder. *Personality*

Disorders: Theory, Research, and Treatment, 1(3), 180-191.

Miller, J. D., Dir, A., Gentile, B., Wilson, L., Pryor, L. R., & Campbell, W. K. (2010).

Searching for a vulnerable dark triad: Comparing factor 2 psychopathy,

vulnerable narcissism, and borderline personality disorder. *Journal of Personality,*

78, 1-36.

Miller, J. D., Hoffman, B. J., Gaughan, E. T., Gentile, B., Maples, J., & Keith Campbell,

W. (2011). Grandiose and vulnerable narcissism: A nomological network

analysis. *Journal of Personality*, *79*(5), 1013-1042.

Mitchell, S. M., Jahn, D. R., & Cukrowicz, K. C. (2014). The relation between illegal risk

behaviors and the acquired capability for suicide. *Crisis: The Journal Of Crisis*

Intervention And Suicide Prevention, *35*(6), 368-377.

Morf, C. C. & Rhodewalt, F. (1993). Narcissism and self-evaluation maintenance: Explorations in object relations. *Personality and Social Psychology Bulletin, 19,* 668-676.

Morf, C. C. & Rhodewalt, F. (2001). Unraveling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological Inquiry, 12,*177-196.

Morf, C. C., Weir, C., & Davidov, M. (2000). Narcissism and intrinsic motivation: The role of goal congruence. *Journal of Experimental Social Psychology, 36,* 424-438.

Neeleman, J. (2001). A continuum of premature death. Meta-analysis of competing mortality in the psychosocially vulnerable. *International Journal of Epidemiology, 30(1),* 154-162.

Nock, M. K. & Mendes, W. B. (2008). Physiological arousal, distress tolerance, and social problem-solving deficits among adolescent self-injurers. *Journal of Consulting and Clinical Psychology, 76,* 28-38.

Okada, R. (2010). The relationship between vulnerable narcissism and aggression in Japanese undergraduate students. *Personality and Individual Differences*, *49*(2), 113-118.

Osgood, N. J., & Brant, B. A. (1990). Suicidal behavior in long-term care facilities. *Suicide and Life-Threatening Behavior, 20,* 113–122.

Pincus, A. L., Ansell, E. B., Pimentel, C. A., Cain, N. M., Wright, A. G. B., & Levy, K. N. (2009). Initial construction and validation of the pathological narcissism inventory. *Psychological Assessment, 21*, 365-379.

Pincus, A. L. & Wiggins, J. S. (1990). Interpersonal problems and concepts of personality disorders. *Journal of Personality Disorders, 4(4),* 342-352.

Prinstein, M., Boergers, J., Spirito, A., Little, T. D., & Grapentine, W. L. (2000). Peer functioning, family dysfunction, and psychological symptoms in a risk factor model for adolescent inpatients' suicidal ideation severity. *Journal of Clinical Child Psychology, 29,* 392–405.

Prinstein, M. J., Nock, M., Spirito, A., & Grapentine, W. L. (2001). Multimethod assessment of adolescent suicidality in adolescent psychiatric inpatients: Preliminary results on the relative utility of suicide assessment approaches. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*, 1053-1061.

Rajappa, K., Gallagher, M., & Miranda, R. (2012). Emotion dysregulation and vulnerability to suicidal ideation and attempts. *Cognitive Therapy and Research, 36(6)*, 833-839.

Rasmussen, K. A., & Wingate, L. R. (2011). The Role of Optimism in the Interpersonal-Psychological Theory of Suicidal Behavior. *Suicide and Life-Threatening Behavior*, *41*(2), 137-148.

Reidy, D. E., Foster, J. D., & Zeichner, A. (2010). Narcissism and unprovoked aggression. *Aggressive Behavior, 36(6)*, 414-422.

Roberts, R. E., Roberts, C. R., & Chen, Y. R. (1998). Suicidal thinking among adolescents with a history of attempted suicide. *Journal of the American Academy of Child & Adolescent Psychiatry, 37, 12,* 1294-1300.

Ronningstam, E. (2009). Narcissistic Personality Disorder. *Psychiatric Annuals, 39,* 111-129.

Smith, A. R., Ribeiro, J. D., Mikolajewski, A., Taylor, J., Joiner, T. E., & Iacono, W. G. (2012). An examination of environmental and genetic contributions to the determinants of suicidal behavior among male twins. *Psychiatry Research, 197*, 60-65.

Smolewska, K. & Dion, K. L. (2005). Narcissism and adult attachment: A multivariate approach. *Self and Identity, 4(1)*, 59-68.

Spruijt, M., & de Goode, W. (1997). Transitions in family structure and adolescent well-being. *Journal of Adolescence, 32(123),* 897-911.

Svindseth, M. F., Nottestad, J. A., Wallin, J., Roaldset, J. O., & Dahl, A. A. (2008). Narcissism in patients admitted to psychiatric acute wards: its relation to violence, suicidality and other psychopathology. *BMC Psychiatry, 8*, 1-11.

Van Orden, K. A., Cukrowicz, K. C., Witte, T. K., & Joiner, T. E. (2012). Thwarted belongingness and perceived burdensomeness: Construct validity and psychometric properties of the interpersonal needs questionnaire. *Psychological Assessment*, *24*(1), 197-215.

Van Orden, K. A., Lynam, M. E., Hollar, D., & Joiner, T. E. (2006). Perceived burdensomeness as an indicator of suicidal symptoms. *Cognitive Therapy and Research, 30,* 457–467.

Van Orden, K. A., Witte, T. K., Cukrowicz, K. C., Braithwaite, S., Selby, E. A., & Joiner, T. E. (2010). The interpersonal theory of suicide. *Psychological Review*, *117*(2), 575-600.

Van Orden, K. A., Witte, T. K., Gordon, K. H., Bender, T. W., & Joiner, T. E. (2008). Suicidal desire and the capability for suicide: Tests of the interpersonal-

psychological theory of suicidal behavior among adults. *Journal of Consulting and Clinical Psychology, 76*, 72-83.

Watson, D., Clark, L. A., & Tellegan, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54(6),* 1063–1070.

Wink, P. (1991). Two faces of narcissism. *Journal of Personality and Social Psychology, 61,* 590-597.

Wright, A. G. C., Lukowitsky, M. R., Pincus, A. L., & Conroy, D. E. (2010). The hierarchical factor structure and gender invariance of the Pathological Narcissism Inventory. *Assessment, 17*, 467-483.

Zeigler-Hill, V. & Besser, A. (2011). Humor style mediates the association between pathological narcissism and self-esteem. *Personality and Individual Differences, 50,* 1196-1201.

Zeigler-Hill, V., Clark, C. B., & Pickard, J. D. (2008). Narcissistic subtypes and contingent self-esteem: Do all narcissists base their self-esteem on the same domains? *Journal of Personality, 76(4)*, 753-774.

Ziegler-Hill, V., Green, B. A., Arnau, R. C., Sisemore, T. B., & Meyers, E. M. (2010). Trouble ahead, trouble behind: Narcissism and early maladaptive schemas. *Journal of Behavior Therapy and Experimental Psychiatry, 42*, 96-103.