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The Effect of Social Rejection on Anger, Shame, and Panic in College Students with Borderline Personality Traits
SOCIAL REJECTION, ANGER, SHAME, AND PANIC

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Abstract

Borderline Personality Disorder (BPD) is a serious disorder that affects approximately 2-4% of the general population (Gunderson, 2011). Researchers have found that individuals with more BPD symptoms are typically more sensitive to rejection (Bungert et al., 2015; Goodman, Fertuck, Chesin, Lichenstein, & Stanley, 2014; Selby, Ward, & Joiner Jr., 2010; Staebler, Helbing, Rosenbach, & Renneberg, 2011) and are more likely to perceive rejection in ambiguous situations (Gutz, Renneberg, Roepke, & Niedeggen, 2015; Limberg, Barnow, Freyberger, & Hamm, 2011; Renneberg et al., 2012). In addition, individuals with BPD traits have been found to react to rejection with anger (Berenson, Downey, Rafaeli, Coifman, & Paquin, 2011; Chapman, Dixon-Gordon, Butler, & Walters, 2015; Kuo, Neacsiu, Fitzpatrick, & MacDonald, 2014) and shame (Chapman, Walters, & Gordon, 2014; Gratz, Rosenthal, Tull, Lejuez, & Gunderson, 2010), and individuals with BPD are more prone to anxiety and panic (Bounoua et al., 2015; Gratz, Tull, & Gunderson, 2008; Lilienfeld & Penna, 2001; Richman & Nelson-Gray, 1994; Turnbull, Cox, Oleski, & Katz, 2013). The present study aimed to examine the relationship between borderline symptoms, social rejection, and the emotional reactions of college students with BPD symptomatology to rejection. Researchers examined three distinct emotional states where dysregulation may be particularly likely among those with high BPD symptomatology: anger, shame, and panic. Participants were asked to recall a personal experience of feeling rejected or excluded. It was hypothesized that individuals with greater symptoms of BPD would have higher scores on anger, shame, and panic post-rejection compared to individuals with fewer symptoms of BPD when controlling for pre-rejection scores. A separate linear regression was conducted to test each of the three hypotheses that Borderline Symptom List 23 (BSL-23) scores would significantly predict scores on anger, shame, and panic/acute anxiety following a rejection
manipulation. Controlling for pre-manipulation scores, BSL-23 scores significantly predicted anger post-manipulation, shame post-manipulation, and panic post-manipulation. Exploratory analyses showed that participants with higher scores on the BSL-23 had higher scores on the Rejection Sensitivity Questionnaire (RSQ). In addition, when controlling for scores before the manipulation, individuals with higher scores on the RSQ had higher scores after the rejection manipulation on shame and panic. The Dialectical Behavior Therapy - Ways of Coping Checklist (DBT-WCCL) subscale Dysfunctional Coping was significantly correlated with RSQ scores, meaning that individuals with higher rejection sensitivity reported greater use of dysfunctional coping strategies. When testing a mediational model, the relationship between borderline symptoms and negative affect was not significantly mediated by the Skills Use or Dysfunctional Coping subscales of the DBT-WCCL. As part of the exploratory analyses, regression analyses were repeated to include one participant who reported engaging in DBT and was excluded from the primary analyses. When comparing the two sets of regressions, R-square change values differed by no more than .007.
The Effect of Social Rejection on Anger, Shame, and Panic in College Students with Borderline Personality Traits

Borderline Personality Disorder (BPD) is a serious disorder that affects approximately 2-4% of the general population (Gunderson, 2011). Linehan (1993) suggested an organization of the components of BPD into five categories, including emotional dysregulation, interpersonal dysregulation, behavioral dysregulation, cognitive dysregulation, and self-dysregulation, with emotion dysregulation at the core of the problems. It has been found in the past that people with BPD commonly have a significant amount of interpersonal problems, which both contribute to and are a result of their emotion regulation difficulties. People with BPD also are prone to acts of self-injury as a form of regulating their emotions (Reitz et al., 2012), and as many as 10% of people diagnosed with BPD commit suicide (Gunderson, 2011). Because BPD significantly affects most aspects of someone’s life, it is important that researchers continue to study the components that characterize and perpetuate the disorder. Researchers have found that certain emotions in particular, such as shame and anger, are frequently felt by individuals with BPD, especially in situations that present a possibility of rejection. The present study aims to examine the relationship between borderline symptoms, social rejection, and the emotional reactions of college students with BPD symptomatology to rejection.

Emotion Dysregulation

One of the core features of BPD that is discussed consistently across research is that of emotion dysregulation, which includes having a higher vulnerability to the experience of emotions and the inability to regulate one’s emotions (Linehan, 1993). Emotion regulation has been defined as “the process of initiating, maintaining and modulating the occurrence, intensity or duration of internal feeling states, emotion related cognitions, emotion related behaviors, and

Emotion dysregulation has continued to be identified by numerous researchers as one of the core components of BPD (Cheavens, Strunk, & Chriki, 2012; Glenn & Klonsky, 2009). It has also been found to mediate others factors associated with BPD (Gratz, Dixon-Gordon, Breetz, & Tull, 2013; Newhill et al., 2012). This supports the theory that emotion dysregulation plays a central role in BPD. The current study will examine three distinct emotional states where dysregulation may be particularly likely among those with high BPD symptomatology: anger, shame, and panic.

**Anger.** Researchers have found elevated levels of anger in response to social rejection and exclusion among individuals with BPD. Berenson, Downey, Rafaeli, Coifman, and Paquin (2011) stated that, although the DSM-IV-TR suggests a connection between rejection and rage for individuals with BPD, the role that rejection plays in causing rage had not been empirically tested before their study. Berenson et al. based their research on the Rejection Sensitivity Model proposed by Downey and Feldman (1996). They found that participants with BPD had significantly higher scores than controls on the adult version of the Rejection Sensitivity Questionnaire (A-RSQ) and reported higher mean levels of perceived rejection and rage feelings than the control group. Berenson et al. examined within-person rejection-rage contingencies from diary entries in order to determine if there is a connection between the two experiences. They found a significant diagnosis x momentary perceived rejection interaction in which participants with BPD experienced a significantly greater increase in momentary rage in response to perceived rejection than healthy controls. These results support the proposed connection between perceived rejection and rage for individuals with BPD.
Chapman, Dixon-Gordon, Butler, and Walters (2015) studied the differences in emotional reactions to two different negative tasks between individuals with high and low BPD traits. In response to social rejection, they found that individuals high in BPD traits exhibited a significant increase in hostility, whereas individuals low in BPD traits exhibited increased shame. In response to a frustrating arithmetic task, individuals high in BPD traits exhibited a significant increase in shame, whereas individuals low in BPD traits exhibited increased negative affect. Chapman et al. (2015) state that the reactions of individuals with significant BPD traits are context-dependent and may differ from individuals without BPD traits in regards to which emotion is experienced. Because emotional reactions are complex, the current study examines how borderline symptoms might predict multiple emotions experienced in response to rejection. Researchers have also found that individuals with BPD are more likely than others to perceive rejection and experience an anger response when presented with ambiguous stimuli (Lobbestael & McNally, 2015). In addition, individuals with BPD may also have prolonged responses of anger compared to individuals without BPD (Jacob et al., 2008). Further research is needed to understand the role of dysregulated anger for individuals with BPD when experiencing rejection.

