Examining negative thinking styles and thought control strategies within Borderline Personality Disorder

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Examining negative thinking styles and thought control strategies within Borderline Personality Disorder

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Components of Borderline Personality Disorder (BPD) include emotion and cognitive dysregulation. The Emotional Cascade Model (Selby & Joiner, 2009; Selby et al., 2009) suggests negative affect and the cognitive process of rumination could be interchangeably increasing over time, leading to maladaptive behaviors. The current study evaluated negative thinking styles (i.e., anger rumination, sadness rumination, worry, catastrophizing) and thought control strategies (i.e., brooding, reflection, thought suppression) in relation to BPD traits using path analyses in a college student sample ($N = 204$). Results indicated anger rumination, sadness rumination, and worry indirectly predicted BPD traits through thought suppression, brooding, and reflection. However, catastrophizing did not directly predict any variable. Furthermore, reflection negatively and indirectly predicted BPD traits, while thought suppression and brooding had a positive and indirect effect on BPD traits. Understanding cognitions more in-depth could be influential in the assessment and treatment of BPD. Strengths, limitations, and future directions are discussed.
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CHAPTER I
INTRODUCTION

The core features of Borderline Personality Disorder (BPD) include problematic interpersonal relationships, affective dysregulation, behavioral dyscontrol, identity disturbance, and cognitive dysregulation (Linehan, 1993). The Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5; American Psychiatric Association [APA], 2013) requires an individual to meet five of nine symptoms listed within the manual to be diagnosed with this disorder, such as frantic efforts to avoid real or imagined abandonment, chronic feelings of emptiness, identity disturbance, and impulsivity in at least two areas that are potentially self-damaging. Recently, network analyses have supported the models of emotion dysregulation and interpersonal problems being core deficits within BPD (Southward & Cheavens, 2018). This model is in line with the biosocial theory initially proposed by Linehan (1993).

**Linehan’s Biosocial Theory**

Linehan’s (1993) theory states instability of affect could be due to individuals attempting to cope with being emotionally vulnerable by blocking or avoiding incoming distressing stimuli or reacting intensely to current stimuli. This, in turn, could lead to behavioral strategies that are attempts to manage these emotions, but that ultimately are impulsive and dysfunctional, such as suicidal behavior or non-suicidal self-injury (Links et al., 2008; Selby & Joiner, 2009). Furthermore, Linehan (1993) proposed this emotional dysregulation could be due to childhood invalidation from parents or primary caregivers repeatedly trivializing (e.g., “it is not a big deal”)


or punishing (e.g., “I will give you something to cry about”) emotional reactions during childhood. Due to the invalidation of their emotional expressions in childhood, there is a lack of ability to identify and cope with those emotions and cope with the situation that brought about those emotional reactions. Therefore, these individuals only have the reactions of emotional inhibition or extreme emotional lability later in life. Crowell et al. (2009) evaluated the biosocial theory by reviewing studies over personality psychopathology and childhood vulnerabilities to BPD. They found that poor impulse control and emotional sensitivity maintained in invalidating developmental environments were indicative of BPD. Furthermore, this could lead to higher behavioral dyscontrol. Given the connection between emotion sensitivity, invalidating childhood environments, and BPD symptoms, an in-depth discussion of emotion dysregulation within the BPD literature and its definition could be critical in identifying precursors to BPD.

**Emotion Dysregulation in BPD**

Emotion dysregulation is described as a continuous process of interacting components by Kring & Sloan (2009), but there continues to be changes in describing emotion dysregulation. One of the consistent critical features of emotional dysregulation is that it could be leading to dysregulated behaviors to reduce negative affect (Carpenter & Trull, 2013). For example, behaviors could be serving as distractions, which reduces the negative affect (Chapman et al., 2011; Hayes et al., 1996).

To describe and clarify all parts of emotion dysregulation, Carpenter and Trull (2013) proposed that specifically for BPD, emotion dysregulation is conceptualized as including four parts: emotion sensitivity, heightened and liable negative affect, a lack of appropriate regulation strategies, and multiple maladaptive regulation strategies. Emotion sensitivity is a heightened reactivity to incoming stimuli. The stimuli include, but are not limited to, troublesome situations
or the emotions of other people. The second component highlights how individuals are experiencing heightened negative affect, which may be due to the heightened emotional sensitivity. The lack of appropriate regulation strategies component is like the Linehan (1993) model where children were not taught healthy ways to cope with their emotional reactivity. If they were not taught multiple effective ways to regulate emotions to incoming stimuli, then there is either a lack of regulation or the development of maladaptive strategies for regulating emotions. Carpenter and Trull (2013) also discussed how impulsive behaviors such as non-suicidal self-injury and substance use are coping mechanisms exhibited for those with BPD (Bornovalova et al., 2005; Dulit et al., 1994; Selby et al., 2012; Zanarini et al., 2008), and how personality traits such as trait impulsivity are argued to be a vulnerability for developing maladaptive behaviors (Crowell et al., 2009).

There is evidence supporting each of the four emotion dysregulation components being related to BPD and how each part of these are mechanisms within BPD. For example, emotional sensitivity was linked to those with BPD who also exhibited attentional and cognitive biases toward negative emotional stimuli (Wingenfeld et al., 2009). Additionally, within two separate studies, negative affect was more unstable longitudinally for those with BPD compared to control groups (Ebner-Priemer et al., 2007; Trull et al., 2008). Furthermore, research demonstrated more instability with sadness, anger, and hostility for patients with BPD than patients with depressive disorders (Trull et al., 2008). Additionally, evidence has demonstrated that BPD symptoms are related to limited access to emotion regulation strategies. Specifically, Salsman and Linehan (2012) found evidence for self-reported problems with emotion regulation being indirectly related to BPD symptoms. Since there are very few healthy coping strategies available, individuals with BPD begin engaging in various coping strategies that are maladaptive
or unhelpful. Some examples include cognitive strategies, such as rumination (Baer & Sauer, 2011; Selby et al., 2009) and thought suppression (Cheavens et al., 2005; Rosenthal et al., 2005) or behavioral dysregulation like substance use (Sadeh et al., 2014). Research has demonstrated that these components of emotion dysregulation are related to cognitive and behavioral dysregulation, but there needs to be more inquiry into how these mechanisms interact with each other. One potential explanation of how these factors may interplay is the Emotional Cascade Model.

The Emotional Cascade Model (Selby & Joiner, 2009; Selby et al., 2009) describes a pattern of emotional instability based on a cycle of heightened negative affect and rumination. As an individual with BPD experiences heightened emotional sensitivity, they also have an unstable level of negative affect. As the negative mood increases, the individual engages in rumination, a cognitive process where an individual repetitively thinks about something from their past, which can include a problem, the cause of the problem, and possible outcomes (Nolen-Hoeksema, 1991). When the thoughts are negative, it is also referred to as a form of repetitive negative thinking (RNT; Harvey et al., 2004). Rumination may be a primary cognitive coping mechanism an individual with BPD has obtained in their lifetime, to the point that it has become a habit. Thus, in this context, an individual ruminates about something currently causing the negative affect.

The Emotional Cascade Model states that as rumination increases, the negative affect also increases in intensity. This increase in emotional intensity leads to more rumination and exacerbating the emotional intensity. This becomes a cycle of emotion dysregulation, and it can be a difficult cycle for an individual to disengage. This also aligns with previous research in which negative affectivity and rumination have a bidirectional relationship (Moberly & Watkins,
2008; Selby et al., 2016b). Given the strong link between these variables, rumination within the Emotional Cascade Model should be evaluated in more depth.

**Rumination**

Rumination, as described previously, is when an individual thinks about something from the past repetitively. The content of these thoughts can be negative (Nolen-Hoeksema, 1991). This form of RNT is more likely to occur among women and can lead to maintenance or increasing intensity of depressive symptoms (Butler & Nolen-Hoeksema, 1994; Katz & Bertelson, 1993; Nolen-Hoeksema et al., 1999; Treynor et al., 2003). Additionally, it is predictive of suicidal ideation (O’Conner & Noyce, 2008). There are variants of rumination associated with BPD, which include anger rumination and depressive rumination (Baer & Sauer, 2011).

**Anger Rumination**

Anger rumination is defined as repetitively thinking about a past experience that elicits the emotion of anger and the causes of the anger (Sukhodolsky et al., 2001). An example of this form of rumination could be an individual repeatedly remembering a past verbal argument with someone and those thoughts leading to current feelings of anger. In this circumstance, the individual is remembering the cause of previous anger, which is leading to current feelings of anger. While this form of rumination has not been studied as heavily as other forms of rumination, research has demonstrated anger rumination predicts BPD symptoms (Martino et al., 2015; Peters et al., 2017; Selby et al., 2009) and correlates with symptom severity (Baer & Sauer, 2011). Additionally, anger rumination significantly mediated the relationship between childhood emotional vulnerability and BPD symptom severity (Sauer-Zavala et al., 2013).
**Depressive Rumination**

Depressive rumination can be described similarly, where the thoughts are repetitive and could become negative. However, the difference is the target of focus. With this form of rumination, the focus is on depressive symptoms (Nolen-Hoeksema, 1991). One example could be an individual repeatedly thinking about missing a past social event because they canceled at the last minute, felt unmotivated, and experienced negative affect. When the individual repeatedly thinks about this experience, there are feelings of negative affect. In this circumstance, there could be some underlying depressive symptoms that could be contributing to negative affect. In addition to depressive rumination being associated with depressive symptoms, depressive rumination has been associated with BPD symptoms as well. For example, when examining a group of individuals diagnosed with major depressive disorder (MDD) and BPD, those that had co-morbid MDD and BPD had higher levels of depressive rumination than those with an MDD diagnosis only (Abela et al., 2003). Additionally, depressive rumination predicted BPD symptoms when controlling for participants’ current depression (Selby et al., 2009). However, there are other types of rumination demonstrated in the literature to consider.

