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The Effects of Attachment Anxiety on Trait Anxiety and Borderline Personality Symptoms through Specific Pathways of Emotion Regulation

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Abstract

Previous research has shown that deficits in emotion regulation impair coping skills for individuals clinically diagnosed with generalized anxiety disorder (GAD) resembling trait anxiety, as well as those clinically diagnosed with borderline personality disorder (BPD; Herr, Rosenthal, Geiger, & Erikson, 2013; Beeney et al., 2015; Putnam & Silk, 2005; Nielsen et al., 2017; Mennin, Heimberg, Turk, & Fresco, 2002; Marganska, Gallagher, & Miranda, 2013). The current study hypothesized that (a) the specific types of emotion dysregulation measuring lack of clarity and impulsivity would mediate the relationship between attachment anxiety and BPD while the other types do not, and (b) the specific types of emotion dysregulation measuring nonacceptance of emotions, lack of strategies and lack of clarity would mediate the relationship between attachment anxiety and trait anxiety while the rest do not. Participants included 152 Western Michigan University (WMU) students over the age of 18 enrolled at WMU who were recruited from lower-level classes. The Difficulties in Emotion Regulation Scale (DERS) subscales measuring lack of clarity of emotions and lack of effective emotion regulation strategies significantly mediated the relationship between attachment anxiety and trait anxiety, as well as attachment anxiety and BPS. Results could be used to aid future clinical treatments.

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Problem Statement

Borderline Personality Disorder (BPD) and anxiety disorders can impair day to day emotional functioning of individuals (Ansell, Sanislow, McGlashan, & Grilo, 2007; Edlund et al., 2018). Anxiety disorders tend to cause intermediate impairment in emotional functioning such as experiencing tension in occupational and/or social areas due to being unable to work at a job or communicate efficiently in social interactions (American Psychiatric Association, 2013; Ansell et al., 2007; Edlund et al., 2018). BPD causes intense psychological discomfort, distress, and functional impairment including distress when socializing or handling occupational satiations (Ansell et al., 2007; Edlund et al., 2018). The level of impairment individuals with BPD experience can be equal to, if not greater than mood and anxiety disorders. Due to the detrimental impact of anxiety disorders and BPD, there is a need to identify factors related to the development and maintenance of the associated symptoms. One issue that seems to prevail with treating disorders like BPD or an anxiety disorder is the tendency to isolate each psychological disorder on its own rather than identifying and targeting common underlying processes. These underlying processes are known as transdiagnostic variables, meaning that these processes are thought to account for psychopathology at large and cut across a wide range of psychological disorders (Nolen-Hokesema & Watkins, 2011). Attachment anxiety and deficits with emotion regulation are two variables that are considered to be transdiagnostic (Meyer, Pilkonis, Proietti, Heape, & Egan, 2001; Nielsen et al., 2018; Nolen-Hokesema & Watkins, 2011) and may contribute to the development of anxiety disorders and BPD (Beeney et al., 201; Meyer et al., 200; Nielsen et al., 2017; Putnam & Silk, 2005; Sloan, Hall, Moulding, Bryce, Mildred, & Staiger, 2017).

Literature Review

The following section will review literature relevant to the current study. Sections will cover attachment anxiety, how attachment anxiety may lead to emotion dysregulation, and how BPD and anxiety disorders can potentially develop and become maintained through attachment anxiety and emotion dysregulation.

Attachment Anxiety

The degree of security one feels in a relationship and the nature of affectionate bonds has been termed as attachment (Ainsworth, 1989; Bowlby, 1982). According to Bowlby (1982), attachment is "any form of behavior that results in a person attaining or maintaining proximity to some other clearly identified individual who is conceived as better able to cope with the world" (p. 668). Because of its nature, attachment is developed in early stages of childhood and formed with the parents and/or parental figures (Ainsworth, 1989; Bowlby, 1982). If primary caretakers are responsive and accessible to an individual, then that individual is likely to develop a secure attachment style (Ainsworth, 1989). Secure attachment can be described as a child having dependence on a parent to negotiate and achieve goals, whether it be for food, attention, or emotional needs such as being soothed after an unsettling event (Ainsworth, 1989). The attachment becomes secure if the goals are successfully achieved, reinforced, and consistently repeated between the child and parent (Ainsworth, 1989). When individuals who are securely attachment experience distressing events, they are able to identify that they are upset and seek help from attachment figures accordingly with minimal trouble or excess stress (Simpson & Rholes, 2010). Securely attached individuals also feel comfortable depending on others and having others depend on them, and they do not fear abandonment (Simpson & Rholes, 2010). However, individuals can develop an insecure attachment style if their primary caregivers are not responsive during times of need. One type of insecure attachment style is called attachment

anxiety which is when individuals experience "… anxiety about losing, or becoming separated from, someone loved" (Bowlby, 1982, p. 669). It is possible that the type of attachment style developed when young with a caregiver can greatly impact relationships in the future (Bowlby, 1982; Hazan & Shaver, 1987; Sroufe & Waters, 1977; Mikulincer & Shaver, 2005). For example, someone who developed an insecure attachment with their caregiver might continue to have this attachment style in future relationships, even when these future relationships are inherently different from the relationship with their caregiver (i.e., the partner is responsive during times of need when the primary caregiver was not).

Attachment anxiety is associated with multiple aspects of psychopathology, and could lead to psychological disorders, so it can be considered a transdiagnostic variable (Beeney et al., 2015; Meyer, et al., 2001; Nielsen et al., 2018). For example, attachment anxiety has been assumed to play a role in the development of Posttraumatic Stress Disorder (PTSD; Benoit, Bouthillier, Moss, Rousseau, & Brunet, 2010), Generalized Anxiety Disorder (GAD; Marganska, Gallagher, & Miranda, 2013), depression (Marganska et al., 2013), and BPD (Beeney et al., 2015). Securely attached individuals are supposedly likely to experience fewer PTSD symptoms following the experience of a traumatic event, indicating that those with insecure attachments could experience more PTSD symptoms following the experience of a traumatic event (Benoit, et al., 2010). Further, attachment anxiety and depression as well as GAD both have issues with psychological adjustment that result in symptoms of fear and unease (Marganska et al., 2013). Namely, attachment anxiety potentially predicts future anxiety later in life (Hankin, Kassel, & Abela, 2005). Research has also shown that individuals with attachment anxiety have been reported to have a lifetime GAD diagnosis (Mickelson, Kessler & Shaver, 1997). Margankska (2013) and collogues found that individuals with attachment anxiety did indeed tend to be at risk for GAD later on in life. Attachment anxiety has also been hypothesized to lead to BPD because

of the common chronic feelings of loneliness, unstable relationships, and fear of abandonment associated with the disorder (Beeney et al., 2015). Results of Beeney's (2015) study implicated that individuals with insecure attachment did appear to later develop BPD or BPD-like symptoms. Hence, attachment anxiety can be considered a transdiagnostic variable that leads to range of psychological disorders (Beeney et al., 2015; Meyer, et al., 2001; Nielsen et al., 2018; Marganska et al., 2013; Benoit, et al., 2010; Hankin, Kassel, & Abela, 2005; Mickelson, Kessler & Shaver, 1997). It is possible that attachment anxiety leads to various psychological disorders through the pathway of emotion regulation (Benoit et al., 2010; Sloan et al., 2017; Putnam & Silk, 2005).