**Shame.** Researchers have also focused on shame as a common emotion experienced by those with BPD. Rüsch et al. (2007) found that individuals with BPD are more prone to feelings of shame, feel shame as part of their implicit self-concept, and had higher levels of state shame while completing their study. Rüsch et al. also found that shame was positively correlated with anger/hostility. Schoenleber and Berenbaum (2012) also found that individuals with more traits of BPD are likely to experience shame often and to feel that shame is distressing and unwanted. Shame has been found to predict self-harm behaviors, which are common in individuals with BPD (Brown, Linehan, Comtois, Murray, & Chapman, 2009). In addition, Wiklander et al.
(2012) found that depression and BPD symptoms are predictors of shame for females who have attempted suicide. Wiklander et al. also found that shame is highest in females with BPD who have attempted suicide.

In response to negative social interactions, several researchers have found that individuals with BPD experience an increase in shame. Gratz, Rosenthal, Tull, Lejuez, and Gunderson (2010) studied the effects of negative evaluation on individuals with BPD. Compared to those without BPD, individuals with BPD showed a significantly greater increase in shame after receiving negative feedback, and their level of shame remained elevated after a recovery period of five minutes. Chapman, Walters, and Gordon (2014) also found that individuals with high levels of BPD had a significantly greater increase in shame in response to a social rejection task than those with low levels of BPD. However, not all researchers have found that shame increases when individuals with BPD experience rejection, such as Chapman et al. (2015) who found that shame did not increase for individuals high in BPD traits after experiencing rejection. Chapman et al. (2015) reported that shame may not have increased significantly in that study, compared to their previous study, because the strong hostility/anger response they found for individuals with high levels of BPD may have overshadowed other emotions in response to social rejection. Because of the mixed findings regarding how shame is impacted by social rejection in individuals with BPD traits, it is important to continue studying shame in this context.

**Panic/Acute Anxiety.** Although there has been little research conducted on the relationship between rejection and panic in general, there is evidence that people with BPD commonly have co-occurring anxiety disorders. Pantoularis et al. (2008) found that 12% of the males with BPD and 10.7% of the females with BPD in their study had a co-occurring panic
disorder with or without agoraphobia. There is also evidence that individuals with BPD who experience panic or acute anxiety may be more likely to attempt suicide or experience suicidal ideation. Turnbull, Cox, Oleski, and Katz (2013) found that BPD, panic attacks (PA), and panic disorder (PD) are all associated with suicide attempts. Specifically, researchers found that individuals with comorbid BPD and PD had a significantly increased risk for a suicide attempt compared to those with only BPD. In addition, Woodruff-Borden, Stanley, Lister, and Tabacchi (1997) found that students who had experienced a panic attack were at an increased risk for suicidal ideation and suicide attempts. Woodruff-Borden et al. suggested that the panic attacks might be stressors that contribute to an increase in suicidal ideation and impede coping strategies, but that the panic attacks are not the cause of suicidal ideation. If that is the case, it seems that emotion dysregulation, which is a primary problem for those with BPD, may play a significant role in the relationship between panic attacks and suicidal ideation.

Researchers have explored the idea that individuals with BPD are more sensitive to anxiety (Gratz, Tull, & Gunderson, 2008; Lilienfeld & Penna, 2001) and that anxiety sensitivity may contribute to the development of BPD (Bounoua et al., 2015). Richman and Nelson-Gray (1994) found that individuals with nonclinical panic were significantly more likely to meet criteria for BPD than individuals without nonclinical panic. Lilienfeld and Penna (2001) found that, among undergraduates, higher scores on a measure of anxiety sensitivity were correlated with higher scores on borderline personality and dependent personality measures. In a clinical population, Gratz et al. (2008) studied the role of anxiety sensitivity in distinguishing individuals with BPD from those without a personality disorder. They found that outpatients with BPD had significantly greater anxiety sensitivity than outpatients without a personality disorder. Gratz et
al. also found that anxiety sensitivity accounted for variance above and beyond measures of affect intensity, impulsivity, and negative affect.

In summary, individuals with BPD are likely to have a co-occurring anxiety disorder and be more sensitive to anxiety. They are also more likely to experience panic. Although no studies have examined the effect of rejection on panic/acute anxiety, panic was of interest in this study due to the relationship between BPD symptomatology and panic/acute anxiety already established. Based on the relationship between variables reviewed, it is of interest in the current study whether individuals with borderline traits exhibit an increase in panic after feeling rejected or excluded.

**Interpersonal Problems and BPD**

A distinguishing feature in people with BPD is that of interpersonal problems. In several studies, interpersonal problems have been examined as markers for BPD (Drapeau, Perry, & Körner, 2012; Hilsenroth, Menaker, Peters & Pincus, 2007; Lejuez et al, 2003) and as factors that affect the way people with BPD interpret interpersonal situations (Sadikaj, Russell, Moskowitz, & Paris, 2010; Unoka, Seres, Áspán, Bódi, & Kéri, 2009).

The interpersonal patterns that have been identified in individuals with BPD can affect the way in which those individuals interpret situations compared with non-BPD individuals. For example, Sadikaj et al. (2010) found that individuals with BPD perceived less communal behavior (i.e., quarrelsome, cold, and dominant style of interacting, as rated by each participant) as causing a greater amount of negative affect than those without BPD and more communal behavior (i.e., agreeable, warm, and submissive style of interacting, as rated by each participant) as causing less positive affect than did those without BPD. Unoka et al. (2009) also examined the interpersonal perceptions of individuals with BPD and found that individuals with BPD are
less optimistic or trusting of an outcome that depends on another person as opposed to one that depends solely on luck. The current study will focus on a specific type of interpersonal problem that individuals with BPD may encounter, social rejection.

**Rejection and Rejection Sensitivity.**

**Rejection.** Blackhart, Nelson, Knowles, and Baumeister (2009) conducted a meta-analysis of studies that examined the effects of social rejection, exclusion, and ostracism in individuals without significant mental illness. Overall, they found that rejection results in less pleasant emotional states than does acceptance. For the average individual, social rejection may not cause significant distress (Blackhart et al., 2009), but what about for individuals with BPD traits? Individuals with BPD commonly focus their attention on rejection from others, whether it is by interpreting others’ actions as being rejecting or by being afraid that others will reject them in the future. Renneberg et al. (2012) examined how people with BPD perceive and react to social inclusion and exclusion compared to healthy controls. They used the Cyberball task for their rejection manipulation, which is discussed further in the Rejection Manipulations section of this paper. Researchers found that individuals with BPD held a negative bias toward others when interacting socially. Compared to individuals in the control group, individuals with BPD felt more excluded in both the exclusion and inclusion conditions. Other researchers have used physiological methods of studying reactivity to rejection and found a similar tendency of people with BPD to perceive rejection when interacting with others. Gutz, Renneberg, Roepke, and Niedeggen (2015) used an EEG to study how participants processed social information. Gutz et al. found that individuals with BPD had enhanced P3b activity, which is related to “stimulus encoding and updating of the stimulus representation (p.421),” on the EEG during the social exclusion and social inclusion conditions of the study. This indicates that individuals with BPD
perceived social participation in a biased manner during the initial stage of social processing. Similar to the results from Renneberg et al., this difference suggests that individuals with BPD process information related to social inclusion with a negative bias, perceiving rejection even when they are being included. Gutz et al. also found that individuals with BPD reported greater rejection expectancy than healthy controls and individuals with social anxiety disorder on a subscale of the Rejection Sensitivity Questionnaire.