**Sadness Rumination**

Another type of rumination in the literature is sadness rumination (Conway et al., 2000). A measure was created for this construct to illustrate rumination with the emotion of sadness while not focusing on depressive symptoms like depressive rumination. Sadness rumination is when an individual repetitively thinks about their own sadness and attempts to understand their own affect. Research has exhibited this measure of sadness rumination is more related to the Beck Depression Inventory (BDI; Beck, 1967) than the Ruminative Responses Questionnaire (RRS; Nolen-Hoeksema & Morrow, 1991). While it has been shown the RSS and the RRS have
discriminant validity (Conway et al., 2000), this could be investigated more thoroughly. The RRS total score is a scale typically utilized for measuring depressive rumination in the literature (e.g., Abela et al., 2003; Law & Chapman, 2015; Nolen-Hoeksema & Morrow, 1991). There is limited evidence of sadness rumination being related to BPD (DeShong, 2017). It is warranted to understand if sadness rumination is similarly predicting BPD symptoms like depressive rumination, where the focus of the rumination is on emotion like sadness instead of actual depressive symptoms, which are often comorbid with BPD.

Comparing Types of Rumination

Depressive and anger rumination have been shown to be associated with BPD. However, there is still a lack of knowledge of how they differ within BPD. There are similarities, such as both increasing negative affect and decreasing positive affect (Law & Chapman, 2015). There are multiple research studies that discuss rumination and BPD. However, not all studies are specific in the type of rumination, or there is only a focus on one type of rumination. While there is some preliminary evidence that anger rumination may be more related to BPD (Baer & Sauer, 2011; Peters et al., 2017; Richman et al., 2018; Upton, 2011), there is still a lack of consensus of whether one form of rumination is more prevalent or predictive of BPD symptoms and severity. While the Emotional Cascade Model explicitly deploys rumination as the driving force behind the exacerbation of negative affect, as Selby and Joiner (2009) noted, there could be other personality or cognitive factors interplaying with rumination to increase or decrease emotional cascades for those with BPD traits.
Additional Types of Negative Thinking

Though not as commonly investigated, there are other forms of RNT occasionally linked with BPD. One such form of RNT is worry, which is defined as being future-oriented, potentially negative in content, typically about solving problems, and closely related to the process of fear (Borkovec et al., 1983). Worry has been shown to generate more anxiety and is associated with depressive disorders (Barlow, 2004; Fresco et al., 2002; McLaughlin et al., 2007), but there are associations between worry and BPD as well (Selby et al., 2009). However, Selby and colleagues primarily measured the extreme form of worry, known as catastrophizing (Garnefski et al., 2001). This is when thoughts are repetitive and focused on a negative situation while also considering negative implications for the future. This cognitive process can have multiple individualistic features, and multiple examples can exemplify this idea. For the first example, if someone is catastrophizing about failing an exam, this could be due to a previous experience of failing an exam. On the other hand, this same individual catastrophizing about failing an exam could have never failed an exam in their life and could have this groundless fear in their mind. However, they may have heard about someone else failing an exam and may perceive themselves as receiving those same consequences. For the second example, an individual may interpret a failed exam as a drawback to receiving an excellent class grade. However, another individual facing the same situation could catastrophize and interpret the situation as possible failure of the course, then failing out of college, and finally not able to receive a job which would result in them being in financial distress. While both are exhibiting worry, the difference in these two individuals is one focusing on the worst-case scenario and thinking more forward into the future, hence catastrophizing. The third example could be interpreting something as threatening when it was not. An individual could catastrophize if their friend does not call them back within
an hour. While the individual may perceive their friend as angry, upset, or with another negative connotation, the friend may be in a meeting, and they may not be intentionally ignoring the individual. When evaluating these examples, it is evident there are unique aspects of catastrophizing to be considered.

Regardless of its potential presentation, this cognitive process is related to BPD as well (Selby et al., 2009). Thus, catastrophizing may be a process leading to emotional cascades and could be indicative of maladaptive behaviors (Selby & Joiner, 2009). For example, an individual with BPD may be experiencing negative affect from a difficult day at work, and when their plan for dinner gets canceled by their romantic partner, this may lead them to engage in catastrophizing. Specifically, the individual may catastrophize and have an idea of their romantic partner leaving them permanently in the future due to having an argument the previous week. This leads to an increase in negative affect. This, in turn, may lead to excessive begging over the phone for their partner to not leave, which could confuse the partner if they did not have any malicious intentions by canceling dinner. There needs to be more research on specific BPD behaviors in relation to this form of cognition. It is clear, however, that much like rumination, catastrophizing and worry magnify negative affect, and negative affect is known to be associated with BPD symptoms (Fresco et al., 2002; McLaughlin et al., 2007; Selby et al., 2009). Furthermore, negative affect intensity/reactivity indirectly predicted BPD symptoms through catastrophizing in both a student and community sample (Mason & Mullins-Sweatt, 2021). Therefore, this cognitive process could have an important role in the maintenance of negative affect and maladaptive behaviors, and more research is needed to clarify the role of catastrophizing with BPD progression. Overall, more research on worry separate from
catastrophizing should be taken into consideration when understanding the cognitive processes for those with BPD.

**Thought Control Strategies**

While it is important to consider the context and time frame of the cognition in an individual’s mind, it is additionally vital to recognize the variations in how people try to regulate those cognitions. Strategies for managing thoughts have been shown to be relevant in BPD research (e.g., Dell’Osso et al., 2019; Rosenthal et al., 2005; Sauer & Baer, 2009; Titus & DeShong, 2020). The most prominent thought control strategies within the BPD literature include thought suppression, brooding, and reflection. The strategies of brooding and reflection have been primarily examined in accordance with rumination as they also focus on current and past events in an individual’s life (e.g., Abela et al., 2003; Law & Chapman, 2015; Nolen-Hoeksema & Morrow, 1991; Selby et al., 2009). Thought control strategies could be effective in addressing negative thoughts and potentially diminishing negative affect and psychopathology symptoms. However, some strategies could be ineffective for coping with negative thoughts. Therefore, investigating how each type of thought control strategy is prevalent in BPD is important for understanding the effectiveness of cognitive coping strategies.

**Thought Suppression**

Thought suppression is when an individual tries to actively push out of awareness a thought that is unwanted or unpleasant. However, this method is often ineffective and leads to the thoughts returning with a higher frequency or intensity (Abramowitz et al., 2001; Baer et al., 2012). This specific form of thought control has previously been linked to BPD. For instance, Rosenthal and colleagues (2005) found that thought suppression fully mediated the relationship
between negative affect and BPD symptoms. Additionally, thought suppression mediated the relationship between perceived parental criticism and BPD features (Cheavens et al., 2005). Furthermore, Sauer and Baer (2009) analyzed whether thought suppression mediated the relationship between having an invalidated environment and BPD symptoms. Their hypothesis was supported, and they additionally found fear of emotions mediated the relationship between biosocial precursors and thought suppression. Therefore, this cognitive process appears to have a significant role in the progression of BPD symptoms. Additionally, thought suppression is related to emotion dysregulation, which is another precursor for BPD development. When examining this thought control strategy, it was predicted by rumination (Erskine et al., 2007). Overall, research has demonstrated a significant link between thought suppression and BPD symptoms.

**Brooding**

This thought control strategy is an aspect of rumination and is described as focusing on the negative consequences of past depressive symptoms (Treynor et al., 2003). Brooding is most strongly correlated with anxiety and depressive symptoms compared to other forms of psychopathology (Watkins, 2009), and it is predictive of increasing depressive symptoms (Treynor et al., 2003). However, brooding is also associated with BPD, as exhibited by Selby and colleagues (2009), in which brooding was significantly associated with BPD symptoms in a composite model. However, they did not separate the construct of brooding from the other constructs of catastrophizing and anger rumination in the model. It was later found brooding had a significant indirect effect between BPD symptoms and lower mindfulness (Selby et al., 2016a). Additionally, Dell’Osso and colleagues (2019) found brooding significantly increased the
chances of being diagnosed with BPD. This would suggest brooding has a significant role in the progression and possible diagnosis of BPD.

**Reflection**

There is another aspect of rumination called reflection, or reflective pondering. This is when someone attempts to understand, or problem-solve, their depressive symptoms, and it is usually focused on the past. Alternative to brooding, it was shown to help decrease depression over the course of one year (Treynor et al., 2003). When examining reflection with BPD, it has been found to be less of a predictor than brooding. While reflection also significantly mediated the relationship between BPD symptoms and lower mindfulness (Selby et al., 2016a), it was not as significant as brooding. It was also not significant in predicting the potential diagnosis of BPD (Dell’Osso et al., 2019). Therefore, while reflection may have a role in BPD, it appears to be smaller when compared to other thought control strategies.
CHAPTER II
CURRENT STUDY

While the literature has multiple references of how RNT and thought control strategies are exhibited in BPD, there is a dearth of studies that investigate these constructs together. There could be an increase in accuracy when assessing or treating BPD symptoms if considering possible cognitive mechanisms together. Therefore, the current study examined which cognitive processes are most predictive of BPD traits while accounting for other cognitive processes. Additionally, this study determined whether variants in RNT and thought control strategies have significant roles in BPD, and more importantly, which might demonstrate a more vital role in the underlying cognitive components of BPD. Specifically, the current study investigated which forms of RNT directly and indirectly predicted BPD through three forms of thought control strategies while also assessing for direct pathways of each thought control strategy, which may serve as a risk or protective factor when engaging in various forms of RNT. To evaluate the unique relations of RNT and thought control strategies within BPD, the current study controlled for depressive and anxiety symptoms.

