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Vulnerable Narcissism, Self-Criticism, and Self-Injurious Behavior: Emotion Regulation as a Moderator

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VULNERABLE NARCISSISM, SELF-CRITICISM, AND SELF-INJURIOUS
BEHAVIOR: EMOTION REGULATION AS A MODERATOR

by

Philip Stoner, B.A.

A Thesis
Submitted to the Graduate School,
the College of Education and Human Sciences
and the School of Psychology
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

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ABSTRACT

College students of traditional age have an elevated risk of self-injury (McManus et al., 2015). Self-injurious behavior (SIB) often indicates increased mental health concerns and elevated suicide risk (Whitlock, Eckenrode & Silverman, 2006). Self-criticism represents a non-physical form of self-injury (Baetens, et al., 2015), which is also associated with psychological distress and suicidal behavior. Thus, it is important to understand the risk factors associated with SIB and self-criticism. Vulnerable narcissism has been linked to self-injury (Dawood et al., 2017); however, there is little consensus about the nature of this relationship. Moreover, vulnerable narcissism has been associated with impaired emotion regulation (Ziegler-Hill & Vonk, 2015), and this relationship may strengthen any relationship that exists between vulnerable narcissism and forms of self-injury, as emotion dysregulation has been linked to increased risk of self-injury as well (Rajappa, Gallagher, & Miranda, 2011). The current study explored the relationship of vulnerable narcissism to SIB and self-criticism, as well as the moderating effects of emotion dysregulation, in a college student sample ($N = 260$). Vulnerable narcissism was positively related to both self-injury and self-criticism, and emotion dysregulation moderated the relationship between vulnerable narcissism and self-criticism (i.e., the relationship between vulnerable narcissism and self-criticism was stronger when higher levels of emotion dysregulation were present. The positive relationship between vulnerable narcissism and self-injury did not vary at different levels of emotion dysregulation.

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DEDICATION

I would like to dedicate this thesis project to Robert and Elizabeth Stoner who have been endlessly supportive and encouraging.

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LIST OF ABBREVIATIONS

<i>USM</i>	The University of Southern Mississippi
SIB	Self-Injurious Behavior

CHAPTER I – INTRODUCTION

According to the Centers for Disease Control (2014), suicide is the second leading cause of death among people between the ages of 15 and 24; however, nonfatal suicidal behavior (e.g., suicide attempts, suicidal gestures) and non-suicidal self-injurious behavior are also serious concerns for this population. A study by McManus et al. (2015) demonstrated that people ages 16-25 engage in significantly more self-injurious behaviors, compared to other age ranges, making it particularly important to understand self-injurious behaviors in this age range. Furthermore, Crosby, Ortega, and Melanson (2011) reported that approximately 533,000 people were hospitalized in the United States for severe self-injury (many of whom are 18-25 years-of-age), including non-suicidal self-injury and suicide attempts, in 2007 alone. This almost certainly underrepresents the number of people who inflicted self-injury, as it is limited to those who sought medical attention. Crosby and colleagues also noted that only an estimated 50% of those who engage in forms of self-injury seek treatment, leaving the actual number of people engaging in self-injurious behaviors undetermined. Furthermore, there are substantial financial costs associated with self-injurious behavior. These include the costs associated with medical treatment, as well as the lost productivity associated with these behaviors. For instance, non-fatal self-injuries resulted in an estimated \$1 billion in medical expenses as well as \$32 billion in lost lifetime productivity in the year 2000 (Corso, Mercy, Simon, Finkelstein, & Miller, 2007). These statistics highlight the societal impact of self-injurious behavior. Furthermore, a robust relationship has been demonstrated between self-injurious behavior and self-criticism, which has been shown to function as a non-physical form of self-injury, such that it is a way of injuring one's ego, rather than

inflicting physical harm (Baetens, et al., 2015). Hence, it appears to be important to assess both physical and non-physical forms of self-injury when studying this phenomenon.

A common trend in recent research in self-injury is to explore what personality traits are related to these behaviors. For example, vulnerable narcissism has been shown to be related to self-injury (Perry, 1990), but there is very little consensus on the nature of this relationship. In addition, difficulties with emotion regulation have been linked to both self-injurious behaviors and vulnerable narcissism (e.g., Rajappa, Gallagher, & Miranda, 2011; Zeigler-Hill & Vonk, 2015). Hence, this study examined the potential relationships of vulnerable narcissism to self-criticism and self-injury, while exploring how emotion regulation effects the strength of these potential relationships. The sample was limited to traditional-age college students because self-injury appears to be prevalent in this age-range and developmental period (McManus et al., 2015; Whitlock, Eckenrode & Silverman, 2006).

Terminology

The body of literature on self-injurious behavior and suicidality is proliferated with a range of terms referring to similar behaviors. In an attempt to avoid confusion, we used two definitions found in the Columbia Classification Algorithm of Suicide Assessment (C-CASA; Posner, Oquedo, Gould, Stanley, & Davies, 2007). First, *self-injurious behavior, no intent to die* refers to deliberate acts of self-inflicted harm or self-mutilation, without intent to die. Throughout the remainder of the document, this will be referred to as *self-injurious behavior* (SIB) and considered to be synonymous with *non-suicidal self-injury* (NSSI), which is also a term commonly found in self-injury research.

Additionally, *self-criticism* will be used to refer to a tendency to engage in thoughts typified by being highly self-evaluative and holding very high personal standards that one rarely feels they meet. These tendencies lead self-critical persons to be ambivalent about themselves and their personal value (Fazaa & Page, 2003).

Self-Injurious Behavior

Self-injurious behavior, has been linked to suicidal behavior in many studies (for a review of this literature, see Joiner, Riberio, & Silva, 2012). For example, Ward-Ciesielski, Shumacher, and Bagg (2016), found that among individuals who had attempted suicide, those with a history of SIB reported more attempts overall and more attempts requiring hospitalization than those without a history of SIB. Another study of 1,466 students across five universities found that a history of SIB predicted both current and future suicidal behavior (Whitlock et al., 2013). In addition, self-injurious behavior has been demonstrated to be highly prevalent in traditional college-age populations and is related to a plethora of other negative facets of mental health (e.g., depression; Whitlock, Eckenrode & Silverman, 2006). These findings make it important to further understand what predisposes traditional college-age individuals to engage in self-injury at higher rates than other age-ranges.

