ABSTRACT

Title of Document: MECHANISMS UNDERLYING DIFFICULTIES IN INTIMATE RELATIONSHIPS IN BORDERLINE PERSONALITY DISORDER: THE ROLES OF FEAR OF POSITIVE EVALUATION AND FEAR OF ABANDONMENT

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Psychology

Borderline personality disorder (BPD) is a chronic and severe disorder, and leading researchers concur that difficulties within intimate relationships are a central problem within the disorder (e.g., Gunderson, 1996; Linehan, 1993). The focus of the proposed investigation is to uncover novel mechanisms that may underlie these difficulties. It was hypothesized that there would be a significant relationship between BPD symptomatology and difficulties with intimate relationships in an undergraduate sample. Further, it was hypothesized that this relationship would be mediated by the fear of positive evaluation (FPE), which was previously only studied in social anxiety disorder (e.g., Weeks, Heimberg, & Rodebaugh, 2008; Weeks, Heimberg, Rodebaugh, & Norton, 2008) and the fear of abandonment. Many aspects of the initial predictions were supported. Specifically, BPD symptoms, FPE, and fear of abandonment were all found to significantly predict difficulties within intimate relationships, as operationalized by fear of intimacy score, even when controlling for

theoretically relevant variables (symptoms of depression, anxiety, and stress; fear of negative evaluation; and social anxiety). These findings are important because they illustrate that, even at the sub-clinical level observed in this undergraduate sample, BPD symptoms are related to impaired intimate relationship functioning. Support was not found for the hypothesis that BPD symptoms would contribute uniquely to FPE. Instead, BPD symptoms were not found to impact FPE once social anxiety was taken into account, a finding that is in accordance with the strong association between social anxiety and FPE that has been documented in the literature (e.g., Weeks, Heimberg, & Rodebaugh, 2008; Weeks, Heimberg, et al., 2008). Therefore, it may be hypothesized that the link between fear of praise and BPD that has been observed in the theoretical literature may be primarily due to the high concordance rates between BPD and social anxiety. Further, it was found that fear of abandonment mediated the relationship between BPD symptoms and fear of intimacy. Thus, among individuals with heightened symptoms of BPD, the fear of possibly being abandoned may cause a more general fear of intimate relationships, leading to conflict within intimate relationships and avoidance of intimacy. Clinical implications of this finding are discussed.

MECHANISMS UNDERLYING DIFFICULTIES IN INTIMATE RELATIONSHIPS IN BORDERLINE PERSONALITY DISORDER: THE ROLES OF FEAR OF POSITIVE EVALUATION AND FEAR OF ABANDONMENT

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Dedication

To my husband for his love and support.

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Chapter 1: Background and Literature Review

Proposed Investigation

Borderline personality disorder (BPD) is a chronic and severe disorder, characterized by difficulties across a number of domains, including high rates of suicidality, emotional dysregulation, impulsivity, volatile interpersonal relationships, and deliberate self-harm (Fonagy et al., 1996; Gunderson, 1996; Linehan, 1993; Melges & Swartz, 1989; McGlashan, 1986; Skodol, Siever, et al., 2002; Zanarini, Gunderson, Frankenberg, & Chauncey, 1990).[1] Linehan's (1993) widely accepted biopsychosocial theory of BPD proposes that the disorder arises from an innate temperament-based emotional vulnerability and an invalidating childhood environment.[2] Leading researchers concur that difficulties within intimate relationships are a central problem within BPD (e.g., Gunderson, 1996; Linehan, 1993).[3] The focus of the proposed investigation is to uncover novel mechanisms that may underlie these difficulties. In particular, the current study aims to investigate whether fear of positive evaluation and fear of abandonment mediate the relationship between BPD symptomatology and difficulties within intimate relationships.

[1] For a more detailed discussion of BPD, see Appendix A.
[2] For a more detailed discussion of Linehan's (1993) model, see Appendix B.

Intimate Relationship Difficulties in BPD

Intimacy is considered to be an essential component of healthy relationships, and is theorized to be comprised of love and affection, personal validation, trust, and self-disclosure (Berscheid, 1985). Difficulties with intimate relationships across all of these domains have been demonstrated to be associated with BPD in both the clinical and empirical literatures.

Gunderson (1984) rated "intense, unstable interpersonal relationships" to be the most important identifying criterion for BPD, and interpersonal instability, or the tendency of those with BPD to vacillate between extremes of idealization and devaluation in intimate relationships, is considered a key characteristic of BPD by other researchers as well (e.g., Agrawal, Gunderson, Holmes, & Lyons-Ruth, 2004; Linehan, 1993). Empirical support for this tendency towards mood variability was found by Russell, Moskowitz, Zuroff, Sookman, and Paris (2007), who found that individuals with BPD, as compared to nonclinical controls, tended to show greater variability in overall affect and pleasantly-valenced affect, as well as more variability in agreeable, dominant, and quarrelsome behaviors. Since trust and expressed affection are two important components of intimacy (Berscheid, 1985; Rempel, Holmes, & Zanna, 1985), it is likely that the tendency to vacillate unpredictably between extremes and to denigrate one's partner when the partner has to leave for any reason would interfere with trust and expressed affection. This would be hypothesized to occur because a partner may find it difficult to trust and feel close to an individual whose mood is unstable and who tends to devalue the partner. Theoretical support for this can be drawn from Linehan's (1993) observation that

therapists often react with rage towards a confluence of behaviors often seen in BPD clients (including denigration of the therapist; threats to commit suicide if the therapist "makes the slightest misstep;" and unwanted, frequent phone calls). When faced with these behaviors, it is likely that a partner would feel a similar level of rage. Additionally, variability of affect and of behavior may reduce intimacy within relationships. This would be hypothesized from Rempel and colleagues' 1985 finding that individuals' levels of predictability and dependability allow their partners to have faith that they know how the individuals will act in stressful situations in the future (Rempel, et al., 1985).

Further empirical evidence that BPD is related to difficulties in intimate relationships comes from findings that individuals with BPD are less likely to marry and experience more significant breakups of important relationships than individuals without BPD (Labonte & Paris, 1993; Schwartz, Blazer, George, & Winfield, 1990). Additionally, although their study did not focus only on BPD, Chen and colleagues (2004) conducted a longitudinal study that found that adolescents with Cluster B personality disorders at a mean age of 16 were more likely to have conflict with romantic partners during the transition to adulthood (i.e., age 17 to 27). Within this study, BPD symptoms were found to be associated with sustained elevations in partner conflict, even when controlling for symptoms of other personality disorders. Furthermore, in Skodol and colleagues' (2005) review of the six-year follow-up findings of the prospective Collaborative Longitudinal Personality Disorders Study (CLPS; Gunderson et al., 2000), it was demonstrated that patients with BPD exhibited significantly more impairment in social relationships than patients with either

Obsessive-Compulsive Personality Disorder or Major Depressive Disorder. In research on sub-clinical levels of BPD, a prospective study by Trull, Useda, Conforti, and Doan (1997) found increased self-reported interpersonal dysfunction and distress in college students with elevated BPD symptomatology as compared with controls.

Taxometric work also supports the existence of intimate relationship difficulties within BPD. Leihener and colleagues (2003) proposed two trait-like, stable, non-overlapping patterns of interpersonal difficulties in individuals with BPD: the "autonomous" subtype, which is characterized by behavior that is controlling, self-centered, vindictive and emotionally cold, and the "dependent" subtype, characterized by behaviors that are excessively accommodating and submissive. These subtypes have since been supported empirically (Ryan & Shean, 2006). Ryan and Shean (2006) also demonstrated that the autonomous subtype of BPD was associated with lack of intimacy. Further corroboration for the relationship between this emotionally cold subtype and lack of intimacy comes from evidence that warmth has been found to be related to intimacy (Brunell, Pilkington, & Webster, 2007), so its absence would likely limit intimacy. Additionally, submissive behaviors have been found to be associated with interpersonal problems and distress about interpersonal relationships (Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988), which may suggest that the "dependent" subtype may also exhibit impairment within intimate relationships.