The RNTs, thought control strategies, and BPD trait measure will be entered in a path analysis to simultaneously test these relationships and account for covariances between the RNTs and between the thought control strategies. Specifically, it was hypothesized that:

H1: Catastrophizing would still directly predict BPD traits after accounting for the other forms of RNT in the model.
H2: Anger rumination, sadness rumination, worry, and catastrophizing would indirectly predict BPD traits through thought suppression.

H3: Anger rumination and sadness rumination would indirectly predict BPD traits through brooding.
CHAPTER III
METHOD

Participants and Procedure

Participants (N = 204) were recruited through a student sample at Mississippi State University (MSU). Individuals voluntarily participated in the current study, and they were notified of the study through the university psychology research participant pool system called SONA. Participants were sent a recruitment email through SONA if they met criteria for our study (endorsed 5 or more of the 10 BPD criteria from the MSI-BPD described below), using the SONA System’s Pre-screener (the online survey students take to register on SONA). However, they were not excluded from the study if they endorsed less than 5 on the MSI-BPD pre-screener. This method was utilized to oversample individuals endorsing higher levels of BPD symptoms. The recruitment email described the study’s purpose, procedure, risks, benefits, and compensation for their participation if they volunteered to participate. The sampling population consisted of adults. The only criterion for exclusion was that participants could not be under 18 years of age. Participation in the study took approximately one hour. Participants were compensated with one SONA course credit for their participation.

The sample size at the end of data collection was 217. There were no duplicates. Seven participants were excluded due to partially, but not fully, completing the survey. This included individuals that only completed a couple of the measures or solely the demographics. Prior to data analysis, the data was screened for missing data, outliers, and validity checks. To aid in
ensuring the data is valid, the data was screened using the EPA Infrequent and Virtue subscales (Lynam et al., 2011; described in detail below). Participants were excluded from the final analyses if they endorsed four or more of these items. Five participants were excluded for this reason. If there was 20% or more data missing from the participants’ responses, they were excluded from the study as well. One participant was excluded because of this. Each variable was screened for univariate outliers as suggested by Tabachnick and Fidell (2001). The recommendation is to use an absolute z-score of 3.29 or greater to identify outliers for a sample of 100 or more. There were no univariate outliers identified. Thus, a final sample size of 204 participants was utilized for the analyses.

Participants had an average age of 21.07 (SD = 5.35), with 76.50% being biologically female, 22.50% biological male, and two participants preferring not to respond (1.00%). When asked about their gender, they identified as female (74.00%), male (22.50%), transgender (0.50%), or other (2.00%), with two who choose prefer not to respond (1.00%). The majority of the sample reported being Caucasian/White (77.90%), with the other individuals identifying as Black/African American (14.20%), Latinx/Hispanic (2.90%), Asian/Pacific Islander (2.00%), Multi-Racial (1.50%), Native American/Alaska Native (0.50%), Other (0.50%), and one participant who preferred not to respond (0.50%). Most participants indicated ‘no’ to currently seeking treatment for a psychological disorder (72.50%), while 24.00% indicated ‘yes’ and seven individuals chose not to respond (3.40%). Most individuals also indicated ‘no’ to currently taking medication for a psychological disorder (77.50%), while 20.10% indicated ‘yes’ and five chose not to respond (2.50%).
Measures

Personality and Psychopathology Measures

*Elemental Psychopathy Assessment (EPA)*

This self-report measure consists of 178 items that assess psychopathy using basic traits elements from the Five Factor Model that are most consistently and strongly related to the construct of psychopathy (Lynam et al., 2011). For the current study, the Infrequent and Virtue subscales (8 items total) were utilized in order to identify participants randomly responding or malingering, though participants completed the entire measure.

*Five Factor Borderline Inventory- Short Form (FFBI-SF)*

The FFBI-SF (DeShong et al., 2016) is a 48-item, self-report, and short-form measure of the original 120-item Five Factor Borderline Inventory (FFBI; Mullins-Sweatt et al., 2012). This measures BPD from the perspective of the Five Factor Model (FFM). Previous research has demonstrated strong reliability and validity for both the long and short forms (DeShong et al., 2015; DeShong et al., 2016; Mason & Mullins-Sweatt, 2021; Mullins-Sweatt et al., 2012). The current study also exhibited similar reliability for the short form total score ($\alpha = .97$).

*McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD)*

The MSI-BPD (Zanarini et al., 2003) is a 10-item, self-report measure designed to screen individuals for BPD that has been used in other peer-reviewed studies that measures BPD symptoms in clinical and health settings (Gardner & Qualter, 2009; Melartin et al., 2009). The MSI-BPD contains a question for each DSM-5 diagnostic criterion (criterion nine is assessed
using two questions). Additionally, it has shown high reliability previously (Zanarini et al., 2003). The MSI was utilized on the SONA pre-screener as a method to ensure oversampling of high BPD symptoms.

**Negative Thinking Measures**

*Anger Rumination Scale (ARS)*

The ARS (Sukhodolsky et al., 2001) consists of 19 items measuring the tendency to think about current or past anger-provoking situations. This uses a 4-point Likert scale of 1 (almost never) to 4 (almost always). There was moderate internal consistency and test-retest reliability (Sukhodolsky et al., 2001). Similar levels of internal consistency were found for the current study ($\alpha = .95$).

*Cognitive Emotion Regulation Questionnaire (CERQ)*

The CERQ (Garnefski et al., 2001) consists of 36 items with 9 subscales. The strategies assessed include self-blame, other-blame, rumination, catastrophizing, putting into perspective, positive refocusing, positive reappraisal, acceptance, and planning. Overall, it measures cognitive coping strategies to a stressful event. This is scored with the Likert scale of 1 (almost never) to 5 (almost always). Internal consistency for each of the subscales were high, with alpha levels ranging from .75 to .86 (Garnefski et al., 2001). In the current study, the catastrophizing subscale exhibited similar internal consistency ($\alpha = .76$).
The Penn State Worry Questionnaire (PSWQ)

The PSWQ (Meyer et al., 1990) is a 16-item self-report measuring the level of worry within an individual. This utilizes a 5-point Likert scale ranging from 1 (Not at all typical of me) to 5 (Very typical of me). Internal consistency was shown to be high when developed ($\alpha = .93$; Meyer et al., 1990), and similar levels were shown for the current sample ($\alpha = .94$).

Rumination on Sadness Scale (RSS)

This is a 13-item self-report measure on rumination of sadness (Conway et al., 2000). Responses are on a 5-point Likert scale of 1 (not at all) to 5 (very much). Internal consistency was shown to be high ($\alpha = .91$) with the original creation of the self-report, and it was also shown to have high internal consistency with a college student sample (Roelofs et al., 2006). Additionally, convergent and discriminant validity was found to be adequate (Conway et al., 2000). Internal consistency was .95 in the current sample.

Thought Control Strategy Measures

The Ruminative Responses Scales (RRS)

The RRS (Nolen-Hoeksema & Morrow, 1991) is a subsection of the Response Styles Questionnaire (RSQ; Nolen-Hoeksema & Morrow, 1991). This includes 22 items evaluating the extent to which individuals focus on the causes, meanings, and consequences of their negative mood. After doing a factor analysis of the RRS, two subscales of brooding and reflection emerged being differentially related to depressive symptoms (Treynor et al., 2003). Additionally, there was internal consistency ($\alpha_{\text{brood}} = .77$; $\alpha_{\text{reflection}} = .71$). The total score for this measure
showed similar internal consistency ($\alpha = .96$). Internal consistency for brooding ($\alpha = .87$) and reflection ($\alpha = .80$) were within similar ranges as previously shown.

*White Bear Suppression Inventory (WBSI)*

This is a 15-item self-report measuring individual differences in suppressing thoughts across various situations or topics (Wegner & Zanakos, 1994). Previous research has shown the WBSI to be a reliable measure when considering internal consistency and test-retest reliability (Muris et al., 1996). Internal consistency was .93 for the current study.

*Additional Measures*

*Demographics Form*

The demographics form asked 11 questions regarding the participants’ identification such as sex, ethnicity, gender, religious affiliation, peer groups, previous treatment, and current medication usage.

*Depression, Anxiety, and Stress Scale-21 Items (DASS-21)*

This is a 21-item self-report survey to briefly report severity and frequency of negative emotions and stress over the previous week (Lovibond & Lovibond, 1995). This ranges on a scale of 0 (did not apply to me at all) to 3 (applied to me very much, or most of the time). Internal consistency was found to be acceptable along with acceptable convergent and discriminant validity among college students and various racial groups (Norton, 2007). Internal consistency for the current study was like previous findings for the anxiety subscale ($\alpha = .88$) and the depression subscale ($\alpha = .93$).
CHAPTER IV

ANALYSES

Data Screening

Power Analyses

To have an adequate amount of power, 20 participants for each variable was proposed for the analyses (Kline, 2011). The model tested had ten variables: depression score, anxiety score, sadness rumination, anger rumination, worry, catastrophizing, thought suppression, brooding, reflection, and BPD score. Therefore, the model tested required at least 200 participants to complete the study. The current study had a sample size higher than this minimum requirement.