Self-Criticism

Self-criticism refers to a general tendency for a person to engage in self-critical thoughts and is another variable that has been shown to be related to self-injury. For example, Fazza and Page (2003) found that college students who reported self-critical tendencies also reported self-injurious behavior. Self-criticism has been shown to be correlated to suicidality, including suicidal ideation, and subsequent self-injury among

college students (O’Conner & Noyce, 2008). Thus, high self-criticism appears to be comorbid with self-injury in college students. The decision to include self-criticism as a dependent variable was based on the comorbidity of self-injury and self-criticism in the literature and the concept that self-criticism can function as a non-physical, cognitive form of self-injury. In addition, it was expected that self-criticism would be more commonly reported than physical self-injury, which is often underreported due to its sensitive nature. It was expected that vulnerable narcissism would predict both SIB and self-criticism.

Vulnerable Narcissism

Narcissism is often conceptualized by a two-factor model that includes vulnerable and grandiose sub-types (Pincus, Ansell, Pimentel, Cain, Wright & Levy, 2009). These subtypes have some common traits and behaviors but differ significantly on the functions of these behaviors. Grandiose narcissism is commonly thought of as consisting of impervious self-esteem, low empathy, aggression, and fascination with power. In contrast, vulnerable narcissism consists of compensatory behaviors for acutely low self-esteem, fear of criticism, shame, and poor emotion regulation (Gore & Widiger, 2016). Another key component of vulnerable narcissism is the idea of threatened egotism, which is defined as any situation or experience that threatens the fragile self-concept, particularly in cases of evaluation, of a person with traits of vulnerable narcissism. A widely-used measure of the two-factor model of narcissism is the Pathological Narcissism Inventory (Pincus, Ansell, Pimentel, Cain, Wright & Levy, 2009), which measures both vulnerable and grandiose forms of narcissism. This study focused on the

vulnerable type of narcissism and its predicted relationships with self-injurious behavior and self-criticism.

The relationship between narcissistic personality traits and self-injury is currently unclear in the literature, suggesting that further research in this area may be beneficial. Despite the lack of consensus, there is some evidence of a relationship between narcissism (particularly vulnerable types) and self-injurious behavior. For instance, Svindseth and colleagues (2008) found that people scoring higher on vulnerable traits of narcissism elevated levels of suicidality including potential to self-injure. While this study was conducted with a clinical sample, studies examining non-clinical samples have demonstrated similar relationships. For instance, a study measuring forms of narcissism and self-injury in college students, found that vulnerable narcissistic traits were correlated with different forms of self-injurious behavior (e.g., cutting, scaping; Dawood et al., 2017). Furthermore, Apter and colleagues (1993) found that 23% of a sample of young men who fatally self-injured themselves, outside of clinical treatment, had previously demonstrated narcissistic personality traits. Another study utilizing interviews of people with pathological narcissism who had attempted suicide outside of clinical settings found that suicide attempts, suicidal thinking, and particularly self-injurious behavior can be a response to an ego threat or other unpleasant circumstances in persons with vulnerable narcissism (Ronningsstam & Maltzberger, 1998). These results were consistent with Perry's (1990) finding that narcissistic individuals were at higher risk for attempted suicide and self-injurious behavior because of fragile self-esteem. Additionally, Goldblatt and Maltzberg (2010) hypothesized that self-injurious behaviors performed by

narcissistic individuals represent a construct called narcissistic malice, which is generally thought to compensate for inability to regulate emotion.

Zeigler-Hill and Besser (2013) found that individuals scoring higher on vulnerable narcissism reported significantly lower self-esteem, as compared to those with elevated scores on grandiose narcissism and population norms. This is an important relationship in the current study, as low self-esteem has been found to be correlated with greater degrees of self-injury (Cawood & Huprich, 2011). Furthermore, vulnerable narcissism is also correlated with poor social skills (Bushman & Baumeister, 1998) and an attachment style typified by cold demeanor, dependent self-esteem, and aggression (Smolewska & Dion, 2005). These social deficits create social isolation for people high in vulnerable narcissism, which has also been shown to predict self-injury (Zhang, et al., 2017).

People high in narcissism also tend to respond to threats to their ego (i.e., threatened egotism) with shame and anger (Gore & Widiger, 2016). Threatened egotism generally elicits an extreme emotional response, often aggressive, from the narcissistic individual perceiving the threat (Konrath, Bushman, & Campbell, 2006). The tendency to respond to threatened egotism with overtly aggressive behavior, as well as self-harming behavior and self-critical thoughts, are important components leading to the use of vulnerable narcissism in this study. Furthermore, the *DSM-5* states that individuals with narcissistic personality disorder (NPD) are at increased risk for feelings of social isolation, depressed mood, and shame, typified by self-criticism (American Psychiatric Association, 2013). This link to self-criticism further demonstrates the potential relationship between vulnerable narcissistic traits and self-criticism, which, as stated

before, can function as a non-physical form of self-injury. Finally, NPD and non-clinical forms of narcissism have consistently been linked to aggressive behavior (Bushman & Baumeister, 1998). Given that other-directed aggression and self-injurious behavior are often co-occurring (O'Donnell, House, & Waterman, 2015), this suggests that pathological narcissism is likely to be relevant to understanding self-injurious behaviors.