In summary, individuals with BPD tend to focus on possible indications of rejection from others and to perceive rejection in ambiguous situations, which causes them to feel rejected even when others may be trying to include them. Researchers have found those results using both self-report and physiological measures.

Rejection Sensitivity. Downey and Feldman (1996) conceptualized rejection sensitivity as a cognitive-affective processing disposition that is caused by early rejection from significant others. They found that when participants were presented with an ambiguous interpersonal situation, their observed reactions to that situation were correlated with rejection sensitivity and self-reported increase in rejection. This supports the theory that when people who are highly sensitive to rejection receive ambiguous cues, they are more likely to perceive rejection. In addition, Downey and Feldman found that participants who were more sensitive to rejection were more likely to attribute hurtful intent to their intimate partner’s insensitive behaviors. That was assessed by asking participants hypothetical questions regarding how they would feel if their partner “was being cool and distant,” “was intolerant of something you did,” and “began to spend less time with you.” Zimmer-Gembeck and Nesdale (2013) also found that individuals who are more sensitive to rejection respond to ambiguous situations in a more negative manner than those who are not as sensitive to rejection.
Many researchers have studied rejection sensitivity in relation to borderline personality symptoms and have found that, in general, individuals with a greater number of BPD symptoms are more sensitive to rejection (Bungert et al., 2015; Goodman, Fertuck, Chesin, Lichenstein, & Stanley, 2014; Selby, Ward, & Joiner Jr., 2010; Staebler, Helbing, Rosenbach, & Renneberg, 2015). Rejection sensitivity has been found to mediate the relationships between BPD characteristics and experienced rejection (Rosenbach & Renneberg, 2014), BPD features and social support (Zielinski & Veilleux, 2014), BPD features and adult attachment style (Boldero et al., 2009), and BPD features and facial trust appraisal (Miano, Fertuck, Arntz, & Stanley, 2013).

**Rejection Manipulations.** Blackhart et al. (2009) reviewed methods of manipulating rejection that researchers have tried and the benefits and drawbacks to each of those. They emphasized the value in studying real-world rejection incidents, as opposed to imagining hypothetical scripts and how you would react to them, which often results in an overestimation of emotional reactions. Recalled events may also be subject to similar distortions. Although studying what Blackhart et al. would consider real-world rejection is the most valid way, it is not always possible due to limited resources available. Because of that, researchers have tried different methods to evoke feelings of rejection. Some researchers have used a task called Cyberball that simulates a game of tossing a ball to other players on computer. The simulation allows researchers to place participants in a condition of rejection, during which participants are only thrown the ball once from each member at the beginning of the game. Although some researchers found that the Cyberball task was salient enough to result in differences between groups of participants (Gratz et al., 2013; Renneberg et al., 2012), other researchers found no significant differences and argued that the Cyberball task may not have been salient enough to produce significant differences between groups (Lawrence, Chanen, & Allen, 2011). Lawrence,
Chanen, and Allen suggested that future studies may need to use a more salient manipulation to produce results that represent reactions similar to those occurring in the natural environment.

Based on information provided by the previous studies about salience of rejection tasks, other rejection tasks that focus on personal experiences were examined to determine what might be an effective alternative. Kuo, Neacsiu, Fitzpatrick, and MacDonald (2014) found that individuals with BPD exhibited higher levels of anger and sadness when responding to idiographic imagery (i.e., a personally relevant imagery task), compared to standardized film clips, than individuals with social anxiety or individuals without a diagnosis. Those results indicated that it is more effective to have participants recall their own experiences rather than viewing or reading a standardized script.

**Present Study.** A study by Bernstein, Young, Brown, Sacco, and Claypool (2008) served as a model for the rejection task used in the current study. All participants were presented with a prompt that asked them to recall a time they felt rejected or excluded. The primary reason for choosing this task was to have something personalized to the individual’s experience, so it would be salient enough to invoke an emotional reaction. The secondary reason for choosing this task was to avoid overestimation of emotional reactions, which is common when providing individuals with hypothetical imagery scripts. Before completing the prompt to recall an instance of rejection, participants completed the Rejection Sensitivity Questionnaire (RSQ), which served as a primer for rejection.

The current study tested the following hypotheses:

1. BSL-23 scores will significantly predict post-rejection manipulation anger when controlling for pre-rejection manipulation anger, such that participants with higher BSL-23 scores will experience a significantly greater increase in anger after recalling a
personal experience of feeling rejected or excluded compared to those with lower BSL-23 scores.

2. BSL-23 scores will significantly predict post-rejection manipulation shame when controlling for pre-rejection manipulation shame, such that participants with higher BSL-23 scores will experience a significantly greater increase in shame after recalling a personal experience of feeling rejected or excluded compared to those with lower BSL-23 scores.

3. BSL-23 scores will significantly predict post-rejection manipulation panic/acute anxiety when controlling for pre-rejection manipulation panic/acute anxiety, such that participants with higher BSL-23 scores will experience a significantly greater increase in panic/acute anxiety after recalling a personal experience of feeling rejected or excluded compared to those with lower BSL-23 scores.

**Method**

**Participants**

Participants included 214 undergraduate university students from a Midwest university. Participants were recruited through the Xavier University School of Psychology undergraduate participant pool. No one was excluded from participating in this study due to fairness concerns with respect to the psychology participant pool. However, 15 participants’ data were deleted from the original sample of 230 due to incomplete responses. One participant was also excluded from primary analyses due to engaging in Dialectical Behavior Therapy (DBT). Demographic information was collected for each participant’s age, gender, race, and ethnicity. Participants were also asked if they have ever been diagnosed with a mental illness, which diagnoses they have, whether they have received treatment, and what type of treatment they were receiving at
the time of responding (therapy and/or medication). The demographic information was collected in order to report more specifically the sample characteristics. Information about diagnoses and treatment were collected for two reasons. First, if any participants report being diagnosed with BPD, their BSL-23 scores could be analyzed to determine the accuracy of the BSL-23 in recognizing individuals with BPD symptomatology. Second, certain types of treatment, such as DBT, may affect the results of the study. If someone diagnosed with BPD has been engaging in DBT, he/she may have learned to cope with his/her emotional reactions to rejection, which could affect the results of the analyses. It was necessary to analyze the data without one participant’s scores.

Participants included individuals ranging in age from 18 to 25. There were 153 females and 61 males who completed this study and were included in primary analyses. Participants were primarily Caucasian, with 77.2% identifying as White, 10.2% identifying as Black/African American, 3.3% identifying as Asian, 2.8% identifying as Biracial, 1.4% identifying as Native Hawaiian or other Pacific Islander, 0.9% identifying as American Indian or Alaska Native, 7% identifying as Other, and 2% preferring not to answer. In addition, 7.9% of participants identified as Hispanic or Latino. Of the 215 participants, 51 reported being diagnosed with a mental illness, 29 reported engaging in therapy at the time of the study, and 34 reported taking medications for mental illness at the time of the study. One participant reported being diagnosed with BPD and engaging in group and individual DBT. That participant scored 2.35 on the BSL-23, which is higher than the average score of someone with BPD (2.05; Bohus et al., 2009) and indicates that the BSL-23 correctly identified the participant as someone likely to have BPD. The primary analyses include results from regression analyses excluding that participant.
Regression analyses were also conducted during exploratory analyses to include the participant engaged in DBT.