Missing Data

There were missing values for the outcome variables in the data, so Full Information Maximum Likelihood (FIML) estimation was utilized using the expectation-maximization (EM) algorithm to account for these. Furthermore, it estimated covariances between the exogenous variables. This method was chosen because it has previously shown to produce unbiased parameter estimates and standard errors for random missing values (Enders & Bandalos, 2001). This data was missing at random due to missingness being accounted by another variable than the observed variables. When conducting the FIML analysis, there were 19 missing data patterns.
Hypotheses 1-3

To test the hypotheses, Mplus (Muthén & Muthén, 2017) was utilized to estimate path analyses and simultaneously test the directional relationships between each of the variables. This model is illustrated in Figure 1. Additionally, the path analysis considered the shared variance and ran the FIML. The model trimming approach was utilized to find the most parsimonious and best fitting model. Model fit was examined utilizing the CFI, TLI, and RMSEA. According to Hu and Bentler (1999), CFI and TLI values of .95 and higher and RMSEA values under .06 indicate a model has good fit with the data. Furthermore, CFI and TLI values ranging from .90 to .94 and RMSEA values ranging from .10 to .07 indicate adequate fit (Browne & Cudeck, 1992). Figure 2 demonstrates the hypothesized model. First, it was hypothesized catastrophizing (CERQ) would directly predict BPD traits (FFBI-SF). Second, catastrophizing, anger rumination (ARS), sadness rumination (RSS), and worry (PSWQ) would indirectly predict BPD traits through thought suppression (WBSI). Third, anger rumination and sadness rumination would indirectly predict BPD traits through brooding (RRS).
CHAPTER V

RESULTS

Correlations

Table 1 demonstrates the correlations, means, and standard deviations between the variables. All relationships were significantly correlated. Anger rumination had a large relationship with sadness rumination, brooding, reflection, BPD traits, depressive symptoms, and anxiety symptoms. Sadness rumination had a large relationship with worry, thought suppression, brooding, reflection, BPD traits, depressive symptoms, and anxiety symptoms. Worry had a large relationship with brooding. Thought suppression had a large relationship with brooding, BPD traits, and depressive symptoms. Brooding had a large relationship with reflection, BPD traits, depressive symptoms, and anxiety symptoms. Reflection had a large relationship with depressive symptoms. BPD traits had a large relationship with depressive symptoms and anxiety symptoms. Depressive symptoms had a large relationship with anxiety symptoms as well.

Results also indicated anger rumination was moderately related to worry, catastrophizing, and thought suppression. Sadness rumination was moderately related to catastrophizing. Worry was moderately related to thought suppression, reflection, BPD traits, depressive symptoms, and anxiety symptoms. Catastrophizing was moderately related to thought suppression, brooding, reflection, BPD traits, depressive symptoms, and anxiety symptoms. Thought suppression was moderately related to reflection and anxiety symptoms. Reflection was moderately related to
BPD traits and anxiety symptoms. Results also exhibited catastrophizing had a small relationship with worry.

**Path Analyses**

The first hypothesized model was entered into stage one of the model (Figure 1) to test the current study’s hypotheses (Figure 2). Each of the negative thought variables were made to covary with each other as well as with depressive and anxiety symptoms. Additionally, each of the thought control strategies were made to covary with one another. Results indicated good to excellent fit, $\chi^2(6, 204) = 5.11$, $p = .530$, CFI = 1.00, TLI = 1.00, RMSEA = .00. The variables in the model accounted for 70% of the variance in BPD traits, 63% of the variance in brooding, 46% of the variance in reflection, and 39% of the variance in thought suppression. Results also indicated thought suppression was directly predicted by worry ($b = .24, p < .001$), anger rumination ($b = .22, p = .002$), and sadness rumination ($b = .26, p = .001$). Brooding was directly predicted by worry ($b = .20, p < .001$), anger rumination ($b = .22, p < .001$), sadness rumination ($b = .45, p < .001$), and catastrophizing ($b = .12, p = .021$). Reflection was directly predicted by anger rumination ($b = .17, p = .012$) and sadness rumination ($b = .48, p < .001$). BPD traits were directly predicted by thought suppression ($b = .15, p = .006$), brooding ($b = .19, p = .013$), reflection ($b = -.18, p = .003$), anger rumination ($b = .29, p < .001$), and sadness rumination ($b = .35, p < .001$). These regressions were retained and the model trimming approach was utilized to trim seven insignificant regressions. Once these regressions were trimmed, a second model was tested.

The second model results indicated good to excellent fit, $\chi^2(13, 204) = 20.61$, $p = .081$, CFI = .99, TLI = .98, RMSEA = .05. The variables in the model accounted for 68% of the variance in BPD traits, 63% of the variance in brooding, 45% of the variance in reflection, and
38% of the variance in thought suppression. Results demonstrated thought suppression was directly predicted by worry ($b = .22, p = .001$), anger rumination ($b = .24, p < .001$), and sadness rumination ($b = .29, p < .001$). Brooding was directly predicted by worry ($b = .17, p < .001$), anger rumination ($b = .23, p < .001$), and sadness rumination ($b = .47, p < .001$). Reflection was directly predicted by anger rumination ($b = .19, p = .003$) and sadness rumination ($b = .54, p < .001$). BPD traits were directly predicted by thought suppression ($b = .17, p = .002$), brooding ($b = .17, p = .029$), reflection ($b = -.17, p = .008$), anger rumination ($b = .34, p < .001$), and sadness rumination ($b = .43, p < .001$). In this second model, the regression from catastrophizing to brooding was insignificant. Therefore, this regression was trimmed, the path was set to zero, and a third model was tested.

In this third model, all pathways remained significant and thus indicates the final and most parsimonious model. The results demonstrated poor to good fit, $\chi^2 (14, 204) = 24.38, p = .041$, CFI = .99, TLI = .97, RMSEA = .06. The variables in the model accounted for 68% of the variance in BPD traits, 62% of the variance in brooding, 45% of the variance in reflection, and 38% of the variance in thought suppression. Specifically, when examining the regressions, thought suppression was directly predicted by anger rumination ($b = .24, p < .001$), sadness rumination ($b = .29, p < .001$), and worry ($b = .22, p = .001$). Brooding was directly predicted by anger rumination ($b = .26, p < .001$), sadness rumination ($b = .51, p < .001$), and worry ($b = .16, p = .001$). Reflection was also directly predicted by anger rumination ($b = .19, p = .003$) and sadness rumination ($b = .54, p < .001$). BPD traits were directly predicted by anger rumination ($b = .34, p < .001$) and sadness rumination ($b = .43, p < .001$). BPD traits were indirectly and positively predicted through thought suppression ($b = .17, p = .002$) and brooding ($b = .17, p =
BPD traits were indirectly and negatively predicted through reflection ($b = -.17$, $p = .008$). The results of the final model are illustrated in Figure 3.
Table 1

*Correlations, Means, and Standard Deviations of All Study Variables*

<table>
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<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tr>
<td>1. Anger Rumination</td>
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<td>2. Sadness Rumination</td>
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<td>3. Worry</td>
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<td>.55*</td>
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<td>.24*</td>
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<td>.48*</td>
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<td>6. Brooding</td>
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<td>.75*</td>
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<td>7. Reflection</td>
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<td>.42*</td>
<td>.39*</td>
<td>.47*</td>
<td>.70*</td>
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<td>8. BPD Traits</td>
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<td>.73*</td>
<td>.48*</td>
<td>.41*</td>
<td>.60*</td>
<td>.67*</td>
<td>.48*</td>
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<td>9. Depressive Symptoms</td>
<td>.59*</td>
<td>.70*</td>
<td>.47*</td>
<td>.48*</td>
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<td>.57*</td>
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<td>10. Anxiety Symptoms</td>
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<td>.52*</td>
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<tr>
<td>Mean</td>
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<td>56.72</td>
<td>9.02</td>
<td>51.48</td>
<td>11.99</td>
<td>10.96</td>
<td>110.70</td>
<td>6.10</td>
<td>5.94</td>
</tr>
</tbody>
</table>

*Note.* *p* < .001.
Figure 1.

*The First Hypothesized Model Entered into Stage One of the Model*

*Note.* The covariances between the negative thoughts, anxiety, depression, thought control strategies, and BPD traits were excluded from the image for visibility purposes.
Figure 2.

*The Second Hypothesized Model*
Figure 3.

Finalized Model

Note. Results indicated adequate fit (CFI = .99, TLI = .97, RMSEA = .06).
$p < .05^*$. $p < .01^{**}$. $p < .001^{***}$. 
CHAPTER VI
DISCUSSION

The current study investigates and helps expand several areas of the literature. Specifically, there is limited research examining cognitive coping strategies with BPD traits. Furthermore, there is limited research examining if certain combinations of these cognitive processes are indicative of BPD traits. It is suggested BPD is related to anger rumination (Martino et al., 2015; Peters et al., 2017; Richman et al., 2018; Selby et al., 2009), worry (Fresco et al., 2002; McLaughlin et al., 2007), catastrophizing (Mason & Mullins-Sweatt, 2021; Selby et al., 2009), brooding (Dell’Osso et al., 2019; Selby et al., 2009; Selby et al., 2016a), reflection (Dell’Osso et al., 2019; Selby et al., 2016a), and thought suppression (Rosenthal et al., 2005). However, each of these processes has not been tested in one cohesive model to understand their relations with BPD when considering their covariances. In the current study, it was hypothesized catastrophizing would directly predict BPD traits. Second, it was hypothesized catastrophizing, worry, anger rumination, and sadness rumination would indirectly predict BPD traits through thought suppression. Lastly, it was hypothesized anger rumination and sadness rumination would indirectly predict BPD traits through brooding.

The results indicated anger rumination directly predicted thought suppression, brooding, reflection, and BPD traits. Sadness rumination directly predicted thought suppression, brooding, reflection, and BPD traits. Worry directly predicted thought suppression and brooding. Worry did not directly predict reflection and BPD traits. Catastrophizing did not predict any variables in the model, which is inconsistent with the first and second hypotheses. Anger rumination, sadness
rumination, and worry indirectly predicted BPD traits through thought suppression, brooding, and reflection. These results are supportive of the second and third hypotheses. However, only thought suppression and brooding positively and indirectly predicted BPD traits. Reflection negatively and indirectly predicted BPD traits. This provided more evidence for certain cognitive mechanisms being more predictive of BPD traits when considering the covariance between each of the predictors. The results provided more evidence of anger rumination, sadness rumination, worry, thought suppression, brooding, and reflection being related to BPD when considering other cognitive processes potentially occurring.