Finally, forms of narcissism are typified by impulsive behavior. For example, Vazir and Funder (2006) performed a meta-analysis on narcissism research that also included measures of impulsivity. Their findings suggest that impulsivity is not only highly prevalent in narcissistic personalities but that it is linked to many of their self-defeating behaviors. These findings support a potential relationship between narcissism and self-injury, as impulsivity is a robust risk factor of engaging in self-injurious behaviors (Chamberlin, Redden, & Grant, 2017). Their findings that narcissists also tend to engage in self-destructive behaviors fits the purposed relationship between vulnerable narcissism and forms of self-injury. Past studies correlating forms of narcissism to self-injury, impulsivity, and the tendency to respond negatively to evaluation (threaten egotism), all support testing a potential relationship between vulnerable narcissism and self-injury. While much of the research demonstrating this relationship has been done with clinical samples, an article by Leo Sher (2016) addressing the relationship between narcissism and forms of suicidality (e.g., self-injury), stated that studying narcissism and suicidality in non-clinical samples is important to help predict and prevent suicide. Hence, it has become increasingly important to better understand self-injury in non-clinical settings, so that clinicians can better screen for, and intervene with, clients who pose a threat to themselves.

Emotion Dysregulation

Another factor that has been repeatedly linked to self-injury is emotion regulation. Emotion regulation is defined as one's ability to regulate emotions through intrinsic and extrinsic processes (Thompson, 1994). Deficiencies in this ability make people more susceptible to extreme responses to negative emotional experiences and are commonly referred to as *emotion dysregulation*. Past research has demonstrated a strong relationship between emotion dysregulation and suicidality, including self-injury (Rajappa, Gallagher, & Miranda, 2011). Emotion regulation has also been shown to moderate the relationship between emotional reactivity and self-injury (Davis, et al., 2014). These findings suggest that emotion dysregulation potentially moderates how self-injury relates to other variables.

In addition, facets of pathological narcissism have been linked to problems in emotion dysregulation. For example, Ziegler-Hill and Vonk (2015) found that exploitation and entitlement, facets of vulnerable narcissism, were positively correlated with emotion dysregulation pertaining to regulation strategies and impulsivity. Another study found that emotion dysregulation moderated the relationships between personality traits (e.g., impulsivity) and self-injurious behaviors (Hasking, et al., 2010). These findings, suggest that individuals higher in vulnerable narcissism may use impulsive acts as a poor means of dealing with emotional distress. This would support the idea of emotion regulation as moderating any potential relationship between vulnerable narcissism and self-injury. Emotion dysregulation was used in this study as a potential moderator to add to the growing literature exploring how emotion dysregulation effects relationships between personality traits and self-injury.

By using emotion dysregulation as a moderator, this study aimed to determine how the relationships between vulnerable narcissism and self-injury and self-criticism may differ for participants based on their ability to regulate emotions. Because of the theoretical relevance and demonstrated relationship between emotion regulation difficulties and self-injury, it was expected that greater degrees of emotion dysregulation (i.e., higher scores on the DERS) would strengthen the relationship between vulnerable narcissism and the dependent variables. In other words, we anticipated that the relationship between vulnerable narcissism and self-injury and self-criticism would be stronger for respondents who had greater difficulty with emotion dysregulation.

The Current Study

The current study aimed to clarify the relationship between vulnerable narcissism and self-injurious behavior, and self-criticism. These variables were selected because of the importance of understanding the factors that predispose individuals to self-injure, both physically, and non-physically (i.e., self-criticism). We anticipated that vulnerable narcissism would be positively related to both of these variables. In addition, emotion dysregulation was included as a possible moderator of these relationships. The strength of the relationships between vulnerable narcissism and self-injury and self-criticism were expected to be greater for individuals who reported more difficulty regulating their emotions. The sample was limited to traditional-age college students because self-injury appears to be specifically prevalent and relevant for this age-range and developmental period (McManus et al., 2015; Whitlock, Eckenrode & Silverman, 2006).

The hypotheses tested in this research were as follows:

H1: Vulnerable narcissism will be positively related to self-injurious behavior.

H2: Vulnerable narcissism will be positively related to self-criticism.

H3: Emotion dysregulation will moderate the relationship between vulnerable narcissism and self-injurious behavior such that this relationship will be greater at higher levels of difficulty with emotion regulation.

H4: Emotion dysregulation will moderate the relationship between vulnerable narcissism and self-criticism such that this relationship will be greater at higher levels of difficulty with emotion regulation.

CHAPTER II – METHODS

Participants and Procedure

The final sample consisted of 260 traditional age (18-25; $M = 19.5$) undergraduate students at The University of Southern Mississippi recruited using the online subject pool used by the Department of Psychology (i.e., Sona Systems, LTD). The sample identified as majority White/Caucasian (62.7%; African-American = 31.9%; other = 5.4%) and female (66.9%; male = 32.3%; other = .8%). These participants were given a brief description of the study, including the 18-25 age requirement and a warning about the use of quality assurance checks (see below). Participants then received a URL directing them to a secure online survey host (i.e., Qualtrics) and were presented with an online consent form. Participants were required to electronically sign this document before proceeding to a brief demographic questionnaire. Regardless of age reported on the demographic questionnaire, participants were directed to complete all measures online and in random order to reduce potential order effects. Those that fell outside of the 18-25 age range were deleted from the sample during data cleaning.

As recommended in the literature on insufficient effort responding (IER) in online survey research (e.g., Huang, Curran, Keeney, Potoski, & DeShon, 2012; Meade & Craig, 2012), two types of quality assurance checks were used to identify respondents who respond carelessly to survey questions. Two directed response items (e.g., “answer strongly agree to this item”) were imbedded in two of the longer measures. Participants that failed to answer either of these items correctly were removed from the sample due to assumed careless responding. Total survey completion time was also monitored so that the data from respondents who complete the survey much more quickly than normal (half

the median response time) can be examined. Participants who completed the study and passed the quality assurance checks received research credit (0.5) based on estimated completion time, consistent with policies of the Institutional Review Board (IRB). All procedures were approved by the University of Southern Mississippi's IRB (see Appendix A).

Instruments

Demographic Questionnaire. A brief demographic questionnaire was included to collect information regarding participants' race, gender, and school classification (see Appendix B).