Measures

Information regarding how to obtain the measures used in the current study can be found in Appendix A. The measures are not reproduced due to copyright restrictions.

**Borderline Symptom List 23 (BSL-23).** The original BSL (Bohus et al., 2007) is a self-report measure that consists of 95 items measuring the common features of BPD. The common features of BPD were determined by several factors, including the criteria of the DSM-IV, the Diagnostic Interview for Borderline Personality Disorder – revised version, and by input from clinical experts and patients with BPD. A short version of the BSL (BSL-23), which consists of 23 items, was created by Bohus et al. (2009). Participants respond on a scale of 0 (*not at all*) to 4 (*very strong*) in response to how much they have felt a certain way in the last week. The internal consistency was calculated using Cronbach’s alpha for three samples and ranged from $\alpha = 0.94$ to $\alpha = 0.97$. Test-retest reliability after one week was in the high range ($r = .82, p < .001$). BSL-23 scores were highly correlated with the original BSL scores ($r = .96, p < .001$). Overall, scores on the BSL-23 were higher for patients with BPD compared to those with Axis-I diagnoses. The average score for patients with BPD was 2.05 (SD = .90), whereas the average score for patients with various Axis-I diagnoses fell below 1.4. No set cut-off score has been established. For the current study, the BSL-23 was used as a diagnostic instrument to screen for levels of BPD symptomatology and examine the effect of those symptoms on emotional reactions to rejection.

**Modified Negative Affect (NA) Subscale of the Positive and Negative Affect Schedule (PANAS).** This measure was developed by Watson, Clark, and Tellegen (1988) as a
short measure of positive affect (PA) and negative affect (NA). The NA and PA subscales each include 10 items, and they are assessed on a scale of 1 *(very slightly or not at all)* to 5 *(extremely)* measuring how strongly each mood state is currently being experienced. The NA subscale includes *distressed, upset, hostile, irritable, scared, afraid, ashamed, guilty, nervous,* and *jittery.* All 10 responses are summed to get a total NA score. Watson et al. found that the alpha reliabilities for different times measured (e.g., today, during the past few days, during the past year) ranged from .84 to .87.

A modified version of the NA subscale was administered before and after the social rejection manipulation. The same scale was used from the original PANAS for participants to rate how strongly they were experiencing each mood state. Previous researchers have modified the PANAS to include items relevant to their studies. In order to strengthen measures for each emotion, several descriptors were added to the measures of anger, shame, and panic/acute anxiety. In a study by Gadassi, Snir, Berenson, Downey, and Rafaeli (2014), researchers included *angry* and *irritated* to measure anger and *tense* and *afraid* to measure anxiety. Scott et al. (2015) used *irritable* and *hostile* to measure anger. Brown et al. (2009) added six items to the PANAS to better assess shame. Those items came from the Personal Feelings Questionnaire (Harder & Lewis, 1987), a questionnaire used to measure shame and guilt, and included *embarrassed, regretful, helpless, self-conscious, stupid,* and *deserving of criticism.* In the current study, those same six items were added to the NA subscale to assess shame. To summarize, the measure of anger in the current study included *hostile, irritable,* and *angry.* The measure of shame in the current study included *ashamed, guilty, embarrassed, regretful, helpless, self-conscious, stupid,* and *deserving of criticism.* The measure of panic/acute anxiety in the current study included *afraid, nervous, jittery, panicked,* and *tense.* Anger, shame, and panic/acute
anxiety were analyzed as separate dependent variables. The internal reliability for each subscale was measured before primary analyses were conducted with the intent to remove any items that were below 0.7 from the subscale. No items were removed.

**DBT Ways of Coping Checklist (DBT-WCCL).** The DBT-WCCL was developed by Neacsiu, Rizvi, Vitaliano, Lynch, and Linehan (2010). Researchers adapted the Revised Ways of Coping Checklist (RWCCCL; Vitaliano, Russo, Carr, Maiuro, & Becker, 1985) in order to create an instrument to measure coping skills used from all four modules in DBT skills training. The DBT-WCCL has two subscales, DBT Skills Subscale (DSS; 38 items) and Dysfunctional Coping Subscale (DCS; 21 items), that measure use of DBT skills and use of dysfunctional means to cope, respectively. Neacsiu et al. (2010) conducted an exploratory principal components analysis and found three factors. Factor 1, which includes the 38 skills on the DSS, was found to have excellent internal consistency ($\alpha = 0.92$ to $\alpha = 0.96$), and factors 2 and 3, which include maladaptive coping strategies on the DCS, were found to have good to excellent internal consistency ($\alpha = 0.87$ to $\alpha = 0.92$ and $\alpha = 0.84$ to $\alpha = 0.88$, respectively). Factor 2 and 3 items were combined to form the DCS, and factor 1 items comprise the DSS. Test-retest reliability was found to be good for the DSS for individuals who did not receive skills training ($\rho_1 = 0.71$, $p < .001$). The DBT-WCCL was also able to differentiate those who have had DBT skills training from those who had not by measuring the change in DSS scores between pretreatment and four months of treatment, which demonstrates good criterion validity.

The DBT-WCCL was used in exploratory analyses to examine ways that individuals with and without BPD traits dealt with their recalled rejection. They responded to a modified prompt and modified rating scale, which corresponded with the specific event of interest. The prompt read, “The items below represent ways that you may have coped with stressful events in your
life. We are interested in the degree to which you used each of the following thoughts or behaviors to deal with the instance of rejection you recalled. Think back to the event. Then, check the appropriate number if the thought/behavior was: not used, thought about but not used, used but did not work, or used and did work. Don’t answer on the basis of whether it seems to work to reduce stress or solve problems – just whether or not you used the coping behavior in response to your recalled instance of rejection. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.” The rating scale included 0 (not used), 1 (thought about but not used), 2 (used but did not work), and 3 (used and did work).

**Rejection Sensitivity Questionnaire (RSQ).** The RSQ is an 18-item measure developed by Downey and Feldman (1996) as a way to measure a person’s sensitivity to rejection in a variety of social situations. Participants first rate how anxious they would be about the outcome of a specific situation on a scale from 1 (unconcerned) to 6 (very concerned). Then, participants respond on a scale of 1 (very unlikely) to 6 (very likely) for how likely it is that the other person would accept their request in each situation. Scoring requires the researcher to reverse the expectancy of acceptance scores (expectancy of rejection = 7 – expectancy of acceptance). The expectancy of rejection score is then multiplied by the expectancy of acceptance reverse scores, which results in a rejection sensitivity score for each situation. A final score is calculated by summing the rejection sensitivity scores and dividing the total by 18. Downey and Feldman found that the RSQ had high internal reliability (α = .83) and high test-retest reliability after two to three weeks (t = .83, p < .001) and after four months (t = .78, p < .001) in their samples. The RSQ served as a primer for experiences of rejection prior to the rejection prompt. It was also
used for exploratory analyses to determine if higher scores on the RSQ predict greater affective ratings post-manipulation.