Attachment Anxiety Leads to Deficits in Emotion Regulation

One variable that may follow the development of attachment anxiety is emotion dysregulation (Benoit et al., 2010; Sloan et al., 2017; Putnam & Silk, 2005). Putnam and Silk (2005) have defined one model of emotion regulation, stating that emotion regulation is being equipped to "respond flexibly to the demands of [your] environment" (p. 902). Therefore, emotion *dys*regulation is the incapability to control or master affective responses to emotion-provoking events, and the inability to hone in on appropriate coping behaviors related to the given affective responses (Putnam & Silk, 2005). Another approach to emotion regulation is Gratz and Roemer's (2004) conceptual model where emotion regulation is viewed as more than the control and influence of emotional arousal; it is described as the adaptive ability to (a) be aware of and understand emotions, (b) accept emotions, (c) engage in goal-directed behavior and refrain from engaging in impulsive behavior, and (d) have access to emotion regulation strategies that are effective (Gratz & Roemer, 2004).

Several sources of literature discuss possible theories about how attachment anxiety could lead to emotion dysregulation (Putnam & Silk, 2005; Ainsworth, 1989; Bowlby, 1982;

Mikulincer, Shaver, & Pregeg, 2003; Mikulincer & Shaver, 2005). Putnam and Silk (2005) discuss that if an individual is projected to develop secure attachment, then the individual should continue with healthy emotional development. However, if the individual is projected to develop insecure/anxious attachment, then trouble with regulating emotions such as fear and anxiety could advance (Putnam & Silk, 2005). Another theory regarding the development of emotion regulation through attachment anxiety relates to a child's ability to achieve emotion-related goals, as well as perception of a parent's attention, and the emotional reaction the child feels if attention is not received (Mukulincer, Shaver, & Pereg, 2003; Mikulincer & Shaver, 2005). Since attachment anxiety is thought to be developed through inconsistent, unpredictable, and unresponsive caregivers, individuals with attachment anxiety may have goals related to obtaining attention and engagement from caregivers (Mukulincer, Shaver, & Pereg, 2003). In order to achieve those attachment related goals of attention and engagement, individuals with attachment anxiety will express negative emotions that are out of proportion and inflated (Mukulincer, Shaver, & Pereg, 2003). Consequently, these individuals develop emotion regulation deficits related to the under-control of emotions (i.e., not having control over emotions) and are likely to feel as if they are incapable regulating their own emotions without the assistance of others (Mikulincer, Shaver, & Pereg, 2003; Mikulincer & Shaver, 2005).

Existing research on attachment anxiety supports attachment theorists' claims that attachment anxiety may lead to emotion dysregulation; however, research on this temporal relation is sparse (Nielsen et al., 2017; Fossati, Gratz, Somma, Maffei & Borroni, 2016). Nielsen and colleagues (2017) discovered that individuals with attachment anxiety develop further symptoms of anxiety because of their difficulty regulation emotions (Nielsen et al., 2017; Nielsen et al., 2018). That is, attachment anxiety led to deficits with emotion regulation which put individuals at risk for further anxiety. In a different study, Nielsen and colleagues (2018)

found that individuals with attachment anxiety experienced negative emotions that related to the failure of obtaining their attachment-related goals, and therefore their inability to cope with negative emotions lead to emotion dysregulation (Nielsen et al., 2018). In addition, Fossati and colleagues (2016) found that adults with attachment anxiety tend to develop emotion dysregulation tendencies that map onto lacking awareness, acceptance, and understanding of emotions (Fossati et al., 2016).

Given there is theory and some research to support the idea that attachment anxiety leads to emotion dysregulation (Putnam & Silk, 2005; Ainsworth, 1989; Bowlby, 1982; Mikulincer, Shaver, & Pregeg, 2003; Mikulincer & Shaver, 2005; Fossati, Gratz, Somma, Maffei & Borroni, 2016), and that these two variables are transdiagnostic (Beeney et al., 2015; Meyer et al., 2001; Nielsen et al., 2018), it is possible that these two variables influence the development of psychological disorders. In particular, there may be specific temporal relationships in that attachment anxiety may lead to emotion regulation, putting individuals at risk for developing a psychological disorder. The following sections of the literature review will highlight theory and research that supports the idea that attachment anxiety can lead to different psychological disorders, (e.g. BPD and anxiety disorders) through the pathway of emotion regulation. Further arguments will be made regarding the specific pathways of emotion regulation that may account for the development of either BPD or an anxiety disorder.

The Development of BPD Through Attachment Anxiety and Specific Pathways of Emotion Dysregulation

The theory behind the development of attachment anxiety has some consistencies with the biosocial theory of BPD. As attachment theory has stated, the types of interactions infants have with their parents can determine the level and type of attachment infants develop (e.g., attachment anxiety) (Ainsworth, 1989; Bowlby, 1982). This concept of attachment growth can

be related to the biosocial theory of BPD. The biosocial theory of BPD, according to Crowell, Beauchaine and Linehan (2009), states that individuals may develop BPD based on the emotional experiences they have in their relationships and environments (i.e. the combination of invalidating environments paired with emotional vulnerability). If a child has a family history of BPD, experiences insecure attachment, or is raised in an emotionally-invalidating environment, they may be at a higher risk to develop BPD (Crowell, Beauchaine & Linehan, 2009). To put this theory in perspective, the types of environments that lead to attachment anxiety (e.g., unresponsiveness of a caregiver) may be similar to the invalidating environments thought to be associated with the development of BPD (Crowell et al., 2009). When the needs of infants are neglected and the insecure attachments established, emotion regulation deficits could form (Crowell et al., 2009). If an individual is unable to regulate his/her emotions properly, this could result in BPD (Crowell et al., 2009).