Other research also shows that individuals with BPD may exhibit certain interpersonal behaviors that would likely lead to decreased intimacy within the context of a relationship. For example, Hobson, Patrick, and Valentine (1998)

demonstrated that patients with BPD related to clinical interviewers in ways that were rated as showing paranoid-schizoid characteristics (e.g., hostility, idealization, and denigration) by therapists reviewing these videotaped interviews. Fonagy and Bateman (2006) hypothesized that individuals with BPD are less able to accurately perceive the mental states of others within intimate relationships; this would likely lead to decreased intimacy, as empathy is a key feature of intimacy (Dandeneau & Johnson, 1994; Reis & Shaver, 1988). Additionally, the fear of dependency that is characteristic of many individuals with BPD (Agrawal, et al., 2004) may limit the ability to be intimate with a significant other. Relatedly, research suggests that individuals with BPD are afraid of either extreme of interpersonal closeness: abandonment on one hand and engulfment/domination on the other (Melges & Swartz, 1989). Thus, as a significant other moves closer, the individual with BPD moves away, and when a significant other becomes angry or frustrated with the individual and disengages, the individual with BPD may try to maintain contact. This lack of attunement with a significant other's cues is likely associated with decreased intimacy within relationships.

In rejection sensitivity research, Meyer, Ajchenbrenner, and Bowles (2005) demonstrated a significant association between BPD symptoms and rejection sensitivity, as assessed by the Rejection Sensitivity Questionnaire (Downey & Feldman, 1996). Similarly, Zeigler-Hill and Abraham (2006) used an experience-sampling procedure, in which participants completed questionnaire measures daily for one week, to show that increased levels of perceived rejection in response to daily interpersonal stress were directly related to greater levels of BPD symptomatology.

Rejection sensitivity may limit the ability of individuals with BPD to maintain a satisfying intimate relationship, as empirical evidence demonstrates that rejection sensitivity is associated with decreased relationship satisfaction for both rejection-sensitive individuals and their partners (Downey & Feldman, 1996).

Lastly, Linehan (1993) hypothesized that individuals with BPD are less able to identify, trust, and express their emotions, due to a learning history of having their emotions invalidated by their families. Fruzzetti, Sherk, and Hofmann (2005) called this pattern of learning to dismiss the value and worth of one's own emotions "self-invalidation," and stated that, within BPD, self-invalidation would prevent the development of stable, reciprocal relationships. Specifically, the authors hypothesized that individuals who are unaware of how to label and deal with emotions would likely be perceived as unpredictable and chaotic by their partners.

Difficulties in intimate relationships are such a pervasive and severe problem in BPD that it is essential to investigate possible mechanisms and explanatory factors for this difficulty in order to uncover potential targets for change within therapy. Therefore, the current study proposed to examine the contribution of fear of abandonment and fear of positive evaluation as mechanisms in the difficulties within intimate relationships that are observed in individuals with BPD.

BPD and Fear of Abandonment

A great deal of evidence shows that fear of abandonment and intolerance of aloneness are characteristic of individuals with BPD. In discussing the "intolerance of aloneness" displayed by individuals with BPD, Gunderson (1996) suggested that the fear of abandonment is central to the myriad interpersonal difficulties displayed by

individuals with BPD. In response to threats of abandonment by an attachment figure (e.g., significant other, therapist), clinical and empirical observations indicate that individuals with BPD often react with anger, devaluation of the attachment figure, panic, self-destructive behaviors (e.g., deliberate self-harm, substance abuse), suicide attempts or threats, and sometimes quasi-psychotic symptoms of a sense of unreality or dissociation from the present (Brodsky, Groves, Oquendo, Mann, & Stanley, 2006; Gunderson, 1984; 1996; Linehan, 1993). Linehan (1993) discussed that therapists often react with anger when confronted with these behaviors in clients with BPD, and it is likely that partners react similarly.

Further evidence that fear of abandonment is characteristic of BPD comes from Gunderson's (1996) work showing that the patterns of difficulties in intimate relationships in BPD parallel those of an infant exhibiting an insecure-preoccupied attachment style. Both interaction patterns are typified by of fear of abandonment, intolerance of aloneness, and hypervigilance about the whereabouts of the caregiver, which corresponds in adulthood to the partner or therapist. Gunderson (2001) hypothesizes that a hypersensitive attachment system is characteristic of BPD, and can explain the rapid progression from acquaintance to intimacy and the oscillation between idealization and devaluation that are defining features of BPD.

Fear of Positive Evaluation

Currently, the majority of the research on fear of evaluation, both positive and negative, has been conducted in the area of social anxiety disorder. Fear of negative evaluation has long been considered a core feature of social anxiety (see Rapee & Heimberg, 1997). This refers to a tendency to overestimate the likelihood and

consequences of negative evaluation by others, and is shown to be higher in individuals with social anxiety than in individuals without this disorder. Fear of negative evaluation can be hypothesized to lead to interpersonal difficulties for individuals with social anxiety; since individuals with social anxiety create mental representations of themselves that are biased toward negative qualities, they become anxious when dealing with others, who they assume will view them negatively as well (Rapee & Heimberg, 1997).

In a related line of research, Weeks and colleagues have begun to investigate the existence of fear of positive evaluation, particularly as it relates to social anxiety (Weeks, Heimberg, & Rodebaugh, 2008; Weeks, Heimberg, Rodebaugh, & Norton, 2008). Weeks, Heimberg, Rodebaugh, and Norton (2008) hypothesized that current cognitive-behavioral conceptualizations of social anxiety may have overlooked the possibility that individuals with social anxiety may fear *any* type of evaluation by others, and may therefore experience fear of positive evaluation in addition to simply negative evaluation. Consistent with this conceptualization, Weeks et al. (2006) found that fear of positive evaluation was significantly related to fear of negative evaluation in an undergraduate sample, and that fear of positive evaluation accounted for unique variance in social interaction anxiety above and beyond fear of negative evaluation. Furthermore, Weeks, Heimberg, Rodebaugh, and Norton (2008) found that fear of positive evaluation was associated with discomfort when receiving positive feedback from a confederate.

The conceptualization of fear of positive evaluation as a core feature of social anxiety fits well into evolutionary models of the etiology and function of social

anxiety (e.g., Gilbert, 2001). According to Gilbert (2001), in early human history, fearing negative evaluation was extremely useful. Being vigilant about one's position within the social hierarchy of a group was a matter of life of death, since being disliked or left out of one's group sharply decreased the odds of survival. Gilbert's model also accounts for the "fear of doing well" that is observed in social anxiety. He hypothesized that, in addition to being afraid of decreases in social rank within a group, it was adaptable for individuals to be wary of increases in social rank, which may spark conflict with more dominant group members. Additionally, individuals may fear that they would not later be able to defend their increased social position in the future. Empirical findings have supported Gilbert's theory. For example, Wallace and Alden (1997) found that socially anxious individuals who engaged in a successful and positively evaluated social encounter reported an increase in the quality of the social behavior they thought their partner would expect of them in the future, but the success did not increase their own perceptions of their social ability. Therefore, a social success which garnered praise actually made socially anxious participants more anxious in the long run about future encounters, since now they expected a disparity to exist between the performance expected of them and the performance they could deliver.

In prior work, fear of positive evaluation has primarily been discussed as it applies to social anxiety disorder. However, given the interpersonal difficulties experienced by individuals with BPD, it can be hypothesized that fear of positive evaluation may also be relevant to this population. As there is no extant research on

fear of positive evaluation in BPD, a theoretical discussion of the ways that fear of positive evaluation may be relevant to BPD is provided below.

Fear of Positive Evaluation and BPD

Although fear of positive evaluation has thus far been investigated only in social anxiety, there is evidence from both clinical observation and theoretical literature that this construct may be characteristic of BPD as well. For example, Linehan (1993) hypothesized that individuals with BPD may fear positive evaluation because, if they appear to be doing well in treatment or in daily life, therapists or significant others will assume they no longer need close care, supervision, or treatment, and may even terminate therapy or the relationship. This hypothesis may explain the self-defeating tendencies often observed in individuals with BPD, and their propensity for undermining themselves right before they are likely to achieve a goal (e.g., Dowson, 1994; Wolberg, 1983). It is possible that fear of positive evaluation may underlie these observed self-defeating tendencies in BPD; if individuals with BPD receive positive evaluation for progressing towards a goal, they may fear others considering them self-sufficient enough to be abandoned. Thus, goals would be sabotaged in order to prevent abandonment from occurring.

Despite the theoretical relevance of fear of positive evaluation to BPD, no empirical studies thus far have explored this construct in BPD, or the underlying mechanisms underlying the proposed relationship between fear of positive evaluation and BPD. One mechanism that may hold promise is the fear of abandonment.