It was unexpected for significant relationships to occur, such as sadness rumination and reflection, anger rumination and reflection, and worry and brooding, since previous research has not examined these relationships. Furthermore, it was unexpected for anger rumination and sadness rumination to directly predict BPD traits when thought control strategies were included in the model. Therefore, this may be highlighting how individuals may not be engaging in any thought control strategy or there could be missing strategies in this model. These results indicate the conceptualization of BPD includes individuals engaging in negative thoughts and thought control strategies, but they may not always coincide. This exhibits potential individual differences of cognitive coping styles within BPD. Furthermore, more elaborative research on specific BPD traits being related to cognitive coping styles could exhibit more of those individualistic tendencies. It is encouraged for future studies to examine, in depth, cognitive mechanisms in relation to specific personality facets or traits, especially within BPD.

Another unexpected result was depressive symptoms and anxiety symptoms no longer predicting BPD traits within the final model. Certain cognitive mechanisms are more predictive of BPD traits than these other psychopathology symptoms. It is interesting these two constructs
did not have covariance and it was eliminated for the model to best fit. There are several reasons to consider why this happened. First, conceptually, BPD traits are a separate construct from depression and anxiety symptoms. However, it would be expected for covariance to occur due to possible co-morbidity. Therefore, these specific cognitive mechanisms could have altered this from occurring. It is plausible there are non-transdiagnostic cognitive coping styles within the construct of BPD that is separate from depression and anxiety symptoms that have not been accounted for yet. Future research could examine this furthermore by examining these hypotheses with individuals with co-morbidity diagnoses in a clinical setting. Utilizing different measures that are more descriptive of depression and anxiety constructs than the DASS-21 could also furthermore investigate this idea.

The evidence did not support the first hypothesis of catastrophizing predicting BPD traits like previous research (Mason & Mullins-Sweatt, 2021; Selby et al., 2009). Furthermore, catastrophizing and thought suppression did not have a significant relationship as hypothesized. Previous research demonstrated that negative affect indirectly predicted BPD traits through catastrophizing (Mason & Mullins-Sweatt, 2021) and thought suppression (Rosenthal et al., 2005). Since both cognitive processes similarly had indirect effects of this relationship, it was hypothesized these two cognitive processes were related. However, this did not occur within the current study. This could be due to utilizing the measure CERQ (Garnefski et al., 2001), which has four questions for the catastrophizing subscale while previous studies (Mason & Mullins-Sweatt, 2021) utilized the CERQ short form (Garnefski & Kraaij, 2006). It should be noted that the CERQ short form catastrophizing subscale has two questions that are the same as two of the four questions in the CERQ catastrophizing subscale. However, previous research demonstrated the short form had improved internal consistency compared to the CERQ (Garnefski & Kraaij,
2006). Therefore, it would be useful to test these hypotheses with this form or utilize a different catastrophizing form entirely. In another perspective, these results could be indicative of catastrophizing not being a significant cognitive mechanism in BPD cognitive dysregulation. Continued research of this construct with BPD is warranted.

Overall, these findings are consistent with previous research of anger rumination predicting BPD symptoms (Martino et al., 2015; Peters et al., 2017; Richman et al., 2018; Selby et al., 2009). The current study filled a gap in the literature by providing evidence of sadness rumination (RSS total score) directly predicting BPD symptoms while in a model with other cognitive processes. Catastrophizing did not have similar effects of predicting BPD symptoms like previous research (Mason & Mullins-Sweatt, 2021; Selby et al., 2009). However, the current study is consistent with previous findings of an existing relationship between BPD and worry (Fresco et al., 2002; McLaughlin et al., 2007). These findings also align with research exhibiting thought suppression as a significant cognitive mechanism within BPD (Rosenthal et al., 2005).

This study was the first to examine brooding and reflection individually as potential thought control strategies within BPD. These results indicate brooding and reflection differentiate in predicting BPD. As brooding scores increased, the BPD scores also increased. As reflection scores increased, the BPD scores decreased. This could be indicative of reflection being more of a protective factor instead of a cognitive process exacerbating these BPD scores. This has large implications to consider regarding treatment and assessment. First, in treatment, maybe the thought control strategy of reflection could be taught to individuals. Furthermore, other thought control strategies that may be occurring, such as brooding and thought suppression, could also be identified and individuals can be taught to reduce those thought strategies or replace those with reflection. This technique could be applied with multiple types of negative
thoughts, as demonstrated with indirect effects occurring with reflection and each type of negative thought in the current study.

Second, this has implications for assessing depressive rumination, brooding, and reflection. Typically, these two subscales of the RRS were combined to measure the construct depressive rumination (e.g., Abela et al., 2003; Law & Chapman, 2015; Nolen-Hoeksema & Morrow, 1991; Selby et al., 2009). However, these results indicate these subscales of cognitive mechanisms relate differently to BPD symptoms. This is consistent with previous research demonstrating reflection and brooding being differentially related to BPD (Dell’Osso et al., 2019; Selby et al., 2016a). It is a concern that depressive rumination is a construct still being measured with the RRS given these results. Therefore, research should continue to investigate these two subscales of the RRS and how they differentially relate to BPD. Furthermore, continued conceptualization of depressive rumination is warranted. This may involve investigating other potential measures of depressive rumination, continued factor analysis of the RRS, or utilizing other measures like the RSS that measures a variant of rumination that still measures the negative affect associated with sad emotions. Results had indicated the highest regressions were from sadness rumination to brooding and reflection. The items within the brooding and reflection subscales could be using descriptive words associating with depressive symptoms. Therefore, an in-depth analysis of these items is warranted. This may lead to slight changes to the items to test if these strategies are more unique than previously conceptualized. Identifying these thought control strategies is the next step in understanding the full conceptualization of cognitive coping strategies in BPD. Overall, the current study provided more evidentiary support for certain negative thoughts and thought control strategies being predictive of BPD traits.
Clinical Implications

This study has clear implications of improving assessment and treatment for individuals with BPD symptoms. Identifying cognitive mechanisms that are most prevalent for individuals with BPD symptoms can lead to improved treatment options, such as those used in schema therapy (Kellogg & Young, 2006; Young et al., 2006), dialectical behavioral therapy (Linehan et al., 1999) and cognitive-behavioral therapy (Linehan, 1993). When providing those treatments, specific negative thoughts and thought control strategies can be measured and targeted. For example, self-report measures or other assessment methods can be used to identify which cognitive processes an individual may be more inclined to use. Then, clients can practice skills in session to identify specific negative thoughts on their own (e.g., anger rumination, sadness rumination, worry), how to identify and manage thought control strategies (e.g., thought suppression or brooding), and finally how to replace those strategies with another more effective type of thought control strategy (e.g., reflection) that could aid in coping cognitively to eventually reduce symptoms of BPD. Overall, a client can practice being aware of their potential habits of having certain cognitive mechanisms and how it potentially leads to certain emotions and behaviors that could be beneficial or impairing to their overall well-being. The current study’s results provide the first steps in understanding how these RNT and thought control strategies interact and how they might be personally targeted in treatment for individuals with BPD traits.

Strengths, Limitations, and Future Directions

This was the first study to evaluate several types of rumination with worry and catastrophizing, and various thought control strategies in one cohesive model predicting BPD traits. This allowed covariances between each of the cognitive processes to be accounted for in
the model. Additionally, this highlighted certain combinations of negative thoughts and thought control strategies being more predictive of BPD scores. While previous research has examined multiple negative thoughts in relation to BPD (Peters et al., 2017; Richman et al., 2018; Upton, 2011) and research has begun to evaluate thought control strategies in BPD (Titus & DeShong, 2020), this was the first study to evaluate negative thoughts and thought control strategies within the same model. As the evidence shows, there is a clear difference in BPD scores for individuals engaging in thought suppression or brooding versus reflection. While evaluating negative thoughts and thought control strategies individually has been beneficial for expanding the literature on cognitive mechanisms in BPD, it was beneficial to evaluate them in a cohesive model that reflect other cognitive coping strategies potentially affecting BPD traits being exhibited. This could expand the research on the Emotional Cascade Model (Selby & Joiner, 2009), which has mostly evaluated rumination as influential in emotional cascades. The current research expands on this model and provides more evidence of other cognitive mechanisms occurring to influence the levels of negative affectivity and engaging in behaviors to cope with the negative cognitions.

There are limitations to the current study that needs to be addressed in future research. First, there are more thought control strategies and negative thoughts to be evaluated which have been shown to be related to BPD. For instance, the thought control strategies exhibited in the Thought Control Questionnaire (Wells & Davies, 1994) has been shown to be related to BPD symptoms (Titus & DeShong, 2020). Their results suggested the subscales social control and distraction were negatively predictive of BPD. Additionally, the subscales of worry, reappraisal, and punish were positively predictive of BPD (Titus & DeShong, 2020). This could mean social control and distract are similarly protective factors of BPD like reflection. These cognitive
strategies can be evaluated with other negative thoughts. Other negative thoughts associated with BPD symptoms include interpersonal rumination (Nepon et al., 2011; Upton, 2011), stress-reactive rumination (Robinson & Alloy, 2003; Peters et al., 2017; Upton, 2011), anxious rumination (Nolen-Hoeksema, 2000; Peters et al., 2017; Rector et al., 2008; Richman et al., 2018; Upton, 2011), and self-critical rumination (Smart et al., 2016). Furthermore, multiple cognitive processes could be occurring simultaneously, so it would be beneficial for evaluating how the combinations of these thinking styles influence BPD symptoms.