Certainly, based on the biosocial model of BPD, environmental and personal factors such as experiencing attachment anxiety and emotion dysregulation should be considered when hypothesizing the development of BPD (Crowell et al., 2009; Putnam & Silk, 2005). In other words, the connection between emotion dysregulation and BPD symptoms may not be analyzed effectively if research does not consider the occasioning factors (Putnam & Silk, 2005). For example, an individual may feel distressed about the connection he/she has with a loved one, followed by the ineptitude to regulate emotions, thus causing that pair to create BPD (Putnam & Silk, 2005). The most common emotion dysregulation deficits that those with BPD symptoms experience tend to be impulsive behaviors based on emotions, lack of control of emotions, and inability to regulate affect (Putnam & Silk, 2005).

Research supports the theory that people with insecure attachment styles tended to develop symptoms of BPD through the pathway of emotion regulation (Meyer, Pilkonis, Proietti,

Heape, & Egan, 2001). Meyer and colleagues (2001) found that insecure attachment greatly impacted the course of BPD symptoms (i.e. insecurity in relationships, impulsive behavior, poor self-image, affect instability, etc.; American Psychological Association, 2013) in a negative way, meaning that attachment styles preceded BPD symptoms. Given that the anxious attachment style and BPD have similar presentations, Meyer and colleagues (2001) also established that, while insecure attachment styles and BPD had some overlap, this overlap was small enough to consider attachment anxiety and BPD as two separate behavioral repertoires. Additionally, aspects that were considered part of attachment anxiety such as excessive dependency and compulsive care-giving did not show any overlaps with BPD, arguing that attachment anxiety is also its own entity (Meyer et al., 2001). This means that both variables are responsible in their own way for negative outcomes in life (Meyer et al., 2001). Further, the researchers concluded that indicative distress (i.e. a sign or indication that discomfort is arising) was associated with both BPD and insecure attachment (Meyer et al., 2001). Such indicative distress could be considered a form of emotion dysregulation. Difficulties with emotion regulation are generally associated with distress and argued as part of an underlying process implicated in distress (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Kring & Sloan, 2010; Pepping, O'Donovan, Zimmer-Gembeck, & Hanisch, 2014).

While some research supports the temporal relations of attachment anxiety leading to emotion dysregulation and then putting people at risk for BPD development, it is possible that specific emotion regulation deficits could account for the relationship between attachment anxiety and BPD as opposed to emotion dysregulation in general (Beeney et al., 2015; Putnam & Silk, 2005). Researchers have argued that the emotion regulation deficit of impulsivity could be strongly associated with BPD (Putnam & Silk, 2005), and the emotion regulation deficit of a lack of clarity (Beeney et al., 2015) could mediate the relationship between attachment anxiety and

BPD. However, there has not yet been a study that isolates and examines the relationship between attachment anxiety, BPD, and emotion dysregulation as a mediator. Beeney and colleagues (2015) did show that a component of emotion regulation mediated the relationship between attachment anxiety and BPD, but there were several other measures accounting for the mediating variable that collectively looked at "self-other boundaries." Additionally, there does not seem to be a study that has looked at all three variables in the specific order to determine whether the emotion regulation deficits of impulsivity and lack of clarity specifically account for the greatest variation in the relationship between attachment anxiety and BPD.

The Development of Anxiety Disorders Through Attachment Anxiety and Specific Pathways of Emotion Dysregulation

Certainly, individuals with anxiety disorders also have difficulty with emotion regulation. Individuals with anxious tendencies or GAD also have trouble accessing and understanding their emotions (similar to having emotion regulation deficits related to a lack of clarity and awareness) (Mennin, Heimberg, Turk, & Fresco, 2002). In general, individuals with anxiety tend to have deficits in understanding and regulating their worries (Mennin et al., 2002, Amstadter, 2008). Because of the common emotion dysregulation deficit for those with anxiety disorders, emotion dysregulation treatment can be beneficial for those with anxious tendencies such as having a harder time maintaining, understanding, and processing their emotions (Amstadter, 2008). Researchers have reviewed various studies all implicating that individuals with anxiety have harder times regulating their emotions (Amstadter, 2008). More specifically, those with anxiety have more difficulty maintaining, understanding, and processing their emotions (Amstadter, 2008). Because of emotional suppression and/or instability that comes with anxiety, emotion regulation can be imperative to analyze the structure (i.e. order of occurrences) in which anxious behaviors take place. This implication is substantial when considering the temporal relationship

between attachment anxiety and emotion regulation in that attachment anxiety can be developed early in an individual's life, and if this anxiety is not attended to, emotion dysregulation issues can arise, leading to anxiety disorders.

Emotion dysregulation may also be a product of attachment anxiety that could result in poor coping with anxious symptoms. In Marganska and colleagues' (2013) research, the objective was to see if emotion dysregulation would mediate the relationship between attachment anxiety and GAD, as well as the relationship between attachment anxiety and depressive symptoms. Results did show that poor emotion regulation did affect the relationship between insecure attachment and anxiety, as well as insecure attachment and depression. Furthermore, another study found that those with attachment anxiety tended to display emotion dysregulation characteristics, and thus tend to develop anxious tendencies and anxiety disorders (Mennin et al., 2002). These studies demonstrate that attachment anxiety, emotion dysregulation, and anxiety are temporally related, but replications of these findings could further solidify the need to target emotion regulation when treating anxiety-related disorders.

It is possible that specific emotion regulation deficits account for the relationship between attachment anxiety and anxiety disorders as opposed to just emotion dysregulation in general. Literature has shown that nonacceptance (Marganska et al., 2013), strategies (Nielsen et al., 2018; Nielsen at al., 2017), and clarity (Mennin et al., 2002) within emotion dysregulation account for the greatest variation in the relationship between attachment anxiety and anxiety-related disorders. The current study will replicate a similar mediation model to determine whether specific emotion regulation deficits mediate the relationship between attachment anxiety and anxiety disorders.