Depression Anxiety and Stress Scales- Short Form (DASS-21). The DASS-21 is a 21-item measure of symptoms of depression, anxiety, and stress (Lovibond & Lovibond, 1995). The items are worded as statements (e.g., "I found it hard to wind down") and are scored on a 4-point Likert scale ranging from 0 ("Did not apply to me at all") to 3 ("Applied to me very much or most of the time"), with higher scores indicating greater levels of depression, anxiety, and stress. The DASS-21 includes three subscales that have shown to be reliable in college student samples: Depression ($\alpha = .83$), Anxiety ($\alpha = .78$), and Stress ($\alpha = .87$) (Norton, 2007). Additionally, the DASS-21 has been shown to have good convergent and divergent validity, as it relates in expected ways with other, well established, measures of depression, anxiety, and stress (Crawford & Henry, 2003; Norton, 2007). The scores for the three subscales will be reported to gauge the overall distress of the sample at the time of completing the study measures.

Pathological Narcissism Inventory (PNI). The PNI is a 52-item measure of maladaptive forms of narcissism (Pincus, Ansell, Pimentel, Cain, Wright & Levy, 2009).

The items are scored on a 6-point Likert scale ranging from 0 (“not at all like me”) to 5 (“very much like me”), with higher scores indicating elevated levels of pathological narcissism. The PNI is comprised of seven subscales: Exploitative Tendencies ($\alpha = .93$), Contingent Self-Esteem ($\alpha = .93$), Self-Sacrificing Self-Enhancement ($\alpha = .78$), Grandiose Fantasy ($\alpha = .89$), Hiding to the Self ($\alpha = .79$), Devaluing ($\alpha = .86$), and Entitlement Rage ($\alpha = .87$), which form two higher-order factors: Narcissistic Grandiosity ($\alpha = .89$) and Narcissistic Vulnerability ($\alpha = .96$) (Wright, Lukowitsky, Pincus & Conroy, 2010). Exploitative Tendencies, Self-Sacrificing, Self-Enhancement, and Grandiose Fantasy comprise Narcissistic Grandiosity; Contingent Self-Esteem, Hiding of the Self, Devaluing, and Entitlement Rage form Narcissistic Vulnerability. Furthermore, support for the validity of the PNI comes from relationships with other established measures of narcissism and self-esteem (Gatz & Roemer, 2009). Most studies using the PNI use the two higher-order factors, and this approach is generally considered superior to the use of a single score (Wright, Lukowitsky, Pincus & Conroy, 2010). For the purposes of this study, only the Narcissistic Vulnerability scale was used.

Inventory of Statements about Self-injury (ISAS). The ISAS is a self-report measure developed by Klonsky and Olinio (2008), consisting of two separate forms that assess self-injurious behaviors ($\alpha = .78$) and their functions ($\alpha = .58$). As one can see, the behaviors scale has significantly better reliability than the functions subscale. For the purposes of this study, only the self-injurious behaviors form was used. This form consists of 12 items that assess different types of self-injurious behavior (e.g., cutting, biting, pulling hair). Respondents were instructed to fill in blanks with estimates of how many times they have engaged in each behavior throughout their life. Given that the

scores on this measure were highly skewed, total scores were broken into six separate categories: 1 incident, 2-4 incidents, 5-10 incidents, 11-50 incidents, 51-100 incidents, and more than 100 incidents. This approach to categorization was recommended by Hamza and Willoughby (2014) and Heath et al. (2008), as a means of normalizing the distribution of data on this measure.

The ISAS was normed and validated with a college sample and showed variability in the results, with roughly a fourth of the sample reporting self-injurious behavior (Klonsky & Olino, 2008). A validation study done using the 12 item behaviors form that will be used in the proposed study demonstrated good reliability ($\alpha = .82$) in a sample that included 350 college students (Latimer, Meade & Tennant, 2013). The ISAS also has good evidence of validity, as seen by the fact that the results on the 12 questions tapping different forms of self-injury correlated strongly with scores on other, well established, measures assessing similar self-injurious behaviors (Klonsky & Olino, 2008).

The Forms of Self-Critising & Self-Reassurance Scale (FSCRS). The FSCRS is a 22-item scale measuring forms of self-criticism and self-reassurance that was developed by Gilbert, Clark, Hempel, Miles, and Irons (2004). The items are scored on a 5-point Likert scale ranging from 0 (“not at all like me”) to 4 (“extremely like me”). The items load onto three subscales that represent forms of self-criticism and self-reassurance: Inadequate Self ($\alpha = .96$), Reassure Self ($\alpha = .86$), Hated Self ($\alpha = .95$; Castillo, Gouveia, & Duarte, 2015). These subscales have demonstrated good reliability when used with college students (Gilbert et al., 2004), and a confirmatory factor analysis conducted by Castillo, Gouveia, and Duarte (2015) with a college student sample supported the three-factor structure and provided evidence of construct validity through comparisons with

other measures of self-criticism and depressive symptoms. The scores from the Inadequate Self and Hated Self subscales were combined into one total self-criticism score. This combination of subscales is supported by previous research (e.g., Duarte, 2015; Maratos, 2017) and has not impacted the reliability of the measure in this research. The collapsing of these two subscales into one self-criticism scale allows researchers to measure participants on a spectrum (e.g., high or low) of self-criticism.

Difficulties in Emotion Regulation Scale (DERS). The DERS is a 36-item self-report measure of emotion regulation developed by Gratz and Roemer (2004). Respondents rate items from 1 (“almost never”) to 5 (“almost always”), and higher scores reflect greater difficulty in regulating emotions. Items form six subscales: Nonacceptance of emotional response, Difficulty engaging in goal-directed behavior, Impulse control difficulties, Lack of emotional awareness, Limited access to emotion regulation strategies, and Lack of emotional clarity. For the purposes of this study, only the total DERS score was used. The DERS was normed on a college sample and demonstrated excellent internal consistency ($\alpha = .93$), with item-total correlations ranging from .16 to .69 (Gratz & Roemer, 2004). The DERS also demonstrated evidence of construct validity, as it correlated in the expected directions with other well-established measures of emotion regulation. Furthermore, the DERS has been shown to be correlated with self-injury in samples of self-injurers (Perez, Vente, Garnaat, & Sharp, 2012), which supports its use in the present study as a means of assessing emotion regulation as a moderator between vulnerable narcissism and suicidal risk factors.