Fear of Abandonment as a Mediator of the Relationship between Fear of Positive Evaluation and Difficulties within Intimate Relationships

Linehan's (1993) model of the etiology of BPD suggests that fear of abandonment may be a mediator of the relationship between fear of positive evaluation and difficulties within intimate relationships. As fear of abandonment is a hallmark of BPD, clients with BPD may fear positive evaluation because it signifies that the individual will no longer be thought to require the support of others, and that abandonment may be imminent. Praise that signifies impending abandonment would be particularly terrifying for individuals with BPD if they feel that their adaptive, positively evaluated behaviors are emotional-state-dependent and uncontrollable; this is consistent with Linehan's (1993) hypothesis that individuals with BPD perceive their emotional states as constantly changing outside of their control, and they believe that they can only display certain behaviors while experiencing certain emotional states. It follows that individuals with BPD could assume that even if they are currently functioning at a high level, they would inevitably return to their prior level of maladaptive functioning if they were to experience the stressor of abandonment.

Fear of Abandonment as a Mediator of the Relationship between BPD and Difficulties in Intimate Relationships

As discussed previously, evidence from the BPD literature suggests that, when faced with possible abandonment by a significant individual in their lives, individuals with BPD often react with anger, devaluation of the significant other, panic, self-destructive behaviors, suicide attempts or threats, and sometimes a sense of unreality or dissociation from the present (Brodsky, Groves, Oquendo, Mann, &

Stanley, 2006; Gunderson, 1984; 1996; Linehan, 1993). Such behaviors are hypothesized to lead to diminished levels of intimacy within relationships, as significant others may feel hurt and frightened by such behaviors.

Fear of Positive Evaluation and Difficulties within Intimate Relationships

There currently exists no empirical research on whether fear of positive evaluation contributes to impaired intimate relationships. However, there are many theoretically-based reasons that fear of positive evaluation could lead to such interpersonal difficulties. Research on correlates of fear of positive evaluation provides a good starting point to examine possible reasons why fear of positive evaluation may relate to difficulties in intimate relationships. For example, fear of positive evaluation has been shown to be related to social interaction anxiety (Weeks, Heimberg, Rodebaugh, & Norton, 2008), which may limit opportunities to become intimate with others. Additionally, fear of positive evaluation has been shown to correlate with submissive behaviors, as measured by the Submissive Behavior Scale (SBS; Gilbert & Allan, 1994). As submissive behaviors have been found to be associated with interpersonal problems and distress about interpersonal relationships (Horowitz, et al., 1988), this may suggest that those who exhibit increased submissive behaviors may also evidence impairment within intimate relationships.

It is also helpful to utilize research on components of intimacy to understand how fear of positive evaluation may impact intimate relationship functioning. Intimacy is considered to be an essential component of healthy relationships, and is theorized to be comprised of love and affection, trust, personal validation, and self-disclosure (Berscheid, 1985; Dandeneau & Johnson, 1994; Descutner & Thelen,

1991; Levine, 1991; Sternberg, 1997). Theoretically, fear of positive evaluation may have a deleterious impact on each of these components. First, it may be possible that individuals with high levels of fear of positive evaluation may limit loving behaviors within relationships, in order to prevent the possibility of praise from their significant other. As loving and affectionate behaviors are a central component of intimacy, this would impair intimate relationship functioning. Next, if individuals with BPD fear positive evaluation, they may dismiss or refute positive feedback within relationships. Such dismissal may imply to a partner that the partner's assessments and opinions cannot be trusted (Swann & Bosson, 1999). Relatedly, individuals with high fear of positive evaluation have been shown to exhibit decreased perceived accuracy of positive feedback (Weeks, Heimberg, Rodebaugh, & Norton, 2008), which may mean that they do not trust partners' positive feedback. Such indicators of a lack of trust would likely diminish intimacy, as trust is a central component of intimacy as well as of commitment (Berscheid, 1985; Rempel, Holmes, & Zanna, 1985; Wieselquist, Rusbult, Foster, & Agnew, 1999). Additionally, personal validation is a major component of intimacy and satisfaction within relationships (Berscheid, 1985; Descutner & Thelen, 1991; Sternberg, 1997; Verhofstadt, Buysse, Ickes, De Clerq, & Peen, 2005), and this refers to a significant other conveying love, acceptance, and approval. Individuals with high levels of fear of positive evaluation may not be able to experience personal validation within intimate relationships, as they have been found to feel discomfort when receiving positive feedback (Weeks, Heimberg, Rodebaugh, & Norton, 2008). If this discomfort is perceived by their partners, this may also decrease partners' likelihood of continuing to validate them in the future,

and further decrease partners' tendency to engage in loving behaviors, which, as discussed above, is another important part of intimacy. Lastly, self disclosure is directly related to intimacy (Berscheid, 1985; Levine, 1991), and individuals with high fear of positive evaluation may not be able to fully engage in self-disclosure, because they may not want to openly discuss their achievements or positive behaviors. This lack of self disclosure would, in turn, likely have a negative effect on intimacy.

It is evident that there is a range of ways in which fear of positive evaluation could potentially have a negative interpersonal effect. Therefore, the current study aims to investigate the impact of fear of positive evaluation on functioning within intimate relationships.

Overview of the Present Study

Theoretical Model and Hypotheses

As discussed above, the present study aims to provide the first evidence of the relevance of fear of positive evaluation to BPD and to elucidate the role of this construct in the maladaptive functioning within intimate relationships that is characteristic of the disorder. In addition, this study aims to assess the impact of fear of abandonment as a potentially relevant mechanism underlying the proposed relationship between fear of positive evaluation and BPD symptomatology. Specifically, as outlined above, three hypotheses were tested in order to explore the potential mediators of the proposed relationship between BPD symptoms and difficulties within intimate relationships. The hypotheses, shown in one model in Figure 1 in Appendix C, were that: (a) fear of positive evaluation would mediate the

relationship between BPD and difficulties with intimacy, (b) fear of abandonment would mediate the relationship between BPD and fear of positive evaluation, and (c) fear of abandonment would directly mediate the relationship between BPD and difficulties with intimacy (without FPE playing a role).

Implicit Measurement of Constructs

Evidence exists that personality-level variables can be held outside of conscious attention and that individuals may exhibit a positive bias when self-reporting about their traits (e.g., Greenwald & Banaji, 1995). Therefore, many researchers have found that implicit measures may provide a more accurate assessment of attitudes, beliefs, and cognitions than do self-report measures (e.g., Greenwald, et al., 2002; Greenwald & Banaji, 1995). Additionally, emotional states are particularly susceptible to self-report bias; if highly emotionally dysregulated individuals are asked to report on their emotion states, they may be unable to do so accurately (Tull, Bornovalova, Patterson, Hopko, & Lejuez, in press). Therefore, as the current study is focused on topics which may cause emotional distress, such as the fear of being abandoned, implicit measures were included in order to potentially provide a more objective assessment of constructs than self-report measures.

The Implicit Association Task (IAT; Greenwald, McGhee, & Schwartz, 1998), a computer task that measures participants' implicitly held associations between a target word and an attribute word in order to assess attitudes, will be used in the current study as an implicit measure of fear of positive evaluation and fear of abandonment. The IAT will be fully explained in "Measures."

Chapter 2: Method

Sample Characteristics

Participants for this study were 210 college students at the University of Maryland at College Park. They were 75.6% female, and ranged in age from 18 to 39 (one participant was a 39 year old senior who did not differ from the rest of the sample on any crucial variables and the next closest age was 25) with a mean age of 20.01 (*SD* = 2.07). The majority of students were undergraduates (26.5% freshmen, 16.1% sophomores, 24.1% juniors, 14.9% seniors), with 1.6% graduate students and 1 participant (.4%) who did not provide his/her year in school. On a demographics questionnaire, 61.4% of participants identified as Caucasian, 13.3% as Asian/Southeast Asian, 9.2% as Black/African-American, 5.6% as Hispanic/Latino, and 4.4% affiliated as "Other." This is fairly representative of the ethnic breakdown of the undergraduate student body at the University of Maryland, which in Fall 2007 was 56.5% Caucasian, 14% Asian, 13% Black, and 5.8% Hispanic (*Who's on campus*, 2007). However, the university undergraduate population is 48.3% female, versus the 75.6% obtained in this sample; females were overrepresented due to the study's recruitment in heavily female psychology classes. The majority of participants were single (77.9%), 4.8% were living with a partner, 1.2% were married, and .4 (1 participant) were married but separated. The reported annual income of the households in which participants were raised was $79,078 (*SD* = $30,458). However, as discussed later in "Primary Analyses," this income variable

exhibited a significant skew. As this limited the interpretability of the mean and standard deviation, income was therefore transformed into a dichotomous variable.