Current Study

Given that theory and research support that attachment anxiety leads to emotion dysregulation (Benoit et al., 2010; Bowlby, 1982; Sloan et al., 2017; Putnam & Silk, 2005; Nielsen et al., 2017) and that both of these variables are transdiagnostic (Beeney et al., 2015; Meyer et al., 2001; Nielsen et al., 2018) and could lead to different psychological disorders, this study examined two mediation models. This study aims to specify which specific components of emotion dysregulation mediate the relationships between (a) attachment anxiety and BPD, and (b) attachment anxiety and trait anxiety. If these models are significant, then practitioners may want to spend to spend more time in therapy working through attachment related issues or targeting the specific emotion regulation deficits that are maintaining the symptoms of the psychological disorder. This information may be especially helpful if therapists are strapped for time and/or resources. For example, in some settings, specific Dialectical Behavior Therapy (DBT; Linehan, 1993a, b) modules are being delivered as stand-alone treatments with the omission of other DBT modules in order to save time and resources (Dimeff & Koerner, 2007).

As stated above, in both models, attachment anxiety is hypothesized to serve as the predictor variable that would differentially lead to a specific symptomology of a disorder (i.e., anxiety symptoms or borderline personality symptoms) through a specific pathway of emotion dysregulation. Thus, two models are being hypothesized in the current study.

In the first model, it is hypothesized that the subscales on the Difficulties in Emotion Regulation Scale (DERS) measuring impulsivity and lack of clarity (Gratz & Roemer, 2004) will mediate the relationship between attachment anxiety and borderline personality symptoms, while the rest of strategies will not. These were chosen as mediators because lacking clarity to regulate emotions (interpreted as self-other boundaries) mediated the relationship between attachment anxiety and BPD symptoms in previous research (Beeney et al., 2015). In addition, research has demonstrated that connections have been drawn between impulsivity and individuals who have

attachment anxiety and BPD (Putnam & Silk, 2005). Due to the fact that the sample was a non-clinical convenience sample of undergraduate students, borderline personality symptoms (BPS) were analyzed rather than actual BPD.

For the second model, the subscales on the DERS measuring nonacceptance, strategies, and clarity within emotion dysregulation will mediate the relationship between attachment anxiety and trait anxiety (Gratz & Romer, 2004), while the rest of the strategies will not. These were chosen as mediators because previous research has found that attachment anxiety has been shown to correlate with clinical anxiety disorders (Mennin et al., 2002; Amstadter, 2008) and could also lead to less severe, but still maladaptive anxiety such as trait anxiety. Specifically, literature has noted that nonacceptance, and a lack of strategies and clarity are present in anxiety disorders (Mennin et al., 2002; Marganska et al., 2013; Nielsen et al. 2018; Nielsen et al., 2017).

Methodology

Participants

Secondary data analysis was conducted for the current study. Data was taken from a clinical psychology graduate student's thesis that consisted of data from 152 Western Michigan University (WMU) students over the age of 18 recruited from undergraduate courses. Of the 152 participants included in the sample, 75% were women, 24% men, and 1% other. Age ranged from 18 to 52 years old with the mean age being 20 (SD = 3.51). In terms of race and ethnicity, 4.6% (n = 7) of the sample identified as Asian, 19.7% (n = 30) African America, 11.8% (n = 18) Hispanic, 57.2% (n = 82) Caucasian, 1.3% Native American (n = 2), 3.6% (n = 6) Other, and 1.3% (n = 2) declined to answer the question asking about race.

Procedures

Participant recruitment was conducted in lower level courses at WMU. Students were eligible to participate as long as they were 18 years of age and enrolled at WMU. Interested

students contacted the graduate student to set up a time to meet with an undergraduate research assistant. Research assistants then met with participants at the scheduled time in a private therapy room in a psychology lab. Research assistants oriented students to a battery of self-report online questionnaires using Qualtrics. The order of the questionnaires was randomized for each participant, so as to avoid sequence effects. Because the research assistants administered and supervised the questionnaires, the original study used a cross-sectional design. Once participants completed the questionnaires, research assistants either started an optional second phase of the study, or ended participation. The current study only analyzed responses from the first phase of the original study.

Hayes (2013) boot-strapping mediation model was used to further analyze the role of emotion dysregulation in the relationship between attachment anxiety and BPS as well as attachment anxiety and trait anxiety, both measured by self-report questionnaires. Two multiple mediation models were used: One testing the possible mediation of six subscales of emotion dysregulation on attachment anxiety and BPS, and one testing the possible mediation of six subscales of emotion dysregulation on attachment anxiety and trait. Mediators were interpreted as significant if the confidence interval (CI) did not contain zero (Vine & Aldao, 2014; Hays 2013).

Materials

Experiences in Close Relationships-Revised (ECR-R). The ECR-R (Fraley, Waller, & Brennan, 2000) assesses two aspects of anxiety: Attachment and avoidance (Appendix A). This study only analyzes the results from the attachment-related anxiety, which is characterized as worrying if an individual's loved ones truly love them, and fearing abandonment. Participants are asked to rate how they typically handle their relationships on a 7-point Likert-scale ("1" being strongly disagree; "7" being strongly agree). Low scores represent high anxiety, while

high scores represent low anxiety. It should be noted that the original ECR-R writes about "romantic" relationships, while the current scale was revised to write about relationships with "others" (e.g. family, friends and peers) to take into account both platonic and romantic relationships.

Difficulties in Emotion Regulation Scale (DERS). The DERS (Gratz & Roemer, 2004) is a 36-item self-report measure that assesses clinically significant difficulties in emotion regulation (Appendix B). Participants are asked to rate their current emotional condition on a 5-point Likert-scale for each question ("1" meaning "almost never," "2" as "sometimes," "3" indicating "about half the time," "4" indicative of "most of the time" and "5" for a behavior that "almost always" occurs).

Based on Gratz & Roemer's (2004) definition of emotion regulation, six subscales were developed to represent the issues involved with emotion dysregulation: nonacceptance of emotional responses, difficulties engaging in goal-directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity. Higher scores on the DERS equate to greater emotion regulation difficulties.

State-Trait Anxiety Inventory (STAI). The STAI (Spielberger, 1983) measures state and trait anxiety (Appendix C). The State scale consists of 20 items (e.g., I feel calm, I feel nervous) where participants indicate "how you feel right now, that is, at this moment" using a 4-point Likert-scale ranging from 1 (not at all) to 4 (very much so). The Trait scale consists of the same 20 items, but instead participants are asked to express "how they generally feel." The current study only analyzes responses from the Trait anxiety portion of the survey.