CHAPTER III - RESULTS

Data Cleaning and Preparation

The electronic data file was downloaded from Qualtrics, converted into an SPSS file, and all potentially identifying information was removed ($N = 352$). Study measures were scored via SPSS syntax. Using the procedures suggested for on-line surveys (e.g., Huang, Curran, Keeney, Poposki, & DeShon, 2012; Meade & Craig, 2012), 63 participants were removed due to incorrectly answering either of the two directed-response items (e.g., “Please answer this question with ‘disagree’”) imbedded in the study questionnaires. Nine additional participants were removed due to falling outside the 18-25 age range specified for the study. Next, participants were screened for total survey completion time. Nineteen participants who completed the study in less than half the median completion time were removed. Finally, one participant was removed for failing to respond to any item on the ISAS. The remaining missing data (<1%) was imputed using the respondents’ mean endorsement of items on the same measure as the missing data. After completing the above data-cleaning, the final sample on which all analyses were completed consisted of 260 traditional-aged ($M = 19.5$ years-of-age) undergraduate students.

The DASS-21 was used to provide data on the overall emotional distress of the sample at the time of completing the study survey. Using the scoring recommendations of the authors (Lovibond & Lovibond, 1995), the overall Stress ($M = 13.04$, $SD = 8.59$) and Depression ($M = 8.5$, $SD = 8.7$) scores were within normal limits for the current sample, based on population norms. The overall Anxiety ($M = 9.04$, $SD = 8.09$) scores for the

current sample were in the mildly anxious range. Overall, there was no indication of significant emotional distress in the sample at the time of completing the study.

Due to the skewed nature of the scores on the ISAS in this study, the ISAS scores were transformed into six categories (i.e., 1 incident, 2-4 incidents, 5-10 incidents, 11-50 incidents, 51-100 incidents, and 100+ incidents) using recommendations in the literature (e.g., Hamza & Willoughby, 2014; Heath et al., 2008). This transformation was recommended because the open-ended nature of the items on the ISAS tend to yield extreme outliers in the distribution. After this transformation, the ISAS scores were normally distributed across the sample. Furthermore, the average scores on the ISAS in this study were significantly lower than average scores observed in other studies using the ISAS to examine SIB in college student populations (Vega et al., 2017).

The skewness of all other variables in the study was assessed. With the exception of total self-criticism ($D(260) = .10, p < .001$) and emotion dysregulation ($D(260) = .061, p < .001$), which were both positively skewed, all variables were normally distributed. Research has demonstrated that traditional data transformation techniques (e.g., log transformations, square root transformations, etc.) may increase Type-II error, particularly in moderation models (Russell & Dean, 2000). This same research suggests that bootstrapping is a preferable means of addressing non-normally distributed data, particularly in moderation analyses (Russell & Dean, 2000; Field, 2013). Hence, bootstrapping was used to create 95% bias-corrected and accelerated confidence intervals with 5,000 bootstrap samples for all analyses.

Primary Analyses

Intercorrelations between variables, alpha coefficients, means, and standard deviations can be seen in Table 1. To test H1 and H2, bivariate correlations were run for all study measures. The intercorrelations among measures were all in the expected directions. As predicted in H1 and H2, PNI Narcissistic Vulnerability was positively correlated with both ISAS total scores, $r(258) = .39, p < .001$ (one-tailed), 95% CI [.29, .49], and with total scores on the FRCRS Self-Critical subscale, $r(258) = .71, p < .001$ (one-tailed), 95% BCa CI [.64, .77]. Hence, these hypotheses were supported. PNI Narcissistic Vulnerability was also positively related to total scores on the DERS, which was positively related to both ISAS total scores and total scores on the FRCRS Self-Criticism subscale.

To test H3, a hierarchical multiple regression was conducted to determine the potential moderating effect of emotion dysregulation on the relationship between vulnerable narcissism and total self-injurious behavior. This analysis was conducted using the Process macro for SPSS (Hayes, 2012). Model one (i.e., simple moderation) on Process was selected. Total scores on the ISAS served as the outcome variable, PNI Narcissistic Vulnerability as the independent variable, and DERS total score as the moderator. Following recommendations of Field (2013), the PNI Narcissistic Vulnerability and DERS scores were centered to reduce multicollinearity, homoscedasticity was corrected for, and the bias corrected 5,000 bootstrap samples option was selected (Russell & Dean, 2000).

Table 1 *Intercorrelations, Alphas, Means, and Standard Deviations of Study Variables*

Scale	1	2	3	4	5	6	7
1. PNI-Vulnerable	-	-	-	-	-	-	-
2. FSCRS	.71	-	-	-	-	-	-
	[.63, .78]						
3. ISAS	.39	.39	-	-	-	-	-
	[.28, .50]	[.29, .50]					
4. DERS	.71	.70	.32	-	-	-	-
	[.64, .77]	[.62, .77]	[.21, .42]				
5. DASS - Dep	.61	.71	.39	.65	-	-	-
	[.51, .69]	[.40, .65]	[.28, .45]	[.56, .73]			
6. DASS - Anx	.51	.52	.32	.52	.60	-	-
	[.40, .60]	[.40, .62]	[.20, .43]	[.41, .61]	[.49, .71]		
7. DASS - Str	.60	.62	.36	.60	.72	.78	-
	[.53, .70]	[.54, .70]	[.25, .47]	[.50, .69]	[.63, .79]	[.66, .80]	
<i>M</i>	2.01	18.53	92.75	83.74	8.5	13.04	9.04
<i>SD</i>	.99	10.59	265.66	24.51	8.7	8.59	8.09
α	.95	.64	.72	.88	.82	.75	.85

Note: PNI-Vulnerable = Pathological Narcissism Inventory Narcissistic Vulnerability; FSCRS = The Forms of Self-Criticising and Reassurance Scale: Self-Critical Subscale; ISAS = Inventory of Statements About Self-Injury; DERS = Difficulties in Emotion Regulation Scale. All 95% confidence intervals are bootstrapped using 5,000 resamples of the data. All correlations shown are significant at $p < .001$.