Procedures

Recruitment

Participants were recruited from undergraduate psychology courses and awarded class credit for participating in the study. They were informed that the study examined the ways in which different emotions and personality traits affect functioning within intimate relationships. The only exclusion criterion was the inability to provide informed consent, and no interested participants were excluded.

Laboratory session

Interested participants signed up for a time to come into the laboratory through the Experimetrix system or by contacting S. Rodman via email. Upon arrival, participants provided written informed consent. Next, the principal investigator conducted a brief clinical interview using the BPD module of the Diagnostic Interview for Personality Disorders (DIPD-IV; described below in "Measures"). Participants then completed a battery of questionnaires (described below). Upon completion, participants were given a laptop computer upon which they completed two implicit association tasks (see below for a description of these tasks). Lastly, participants were debriefed as to the purpose of the study. Specifically, the experimenter stated that the study was designed to assess the ways that symptoms of Borderline Personality Disorder, such as mood instability, impulsivity, and difficulties with anger management, affect functioning within intimate relationships,

and whether this relationship could be mediated by the fears of positive evaluation and/or abandonment. The debriefing handout included the experimenter's and her advisor's contact information in case participants had further questions about the study, as well as contact information for mental health services on campus and in the greater DC metropolitan area. Participation in the study took approximately 90 minutes.

Chapter 3: Measures

The IAT tasks were conducted at the end of the session, so that any induced negative mood could not artificially inflate scores on mood measures. The presentation of the two IAT tasks was counter-balanced. All self-report measures are in Appendix C.

Demographic Variables

Participants provided basic demographic information including age, year in college, gender, sexual orientation, occupation, socioeconomic status, race/ethnicity, and living arrangement. These variables were included so that they could be included into the models if they showed significant associations with the target variables, in order to control for their effect.

Key Measures

The *Borderline Evaluation of Severity over Time* (BEST; Pfohl & Blum, 1997) is a 15-item self-report measure that assesses the degree of impairment experienced due to each of eight BPD-relevant thoughts and feelings (e.g., "Worrying that someone important in your life is tired of you or is planning to leave you") and four BPD-relevant negative behaviors (e.g., "Purposely doing something to injure yourself or making a suicide attempt") over the past 30 days, as well as the frequency of three BPD-relevant positive behaviors (e.g., "choosing to use a positive activity in circumstances where you felt tempted to do something destructive or self-defeating") over the same time period. Degree of impairment for the first 12 thoughts and feelings and negative behavior questions is rated on a five-point Likert scale ranging

from 1 (none/slight) to 5 (extreme), and frequency of the last three positive behavior questions is rated on a five-point Likert scale ranging from 1 (almost never) to 5 (almost always). The "positive behavior" items are then subtracted from the sum of the "thoughts and feelings" and "negative behavior" items, and this number is added to 15 to obtain a total score. BEST scores can range from 12 to 72, with higher scores reflecting greater BPD symptom severity, and a clinical cut-off of a score of 36 was used by Gratz and Gunderson (2006). Blum, Pfohl, St. John, Monahan, and Black (2002) assessed the psychometrics and construct validity of the BEST in a clinical sample of outpatients with BPD and found high internal consistency ($\alpha = .90$) for the measure. Further, they demonstrated that the BEST total score, as well as the "thoughts and feelings" and "negative behavior" subscale scores were all moderately to highly associated with depression and negative affect ($r = .63$), and BEST positive behavior score was moderately correlated with positive affect as measured by the PANAS ($r = .58$) and moderately negatively correlated with depression ($r = -0.48$). In the current study, the BEST was used to assess BPD symptomatology continuously, rather than as a categorical diagnosis. Additionally, the last question, which asks about the frequency that participants "follow[ed] through with therapy plans to which [they] agreed (e.g., talk therapy, "homework" assignments, coming to appointments, medications, etc.)" was not relevant in the current study since participants were not required to be in therapy, and was therefore omitted when totaling BEST score.

The BPD module of the *Diagnostic Interview for DSM-IV Personality Disorders* (DIPD-IV; Zanarini, Frankenburg, Sickel, & Yong, 1996) was also used to

provide a BPD diagnosis. The DIPD-IV is a semi-structured interview for assessing DSM-IV personality disorders. It evidences good inter-rater reliability (kappa = .68) and test-retest reliability (kappa = .69) based on interviews conducted 7–10 days apart by independent raters (Zanarini et al., 2000). It also has been shown to correlate with the Structured Clinical Interview for DSM-III-R axis I disorders (SCID-I; Spitzer, Williams, Gibbon, & First, 1992) and the Revised Diagnostic Interview for Borderlines (DIB-R; Zanarini, et al., 1989b), other structured interviews that assess BPD (Zanarini et al., 2004).

The *Fear of Positive Evaluation Scale* (FPES; Weeks, Heimberg, & Rodebaugh, 2008) is a 10-item self-report measure of fear of positive evaluation that was originally developed to assess the role of fear of positive evaluation in social anxiety. Participants are asked to rate the extent with which each item is descriptive of them using a 10-point Likert rating scale ranging from 0 (not at all true) to 9 (very true). In an undergraduate sample, the FPES has shown excellent internal consistency (α = .80). It also shows adequate five-week test-retest reliability (r = .70; Weeks et al., 2006), which provides some evidence that it is a stable measure of trait levels of fear of positive evaluation. Findings using the FPES within an undergraduate sample showed that fear of positive evaluation was positively associated with self-reported social interaction anxiety and fear of negative evaluation, and was found to account for unique variance in social interaction anxiety above and beyond the variance accounted for by fear of negative evaluation (Weeks, Heimberg, and Rodebaugh, 2008).

The anxiety subscale of the *Experiences in Close Relationships* scale (ECR; Brennan, Clark, & Shaver, 1998) was used to assess fear of abandonment, as leading attachment researchers consider the key feature of insecure-anxious attachment to be the fear of abandonment (e.g., Brennan, et al., 1998; MacDonald, 1999). The ECR is a 36-item self-report measure used to assess attachment styles in adult romantic relationships. Participants are instructed to consider their usual behavior in romantic relationships rather than a specific current relationship. Participants rate each item based upon the extent with which it is consistent with their experience using a 7-point Likert scale (1 = *disagree strongly*; 7 = *agree strongly*). The ECR consists of two subscales, Anxiety and Avoidance, which represent orthogonal factors. Based upon their responses to the items that constitute each subscale, participants can be classified as falling into one of four quadrants: low avoidance/low anxiety (secure), low avoidance/high anxiety (preoccupied), high avoidance/low anxiety (dismissing-avoidant), and high avoidance/high anxiety (fearful-avoidant; see Figure 2 in Appendix C). The ECR demonstrates high internal reliability ($\alpha = .91$ for the Anxiety subscale and $\alpha = .94$ for the Avoidance subscale). Construct validity of the ECR has been demonstrated through its association with the Touch Scale (Brennan, Wu, & Loev, 1998), UCLA Loneliness Scale–Version Three (Russell, 1996), and the Social Provisions Scale (Cutrona & Russell, 1987) within an undergraduate sample (Fairchild & Finney, 2006). In the current study, score on the Anxiety subscale was used to provide a continuous measure of fear of abandonment.

Two self-report measures were used to assess functioning within intimate relationships. The *Fear of Intimacy Scale* (FIS; Descutner & Thelen, 1991) is a 35-

item self-report measure that measures anxiety about close, dating relationships. Participants answer items as though they were in such a relationship even if they are currently single; an example of an item from the scale is "I would feel at ease telling ____ that I cared about him/her." Items are rated on a five-point Likert-type scale ranging from 1 (not at all characteristic of me) to 5 (very characteristic of me). The scale demonstrates high internal reliability ($\alpha = .93$) and test-retest reliability ($r = .89$ over a one month interval). Descutner and Thelen (1991) found that FIS exhibited high convergent validity with related measures, including a positive relationship with the Revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980) and inverse relationships with the Jourard Self-Disclosure Questionnaire (Jourard, 1964) and the Miller Social Intimacy Scale (Miller & Lefcourt, 1982). Additionally, the FIS showed convergent validity with self-report data on questions about relationships. High scoring individuals reported being less "easy to get to know," less satisfied with dating relationships and with their expectations for dating relationships, having briefer relationships, and being less comfortable getting close to people. FIS score was also found to predict briefer romantic relationships. The FIS was validated on both an undergraduate sample and a sample of clients in counseling centers (Descutner & Thelen, 1991).