**Procedure**

Approval from the IRB at Xavier University was sought prior to data collection; the IRB approval letter can be found in Appendix B. Researchers collected data via an online survey, https://xavier.qualtrics.com. Participants were recruited by posting information on the participant pool bulletin board in the psychology building and by distribution by their psychology course instructors. The posting included information about the study, the estimated time requirement, the study investigator’s contact information and the supervisor’s contact information. It also included a website address where they can access the study that was provided on tear-off sections of the posting. The data were collected anonymously; identifying information was collected separately after the study via a separate link and used only to give students credit for participation. Researchers did not track IP addresses through the website. Students accessed the survey by going to the survey link and reading the informed consent and brief description of the study electronically. By clicking “continue,” they gave their consent to take part in the study. The consent form is included in Appendix C. At the beginning of the study, students were given a very brief explanation of the purpose of the study. They were told that the purpose of the study was to see how individuals react to rejection. Participants completed demographic information, the BSL-23, and the modified NA subscale of the PANAS. They then responded to the RSQ and the rejection prompt, which served as the rejection manipulation together.

All participants responded to a social rejection prompt. They were asked to write about a time that they felt “rejected or excluded.” This is a rejection prompt like the one used in
Bernstein et al. (2008) when they measured the effect of social rejection on the ability to detect real and fake smiles. The prompt states, "Below, describe an experience during which you felt rejected or excluded. Try to remember sensory details and also how you felt. Please type out as detailed a memory as you can, describing the event and how it made you feel. Spend no more than 5 mins on this." Fifteen participants who did not respond appropriately to this required prompt (e.g., typed random letters or filled the text box with periods, instead of writing about a memory) were excluded from all analyses.

Participants were then asked to complete the modified NA subscale of the PANAS again. They were also asked to complete the DBT-WCCL as a way to assess coping skills they used in response to their rejection. Participants were also asked the open-ended question, “What do you feel like doing right now after recalling that incident of rejection?” That piece of qualitative data was used during exploratory analyses. After participants completed the measures following the social rejection manipulation, they were debriefed about the purpose of the manipulation and resources were provided in case they needed to talk to someone after. Those resources included the university’s counseling and psychological services centers, as well as two suicide hotline numbers and the university’s campus police number. The debriefing text can be found in Appendix D. Participants were then provided with a link to a separate website where they entered their identifying information, so they could receive credit for participating in the study.

Analyses

Primary Analyses

First, the internal reliability for each affective subscale (i.e., anger, shame, and panic/acute anxiety) of the NA subscale was measured before primary analyses were conducted. None of the items were below 0.7, so none of them were removed from the subscale.
A separate linear regression was conducted to test each of the three hypotheses that BSL-23 scores would significantly predict scores on anger, shame, and panic/acute anxiety following a rejection manipulation. In each regression, pre-rejection scores were entered in step 1. Then, BSL-23 scores were entered in step 2. For the first regression, it was expected that BSL-23 scores would significantly predict anger post-manipulation when controlling for anger pre-manipulation. BSL-23 scores and anger pre-manipulation were the independent variables, and anger post-manipulation was the dependent variable. For the second regression, it was expected that BSL-23 scores would significantly predict shame post-manipulation when controlling for shame pre-manipulation. BSL-23 scores and shame pre-manipulation were the independent variables, and shame post-manipulation was the dependent variable. For the third regression, it was expected that BSL-23 scores would significantly predict panic/acute anxiety post-manipulation when controlling for panic/acute anxiety pre-manipulation. BSL-23 scores and panic/acute anxiety pre-manipulation were the independent variables, and panic/acute anxiety post-manipulation was the dependent variable.

Exploratory Analyses

In addition to testing the hypotheses presented, data were used to conduct exploratory analyses. In accordance with previous research on rejection sensitivity, it was expected that individuals who scored higher on the BSL-23 would also score higher on the measure of rejection sensitivity, the RSQ. A correlation was conducted between BSL-23 scores and RSQ scores. It was also of interest whether higher scores on the RSQ would be related to higher scores on measures of anger, shame, and panic/acute anxiety. Controlling for pre-manipulation scores, correlations were conducted between the RSQ and post-manipulation anger scores, the
RSQ and post-manipulation shame scores, and the RSQ and post-manipulation panic/acute anxiety scores.

Researchers also used the DBT-WCCL to determine if the use of skills mediated the relationship between BPD symptoms and negative emotional responses to rejection. Multiple regression analyses were used to test a model in which the relationship between BPD symptoms (BSL-23) and negative affect (NA subscale) is mediated by skills use or dysfunctional coping (DBT-WCCL). It was expected that skills use would mediate the relationship between BPD symptomatology and overall negative affect.

It was also of interest how the regression analyses conducted in the primary results would compare to regression analyses that included the participant who was engaged in DBT. The regressions from the primary analyses were repeated to include that individual. Thus, three separate linear regressions were conducted to test each of the three hypotheses that BSL-23 scores would significantly predict scores on anger, shame, and panic/acute anxiety following a rejection manipulation. Researchers controlled for pre-manipulation anger, shame, and panic/acute anxiety scores.

**Results**

**Primary Analyses**

The internal reliability for all NA subscales was good before and after the rejection manipulation. Before the manipulation, internal reliability scores for anger, shame, and panic were .81, .90, and .86 respectively. After the manipulation, internal reliability scores for anger, shame, and panic were .75, .92, and .88 respectively. No items were removed from any of the subscales because of the high internal reliability.
Three separate linear regressions were conducted to analyze the results for the primary hypotheses. For anger, BSL-23 scores significantly predicted anger post-manipulation, $\beta = .23$, $p < .001$, when controlling for anger before the manipulation. The partial correlation between BSL-23 and anger post-manipulation is $r = .25$ when controlling for anger before the manipulation. This indicates that higher symptoms of BPD are predictive of greater anger after recalling a rejection. For shame, BSL-23 scores significantly predicted shame post-manipulation, $\beta = .15$, $p < .05$, when controlling for shame before the manipulation. The partial correlation between BSL-23 and shame post-manipulation is $r = .17$ when controlling for shame before the manipulation. This indicates that higher symptoms of BPD are predictive of greater shame after recalling a rejection. For panic, BSL-23 scores significantly predicted panic post-manipulation, $\beta = .12$, $p < .05$, when controlling for panic before the manipulation. The partial correlation between BSL-23 and panic post-manipulation is $r = .16$ when controlling for panic before the manipulation. This indicates that higher symptoms of BPD are predictive of greater panic after recalling a rejection. For a table of results for each regression analysis, see Table 1, Table 2 and Table 3.

**Exploratory Analyses**

Individuals with higher scores on the BSL-23 had higher scores on the RSQ, $r = .42$, $p < .001$. When controlling for scores before the manipulation, individuals with higher scores on the RSQ had higher scores after the rejection manipulation on the NA subscales of shame ($r = .23$, $p < .001$) and panic ($r = .17$, $p < .01$). The relationship between RSQ and anger after the manipulation was not significant when controlling for anger before the manipulation ($r = .07$, $p = .31$). The DBT-WCCL subscale Skills Use was not significantly correlated with RSQ scores. However, the DBT-WCCL subscale Dysfunctional Coping was significantly correlated with
RSQ scores, $r = .21, p < .01$, meaning that individuals with higher rejection sensitivity reported greater use of dysfunctional coping strategies. For the proposed mediations to be significant, the independent variable needs to become nonsignificant or reduced in significance, and the mediator needs to be significant in step two of the regression. The independent variable, BPD symptoms, remained significant in step 2 when testing the model for Skills Use ($\beta = .68, p < .001$) and Dysfunctional Coping ($\beta = .66, p < .001$). The relationship between BPD symptoms and negative affect was not significantly mediated by the Skills Use ($\beta = .004, p = .94$) or Dysfunctional Coping ($\beta = .08, p = .11$) subscales of the DBT-WCCL. For a table of mediation results for Skills Use and Dysfunctional Coping, see Table 4 and Table 5.