Borderline Symptoms List-23 (BLS-23). The BLS-23 (Bohus et al., 2009) is an abridged version of the BLS-95 and was created to evaluate symptoms similar to those of BPD (Appendix D). The questionnaire asks participants to respond to questions referring to the past week using a

5-point Likert-scale ("0" being not at all, "4" being very strong). The questionnaire also asks participants to rate the quality of their overall personal state over the course of the past week on a scale that ranges from "0%" (absolutely down) to "100%" (excellent). Supplemental items are included to assess behaviors during the past week using a scale that ranges from "0" (not at all) to "4" (daily or more often).

Results

Attachment Anxiety, Emotion Dysregulation, and Trait Anxiety

The total indirect effect through all proposed mediators was significant; $b = 4.58$, $p < .001$, SE = .55 [1.4020, 3.0552]. The specific indirect path through DERS strategies was significant; b = 1.42, SE = .4908, [0.5632, 2.5068], such that participants with higher attachment anxiety tended to report less access to emotion regulation strategies perceived as effective, which in turn is associated with higher trait anxiety. Additionally, the specific indirect path through DERS clarity was significant; b = .53, SE = .23 [0.1746, 1.0957], such that participants with higher attachment anxiety tended to report confusion (or lack of clarity) about the emotions they are experiencing, which in turn is associated with higher trait anxiety. All other indirect paths were non-significant.

Attachment Anxiety, Emotion Dysregulation, and BSL

The total indirect effect through all proposed mediators was significant; $b = 6.47$, $p < .001$, SE = .87 [1.8696, 4.9286]. The specific indirect path through DERS strategies was significant; b = 1.86, SE = .77 [0.5326, 3.6414], such that participants with higher attachment anxiety tended to report less access to emotion regulation strategies perceived as effective, which in turn was associated with higher BSL. Additionally, the specific path through DERS clarity was significant; b = 1.12, SE = .44 [0.4395, 2.2105], such that participants with higher attachment anxiety tended to report confusion (or lack of clarity) about the emotions they are

experiencing, which in turn is associated with higher BSL. All other indirect paths were non-significant. Table 1 displays the descriptive statistics/measures' normative data, and Table 2 displays a correlation matrix. Figures 1 and 2 display the mediated results.

Table 1

Descriptive Statistics for DERS, ECR-R, BSL-23, and STAI and Normative Data

Variable	Minimum	Maximum	Sample Mean	SD	Measure Norm
DERS Nonacceptance	6.00	30.00	12.58	5.42	11.65
DERS Goals	5.00	25.00	14.94	4.46	14.41
DERS Impulse	6.00	28.00	10.90	4.53	10.82
DERS Awareness	6.00	27.00	14.62	4.90	14.34
DERS Strategies	8.00	36.00	16.70	6.60	16.16
DERS Clarity	5.00	20.00	10.80	3.70	10.61
DERS Total	43.00	142.00	80.50	22.60	77.99
ECR Attachment Anxiety	1.00	6.56	3.33	1.30	3.56
BSL Total	0.00	3.78	0.76*	0.69	2.05
STAI Trait Anxiety	23.00	74.00	42.47	10.33	34.8

Note. "*" indicates a significant deviation from the normative mean.

Table 3

Summary of Pearson-Product Moment and Spearman's Rank-Order Correlation for Study Variable

Variable	1	2	3	4	5	6	7	8	9
1. EC Attachment Anxiety	.								
2. BSL-23	.558**	.							
3. STAI Trait	.564**	.726**	.						
4. DERS Nonaccept	.336**	.498**	.553**	.					
5. DERS Goals	.307**	.451**	.458**	.433**	.				
6. DERS Impulse	.439**	.514**	.560**	.537**	.540**	.			
7. DERS Awareness	.197*	.385**	.428**	.388**	.163*	.373**	.		
8. DERS Strategies	.444**	.632**	.685**	.656**	.644**	.750**	.374**	.	
9. DERS Clarity	.337**	.564**	.571**	.481**	.343**	.477**	.560**	.515**	.
10. DERS Total	.450**	.667**	.716**	.782**	.694**	.806**	.609**	.894**	.713**

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

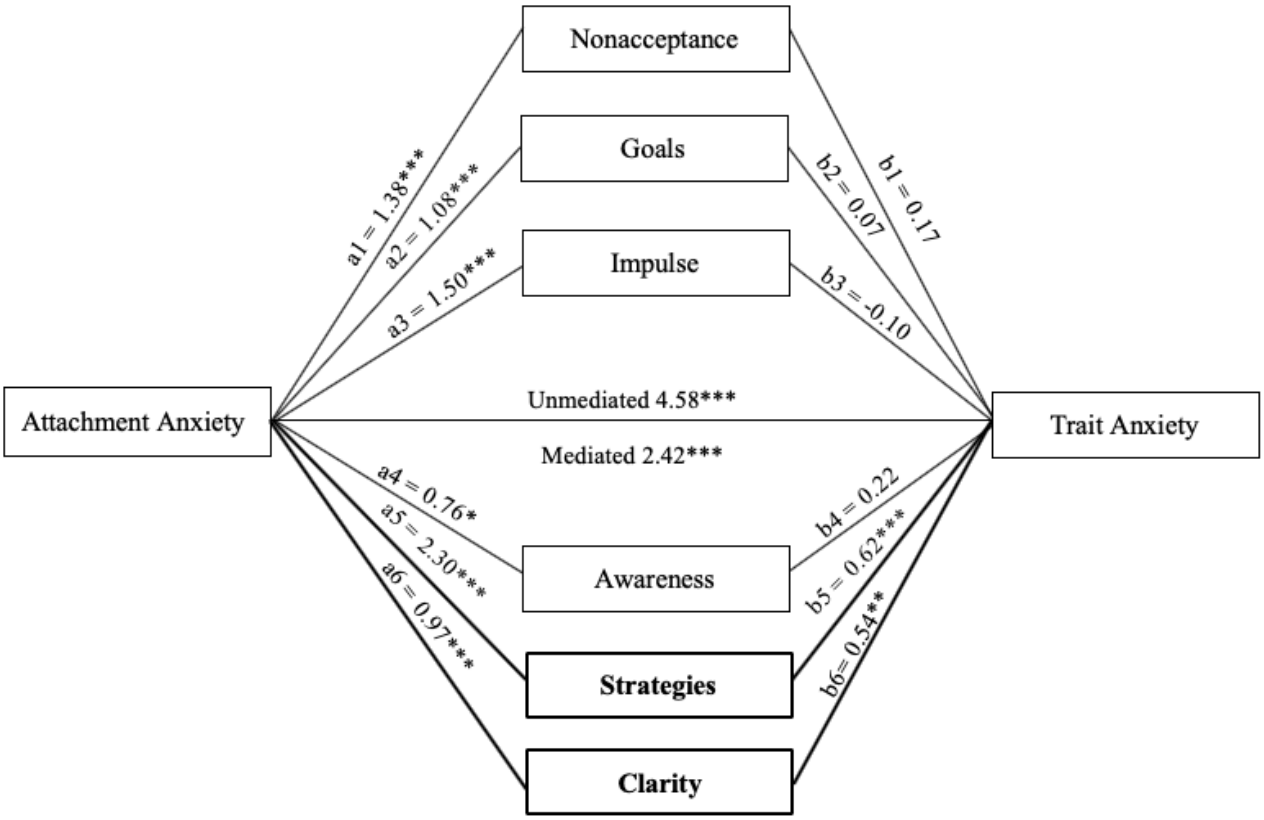

Figure 1. The multiple mediation model displaying "Strategies" and "Clarity" as the significantly mediated relationships.