The *Miller Social Intimacy Scale* (MSIS; Miller & Lefcourt, 1982) is a 17-item self-report measure of the frequency of certain behaviors as well as affect within intimate relationships. One's closest relationship, either a romantic relationship or a friendship, is used to answer the questions. Examples of items are "When you have leisure time how often do you choose to spend it with him/her alone?" and "How

affectionate do you feel towards him/her?" Items are rated on a ten-point Likert-type scale ranging from 1 (very rarely/not much) to 10 (almost always/a great deal). The measure exhibits high internal reliabilities (α = .86 - .91) in addition to high test-retest reliability (r = .96) over a two month interval. The MSIS was validated on two groups: an undergraduate sample and a sample of married couples. The measure demonstrates excellent construct validity, as it was found to directly correlate with marital status (specifically, higher intimacy levels were found in married participants as compared to single participants), and MSIS scores for descriptions of participants' self-reported closest friends were significantly higher than scores for descriptions of self-reported casual friends (Miller & Lefcourt, 1982). The MSIS showed high convergent validity with two other measures of intimacy as well (the UCLA Loneliness Scale: r = -.65 [Russell, Peplau, & Ferguson, 1978] and the Interpersonal Relationship Scale [Schlein, Guerney, & Stover, cited in Guerney, 1977]: r = .71).

Lastly, two questions were added to the end of the MSIS which asked about the length of the participants' longest romantic relationship and friendship. This was done because length of relationship has been shown to inversely relate to fear of intimacy (Descutner & Thelen, 1991).

Implicit Measures

The IAT (Greenwald et al., 1998) measures participants' implicitly held associations between two concepts, which are represented by a target word and an attribute word. For example, to assess implicit associations between positive evaluation and fear, target and attribute words would be "praise" and "fear," respectively; see Appendix C for a complete list of stimuli that were used to assess

the three proposed mediators in the present study. The task was completed on a computer, and participants categorized words that appeared on the screen by pressing one of two response keys. The procedure started by assigning one category (e.g., praise words) to a response by the left hand and the other category (e.g., neutral words; in this case, words representing pieces of furniture) to a response by the right hand.[4] As an example of the IAT structure for the construct of fear of positive evaluation, implicit associations were measured by trials in which 'Fear' and 'Praise' appeared as category labels on the upper left side of the screen and 'Calm' and 'Furniture' were presented as category labels on the right side of the screen. On these trials, the participant was instructed to press the left key whenever words related to either fear or praise are presented (e.g., "scared" or "approve"), and to press the right key to when words related to furniture or calmness (e.g., "futon" or "peace") appear. Other trials showed 'Fear' and 'Furniture' on the upper left side of the screen, and the left response key was pressed whenever words related to fear or furniture (e.g., "sofa" or "afraid") were presented; in these cases, 'Calm' and 'Praise' were on the right hand side of the screen and the right key were pressed whenever words related to either of these categories were presented (e.g., "placid" or "tribute"). Each target category ("praise" or "furniture") was coupled with one attribute (e.g., "fear") on some trials and the other attribute (e.g., "calm") on other trials. For participants with high fear of positive evaluation, trials in which fear and praise share a response key were considered "congruent," and trials in which fear and calm share a response key

[4] Furniture and calmness were used in the fear of positive evaluation IAT as they are both relatively neutral categories. "Calm" was chosen because it is an emotion not generally associated with praise. Also, pictures of furniture were successfully used as neutral category stimuli in an IAT study conducted by Kahler, Daughters, Leventhal, Gwaltney, and Palfai (2007).

were considered "incongruent." Participants' implicit associations between fear and praise were assessed by the speed difference between the congruent and incongruent trials; categorization speed was expected to be quicker for the congruent trials. This is because it is theoretically quicker and easier for participants to associate "fear" with "praise" if these concepts are already linked in their mind than it would be to link "fear" with a neutral word that has no previously held relationship with fear in their mind.

Although implicit associations were assessed using these combined trials (with two words on each side of the screen), the IAT also included preliminary practice trials to acclimate participants to the structure of the task. Therefore, the procedure delineated by Greenwald and colleagues (2002) was utilized, as follows: The IAT was presented in seven blocks (For illustration purposes, the fear of positive evaluation IAT will be referenced here): (a) a 24-trial attribute discrimination block (for the congruent-block-first IAT order, left ¼ words related to "fear" and right ¼ words related to "calm"); (b) a 24-trial target discrimination block (left ¼ words related to "praise" and right ¼ words related to "furniture"); (c) a 24-trial "practice" congruent combination block (left ¼ words related to either "fear" or "praise" and right ¼ words related to either "calm" or "furniture"); (d) a 40-trial congruent test block of the same combination in (c); (e) a 24-trial attribute discrimination block in which the attribute categories were reversed (left ¼ words related to "calm" and right ¼ words related to "fear"); (f) a 24-trial practice incongruent combination block; and (g) a 40-trial incongruent test block of the same combination in (f). The stimuli for the combination blocks were presented randomly with the restriction that the trials

alternated between target and attribute stimuli. Incorrect responses were indicated by a red 'X' appearing on the screen. The stimuli remained on the screen until the correct key was pressed, providing a built-in error penalty which forced participants to make a choice at each trial (Greenwald et al., 2002). Each trial was separated by 250 ms. Since fear, calm, and furniture words were used in both the abandonment IAT and the praise IAT, there were twice as many words created for these categories so that participants did not see the same words in both IAT's. Therefore there were ten words for the fear, calm, and furniture categories (see Table 1 in Appendix C), and only five words for the abandonment and praise categories.

The IAT was scored based upon performance on blocks c, d, f, and g. The score was derived from the difference in ms between responses on incongruent (i.e., the fear/furniture and praise/calm practice and test blocks) and congruent (i.e., the fear/praise and calm/furniture practice and test blocks). Lower response latencies and higher IAT scores were expected to occur on trials in which fear and praise shared a response key versus trials in which fear and furniture or praise and calm shared a response key. In this way, higher IAT scores would suggest a stronger implicit association between fear and praise, and would be considered indicative of greater fear of positive evaluation.

The IAT was counterbalanced in two ways to control for methodological error. Target stimuli labels were counterbalanced to appear on the left or right, so that "fear" was presented on the left side on even trials and on the right side on odd trials. Also, the order of the IAT's (for fear of positive evaluation and fear of abandonment) was counterbalanced across participants in case any one IAT influenced performance

on the others (see Schnabel, Banse, & Asendorpf, 2006). Additionally, the "fear/praise" combination appeared first on every other trial and the "fear/furniture" combination appeared first on the others, as some research suggests that presenting congruent combinations first results in quicker responding to congruent pairs (e.g., Kahler et al., 2007).

The IAT has been found to be unaffected by self-presentation biases; for, the IAT is able to measure ethnic biases that undergraduate participants consciously deny (Greenwald, et al., 1998). This was particularly salient in the present study, since participants were asked about many sensitive and personal issues, such as fearing abandonment by a loved one. Furthermore, numerous studies have found that attachment can be reliably and validly measured using implicit lexical decision tasks (for a review of implicit tasks in attachment, see Shaver & Mikulincer, 2004). Therefore, it was hypothesized that the IAT would be particularly useful in the current study in assessing fear of abandonment, the defining feature of preoccupied attachment.

Covariates

As baseline symptoms of depression and anxiety may have impacted performance on the IAT and influenced responding on self-report measures, a measure was included to assess and control for trait levels of depression, anxiety, and stress. Additionally, fear of negative evaluation and social anxiety were assessed, since both have been found to be associated with fear of positive evaluation (Weeks, Heimberg, & Rodebaugh, 2008). It was planned that if any of these constructs were

found to be associated with any of the dependent variables in the proposed model, they would be included in primary analyses as covariates.

The *Depression Anxiety Stress Scales* (DASS; S.H. Lovibond & P.F. Lovibond, 1995) is a 42-item self-report measure assessing the unique symptoms of depression, anxiety, and stress. The DASS was validated in a sample of undergraduates, and demonstrated strong internal consistencies across subscales (α = 0.91, 0.84, and 0.90 for Depression, Anxiety, and Stress, respectively). In an undergraduate sample, P.F. Lovibond and S.H. Lovibond (1995) validated the DASS against widely-used measures of depression and anxiety; the Anxiety subscale of the DASS was found to be highly correlated with the Beck Anxiety Inventory (Beck & Steer, 1990) (r = 0.81), and the DASS Depression subscale was found to be highly associated with the Beck Depression Inventory (Beck & Steer, 1987) (r = 0.74). Moreover, the DASS has demonstrated excellent internal reliability in a sample of patients with anxiety disorders (α = 0.96, 0.89 and 0.93 for Depression, Anxiety, and Stress subscales respectively; Brown, Chorpita, Korotitsch, & Barlow, 1997). A shorter version of the DASS, 21-item version (DASS-21) was used in the current study. The DASS-21 consists of three 7-item subscales consistent with the DASS. S.H. Lovibond and P.F. Lovibond (1995) and others (e.g., Henry & Crawford, 2005) have demonstrated that the DASS-21 is psychometrically equivalent to the original DASS.