Three separate linear regressions were conducted to analyze the results for the primary hypotheses including the one participant who was originally excluded due to being in DBT. For anger, BSL-23 scores significantly predicted anger post-manipulation, $\beta = .26, p < .001$, when controlling for anger before the manipulation. The partial correlation between BSL-23 and anger post-manipulation is $r = .27$ when controlling for anger before the manipulation. This indicates that higher symptoms of BPD are predictive of greater anger after recalling a rejection. For shame, BSL-23 scores significantly predicted shame post-manipulation, $\beta = .19, p < .01$, when controlling for shame before the manipulation. The partial correlation between BSL-23 and shame post-manipulation is $r = .21$ when controlling for shame before the manipulation. This indicates that higher symptoms of BPD are predictive of greater shame after recalling a rejection. For panic, BSL-23 scores significantly predicted panic post-manipulation, $\beta = .15, p < .01$, when controlling for panic before the manipulation. The partial correlation between BSL-23 and panic post-manipulation is $r = .19$ when controlling for panic before the manipulation. This indicates that higher symptoms of BPD are predictive of greater panic after recalling a rejection.
To compare the regression analyses with and without the one participant engaged in DBT, R-square change scores were compared for anger, shame, and panic. When excluding the participant engaged in DBT, BSL-23 scores accounted for 3% of the variance for anger, 1% of the variance for shame, and 1% of the variance for panic. When including the participant engaged in DBT, BSL-23 scores accounted for 4% of the variance for anger, 2% of the variance for shame, and 1% of the variance for panic. For a comparison of the regression analyses when including and excluding the participant in DBT, see Table 6.

**Discussion**

Overall, the findings of this study support the primary hypotheses presented and align with prior research. Participants in this study with greater symptoms of BPD were more likely than those with fewer symptoms of BPD to experience significant increases in anger, shame, and panic after recalling a rejection incident. Previous researchers have found that individuals with BPD are more likely than others to perceive rejection (Lobbestael & McNally, 2015) and experience an anger response when presented with ambiguous stimuli (Jacob et al., 2008). Researchers have also found that individuals with high levels of BPD had a significantly greater increase in shame in response to a social rejection task than those with low levels of BPD (Chapman, Walters, & Gordon, 2014). Panic has not been studied in individuals with BPD as a reaction to rejection. It was of interest because of the comorbidity between BPD and panic/anxiety and because previous researchers have found that individuals who had experienced a panic attack were at an increased risk for suicidal ideation and suicide attempts (Woodruff-Borden et al., 1997). The finding that individuals with greater BPD traits experience an increase in panic after rejection adds to the literature, as panic has not been examined in previous research as it relates to rejection for this population. The information provided by this study may be
important for therapists working with individuals with BPD. It suggests that treatment needs to incorporate targeting clients’ interpretations of social situations in order to increase understanding of the situation and decrease emotional reactivity. This may include identifying information in support of and against certain interpretations and discussing the likelihood of particular explanations for an individual’s behavior. It also suggests the specific emotions that may need to be addressed when a client reports feeling rejected. Clinicians need to be aware of the complex emotional experience that occurs when someone feels rejected and help clients identify and cope with their emotions.

Regarding exploratory analyses, the findings in this study support previous findings about rejection sensitivity and add information about specific emotions experienced by people who are more sensitive to rejection. Individuals with greater symptoms of BPD in this study reported greater rejection sensitivity, which is consistent with previous studies (Bungert et al., 2015; Goodman et al., 2014; Selby, Ward, & Joiner Jr., 2010; Staebler et al., 2011). Individuals with greater rejection sensitivity also experienced a significant increase in shame and panic after the rejection manipulation. The relationship between rejection sensitivity and anger after the rejection manipulation was not significant. This may be explained by the different manifestations of BPD in various individuals. Those who are more sensitive to rejection may be less likely to act out aggressively or express their anger toward others. This relationship should be explored further in future studies. Greater rejection sensitivity was also related to greater use of dysfunctional coping strategies, meaning that individuals who are more sensitive to rejection are also more likely to use dysfunctional coping strategies. Perhaps individuals who are more likely to expect rejection engage in more cognitive distortions, in general, and have difficulty thinking of effective ways to cope. It would be interesting for future researchers to examine
whether rejection sensitivity predicts dysfunctional coping or if there may be other variables related to this relationship. The mediational model proposed in the exploratory analyses may have lacked significance for several reasons, including that the participants did not receive formal skills training and that the participants are not representative of the clinical population. These findings are important due to the information provided about the role of rejection sensitivity and skills use in individuals with borderline personality traits. Understanding the role of rejection sensitivity for individuals with borderline traits may help clinicians select and teach skills to decrease interpersonal difficulties.

Researchers compared the regression analyses for results including and excluding the one participant engaged in DBT. R-square change scores were examined for anger, shame, and panic/acute anxiety and were found to be very similar. R-square change scores for the analyses that excluded the participant engaged in DBT were lower by .004 for panic, lower by .006 for shame, and lower by .007 for anger. The original reason for removing individuals participating in DBT was to determine if the skills learned in DBT affected the results, which researchers thought may make the results less significant when including those individuals. However, removing the individual in DBT resulted in almost identical R-square change values. It is difficult to determine how the results might change if there were more participants with greater symptoms of BPD in the sample or more participants engaged in DBT in the sample. It will be important for future researchers to replicate this study and to recruit individuals diagnosed with BPD and individuals without a mental health diagnosis. It may also be beneficial for researchers to recruit individuals with BPD who have and have not engaged in DBT in order to compare results.
The rejection manipulation used in the current study was salient enough to produce significant increases in anger, shame, and panic. This aligns with the suggestions made by other researchers regarding selection of rejection manipulations that represent real world experiences (Blackhart et al., 2009; Kuo, et al., 2014). Although it is preferred to use real world, in vivo rejection, it is important to know what other options work when the preferred method is not feasible. Knowing this can help researchers design future studies and understand how rejection affects those with BPD symptoms. In addition, this information can help to develop interventions targeted toward rejection sensitivity and emotion regulation specific to rejection incidents.

**Limitations**

First, this study asked participants to recall a prior instance of rejection or exclusion. This was done because previous researchers (Blackhart et al., 2009; Kuo et al., 2014) emphasize the importance of using personally-relevant stimuli to increase salience for each participant. The most preferred option is to use real world, in vivo manipulations, which was not feasible in this study. Due to the temporal proximity of the rejection incident to the time of recall, participants may have rated their affective reactions higher or lower than what they experienced when the rejection occurred. Participants may either forget or magnify/minimize their previous reactions to an instance of rejection. It may be beneficial in the future to design and conduct a real world, in vivo rejection manipulation to make the rejection most salient to participants. Using Cyberball, a common rejection manipulation task, has had mixed results, so it is important to design a manipulation that adequately induces affective reactions similar to real world rejection or to monitor daily events of participants and have them record their reactions to current experiences of rejection.
There are also limitations that exist in the sample of participants utilized. The participants were all undergraduate students who did not vary greatly in age or diversity factors. Because of this, the results may not generalize to other populations. It would be important in future studies to find participants in the community who represent the general population. It would also be important to recruit participants diagnosed with BPD and participants without a mental health diagnosis, so researchers can compare individuals with and without BPD when testing hypotheses. If this study had included more participants with a diagnosis of BPD, the results would be more applicable to the population of interest; however, a large enough sample of individuals with BPD was not available to be recruited for this study.