Second, it is important to test these relationships within a clinical sample. However, it should be noted that individuals with subthreshold BPD also exhibit impairments to health (Zimmerman et al., 2013). Therefore, continuation of examination in both subthreshold and above threshold levels of BPD is warranted. Furthermore, testing these hypotheses within a clinical sample would provide more information of whether these cognitive mechanisms are specific to individuals diagnosed with BPD or if transdiagnostic patterns are occurring. For instance, research has exhibited negative thoughts like rumination occurred for individuals with depressive symptoms (Butler & Nolen-Hoeksema, 1994; Katz & Bertelson, 1993; Nolen-Hoeksema et al., 1999; Treynor et al., 2003). Understanding potential co-morbidity is important for understanding individual differences with these combinations of cognitive mechanisms.

Third, testing the hypotheses in another student or community sample would be beneficial. The student sample in the current study completed these measures during the COVID-19 pandemic, which could have influenced how they responded (Cullen et al., 2020; Pfefferbaum & North, 2020). It is important to retest these hypotheses and consider if the negative thoughts and BPD traits were influenced by the pandemic. Next, utilizing a longitudinal model would provide more insight of specific co-occurring negative thoughts, the specific thought control
strategies implemented, and the resulting behaviors or emotions. Additionally, ecological momentary assessment could provide more insight into the rates of having negative thoughts and how often thought control strategies are utilized. These methods could potentially determine causality of BPD traits with certain cognitive mechanisms.

Lastly, investigating these negative thoughts and thought control strategies could be another area of focus. Investigating these cognitive mechanisms with other psychopathology, including personality pathology, could be important for understanding if certain traits are more predictive of these cognitive mechanisms. The current study utilized a measure of BPD traits associated with cognitive, emotional, and behavioral dysregulation. Future research should investigate these constructs in relation to measures of actual maladaptive/impulsive behaviors characteristic of BPD (e.g., non-suicidal self-injury, impulsive shopping, starting arguments). This would contribute to the literature by providing additional evidence of the link between thoughts, thought control strategies and actual behaviors.

**Conclusion**

The implications of this study include a more well-rounded understanding of the interactions between negative thoughts and thought control strategies predicting BPD traits. Future research can expand on the results of the current study by evaluating these negative thinking styles in addition to other forms, along with thought control strategies. These results indicate certain thought control strategies are risk or protective factors for BPD traits. Thus, the current study provides evidence that these strategies may dampen or amplify various forms of repetitive negative thinking styles. Within the context of BPD, when the strategy amplifies the RNT, this likely leads to some form of maladaptive or impulsive behavior. This has clinical implications of identifying these cognitive mechanisms and treating them to diminish potential
emotional and behavioral dysregulation. Alternatively, when the strategy dampens the RNT, it provides an individual an avenue for coping more positively with the thoughts, thus decreasing the likelihood of engaging in the maladaptive behavior. Overall, future directions indicate additional research is needed to identify other potential negative thoughts and thought control strategies interplaying and influencing the presentation of BPD.


https://doi.org/10.1002/pmh.1520


https://uknowledge.uky.edu/gradschool_theses/90


Zimmerman, M., Chelminski, I., Young, D., Dalrymple, K., & Martinez, J. (2013). Is dimensional scoring of borderline personality disorder important only for subthreshold levels of severity?. *Journal of Personality Disorders, 27*(2), 244-251.
APPENDIX A

DEMOGRAPHICS
1. Age:

2. Sex:  Man  Woman  Prefer Not to Respond

3. Gender  Male  Female  Transgender  Other – Please specify:  Prefer Not to Respond

4. What is your Ethnicity:
   Asian/Pacific Islander
   Black/African-American
   Caucasian
   Hispanic
   Native American/Alaska Native
   Multi-Racial
   Other – Please specify:
   Prefer not to respond

5. What is your current relationship status?
   Casual Dating Relationship
   Committed Relationship
   Divorced
   Life Partner
   Engaged
   Married
   Separated
   Single, Never Married
   Widowed
   Other: Please specify:
   Prefer not to respond

6. What is your current year in school?
   Freshman
   Sophomore
   Junior
   Senior
   Other: Please specify:
   Prefer not to respond

7. What is your religious affiliation?
   Agnostic
   Atheist
   Baptist
   Buddhism
   Catholic
   Christian
8. Individuals are sometimes involved in peer groups. Please indicate if you are involved in any of the following groups (check all that apply):
- Sorority or Fraternity (Greek)
- Athletic team
- Religious group (e.g., Bible study, focus group)
- Boy Scouts or Girl Scouts
- Military (active duty; reserves; ROTC; veteran groups)
Other: Please specify:
None

9. Please estimate your household income:
- $0 - $10,000
- $10,000 - $20,000
- $20,000 - $30,000
- $30,000 - $40,000
- $40,000 - $50,000
- $50,000 - $60,000
- $60,000 - $70,000
- $70,000 - $80,000
- $80,000 – 90,000
- $90,000 - $100,000
- $100,000-$110,000
- Over $110,000
Prefer not to respond

10. Are you currently seeking treatment for a psychological disorder (e.g., depression, anxiety, PTSD)?
- Yes
- No
Prefer not to respond

11. Are you currently taking medication for a psychological disorder?
- Yes
- No
Prefer not to respond
APPENDIX B

MCLEAN SCREENING INSTRUMENT FOR BORDERLINE PERSONALITY DISORDER

(MSI-BPD)
1. Have any of your closest relationships been troubled by a lot of arguments or repeated breakups? 1 = yes 0 = no

2. Have you deliberately hurt yourself physically (e.g., punched yourself, cut yourself, burned yourself)? How about made a suicide attempt? 1 = yes 0 = no

3. Have you had at least two other problems with impulsivity (e.g., eating binges and spending sprees, drinking too much and verbal outbursts)? 1 = yes 0 = no

4. Have you been extremely moody? 1 = yes 0 = no

5. Have you felt very angry a lot of the time? How about often acted in an angry or sarcastic manner? 1 = yes 0 = no

6. Have you often been distrustful of other people? 1 = yes 0 = no

7. Have you frequently felt unreal or as if things around you were unreal? 1 = yes 0 = no

8. Have you chronically felt empty? 1 = yes 0 = no

9. Have you often felt that you had no idea of who you are or that you have no identity? 1 = yes 0 = no

10. Have you made desperate efforts to avoid feeling abandoned or being abandoned (e.g., repeatedly called someone to reassure yourself that he or she still cared, begged them not to leave you, clung to them physically)? 1 = yes 0 = no
APPENDIX C

DEPRESSION, ANXIETY, AND STRESS SCALE - 21 ITEMS (DASS-21)
Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.
The rating scale is as follows:

0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree or a good part of time
3 Applied to me very much or most of the time

1. I found it hard to wind down
2. I was aware of dryness of my mouth
3. I couldn’t seem to experience any positive feeling at all
4. I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion)
5. I found it difficult to work up the initiative to do things
6. I tended to over-react to situations
7. I experienced trembling (e.g. in the hands)
8. I felt that I was using a lot of nervous energy
9. I was worried about situations in which I might panic and make a fool of myself
10. I felt that I had nothing to look forward to
11. I found myself getting agitated
12. I found it difficult to relax
13. I felt down-hearted and blue
14. I was intolerant of anything that kept me from getting on with what I was doing
15. I felt I was close to panic
16. I was unable to become enthusiastic about anything
17. I felt I wasn’t worth much as a person
18. I felt that I was rather touchy
19. I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat)
20. I felt scared without any good reason
21. I felt that life was meaningless
APPENDIX D

ELEMENTAL PSYCHOPATHY ASSESSMENT (EPA)
The following statements deal with how you think, feel, and act. Please read each item carefully and fill in the bubble on the bubble sheet that best corresponds to your agreement or disagreement. If you **disagree strongly** select 1, if you **disagree a little** select 2, if you **neither agree nor disagree** select 3, if you **agree a little** select 4, and if you **strongly agree** select 5. There are no right or wrong answers, and you need not be an expert to complete this questionnaire.