Given that fear of positive evaluation has been found to be strongly associated with a fear of negative evaluation (Weeks, Heimberg, & Rodebaugh, 2008), fear of negative evaluation was assessed in order to be potentially controlled for in analyses.

This construct was also thought to be potentially relevant since individuals with BPD tend to exhibit sensitivity to evaluation by others (e.g., Meyer et al., 2005), and, relatedly, evidence heightened feelings of rejection in response to daily interpersonal stress (Zeigler-Hill & Abraham, 2006). To assess fear of negative evaluation in the current study, the *Brief Fear of Negative Evaluation Scale* (BFNE; Leary, 1983) was used. The BFNE is a 12-item self-report measure assessing fear of being negatively evaluated by other people. The measure uses a 5-point Likert rating scale, ranging from 1 (*not at all characteristic of me*) to 5 (*extremely characteristic of me*). In an undergraduate sample, the BFNE has shown high internal consistency (α =.90 –.91) and four-week test–retest reliability (r = .75). In a non-student, non-clinical sample, it also showed good psychometrics (α =.80; Duke, Krishnan, Faith, & Storch, 2006). A longer version of the BFNE, the FNE (Watson & Friend, 1969) has similar psychometrics to the BFNE and evidences excellent construct validity, which has been demonstrated by its strong concordance with other measures of social anxiety as well as its ability to distinguish socially anxious individuals from both nondisordered controls and individuals with other anxiety disorders (for a review, see Stopa & Clark, 2001).

Given that social anxiety disorder is the one disorder that has previously demonstrated a strong association with fear of positive evaluation (Weeks et al., 2005), and that this disorder is often found among individuals with BPD (e.g., Skodol et al., 1995; Zanarini et al., 1998; Zanarini, Gunderson, & Frankenberg, 1989a), severity of social anxiety disorder symptoms were assessed in order to be potentially controlled for in analyses. Specifically, the *Social Phobia Scale* (*SPS*; Mattick &

Clarke, 1998), a 20-item self-report measure, was used to assess severity of social anxiety disorder symptoms. Participants rate each item using a 5-point Likert scale ranging from 0 (*not at all characteristic or true of me*) to 4 (*extremely characteristic or true of me*). The SPS has evidenced strong internal consistency ranging from .89 to .94 across clinical, community, and undergraduate samples (Mattick & Clarke, 1998). SPS scores have also been demonstrated to discriminate between anxiety disorders (social anxiety disorder, agoraphobia, simple phobia), and between individuals with social anxiety disorder versus non-disordered controls (Mattick & Clarke, 1998).

Chapter 4: Data Analysis and Results

Descriptive Statistics

Before using linear regression analyses to examine the relationships between the target variables; the means, standard deviations, and skew of all variables were examined. Means of each of the questionnaires and the DIPD interview are presented in Table 2 in Appendix C. Mean differences of reaction times for congruent and incongruent trials of both the fear of positive evaluation and fear of abandonment IAT's are also presented in Table 2. All self-report questionnaires were normally distributed, with skew on all measures less than 1.5. The DIPD was skewed toward an absence of BPD symptoms, as only 2.4% of the sample met full diagnostic criteria for BPD. The skew of the DIPD was 1.89 (*SD* = 1.68), and 64% of the sample did not exhibit any BPD symptoms on this measure. Therefore, the DIPD was determined not to be an adequate measure of BPD symptoms in this population, and may be targeted for a clinical sample rather than an analogue sample. Additionally, the BEST was better than the DIPD at tapping into details of BPD symptoms. For these reasons, the DIPD was not used in subsequent regression analyses. However, in order to determine whether the DIPD was associated with other measures in expected directions, it was transformed using a square root transformation, which reduced its skew to .92 (*SD* = .17). These transformed scores were used in the correlation matrix (Table 2 in Appendix C) and will be discussed below, in "Primary Analyses."

The variable "years dated significant other" was also skewed, with a skew of 1.96 (*SD* = 1.68), which is indicative of the fact that 37% of participants did not have

significant others due to their young age. Therefore, this variable was not used as a measure of difficulties within intimate relationships in later analyses. However, this variable was examined dichotomously, in order to determine the predictors of having had a romantic relationship versus not having had a romantic relationship; these analyses will be discussed in "Primary Analyses."

On the fear of abandonment IAT, one outlier was removed that was more than three standard deviations away from the mean; after this outlier was removed, the reaction times for congruent and incongruent trials on both IAT's were log-transformed, and a difference score was computed using these log-transformed latencies, in accordance with procedures outlined in Greenwald et al. (1998). The difference scores between congruent and incongruent trials for both IAT's were normally distributed. The mean fear of positive evaluation IAT score was negative, suggesting that this sample had low fear of positive evaluation on average, and the IAT for fear of abandonment was positive, suggesting that this was a more common construct in this sample.

Primary Analyses

First, the intercorrelations between all study variables were examined (See Table 3 in Appendix C). This was done to see if additional variables were significantly correlated with the target variables, and would therefore have to be included in the model. When examining demographic variables, marital status was not analyzed because of the small number of individuals who were married (four). Annual parental income was not normally distributed, and exhibited a skew of 14.35 (*SD* = .17), with 91 of 210 participants choosing the ">$100,000" income category.

Therefore, income was transformed into a dichotomous variable using a median split (median income = $95,000). Age was not normally distributed (skew = 4.03, *SD* = .17), and a log transformation did not increase normality sufficiently, so this variable was also transformed into a dichotomous variable using a median split (median = age 20). Age was found to be significantly related to DASS total score ($r = .15$, $p = .03$), and DASS depression score ($r = .14$, $p = .04$), and significantly inversely related to BPD symptoms ($r = -.17$, $p = .01$) and fear of abandonment ($r = -.15$, $p = .03$). Point biserial correlations indicated that female gender was significantly associated with higher scores on the MSIS ($r = -.29$, $p < .001$). Female gender was also significantly associated with greater length of longest friendship ($r = .14$, $p = .04$). One way ANOVA's were used to examine ethnic differences across all variables, and no differences were found.

Intercorrelations between all target variables in the proposed model were then found in order to see whether all variables could remain in the model. BPD symptomatology (BEST score) was significantly associated with BPD symptomatology (transformed DIPD score; $r = .51$, $p < .001$); fear of negative evaluation (BFNE; $r = .42$, $p < .001$); depression, anxiety and stress (DASS; $r = .68$, $p < .001$); fear of abandonment (ECR; $r = .53$, $p < .001$); social anxiety (SPS; $r = .42$, $p < .001$); fear of intimacy (FIS; $r = .29$, $p < .001$); and fear of positive evaluation (FPES; $r = .26$, $p < .001$). BPD symptomatology (transformed DIPD score) was significantly associated with BPD symptomatology (BEST score; $r = .51$, $p < .001$); depression, anxiety, and stress (DASS score; $r = .50$, $p < .001$); fear of abandonment (ECR score; $r = .41$, $p < .001$); fear of intimacy (FIS score; $r = .17$, $p = .01$); and fear

of positive evaluation (FPES score; $r = .20$, $p = .004$). Depression, anxiety, and stress symptoms (DASS score), fear of negative evaluation (BFNE score), and social anxiety (SPS score) were significantly related not only to BPD symptoms but also to all dependent variables in the model (fear of abandonment, fear of intimacy, and fear of positive evaluation; see Table 3). Therefore, these variables were included as covariates in later regression analyses. It is notable that, although DIPD score was not used as an outcome variable in this analogue sample, it was found to be significantly correlated with all target constructs in the model, including the BEST.