Future Directions

It is important for future researchers to continue replicating results in relation to determining which rejection manipulations are appropriate for the population of interest and which emotions are experienced in response to rejection for individuals with BPD or borderline traits. It will be important for future researchers to replicate this study and to recruit individuals diagnosed with BPD and individuals without a mental health diagnosis. It may also be beneficial to recruit individuals with BPD who have engaged in DBT for a certain length of time and individuals with BPD who have never engaged in DBT. This would allow researchers to compare the effects of engaging in DBT on the intensity of reactions to rejection. Because panic/acute anxiety has not been studied as an effect of rejection before, it will be important for future researchers to continue studying panic/acute anxiety in response to various rejection manipulations. It is also suggested that future researchers study panic/acute anxiety in response to rejection for both clinical and nonclinical populations. The role that rejection sensitivity plays will also be important to consider in future studies.
Overall, this study adds to the literature in two main areas. First, it supports the use of rejection manipulations that ask participants to recall their own personal experience of rejection or exclusion when real world, in vivo manipulations are not feasible. This method may be used when researchers are not able to have participants monitor and record their daily interactions and their reactions to experiences of rejection. Second, this study supports previous findings that people with BPD or borderline traits experience an increase in anger and shame in response to rejection. This study also adds new information that panic/acute anxiety may increase in response to rejection for individuals with borderline traits. Exploratory analyses support previous findings that individuals with more traits of BPD experience greater rejection sensitivity compared to those with few traits of BPD. In addition, individuals with greater rejection sensitivity reported greater increases in shame and panic after the rejection manipulation than individuals who are less sensitive to rejection. Individuals with greater rejection sensitivity also reported greater use of dysfunctional coping strategies.
References


Table 1

*Regression analysis for post-rejection anger with BSL-23 scores as predictor*

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<th>ΔR²</th>
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*Note. *p < .05. **p < .01. ***p < .001*
Table 2

*Regression analysis for post-rejection shame with BSL-23 scores as predictor*

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*Note. *p < .05. **p < .01. ***p < .001*
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*Regression analysis for post-rejection panic with BSL-23 scores as predictor*

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Table 4

Skills use as mediator for relationship between BPD symptoms and negative affect

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Note. *$p < .05$. **$p < .01$. ***$p < .001$
Table 5

_Dysfunctional coping as mediator for relationship between BPD symptoms and negative affect_

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*Note. *$p < .05$. **$p < .01$. ***$p < .001$*
Table 6

Comparison of regression analyses excluding and including participant in DBT

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Note. *p < .05. **p < .01. ***p < .001
Appendix A

Measures Used

Borderline Symptom List-23

The Borderline Symptom List-23 (BSL-23) is protected by copyright, so it is not reproduced in this document. This measure can be found in the following article: Bohus, M., Kleindienst, N., Limberger, M. F., Stieglitz, R., Domsalla, M., Chapman, A. L., & ... Wolf, M. (2009). The short version of the Borderline Symptom List (BSL-23): Development and initial data on psychometric properties. *Psychopathology, 42*(1), 32-39. doi:10.1159/000173701.

DBT-Ways of Coping Checklist

The DBT-Ways of Coping Checklist (DBT-WCCL) is protected by copyright, so it is not reproduced in this document. This measure can be found in the following article: Neacsiu, A. D., Rizvi, S. L., Vitaliano, P. P., Lynch, T. R., & Linehan, M. M. (2010). The dialectical behavior therapy ways of coping checklist: development and psychometric properties. *Journal of Clinical Psychology, 66*(6), 563-582. doi:10.1002/jclp.20685.

Modified NA Subscale of the PANAS

The original NA subscale of the PANAS is protected by copyright, so it is not reproduced in this document. The original measure can be found in the following article: Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063–1070. For a description of the modifications made for this study, see the Measures section of this article.

Rejection Sensitivity Questionnaire

The Rejection Sensitivity Questionnaire (RSQ) is protected by copyright, so it is not reproduced in this document. This measure can be found in the following article: Downey, G. & Feldman, S.I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology, 70*(6), 1327-1343.
Appendix B

Xavier University IRB Letter of Approval

March 15, 2016

Brianna Godfrey

Dear Ms. Godfrey:

The IRB has completed the review of your protocol #15-072, The Effect of Social Rejection on Anger, Shame, and Panic in College Students with Borderline Personality Traits using expedited review procedures. We appreciate your thorough treatment of the issues raised and your timely response. Your study is approved in the Expedited category under Federal Regulation 45CFR46.

Approval expires March 15, 2017. A progress report, available at http://www.xavier.edu/irb/forms.cfm, is due by that date. If the IRB has not received a progress report from you before MIDNIGHT on the study’s expiration date, we will AUTOMATICALLY set your study’s status to “Closed”. No further data collection is allowed at that point, and if you wish to re-commence data collection, you will be required to submit a new application, along with all relevant materials, to our office.

Although we will endeavor to send you a reminder, it is your responsibility as the researcher to ensure that your progress report and any request for an extension of data collection is submitted to our office before your approval expires.

If you wish to modify your study, including any changes to the approved Informed Consent form, it will be necessary to obtain IRB approval prior to implementing the modification. If any adverse events occur, please notify the IRB immediately.

If you have any questions, please contact the IRB office at 745-2870. We wish you success with your research!

Sincerely,

Morell E. Mullins, Jr., Ph.D.

Chair, Institutional Review Board
Xavier University

MEMO
Enclosure: stamped informed consent
Appendix C

Informed Consent

Informed Consent Information

My name is Brianna Godfrey and you are being given the opportunity to volunteer to participate in a project conducted through Xavier University.

If you decide to participate in the project, please click 'Continue' at the bottom of this page.

If you have any questions at any time during the study, you may contact Brianna Godfrey at godfreyb@xavier.edu. You may also contact my dissertation advisor, Dr. Salzman, at salzmamn@xavier.edu.

Questions about your rights as a research subject should be directed to Xavier University’s Institutional Review Board at (513)745-2870.

This study is being conducted in order to broaden the knowledge base regarding certain personality traits and how people with these traits react when they experience social rejection or exclusion.

You were invited to participate because you chose to participate in the Xavier University psychology participant pool. You chose to come to the website where this study is located. You now have the option to continue as a part of this study.

For this study, you will be required to complete demographic information and three questionnaires about your emotional experiences and reactions. You will then be required to recall a time when you felt rejected or excluded and to write about that experience. After that, you will be required to complete three additional questionnaires about your emotional experiences and reactions. You must complete all required items in order to complete the study. At the end of the study, you will be debriefed regarding the purpose of this study and given information about available resources, should you need to talk to someone.

Discomfort/Risks: This study is expected to take 20-30 minutes to complete. You will be asked to describe a time when you felt rejected or excluded. Recalling this memory may bring up some uncomfortable feelings. Because of this, information is available now and at the end of the study for resources available at XU and in the community.