<table>
<thead>
<tr>
<th>Disagree strongly</th>
<th>Disagree a little</th>
<th>Neither agree nor disagree</th>
<th>Agree a little</th>
<th>Agree strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. I frequently feel tense and jittery.
2. I can remain calm in situations in which other people might panic.
3. I tend to be more of a follower than a leader.
4. I'm a pretty smooth talker.
5. It takes a lot to make me nervous or anxious.
6. At times people seem to go out of their way to make life difficult for me.
7. ‘I’ve gotten in trouble because of some of the risks I’ve taken.
8. I frequently forget my middle name.
9. I am not a very assertive person.
10. I find it pretty easy to impose my will on others.
11. Most people are just too soft-hearted.
12. I try to eat something almost every day.
13. I feel bad when I see someone crying.
14. I tend to give up when a task becomes difficult.
15. It's easy for me to make a good first impression.
16. People don't give me the credit I deserve.
17. I don’t hesitate to voice my opinions.
18. The only problem with cheating is getting caught for it.
19. I have done a lot of wild things in my life.
20. I often feel worthless.
21. Sometimes I lie simply because I enjoy it.
22. People who know me know not to make me angry.
23. I never speak to anyone during the day.
24. I’ve done things that hurt people when I was upset.
25. There is no point to wallowing in self-pity, so I don’t do it.
26. I feel better about myself when I’m getting along well with others.
27. I will try almost anything to get my “thrills”.
28. I am a bit of a daredevil.
29. I often lose my patience when dealing with other people.
30. I am easily annoyed.
31. I am often troubled by feelings of guilt.
32. People who were supposed to be my "friends" have gotten me in trouble.
33. I often emerge as the leader in a group.
34. I have never told a lie to anyone.
35. "Act first, think later," describes me well.
36. I have never been envious of anyone else.
37. I’m able to concentrate on one task for a long time.
38. I don’t care if my actions have a negative impact on others.
39. "Better safe than sorry" is my motto.
40. I find it easy to resist temptations.
41. I will someday make a big name for myself.
42. I always keep my feelings under control.
43. I like having power.
44. I have trouble making myself get things done.
45. I could make a living as a con artist.
46. I have lied to someone at least once in my life.
47. I am very confident in myself around other people.
48. People tell me I have a bad temper.
49. I have gotten in trouble for failing to meet my obligations to others.
50. I am strongly attached to my friends and family.
51. I work well under someone’s leadership.
52. I have trouble controlling myself when I am upset
53. I don’t handle stress very well.
54. When something becomes boring or difficult, I move on to something else.
55. I’m not all that concerned with other peoples’ needs.
56. If I were in charge, the world would be a better place.
57. I often find myself in trouble because I did not think far enough ahead.
58. It is important to me to be the “top dog” in a group.
59. The needs of others are just as important as my own needs.
60. I drink, eat, or smoke too much, particularly when I’m upset.
61. Some people say I’m too cocky and full of myself.
62. I get a kick out of challenging so-called authority figures.
63. When someone does something nice for me, I wonder what they want from me.
64. I am better rested on mornings after a good night of sleep than after I have stayed awake all night.
65. I am forceful and assertive with others.
66. I often let my feelings get me into trouble.
67. Things tend to run more smoothly when I’m in charge.
68. I quit things pretty easily.
69. You need to be pretty coldhearted to get by in life.
70. Feeling sorry for others is a sign of weakness.
71. I would make a good soldier because I can control my fear.
72. I trust that other people will be honest with me.
73. I am willing to step on some toes in order to get what I want.
74. The thought of getting into serious trouble would make me nervous and afraid.
75. I would risk injury to do something exciting.
76. I take a personal interest in my colleagues and friends.
77. People say I worry too much.
78. I remain cool, calm, and collected when things get stressful.
79. I always plan ahead.
80. The importance of being “honest at all times” is overrated.
81. I set goals for myself and work until they are achieved.
82. I can keep a cool head in moments of danger or crisis.
83. I often feel anxious when talking to new people.
84. People think I am too distrustful, but I think I'm just realistic.
85. My tendency to be sneaky or deceptive has gotten me in trouble before.
86. I deserve special treatment.
87. When other people are scared, I can usually stay calm.
88. I get flustered under pressure.
89. Being a moral, ethical person is very important to me.
90. I need to do exciting things to get my blood pumping.
91. I get a thrill out doing things that are illegal.
92. I faithfully repay my debts.
93. I rarely feel nervous.
94. I tend to finish tasks regardless of how frustrated, bored, or tired I am.
95. I'm willing to stretch the truth to make things easier for myself.
96. I have very few regrets about my past behavior.
97. When I'm upset, I will do things I later regret.
98. Most people would like to be like me.
99. I try to give my best effort at all times.
100. I don't mind letting people know of my abilities and achievements.
101. Some people think I am uncaring and unfeeling.
102. In the heat of an argument, I often do or say things that get me into trouble.
103. I am a bit of a worrier.
104. On average, I get less than an hour of sleep a night.
105. My temper has gotten me into trouble.
106. I do not like to lend things to people who will not take care of them.
107. I have never listened to music.
108. I make close and lasting relationships with people.
109. I find it easy to manipulate others.
110. When I’m upset, I often act without thinking.
111. I’m slow to trust people.
112. Most people are just too sensitive.
113. I am known as a bit of a rebel.
114. I feel positive about the direction my life is going.
115. It takes a lot to get me angry.
116. I like doing things that are risky or dangerous.
117. My stubbornness has frequently gotten me into trouble.
118. I do not believe that it is bragging if you are telling the truth.
119. I don't think of myself as crafty or sly.
120. I feel a lot of remorse for things I have done.
121. I tend to jump right into things without thinking very far ahead.
122. I do what I want, not what others tell me to do.
123. I’m easily embarrassed.
124. I’m not a particularly sympathetic person.
125. I don't feel a strong need to get close to people.
126. My tendency to live for the moment has caused me trouble at times.
127. I admire a really clever scam.
128. I have sailed across the Atlantic Ocean in a hot air balloon.
129. I have more important things to worry about than other people’s feelings.
130. I feel sad and blue most of the time.
131. I like to carefully consider the consequences before I make a decision.
132. Looking out for me is my top priority.
133. Crying is a sign of weakness.
134. Helping others is important to me.
135. I care a lot about my relationships with others.
136. I am not known for my careful advance planning.
137. I often feel overwhelmed by life.
138. I do not believe that I am any more important than anyone else.
139. I’m not the type to get depressed about the things I’ve done wrong.
140. I don't mind being told what to do.
141. I’ve been in physical fights as a result of losing my temper.
142. The suffering of others is not my problem.
143. I like to see things through to the end.
144. I have fewer fears than most people I know.
145. Outside of sex, romantic relationships are not all that important to me.
146. People would say I am a reliable and dependable person.
147. Rules are made to be broken.
148. It would really bother me if my best friend and I stopped being friends.
149. I am not very good at following orders.
150. I'd make a terrible soldier because I couldn't stand to see someone get seriously hurt.
151. I don't waste my time worrying about things.
152. I would be good at a job that required making quick decisions under pressure.
153. I tell people what they want to hear in order to get them to do what I want.
154. I have treated another person unfairly at least once in my life.
155. I like to stand out and be noticed.
156. I want to know what is in it for me before I agree to help someone.
157. I’m reluctant to confide in others.
158. I am uncomfortable in front of other people.
159. People will try to take advantage of you if they think they can get away with it.
160. I tend to stay in the background at social gatherings.
161. I have, at least once, laughed or smiled at an inappropriate joke.
162. I’ve had problems with authority figures.
163. I'm pretty comfortable when meeting new people.
164. I try hard to stick to my principles.
165. I am a cautious person.
166. I sometimes make hasty decisions.
167. From time to time I have really "blown up" at someone.
168. I have never in my life been angry at another person.
169. I tend not to get depressed over things.
170. I can be counted on to do what I promised to do.
171. I often think that others aren’t telling me the whole truth.
172. I always finish what I start.
173. My anxiety sometimes keeps me from doing things I’d like to do.
174. I have, at least once, been impolite to another person.
175. I have eaten more than I should have on at least one occasion.
176. Other people describe me as cold-hearted.
177. I have hurt people or broken things when I have been angry.
178. I’ve gotten in trouble for missing too much work or school.
APPENDIX E

FIVE FACTOR BORDERLINE INVENTORY - SHORT FORM (FFBI-SF)
Please read all these instructions carefully before beginning. The following statements deal with how you think, feel, and act. Please read each item carefully and select the item that best corresponds to your agreement or disagreement. There are no right or wrong answers, and you need not be an expert to complete this questionnaire.

Disagree Disagree Neither agree Agree Agree
strongly a little nor disagree a little strongly

1. I tend to be quite anxious.
2. I have had quite a few angry outbursts.
3. I sometimes feel worthless.
4. I can be so different with different people that it's like I'm not the same person.
5. I frequently have urges to do things that get me into trouble.
6. My emotions can spiral out of control.
7. Harming myself is one of the few ways I can tolerate my emotions.
8. I have felt that things were unreal and I was detached from life.
9. I am often distrustful of other people.
10. I sometimes do things I shouldn't to get people to do things I want or need.
11. I tend to get into lots of arguments.
12. I get into trouble because I don't think things through.
13. I worry a great deal.
14. My anger often feels out of control.
15. I have thought about ways to kill myself.
16. I can be so different with different people that I wonder who I am.
17. Sometimes I let myself get swept away by my urges.
18. I don't seem to have much control over how I feel.
19. I have threatened to commit suicide.
20. Sometimes I feel like I am no longer connected to my body.
21. It's really hard for me to trust people.
22. Other people have called me manipulative.
23. I will make threats to get people to do things.
24. I tend to act quickly without thinking things through.
25. I worry a lot about people leaving me.
26. My anger at times gets the better of me.
27. I often feel sad.
28. I tend to feel like I don't belong with anyone.
29. When I am upset, I often do things that later cause me problems.
30. My mood shifts rapidly from one feeling to another.
31. Even minor setbacks can cause a great deal of drama in my life.
32. I sometimes feel like I am not real.
33. People are not as loyal to me as I wish they were.
34. I have been known to massage the truth to get my way.
35. I often get into arguments with people who are close to me.
36. Others have said that I do not think before I act.
37. I worry a lot about things that are out of my control.
38. My anger has at times gotten me into trouble.
39. I have thought about suicide since I was a teenager.
40. I often feel like an outcast.
41. I have done a lot of things impulsively that I later regret.
42. I have a difficult time controlling my mood.
43. I don't think I can continue to live like this
44. I sometimes feel that nothing is real.
45. I have not been able to trust some of my closest friends.
46. At times you have to be dishonest and manipulative to get what you need.
47. I am easy to get along with.
48. I've done some pretty bad things on impulse.
APPENDIX F

ANGER RUMINATION SCALE (ARS)
Using the scale below, please respond to the 19 statements below. Indicate how often each situation occur/have occurred to you.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost Never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Almost Always</td>
</tr>
</tbody>
</table>