BPD symptoms were not found to be significantly associated with social intimacy as assessed by MSIS score or having had a significant other, although fear of intimacy (FIS score) was found to be significantly inversely associated with social intimacy as assessed by MSIS score ($r = -.38$, $p < .001$). MSIS score was also significantly related to the dichotomous variable of "having had a significant other" ($r = .36$, $p < .001$). However, since MSIS score was not found to be significantly associated with any of the target variables in the proposal model aside from FIS score and having had a significant other, it was not used as an outcome variable to represent difficulties with intimacy in subsequent analyses. Additionally, BPD symptoms were found to be inversely associated with length of longest friendship ($r = -.17$, $p = .01$); however, length of longest friendship was not significantly associated with any of the other target variables in the model and was not used in subsequent analyses.

In addition to its significant associations with MSIS score, "having had a significant other" was found to be significantly inversely correlated with fear of intimacy score ($r = .36$, $p < .001$). However, whether a participant reported having a

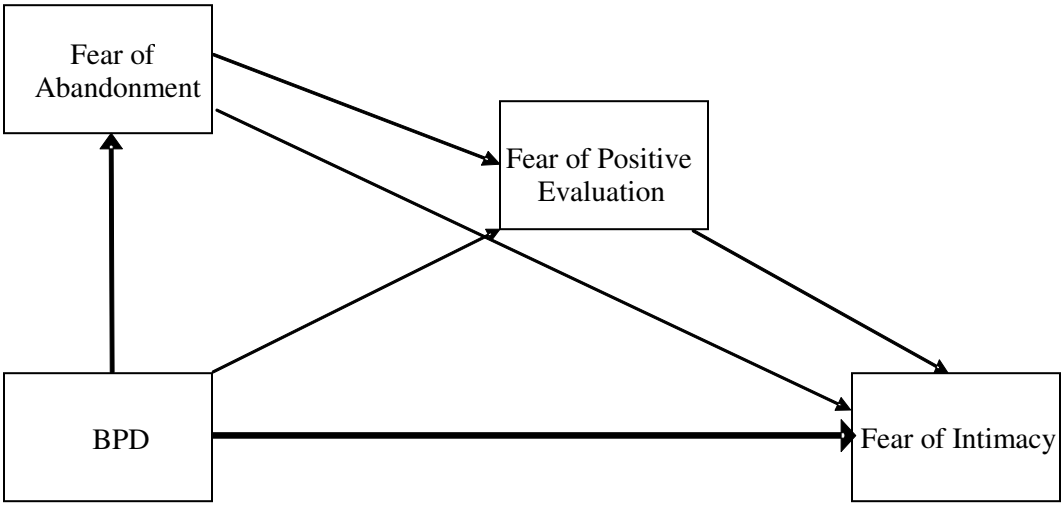
significant other was not found to be significantly related to any other target variables or covariates.

Neither the fear of positive evaluation IAT difference score nor the fear of abandonment IAT difference score was found to correlate with the self-report measures that assessed the same construct: the anxiety scale of the ECR for fear of abandonment and the FPES for fear of positive evaluation (see Table 4). Additionally, neither IAT was significantly correlated with BPD symptomatology or with either measure of intimacy (FIS score or length of longest friendship). The fear of positive evaluation IAT did not correlate with the self-report measure of social anxiety, despite the fact that there is a strong relationship between fear of positive evaluation and both of these constructs in the literature (e.g., Weeks, Heimberg, & Rodebaugh, 2008; Weeks, Heimberg, Rodebaugh, & Norton, 2008). The only significant association between an IAT and a relevant variable was between the fear of positive evaluation IAT and the BFNE, which assesses fear of negative evaluation ($r = .08$, $p = .01$). Since the IAT's did not correlate with the other target variables in the proposed model, they were not included in subsequent analyses.

Although structural equation modeling had been planned as the method of testing interrelationships between target variables (see Figure 1 in Appendix C), the lack of relationship among IAT variables with self-report measures and between the MSIS and other target variables meant that there were not at least two observed variables to comprise each latent construct in the proposed model (Kline, 2005). Path analysis was considered as an alternative; however, it was not used because this approach would not have accounted effectively for covariates (i.e., social anxiety;

fear of negative evaluation; and depression, anxiety, and stress). There was no theoretical reason or specific place to include these in a theoretical model of the relationships between BPD symptoms and fear of positive evaluation, fear of abandonment, and fear of intimacy. Therefore, a series of linear regressions was conducted to explore the proposed relationships in the model.

The revised model is outlined below:

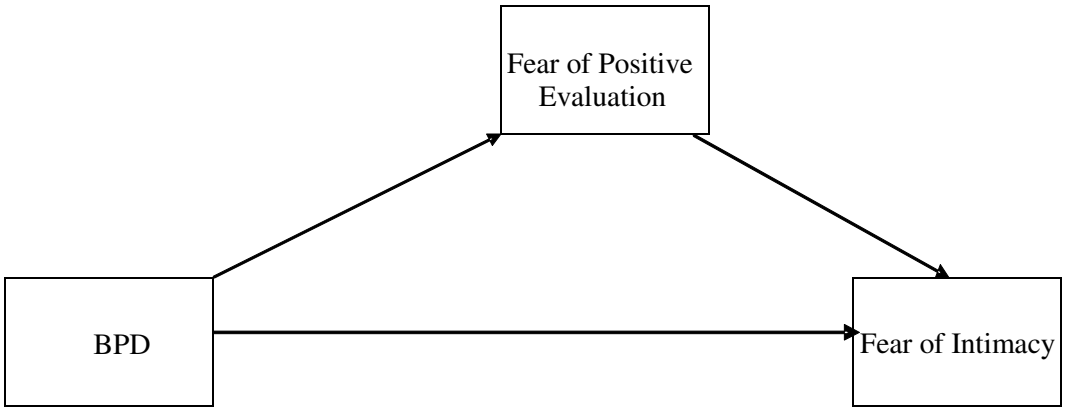


As previously mentioned, BEST score was used as the dependent variable representing BPD symptomatology in all linear regression analyses, as it is a continuous measure of BPD and DIPD score was not found to be normally distributed or to be a valid measure of BPD symptomatology in this sample. Fear of intimacy (FIS score) was used as the outcome measure for difficulties within intimate relationships, since social intimacy as assessed by MSIS score did not exhibit significant associations with BPD. Furthermore, FIS score was considered to be a useful way to conceptualize the construct of difficulties within intimate relationships, since FIS score is not only indicative of the fear of intimacy, but was also found to be

inversely predictive of actual level of intimacy as reported by undergraduates and their dating partners in a study conducted by Thelen, Vander Wal, Muir Thomas, & Harmon (2000). However, since only FIS score was used to reflect difficulties with intimacy, the revised theoretical model refers to the more specific fear of intimacy as the construct of interest rather than "difficulties in intimate relationships."

Mediation was tested (Baron & Kenny, 1986) in order to examine whether all or part of the relationship between BPD symptoms and difficulties with intimacy were accounted for by fear of abandonment and/or fear of positive evaluation, as well as whether fear of abandonment mediated the relationship between BPD symptoms and fear of positive evaluation. In all of these regression analyses, social anxiety (SPS score); fear of negative evaluation (BFNE score); and depression, anxiety, and stress symptoms (DASS score) were used as covariates, since all were significantly associated with the variables in the model. DASS total score was used, rather than the individual subscale scores for depression, anxiety, and stress, due to the high correlations between these subscales (see Table 3).

First, the relationship between BPD symptoms, fear of positive evaluation, and fear of intimacy was examined, as illustrated below:



Linear regression was conducted to determine if the effect of BPD on fear of intimacy would be reduced by controlling for fear of positive evaluation in the model (see table below). According to Baron and Kenny (1986), full mediation occurs when there exists a significant relationship between the independent variable and the dependent variable, and including the proposed mediator then eliminates the significance of this relationship. Partial mediation occurs when the regression coefficient of the independent variable is decreased when the mediator is added into the model, even if the regression coefficient remains significant. Additionally, a prerequisite for mediation significant relationships must exist between the independent variable and the mediator, as well as between the dependent variable and the mediator.