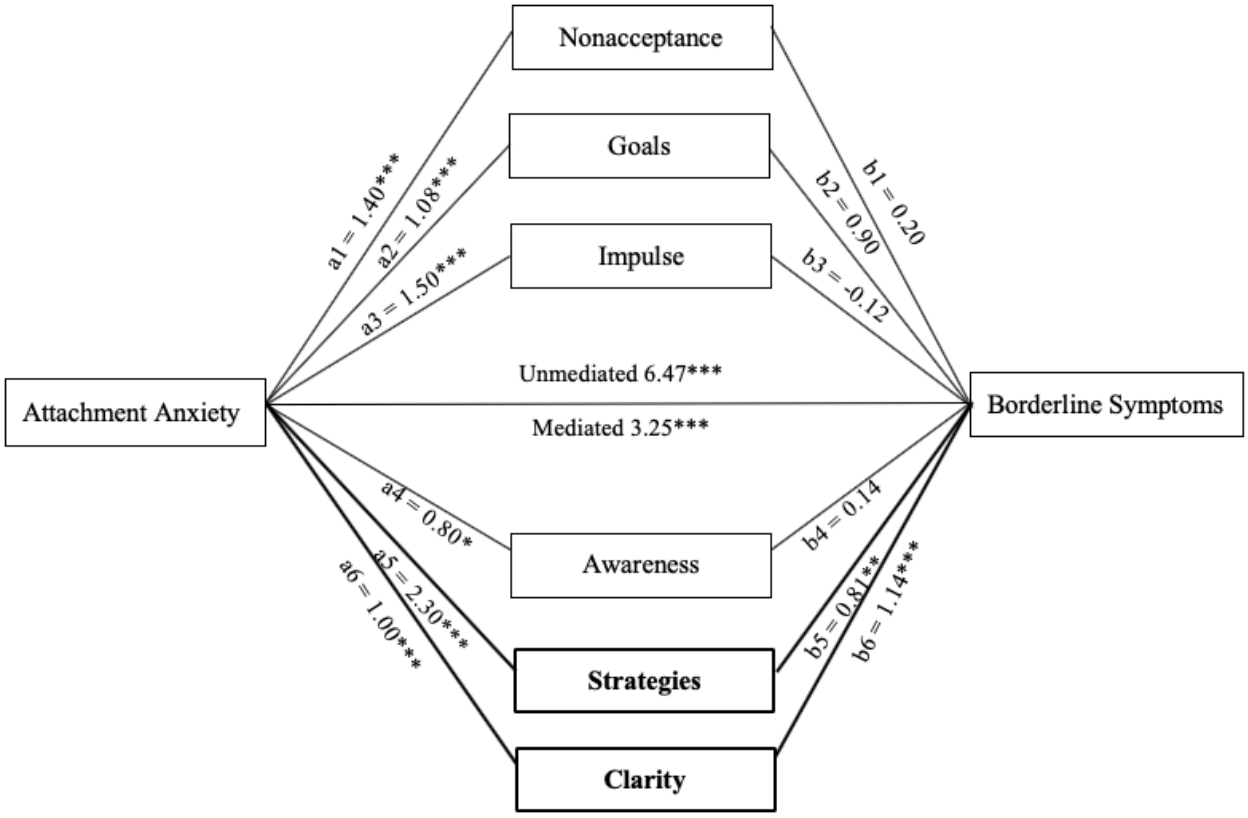

Figure 2. The multiple mediation model displaying "Strategies" and "Clarity" as the two significantly mediated relationships.

Discussion

Findings and Implications

The study looked at two hypotheses: the first being that impulsivity and lack of clarity would mediate the relationship between attachment anxiety and BPS, and the second being that nonacceptance, strategies, and clarity would mediate the relationship between attachment anxiety and trait anxiety. The first hypothesis was partially correct, as a lack of clarity did mediate the relationship between attachment anxiety and BPS, but impulsivity did not; rather, strategies did. Thus, individuals who reported higher attachment anxiety were more likely to experience lack of clarity of emotions and lack of effective emotion regulation strategies which put them at risk for

having BPS. The second hypothesis was closer to correct, as strategies and clarity did mediate the relationship between attachment anxiety and trait anxiety, while nonacceptance did not. In other words, individuals who reported higher attachment anxiety were more likely to experience lack of clarity of emotions and lack of effective emotion regulation strategies which put them at risk for having higher trait anxiety.

The findings of this study hold some similarities and departures from previous research. We did find that a lack of clarity mediated the relationship between attachment anxiety and BPS. This is consistent with Beeney and colleagues' (2015) research which found that lack of clarity, in combination with other variables (e.g., interpersonal problems), mediated the relationship between attachment anxiety and BPD. However, the current study only looked at specific emotion regulation deficits and found lack of clarity as well as lack of strategies to be significant mediators. Additionally, we found that a lack of strategies and clarity mediated the relationship between attachment anxiety and trait anxiety, which is in line with studies that show lacking clarity and strategies accounted for a great portion of the variation of the relationship between attachment anxiety and anxiety disorders (Nielsen et al., 2017; Nielsen et al., 2018; Mennin et al., 2002). The current study seems to be the only one to date that has indicated that both a lack of strategies and a lack of clarity within emotion dysregulation mediate the relationship between attachment anxiety and BPS as well as attachment anxiety and trait anxiety.