1. I ruminate about my past anger experiences.
2. I ponder about the injustices that have been done to me.
3. I keep thinking about events that angered me for a long time.
4. I have long living fantasies of revenge after the conflict is over.
5. I think about certain events from a long time ago and they still make me angry.
6. I have difficulty forgiving people who have hurt me.
7. After an argument is over, I keep fighting with this person in my imagination.
8. Memories of being aggravated pop up into my mind before I fall asleep.
9. Whenever I experience anger, I keep thinking about it for a while.
10. I have had times when I could not stop being preoccupied with a particular conflict.
11. I analyze events that make me angry.
12. I think about the reasons people treat me badly.
13. I have day dreams and fantasies of violent nature.
15. When someone makes me angry I can’t stop thinking about how to get back at this person.
16. When someone provokes me, I keep wondering why this should have happened to me.
17. Memories of even minor annoyances bother me for a while.
18. When something makes me angry, I turn this matter over and over again in my mind.
19. I re-enact the anger episode in my mind after it has happened.
APPENDIX G

RUMINATION ON SADNESS SCALE (RSS)
Please rate each question in regards to your response to sadness, on the following scale:
1 = Not at all like me
2 = Somewhat like me
3 = Neutral
4 = Mostly like me
5 = Very much like me

When I am sad, down, or feel blue…

1. I have difficulty getting myself to stop thinking about how sad I am.
2. I repeatedly analyze and keep thinking about the reasons for my sadness.
3. I search my mind many times to try and figure out if there is anything about my personality that may have led me to feel this way.
4. I get absorbed in thinking about why I am sad and find it difficult to think about other things.
5. I search my mind repeatedly for events or experiences in my childhood that may help me understand my sad feelings.
6. I keep wondering about how I was able to be happy at other points in my life.
7. I lie in bed and keep thinking about my lack of motivation and wonder about whether it will ever return.
8. If people try to talk to me or ask me a question it feels as though they are interrupting an ongoing silent conversation I am having with myself about my sadness.
9. I question and keep wondering about the meaning of life to find clues that may help me understand my sadness.
10. I repeatedly think about what sadness really is by concentrating on my feelings and trying to understand them.
11. I get the feeling that if I think long enough about my sadness I will find that it has some deeper meaning and that I will be able to understand myself better because of it.
12. I keep thinking about my problems to try and examine where things went wrong.
13. I exhaust myself by thinking so much about myself and the reasons for my sadness.
APPENDIX H

PENN STATE WORRY QUESTIONNAIRE (PSWQ)
Instructions: Rate each of the following statements on a scale of 1 (“not at all typical of me”) to 5 (“very typical of me”). Please do not leave any items blank.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>If I do not have enough time to do everything, I do not worry about it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>My worries overwhelm me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I do not tend to worry about things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Many situations make me worry.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I know I should not worry about things, but I just cannot help it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>When I am under pressure I worry a lot.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I am always worrying about something.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I find it easy to dismiss worrisome thoughts.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>As soon as I finish one task, I start to worry about everything else I have to do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I never worry about anything.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>When there is nothing more I can do about a concern, I do not worry about it anymore.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I have been a worrier all my life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I notice that I have been worrying about things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Once I start worrying, I cannot stop.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I worry all the time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I worry about projects until they are all done.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
APPENDIX I

COGNITIVE EMOTION REGULATION QUESTIONNAIRE (CERQ)
How do you cope with events?
Everyone gets confronted with negative or unpleasant events now and then and everyone responds to them in his or her own way. By the following questions you are asked to indicate what you generally think, when you experience negative or unpleasant events.

<table>
<thead>
<tr>
<th>(almost) never</th>
<th>sometimes</th>
<th>regularly</th>
<th>often</th>
<th>(almost) always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I think that I have to accept that this has happened</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I often think about how I feel about what I have experienced</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I think I can learn something from the situation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I feel that I am the one who is responsible for what has happened</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I think that I have to accept the situation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. I am preoccupied with what I think and feel about what I have experienced</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I think of pleasant things that have nothing to do with it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. I think that I can become a stronger person as a result of what has happened</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. I keep thinking about how terrible it is what I have experienced</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. I feel that others are responsible for what has happened</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. I think of something nice instead of what has happened</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. I think about how to change the situation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. I think that it hasn’t been too bad compared to other things</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. I think that basically the cause must lie within myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>15. I think about a plan of what I can do best</td>
<td>1</td>
<td>2</td>
<td>3</td>
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</tr>
<tr>
<td>16. I tell myself that there are worse things in life</td>
<td>1</td>
<td>2</td>
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<tr>
<td>17.</td>
<td>I continually think how horrible the situation has been</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18.</td>
<td>I feel that basically the cause lies with others</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19.</td>
<td>I think that I cannot change anything about it</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>20.</td>
<td>I feel that I am the one to blame for it</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21.</td>
<td>I want to understand why I feel the way I do about what I have experienced</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>22.</td>
<td>I think about pleasant experiences</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>23.</td>
<td>I think about how I can best cope with the situation</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>24.</td>
<td>I think that the situation also has its positive sides</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>25.</td>
<td>I think that other people go through much worse experiences</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>26.</td>
<td>I often think that what I have experienced is the worst that can happen to a person</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>27.</td>
<td>I think about the mistakes others have made in this matter</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>28.</td>
<td>I think about the mistakes I have made in this matter</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>29.</td>
<td>I think that I must learn to live with it</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>30.</td>
<td>I dwell upon the feelings the situation has evoked in me</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>31.</td>
<td>I think of nicer things than what I have experienced</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>32.</td>
<td>I think of what I can do best</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>33.</td>
<td>I look for the positive sides to the matter</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>34.</td>
<td>I think that it all could have been much worse</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>35.</td>
<td>I often think that what I have experienced is much worse than what others have experienced</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>36.</td>
<td>I feel that others are to blame for it</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
APPENDIX J

RUMINATIVE RESPONSE SCALE (RRS)
People think and do many different things when they feel depressed. Please read each of the items below and indicate whether you almost never, sometimes, often, or almost always think or do each one when you feel down, sad, or depressed. Please indicate what you generally do, not what you think you should do.

1. almost never 2. sometimes 3. often 4. almost always

1. think about how alone you feel
2. think “I won’t be able to do my job if I don’t snap out of this”
3. think about your feelings of fatigue and achiness
4. think about how hard it is to concentrate
5. think “What am I doing to deserve this?”
6. think about how passive and unmotivated you feel.
7. analyze recent events to try to understand why you are depressed
8. think about how you don’t seem to feel anything anymore
9. think “Why can’t I get going?”
10. think “Why do I always react this way?”
11. go away by yourself and think about why you feel this way
12. write down what you are thinking about and analyze it
13. think about a recent situation, wishing it had gone better
14. think “I won’t be able to concentrate if I keep feeling this way.”
15. think “Why do I have problems other people don’t have?”
16. think “Why can’t I handle things better?”
17. think about how sad you feel.
18. think about all your shortcomings, failings, faults, mistakes
19. think about how you don’t feel up to doing anything
20. analyze your personality to try to understand why you are depressed
21. go someplace alone to think about your feelings
22. think about how angry you are with yourself.
APPENDIX K

WHITE BEAR SUPPRESSION INVENTORY (WBSI)
1. There are things I prefer not to think about.
2. Sometimes I wonder why I have the thoughts I do.
3. I have thoughts that I cannot stop.
4. There are images that come to mind that I cannot erase.
5. My thoughts frequently return to one idea.
6. I wish I could stop thinking of certain things.
7. Sometimes my mind races so fast I wish I could stop it.
8. I always try to put problems out of mind.
9. There are thoughts that keep jumping into my head.
10. Sometimes I stay busy just to keep thoughts from intruding on my mind.
11. There are things that I try not to think about.
12. Sometimes I really wish I could stop thinking.
13. I often do things to distract myself from my thoughts.
14. I have thoughts that I try to avoid.
15. There are many thoughts that I have that I don't tell anyone.
APPENDIX L

INSTITUTIONAL REVIEW BOARD APPROVAL LETTER
From: nrs54@msstate.edu
Sent Date: Wednesday, January 27, 2021 14:21:54 PM
To: hld166@msstate.edu, aa2648@msstate.edu, ber169@msstate.edu, cm3616@msstate.edu, med362@msstate.edu, pg538@msstate.edu, rb1817@msstate.edu, sw1388@msstate.edu
Cc: Bcc:
Subject: Do Not Reply: Approval Notice for Study # IRB-20-509, Examining Negative Thinking Styles and Thought Control Strategies within Borderline Personality Disorder

Message:
Protocol ID: IRB-20-509
Principal Investigator: Hilary DeShong
Protocol Title: Examining Negative Thinking Styles and Thought Control Strategies within Borderline Personality Disorder
Review Type: EXEMPT
Approval Date: January 27, 2021
Expiration Date: January 26, 2026

**This is a system-generated email. Please DO NOT REPLY to this email. If you have questions, please contact your HRPP administrator directly.**

The above referenced study has been approved. *For Expedited and Full Board approved studies, you are REQUIRED to use the current, stamped versions of your approved consent, assent, parental permission and recruitment documents.*

To access your approval documents, log into myProtocol and click on the protocol number to open the approved study. Your official approval letter can be found under the Event History section. All stamped documents (e.g., consent, recruitment) can be found in the Attachment section and are labeled accordingly.

If you have any questions that the HRPP can assist you in answering, please do not hesitate to contact us at irb@research.msstate.edu or 662.325.3994.

Please take a minute to tell us about your experience in the survey below. When logging in, please use your MSU email (ex: abc123@msstate.edu) and login credentials:
https://forms.office.com/Pages/ResponsePage.aspx?id=sNtR7YavokWcl3P7OTXf9uShqNaQAdClfXwiCnibYZURiWVDRRN1pRMeHUXzBCT1RGUFRZROkdLSy4u