As seen in Table 2, there was no evidence that emotion dysregulation moderated the relationship between vulnerable narcissism and self-injurious behavior, as the interaction effect between PNI Narcissistic Vulnerability and DERS total score did not produce a significant change in R^2 , $F(1, 256) = 1.40, p = .24$. Hence, the prediction that the relationship between vulnerable narcissism and self-injurious behavior would be stronger at higher levels of emotion dysregulation (H3), was not supported. However, we did find that vulnerable narcissism significantly predicted SIB.

Table 2 *Regression of Vulnerable Narcissism and Emotion Dysregulation on Total Self-Injury*

	Total Self-Injury		
	R^2	ΔR^2	β
<i>Model 1</i>	.16***		
PNI-Vulnerable			.34***
DERS			.07
<i>Model 2</i>	.16	.001	
PNI-Vulnerable x DERS			-.07

Note: PNI-Vulnerable = Pathological Narcissism Inventory: Vulnerable Subscale; DERS = Difficulties in

Emotion Regulation Scale. * $p < .05$; ** $p < .01$; *** $p < .001$.

To test H4, another hierarchical multiple regression was conducted using the Process macro for SPSS (Hayes, 2012). This regression was identical to the previous one except that total scores on the FSCRS Self-Critical subscale served as the outcome variable (see Table 3). All variables in the model were significant, explaining approximately 60% of the total variance in self-criticism. The change in R^2 when the PNI

Narcissistic Vulnerability x DERS interaction was added to the model was significant, $\Delta R^2 = .01$, $F(1, 256) = 10.48$, $p = .001$, and the 95% CI [.019, 079] did not contain zero. Thus, emotion dysregulation moderated the relationship between vulnerable narcissism and self-criticism. The simple slopes analysis demonstrated that emotion dysregulation moderated the relationship between vulnerable narcissism and self-criticism at mean levels of emotion dysregulation and one standard deviation above and below the mean (see Table 4). The relationship between vulnerable narcissism and self-criticism was stronger at higher levels of emotion dysregulation ($b = 5.93$, 95% CI [4.11, 7.74], $t = 6.43$, $p < .001$), compared to average ($b = 4.72$, 95% CI [3.25, 6.18], $t = 6.34$, $p < .001$) and low ($b = 3.51$, 95% CI [2.06, 4.95], $t = 4.79$, $p < .001$) levels of emotion dysregulation (see Figure 1). It is important to note that the change in R^2 in this moderation model is low (.02), indicating that this relationship, although statistically significant, does not have a significant affect.

Table 3 *Regression of Vulnerable Narcissism and Emotion Dysregulation on Total Self-Criticism*

	Total Self-Criticism		
	R^2	ΔR^2	β
<i>Model 1</i>	.58***		
PNI-Vulnerable			.43***
DERS			.40***
<i>Model 2</i>	.60**	.02**	
PNI-Vulnerable x DERS			.13**

Note: PNI-Vulnerable = Pathological Narcissism Inventory: Vulnerable Subscale; DERS = Difficulties in Emotion Regulation Scale. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 4 *Conditional Effects of Vulnerable Narcissism on Self-Criticism at Different Levels of Emotion Dysregulation*

Emotion Dysregulation	β	p	95% CI
One <i>SD</i> below mean	3.51	<.001	[2.06, 4.95]
At the mean	4.72	<.001	[3.25, 6.18]
One <i>SD</i> above mean	1.43	<.001	[4.11, 7.74]