These findings may have some clinical utility. Therapist may want to consider teaching effective emotion regulation skills regarding having clarity of one's emotions as well as having access to various emotion regulation strategies. Targeting the growth of these skills could help to prevent the development of both BPD and trait anxiety as well as improve treatment outcomes for related symptoms. Also, focusing on the treatment of attachment anxiety could decrease not only the development of emotion dysregulation symptoms, but the evolution and advancement of

BPD and trait anxiety as well. An emphasis on attachment related anxiety may be especially important when DBT (Linehan, 1993), the evidence-based treatment for BPD, has a focus on teaching emotion regulation skills but not explicitly working on attachment anxiety. The same is true for trait anxiety when the evidence-based treatments for anxiety disorders such a Cognitive Behavior Therapy focus more on restructuring of thoughts instead of explicitly working through attachment anxiety.

It should be noted that for both BPS and trait anxiety, the same developmental process appears to be at play in that attachment anxiety led to lack of clarity and strategies which contributed to symptoms of these different disorders. Regarding psychopathology at large, it is possible that attachment anxiety and emotion dysregulation are important variables that underlie psychological symptoms in general. That is, it is not clear as to why such transdiagnostic variables lead to such divergent trajectories, but this is an acknowledged limitation of transdiagnostic models (Nolen-Hokesema & Watkins, 2011). These possible divergent trajectories may be due to the processes of specific symptoms being common across all disorders, while still having individual disorder-specific presentations (Klinger, 1996). The perception and outcome of the individual presentation of disorders could be a result of the way the symptoms of one disorder (e.g. BPD) may present themselves based on the current concerns of an individual which may be different than current concerns of another individual with a different symptom presentation (e.g. GAD). Another aspect to consider is the possibility that BPS are very similar to trait anxiety symptoms. Research has concluded that BPD and anxiety symptoms are highly corelated and, at times, comorbid with each other (Zanarini et al., 1998; Comtois, Cowley, Dunner, & Roy-Bryne, 1999). Based on this knowledge, it would be beneficial to further study the relationship between attachment anxiety and other disorders in terms of a transdiagnostic nature.

Limitations and Future Research

A major limitation of this study is the generalizability of the sample. A non-clinical population was used, so borderline personality *symptoms* rather than BPD were analyzed. However, the current study's hypothesis was based off of attachment anxiety and emotion dysregulation relating to individuals clinically diagnosed with BPD. Additionally, the current study analyzed literature on anxiety disorders rather than trait anxiety specifically. Suggested clinical applications of the results are cautioned. Future research may want to utilize the same surveys with clinical populations to indicate if differing DERS subscales such as nonacceptance, goals, impulsivity and awareness account for any variation in the relationship between individuals who exhibit attachment anxiety and BPD.

A second limitation that exists is the study design. Since a cross-sectional design was used, meaning that responses from participants were only gathered at a specific point in time, the temporal precedence required for mediation could not be established. Thus, the temporal relations of the variables in this study should be interpreted with caution. Future research should consider utilizing a longitudinal design with a clinical population, starting with screening for attachment anxiety in young children. Based on attachment theory, youth start exhibiting attachment anxiety around ages 1-4 years old (Bowlby, 1982; Ainsworth, 1989). Parents could be recruited from pediatric clinics or local daycare facilities if they suspect their children are exhibiting anxious tendencies relating to their relationships. Starting the monitoring of attachment anxiety as it is developing would be beneficial to determine if the temporal relationships between attachment anxiety, emotion dysregulation, and BPD and/or anxiety disorders truly develop as previous research and the current study suggest they do.

Given that the same psychopathological processes applied to different disorders, implications that attachment anxiety and emotion dysregulation have some transdiagnostic

properties are reinforced. Future researchers may want to replicate this study, but use various other psychological disorders and outcome variables to see if attachment anxiety and emotion dysregulation impact the development of other psychological disorders the same way. Others may want to consider transdiagnostic variables (such as attachment anxiety) as they relate to the development, and possibly co-morbidity or trajectory, of different disorders. The ability to specify and treat a transdiagnostic disorder may give practitioners the opportunity to work on potentially diminishing the co-morbid disorders that follow.

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Appendix A

Experiences in Close Relationships- Revised (ECR-R)

Instructions
The statements below concern how you feel in emotionally intimate relationships. We are interested in how you *generally* experience relationships, not just in what is happening in a current relationship. Respond to each statement to indicate how much you agree or disagree with the statement.
1= strongly disagree
7= strongly agree

1. I'm afraid that I will lose the love of someone close to me.
2. I often worry that people close to me will not want to stay with me.
3. I often worry that people who are close to me don't really love me.
4. I worry that the people I am close with will not care about me as much as I care about them.
5. I often wish that the feelings that people who I am close with have for me were as strong as my feelings for them.
6. I worry a lot about my relationships.
7. When someone I am close with is out of sight, I worry that he or she might become interested in someone else.
8. When I show my feelings for someone I am close with, I'm afraid they will not feel the same about me.
9. I rarely worry about someone I am close with leaving me.
10. People I am close with makes me doubt myself.
11. I do not often worry about being abandoned.
12. I find that people I am close with don't want to get as close as I would like.
13. Sometimes people I am close with change their feelings about me for no apparent reason.
14. My desire to be very close sometimes scares people away.
15. I'm afraid that once someone I am close to gets to know me better, that person won't like who I really am.
16. It makes me mad that I don't get the affection and support I need from people who are close to me.
17. I worry that I won't measure up to other people.
18. People who I am close to only seems to notice me when I'm angry.
19. I prefer not to show people I'm close to how I feel deep down.
20. I feel comfortable sharing my private thoughts and feelings with someone I am close to.
21. I find it difficult to allow myself to depend on people I'm close with.
22. I am very comfortable being close with people.
23. I don't feel comfortable opening up to people.
24. I prefer not to be too close to people.
25. I get uncomfortable when others want to be very close.
26. I find it relatively easy to get close to others.
27. It's not difficult for me to get close to others.
28. I usually discuss my problems and concerns with someone I am close with.
29. It helps to turn to someone I'm close with in times of need.
30. I tell someone I am close with just about everything.

31. I talk things over with someone I’m close with.
32. I am nervous when people get too close to me.
33. I feel comfortable depending on people I’m close with.
34. I find it easy to depend on people I’m close with.
35. It's easy for me to be affectionate with people I’m close with.
36. People I am close with really understand me and my needs.