Counseling Services

McGrath Health and Wellness Center
1714 Cleney Avenue
(next to the Cohen Center parking lot)
Cincinnati, OH 45207
(513) 745-3022

Psychological Services Center
3818 Winding Way
Sycamore House (next to Schmidt Fieldhouse)
Cincinnati, OH
(513) 7453531
Emergency Contacts

On-campus Police
(513) 745-1000

24 hour local suicide hotline
(513) 281-CARE (2273)

National Suicide Prevention Lifeline
1-800-273-TALK (8255)

Benefits: By participating in this study, you will be helping to broaden the knowledge base regarding social rejection/exclusion and how individuals are differentially affected by it. Your participation is greatly appreciated.

Data will be collected anonymously and therefore your answers cannot be linked to your identifying information.

For your participation in this study, you will be given half an hour of research credit for your designated course. In order to receive credit, enter your identifying information after being redirected to separate survey. This step is necessary to ensure confidentiality.

Refusal to participate in this study will have NO EFFECT ON ANY FUTURE SERVICES you may be entitled to from the University. You are FREE TO WITHDRAW FROM THE STUDY AT ANY TIME WITHOUT PENALTY.

By clicking 'Continue' below and completing this study, you agree with this statement: I have been given information about this research study and its risks and benefits and have had the opportunity to ask questions and to have my questions answered to my satisfaction. I freely give my consent to participate in this research project.

THE DATE APPROVAL STAMP ON THIS CONSENT FORM INDICATES THAT THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY XAVIER UNIVERSITY’S INSTITUTIONAL REVIEW BOARD.

APPROVED
Xavier University
Institutional Review Board
Date: 3/15/14
Appendix D

Debriefing Text

Thank you for completing this research study entitled “The Effect of Social Rejection on Anger, Shame, and Panic in College Students with Borderline Personality Traits” conducted by Brianna Godfrey. This study is being conducted in order to broaden the knowledge base regarding certain personality traits and how people with those traits react when they experience social rejection or exclusion. This study is worth 30 minutes of research credit. After you click 'continue' below, please enter your name and the name of your instructor and class in order to receive credit. A record of your participation will be sent to the Participant Pool administrator within the week. You may save and print a copy of this page for your personal records. Should you feel like you need to talk to a therapist or counselor, as a Xavier student, you have services available to you at the following locations.

Counseling Services

McGrath Health and Wellness Center
1714 Cleneay Avenue
(next to the Cohen Center parking lot)
Cincinnati, OH 45207
(513) 745-3022

Psychological Services Center
3818 Winding Way
Sycamore House (next to Schmidt Fieldhouse)
Cincinnati, OH
(513) 7453531

Emergency Contacts

On-campus Police
(513) 745-1000

24 hour local suicide hotline
(513) 281-CARE (2273)

National Suicide Prevention Lifeline
1-800-273-TALK (8255)

Please click 'Continue' in order to be redirected to a separate survey where you can enter your name and your instructor/class, in order to receive course credit.
Summary

**Title:** The Effect of Social Rejection on Anger, Shame, and Panic in College Students with Borderline Personality Traits.

**Method.** Participants included 215 college undergraduates from a Midwest university. Participants were recruited through the university’s undergraduate participant pool. Individuals included 154 females and 61 males ranging in age from 18 to 25. Participants were primarily Caucasian (77.2%) and African American (10.2%). One participant reported being diagnosed with BPD and engaging in group and individual DBT. That participant was excluded from the primary analyses. Participants completed this study online through Qualtrics. They provided demographic information first. Participants completed the Borderline Symptom List-23 (BSL-23) and a modified version of the NA scale of the PANAS. Then, they completed the Rejection Sensitivity Questionnaire (RSQ) and a rejection recall prompt, which served together as the rejection manipulation. After the rejection manipulation was completed, participants completed a modified version of the NA scale of the PANAS and the Dialectal Behavior Therapy-Ways of Coping Checklist (DBT-WCCL). Three separate linear regressions were conducted to test each of the three hypotheses that BSL-23 scores would significantly predict scores on anger, shame, and panic/acute anxiety following a rejection manipulation. It was hypothesized that individuals who reported more symptoms on the BSL-23 would also report a greater increase in anger, shame, and panic after a rejection manipulation compared to individuals with lower BSL-23 scores. Exploratory hypotheses examined the correlation between BSL-23 scores and RSQ scores, and the correlations between RSQ scores and scores post-manipulation on anger, shame, and panic portions of the NA subscale. The mediational role of skills use (DBT-WCCL) was examined between scores on the BSL-23 and NA total score. Regression analyses were repeated to include the participant engaged in DBT as part of the exploratory analyses.

**Findings.** When controlling for pre-manipulation scores, BSL-23 scores significantly predicted anger post-manipulation, $\beta = .23, p < .001$, shame post-manipulation, $\beta = .15, p < .05$, and panic post-manipulation, $\beta = .12, p < .05$. This indicates that BSL-23 scores are predictive of anger, shame, and panic after recalling an incident of rejection. Exploratory analyses showed that participants with higher scores on the BSL-23 had higher scores on the RSQ, $r = .42, p < .001$. In addition, when controlling for scores before the manipulation, individuals with higher scores on the RSQ had higher scores after the rejection manipulation on the NA subscales of shame ($r = .23, p < .001$) and panic ($r = .17, p < .01$). The DBT-WCCL subscale Dysfunctional Coping was significantly correlated with RSQ scores, $r = .21, p < .01$, meaning that individuals with higher rejection sensitivity reported greater use of dysfunctional coping strategies. When testing a mediational model, the relationship between borderline symptoms and negative affect was not significantly mediated by the Skills Use or Dysfunctional Coping subscales of the DBT-WCCL. When including the participant engaged in DBT and controlling for pre-manipulation scores, BSL-23 scores significantly predicted anger post-manipulation, $\beta = .26, p < .001$, shame post-manipulation, $\beta = .19, p < .01$, and panic post-manipulation, $\beta = .15, p < .01$. Those results also indicate that BSL-23 scores are predictive of anger, shame, and panic after recalling an incident of rejection. Researchers compared the regression analyses for results including and excluding the one participant engaged in DBT. R-square change scores for the analyses that excluded the
participant engaged in DBT were lower by .004 for panic, lower by .006 for shame, and lower by .007 for anger.

**Implications.** This study adds to the literature in two main areas. First, it supports the use of rejection manipulations that ask participants to recall their own personal experience of rejection or exclusion when real world, in vivo manipulations are not feasible. This method may also be used when researchers are not able to have participants monitor and record their daily events and reactions to current experiences of rejection. Second, this study supports previous findings that people with BPD or borderline traits experience an increase in anger and shame in response to rejection. This study also adds new information that panic/acute anxiety may increase in response to rejection for individuals with borderline traits. Anger, shame, and panic could then be targeted in treatment in relation to rejection with individuals who have BPD or traits of BPD. Exploratory analyses support previous findings that individuals with more traits of BPD experience greater rejection sensitivity compared to those with few traits of BPD. In addition, individuals with greater rejection sensitivity reported greater increases in shame and panic after the rejection manipulation than individuals who are less sensitive to rejection. Individuals with greater rejection sensitivity also reported greater use of dysfunctional coping strategies. This information can be used when selecting interventions for individuals who are sensitive to rejection and/or have traits of BPD. For example, knowing that someone is sensitive to rejection can inform a clinician that the person may lack effective coping skills. Coping skills pertaining to interpersonal situations could then be targeted in treatment.