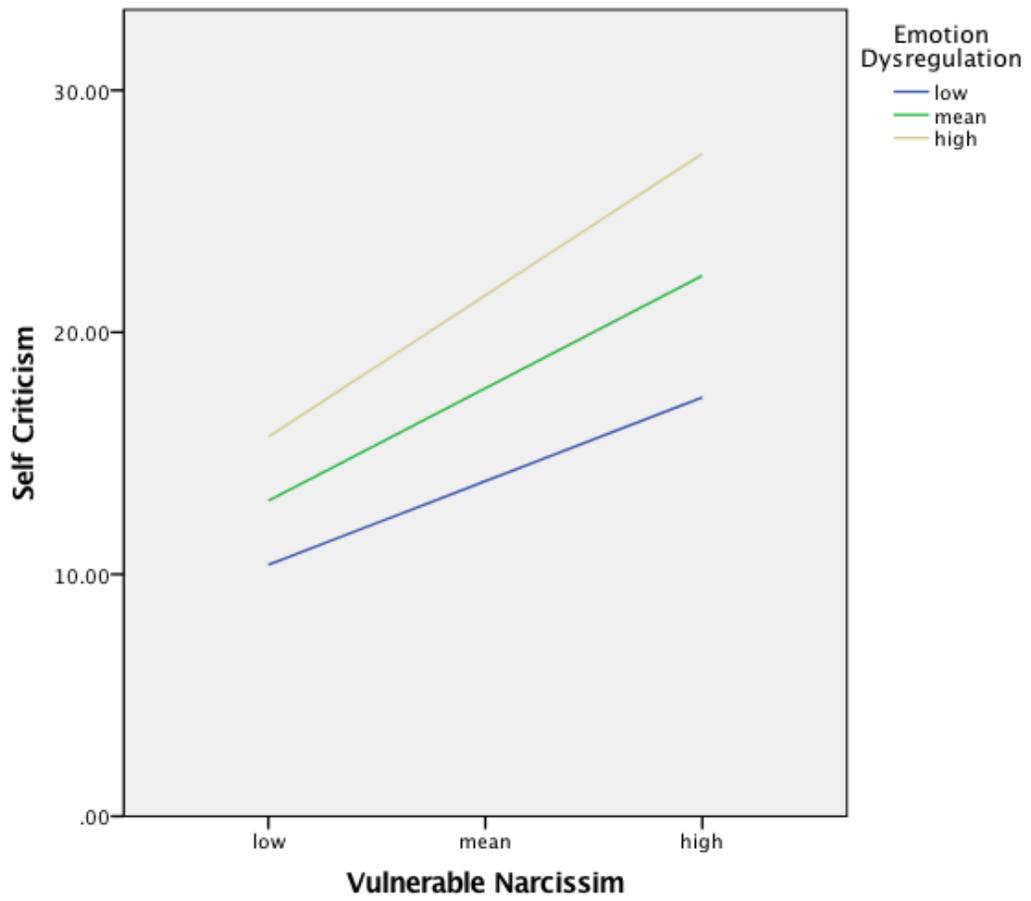


Figure 1. The Effects of Vulnerable Narcissism and Emotion Dysregulation on Self-Criticism

CHAPTER IV – DISCUSSION

Rates of self-injurious behaviors are much higher for traditional college-aged (i.e., 18-25) individuals (McManus et al., 2015). A study by Crosby, Ortega, and Melanson (2011) reported that approximately 533,000 people were hospitalized in the United States for severe self-injury (many of whom are 18-25), including non-suicidal self-injury and suicide attempts, in 2007 alone. Additionally, there are extensive financial costs related to both care for, and lost life-time productivity of, those who engage in self-injurious behaviors (Corso, Mercy, Simon, Finkelstein, & Miller, 2007). Given these findings about self-injury in this age range, it is important to understand the factors that may predispose people to engage in self-injurious behaviors.

The current study explored the relationship of vulnerable narcissism to self-injury and self-criticism, examining emotion dysregulation as a moderator. Although self-injury was the primary variable of interest, self-criticism was included to provide added breadth and ensure an adequate range in a non-clinical sample. While some studies have examined the relationship between vulnerable narcissism and self-injury (e.g., Dawood et al., 2017; Svindseth et al., 2008), there remains a need to expand on this growing literature. Additionally, although a relationship between emotion dysregulation and self-injury has been established (e.g., Ziegler-Hill & Vonk Rajappa, 2015; Gallagher, & Miranda, 2011), this is the first study, to the author's knowledge, to examine vulnerable narcissism, emotion regulation, and self-injury in a college student sample.

As expected, vulnerable narcissism and emotion dysregulation were both positively associated with self-injurious behaviors and self-criticism. Students higher in narcissistic vulnerability (i.e., those with fragile self-concepts who are likely to be trying

to compensate for fear of criticism, low self-esteem, and shame) were more likely to report engaging in self-injurious behavior and self-criticism. Similarly, students reporting problems regulating their negative emotions were more likely to report self-criticism and self-injurious behavior. These findings are in accordance with the findings of Fazza & Page (2003), O’Conner & Noyce (2008), and Svindseth et al. (2008) and help to highlight the importance of these variables as potential predisposing factors to self-injury among college students.

Additionally, emotion dysregulation moderated the relationship between vulnerable narcissism and self-criticism, such that the positive relationship between narcissistic vulnerability and self-criticism was stronger for students reporting more difficulties regulating their emotions. These findings indicate that students high in vulnerable narcissism who have difficulties regulating their negative emotions are at greater risk of engaging in self-criticism. These results suggest that there may be some benefits to learning more about how these variables might affect college students and their amenability to change.

Contrary to what was predicted, emotion dysregulation did not moderate the relationship between vulnerable narcissism and self-injurious behavior in the present study. Both vulnerable narcissism and emotion dysregulation predicted self-injurious behavior, but the relationship between vulnerable narcissism and self-injury did not differ based on students’ difficulties with emotion regulation. This may be consistent with some recent findings suggesting that emotion regulation processes look different for young adults who self-injure. Specifically, individuals who self-injure appear to make less use of the cognitive reappraisal component of emotion regulation (Kiekens, Hasking, &

Boyes, 2018). This may help to explain the present findings because the measure of emotion dysregulation used in this study, the DERS, is largely comprised of cognitive reappraisal items. Furthermore, our results may have been influenced by measuring lifetime self-injurious behaviors rather than recent behaviors. A study by Zielinski, Hill, and Veilleux (2018) demonstrated that emotion dysregulation tends to be much higher for individuals who are currently self-injuring as compared to those with a history of self-injury. Hence, measures assessing current emotion dysregulation, such as the DERS, may not demonstrate significant relationships with lifetime measures of self-injury. Additionally, emotion dysregulation and vulnerable narcissism were highly correlated in the current sample ($r = .71$), indicating that there is significant overlap between the two constructs. This overlap likely influenced the proposed moderation, as vulnerable narcissism had already accounted for the variance that emotion regulation would have.

Implications

Given the high prevalence rates of self-criticism and self-injurious behavior among college students, it is important to understand what may predispose individuals in this age range to engage in these thoughts and behaviors. The demonstrated relationships of vulnerable narcissism to both self-injurious behaviors and self-criticism may be important for clinicians to consider when treating a client who presents with narcissistic traits. While vulnerable and grandiose narcissism are distinct constructs, some of the behaviors may be similar. For example, both grandiose and vulnerable narcissists tend to react to criticism aggressively, reject advice, and tend to be cold interpersonally. Hence, although clients with narcissistic traits can be frustrating for clinicians, it is recommended that clinicians attempt to use empathy to take the perspective of the narcissistic client, as

a means of providing them with empathy that has likely been missing throughout their development (McLean, 2007). This approach to individuals with narcissistic traits was originally proposed by Kohut (2013) who posits that these traits are a result of a lack of care-taker empathy throughout key developmental periods. Additionally, there is a significant amount of overlap between traits of vulnerable narcissism and traits of borderline personality disorder (Miller et al., 2010). Thus, it may be helpful to determine whether the present findings might extend to patients who display select borderline traits, such as emotional reactivity and more emotion regulation.