Appendix B

Difficulties in Emotion Regulation Scale (DERS)

Response categories:

1 Almost never (0-10%)
2 Sometimes (11-35%)
3 About half the time (36-65%)
4 Most of the time (66 – 90%)
5 Almost always (91-100%)

1. I am clear about my feelings.
2. I pay attention to how I feel.
3. I experience my emotions as overwhelming and out of control.
4. I have no idea how I am feeling.
5. I have difficulty making sense out of my feelings.
6. I am attentive to my feelings.
7. I know exactly how I am feeling.
8. I care about what I am feeling.
9. I am confused about how I feel.
10. When I'm upset, I acknowledge my emotions.
11. When I'm upset, I become angry with myself for feeling that way.
12. When I'm upset, I become embarrassed for feeling that way.
13. When I'm upset, I have difficulty getting work done.
14. When I'm upset, I become out of control.
15. When I'm upset, I believe that I will remain that way for a long time.
16. When I'm upset, I believe that I'll end up feeling very depressed.
17. When I'm upset, I believe that my feelings are valid and important.
18. When I'm upset, I have difficulty focusing on other things.
19. When I'm upset, I feel out of control..
20. When I'm upset, I can still get things done.
21. When I'm upset, I feel ashamed with myself for feeling that way.
22. When I'm upset, I know that I can find a way to eventually feel better.
23. When I'm upset, I feel like I am weak.
24. When I'm upset, I feel like I can remain in control of my behaviors.
25. When I'm upset, I feel guilty for feeling that way.
26. When I'm upset, I have difficulty concentrating.
27. When I'm upset, I have difficulty controlling my behaviors.
28. When I'm upset, I believe there is nothing I can do to make myself feel better.
29. When I'm upset, I become irritated with myself for feeling that way.
30. When I'm upset, I start to feel very bad about myself.
31. When I'm upset, I believe that wallowing in it is all I can do.
32. When I'm upset, I lose control over my behaviors.
33. When I'm upset, I have difficulty thinking about anything else.
34. When I'm upset, I take time to figure out what I'm really feeling.
35. When I'm upset, it takes me a long time to feel better.
36. When I'm upset, my emotions feel overwhelming.

Appendix C

SELF-EVALUATION QUESTIONNAIRE STAI Form Y-1

Please provide the following information:

Name_____Date_____S_____

Age_____ Gender (*Circle*) **M** **F** T_____

DIRECTIONS:

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel *right* now, that is, *at this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	NOT AT ALL	SOMEWHAT	MODERATELY SO	VERY MUCH SO
1. I feel calm	1	2	3	4
2. I feel secure	1	2	3	4
3. I am tense	1	2	3	4
4. I feel strained	1	2	3	4
5. I feel at ease	1	2	3	4
6. I feel upset	1	2	3	4
7. I am presently worrying over possible misfortunes	1	2	3	4
8. I feel satisfied	1	2	3	4
9. I feel frightened	1	2	3	4
10. I feel comfortable	1	2	3	4
11. I feel self-confident	1	2	3	4
12. I feel nervous	1	2	3	4
13. I am jittery	1	2	3	4
14. I feel indecisive	1	2	3	4
15. I am relaxed	1	2	3	4
16. I feel content	1	2	3	4
17. I am worried	1	2	3	4
18. I feel confused	1	2	3	4
19. I feel steady	1	2	3	4
20. I feel pleasant	1	2	3	4

STAIP-AD Test Form Y
www.mindgarden.com

Appendix D

Borderline Symptom List 23 (BSL-23)

Code: _____ **Date:** _____

Please follow these instructions when answering the questionnaire:In the following table you will find a set of difficulties and problems which possibly describe you. Please work through the questionnaire and decide how much you suffered from each problem in the course of the last week. In case you have no feelings at all at the present moment, please answer according to how you *think you might have felt*. Please answer honestly. **All questions refer to the last week. If you felt different ways at different times in the week, give a rating for how things were for you on average.**
Please be sure to answer each question.

	In the course of last week...	not at all	a little	rather	much	very strong
1	It was hard for me to concentrate	0	1	2	3	4
2	I felt helpless	0	1	2	3	4
3	I was absent-minded and unable to remember what I was actually doing	0	1	2	3	4
4	I felt disgust	0	1	2	3	4
5	I thought of hurting myself	0	1	2	3	4
6	I didn't trust other people	0	1	2	3	4
7	I didn't believe in my right to live	0	1	2	3	4
8	I was lonely	0	1	2	3	4
9	I experienced stressful inner tension	0	1	2	3	4
10	I had images that I was very much afraid of	0	1	2	3	4
11	I hated myself	0	1	2	3	4
12	I wanted to punish myself	0	1	2	3	4
13	I suffered from shame	0	1	2	3	4
14	My mood rapidly cycled in terms of anxiety, anger, and depression	0	1	2	3	4
15	I suffered from voices and noises from inside or outside my head	0	1	2	3	4
16	Criticism had a devastating effect on me	0	1	2	3	4
17	I felt vulnerable	0	1	2	3	4
18	The idea of death had a certain fascination for me	0	1	2	3	4
19	Everything seemed senseless to me	0	1	2	3	4
20	I was afraid of losing control	0	1	2	3	4
21	I felt disgusted by myself	0	1	2	3	4
22	I felt as if I was far away from myself	0	1	2	3	4
23	I felt worthless	0	1	2	3	4

Now we would like to know in addition the quality of your **overall** personal state in the course of the last week. 0% means **absolutely down**, 100% means **excellent**. Please check the percentage which comes closest.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
(very bad) ◄									►	(excellent)

BSL - Supplement: Items for Assessing Behavior

	During the last week.....	Not at all	once	2-3 times	4-6 times	Daily or more often
1	I hurt myself by cutting, burning, strangling, headbanging etc.	0	1	2	3	4
2	I told other people that I was going to kill myself	0	1	2	3	4
3	I tried to commit suicide	0	1	2	3	4
4	I had episodes of binge eating	0	1	2	3	4
5	I induced vomiting	0	1	2	3	4
6	I displayed high-risk behavior by knowingly driving too fast, running around on the roofs of high buildings, balancing on bridges, etc.	0	1	2	3	4
7	I got drunk	0	1	2	3	4
8	I took drugs	0	1	2	3	4
9	I took medication that had not been prescribed or if had been prescribed, I took more than the prescribed dose	0	1	2	3	4
10	I had outbreaks of uncontrolled anger or physically attacked others	0	1	2	3	4
11	I had uncontrollable sexual encounters of which I was later ashamed or which made me angry.	0	1	2	3	4

Please double-check for missing answers

WE THANK YOU VERY MUCH FOR YOUR PARTICIPATION!
PLEASE RETURN THE QUESTIONNAIRE TO YOUR THERAPIST