The findings of this study are in accordance with the findings of a limited number of past studies that have demonstrated a relationship between traits of vulnerable narcissism and self-injurious behaviors (e.g., Fazza & Page, 2003; O’Conner & Noyce, 2008; Perry, 1990; Svindseth et al., 2008). Hence, these findings help to establish the relationship between vulnerable narcissism and self-injurious behaviors, particularly in college student samples. As this relationship becomes more concrete, research should continue to examine other variables that contribute to this increasingly established relationship, as a means of gaining insight into the bigger picture of self-injurious behaviors. Additionally, since this is the first study that explored vulnerable narcissism, emotion dysregulation, and self-injury in a college student sample, the significant findings indicate a need for further research examining this combination of variables.

Limitations and Future Directions

There are several limitations to the present study that are worth considering when interpreting the results. First, the sample was collected from one mid-size university in the southeast United States, raising questions about the degree to which findings might

generalize to other regions or more diverse samples. For instance, the overall mean for the ISAS for this sample was significantly lower than scores found in a similar study using the ISAS (Vega et al., 2017). Some factors specific to this regional sample that may have impacted the overall reporting of SIB in this sample include religious and racial identity. These variables are discussed below in the future directions section. Second, this study relied solely on self-report measures, making the results dependent on the accuracy, self-disclosure, and insight of the participants. This is particularly relevant to this study given the sensitive nature of self-injurious behaviors. It has been demonstrated that severity of self-injury influences the tendency to self-disclose in college students, such that those with more severe self-injurious behaviors are more likely to self-disclose than those with less severe self-injurious tendencies, even in research studies (Armiento, Hamza, & Willoughby, 2014). This tendency must be considered when interpreting the reported self-injury in this study. Additionally, the measure of self-criticism used in the current study (FSCRS) demonstrated moderately low reliability in the current sample ($\alpha = .64$). The reliability of this measure should be considered when drawing any conclusions from the results of the present study. Finally, most the study variables were highly correlated with one another, which is to be expected given the nature of the current research. However, these high correlations can make it more difficult to definitively state the impact of the unique components of any one of the variables.

One direction of future research would be to examine what components of vulnerable narcissism may facilitate the relationship with self-injury and self-criticism. One possible mechanism for this relationship is threatened egotism. It has been demonstrated that people high in narcissistic traits react to threats to self-esteem with

disproportionate anger and aggression (Gore & Widiger, 2016). This high emotional reactivity may lend itself to engaging in self-injury as a means of regulating that negative emotionality and is worth examination. Additionally, it would be worth measuring current self-injurious behaviors and current emotion dysregulation to determine if this changes the relationship demonstrated in this study in the expected ways based on the findings of Zielinski, Hill, and Veilleux (2018).

Another future direction would be to explore cultural differences related to self-injury as a means of gaining a more comprehensive perspective of the picture of self-injury in traditional college-aged individuals. One such variable would be racial identity. Research has demonstrated that African American populations have lower rates of self-injury, when compared to Latino and Caucasian populations (Wester & Trepel, 2015). However, interactions between racial identity, personality traits, and emotion regulation have not been explored extensively in the literature. Furthermore, religious identity is likely a variable of importance related to self-injury as many religions condemn suicide and self-injurious behaviors. Additionally, religion has been demonstrated to be a protective factor against self-injurious behaviors in some religious denominations (Amit et al., 2014); however, research examining religious affiliation and self-injury is limited, indicating a need for further exploration. Finally, other personality traits are likely to be pertinent to understanding self-injurious behaviors in college student populations. One potential direction would be to examine how the Vulnerable Dark Triad (VDT): Vulnerable Narcissism, Factor 2 Psychopathy, and Borderline Personality Disorder relate to self-injurious behaviors in college student populations. Research has indicated that the VDT traits are all similarly related to negative emotionality and disinhibition (Miller,

Gentile, Wilson, Pryor, & Campbell, 2010). These relationships to negative emotionality and disinhibition are important when thinking about these variables as potential predictors of self-injurious behaviors.

In summary, the current study demonstrated the relevance of vulnerable narcissism to both self-injury and self-criticism. Additionally, the role of emotion dysregulation was highlighted, as this variable was found to moderate the relationship between vulnerable narcissism and self-criticism but not between vulnerable narcissism and self-injury. These findings add to the growing body of literature examining personality traits that predispose individuals to self-injurious behaviors and self-criticism. Increased understanding of what influences people to self-injure enables clinicians to better treat and intervene with clients who may pose a risk to themselves. Hence, continued research of factors that influence self-injurious behaviors is essential moving forward

APPENDIX – A

Demographics Questionnaire

Thank you for agreeing to participate in this study. The success of this research depends on the quality of the data you provide. Please be aware that quality assurance checks are used in this study to make sure that participants are reading each question carefully and providing meaningful responses.

Participants who do not pass these checks will NOT receive credit for completing the study. To make sure you receive credit, please make sure that you take the time to read each question before answering it.

Participant Demographic Questionnaire

The following questions will be used to gather information about participants in this study.

Please answer the questions accordingly.

Gender: ____ Male ____ Female ____ Other

Age: ____

Race/Ethnicity:

____ African American/Black

____ Caucasian/White

____ Hispanic/Latino

____ Native Hawaiian/Pacific Islander

____ American Indian/Alaska Native

____ Asian

_____ Other (specify)

College Status:

___ Freshman

___ Sophomore

___ Junior

___ Senior

APPENDIX --B

Institutional Review Board Approval Letter



INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001

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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: 17091202

PROJECT TITLE: Emotion Regulation in Psychological Distress

PROJECT TYPE: New Project

RESEARCHER(S): Philip Stoner

COLLEGE/DIVISION: College of Education and Psychology

DEPARTMENT: Psychology

FUNDING AGENCY/SPONSOR: N/A

IRB COMMITTEE ACTION: Exempt Review Approval

PERIOD OF APPROVAL: 09/12/2017 to 09/11/2018

Lawrence A. Hosman, Ph.D.

Institutional Review Board

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