First, fear of positive evaluation, the prospective mediator, was regressed on BPD symptoms, and this relationship was found to be significant (F (209) = 5.59, p =.00, β = .51, SE = .13, sr^2 = .07). Next, fear of intimacy was regressed on BPD symptoms, and fear of positive evaluation was examined as a potential mediator of this relationship, while controlling for social anxiety, fear of negative evaluation, and depression, anxiety and stress symptoms (see table below). Here, fear of positive evaluation acted as a partial mediator of the relationship between BPD symptoms and

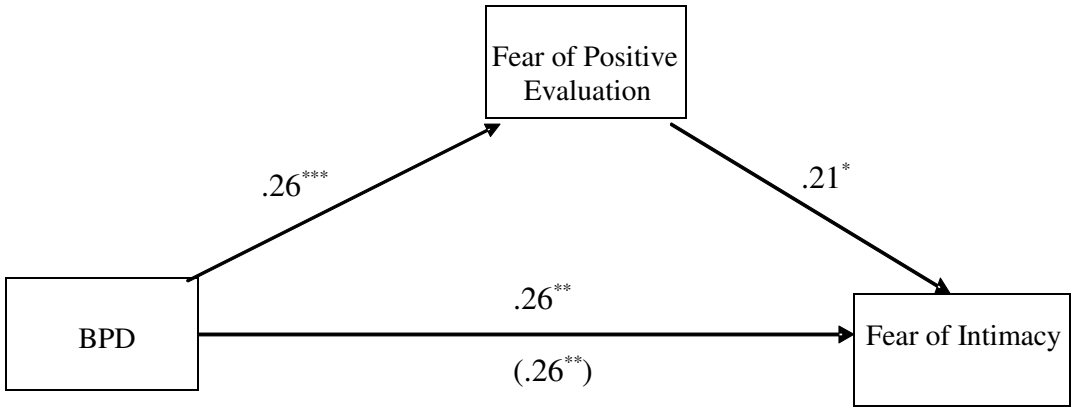
difficulties with intimacy. MacKinnon's test (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002) of the indirect effect of fear of positive evaluation on fear of intimacy approached significance ($z' = 2.04$, $p < .06$). In the final model, with fear of positive evaluation included, the effect of BPD symptoms on fear of intimacy was reduced from .74 to .73, which is an effect size of only 1.3% (see figure below table for effect of mediation using standardized coefficients). Further, the squared semi-partial correlation of the fear of positive evaluation measures was 2%. According to Cohen (1988), who specified that a small effect accounts for 20% of the variance, a medium effect size accounts for 50% of the variance, and a large effect size accounts for 80% of the variance, either of these effect sizes would be considered very small.

Summary of the linear regression analysis examining fear of positive evaluation as a mediator of the relationship between BPD symptoms and fear of intimacy, controlling for social anxiety; fear of negative evaluation; and symptoms of depression, anxiety, and stress.

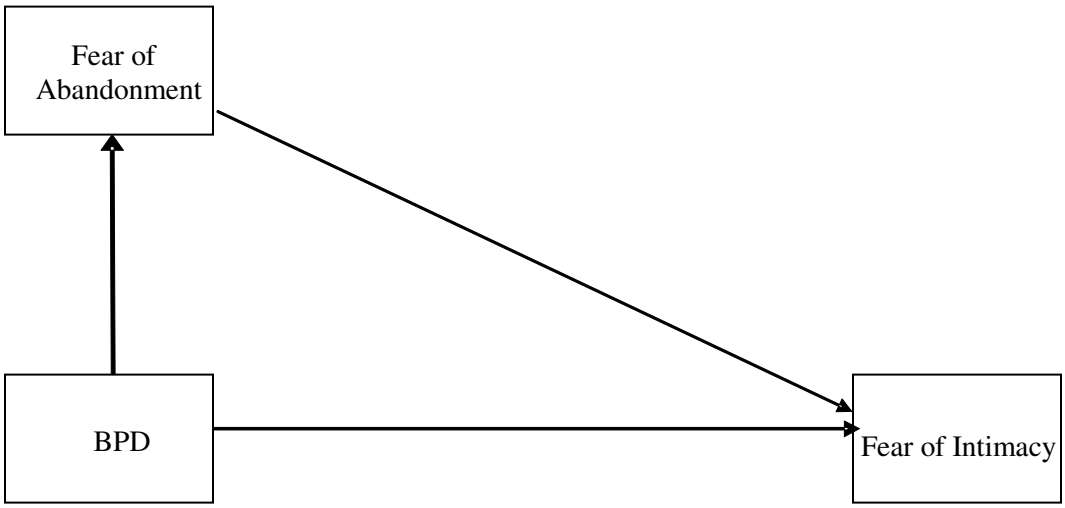
	df	*F*	$R^2\Delta$	B	SE	Sr^2	*P*
Step 1	3	7.92***	.10***				.00
SPS score (Social Anxiety)				.56	.17	.05	.00
BFNE score (Fear of Negative Evaluation)				.01	.19	.00	.60
DASS score (Depression, Anxiety, Stress)				.05	.10	.00	.94
Step 2	4	8.20***	.04**				.00
SPS score				.56	.17	.05	.00
BFNE score				-.10	.19	.00	.60
DASS score				-.15	-.12	.01	.22
BEST score (BPD Symptoms)				.74	.26	.03	.01
Step 3	5	7.93***	.01				.00
SPS score				.33	.19	.01	.08
BFNE score				-.15	.19	.00	.42
DASS score				-.13	.12	.00	.28
BEST score				.73	.26	.03	.00
FPES score (Fear of Positive Evaluation)				.30	.12	.02	.02

* indicates $\underline{p} < .05$; ** indicates $\underline{p} < .01$, *** indicates $\underline{p} < .001$.

Summary of the effect of fear of positive evaluation on the relationship between BPD symptoms and fear of intimacy, controlling for social anxiety; fear of negative evaluation; and symptoms of depression, anxiety, and stress



Next, mediation was tested using a series of regression analyses to investigate whether fear of abandonment would eliminate or reduce the effect of BPD symptoms on fear of intimacy; see model segment below:



First, fear of abandonment, the prospective mediator, was regressed on BPD symptoms, and this relationship was found to be significant (F (209) = 81.39, p =.00, β = 1.39, SE =.15, sr^2 = .28). In a multiple linear regression analysis controlling for social anxiety; fear of negative evaluation; and depression, anxiety and stress; the effect of BPD symptoms on fear of intimacy was reduced when fear of abandonment (ECR score) was added into the model, which indicates partial mediation (see table below). MacKinnon's test of the indirect effect of fear of abandonment on fear of intimacy approached significance (z' = 2.06, p < .06). This indicates that fear of abandonment partially mediates the relationship between BPD symptoms and fear of intimacy, even when controlling for social anxiety; fear of negative evaluation; and symptoms of depression, anxiety, and stress; see model below with standardized coefficients. In the final model, with fear of abandonment included, the effect of BPD symptoms on fear of intimacy was reduced from .74 to .64, which is an effect size of 13.5% (see figure below table for effect of mediation using standardized

coefficients). The squared semi-partial correlation of the fear of positive evaluation measure was 1%. Both of these effect sizes are considered small (Cohen, 1988).

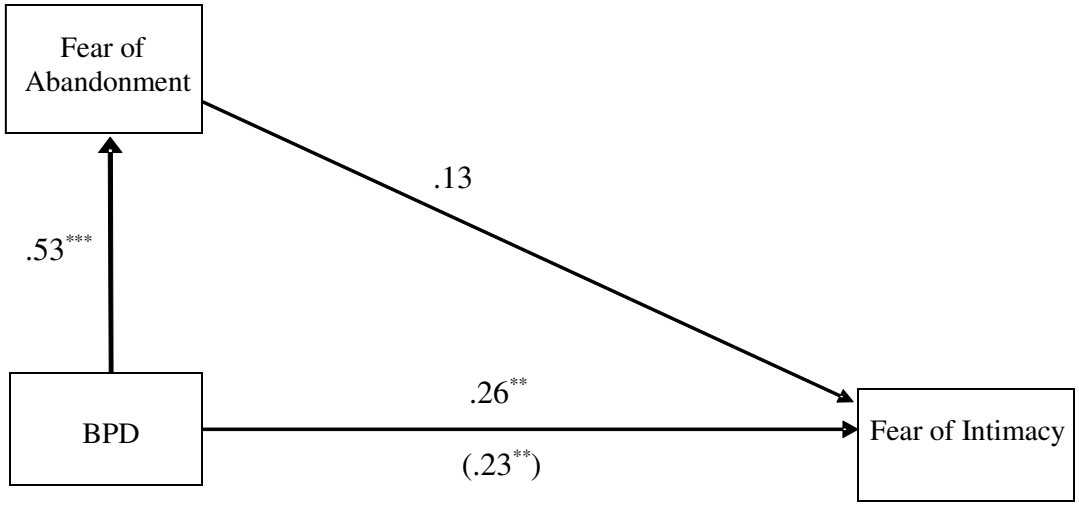
Summary of the linear regression analysis examining fear of abandonment as a mediator of the relationship between BPD symptoms and fear of intimacy, controlling for social anxiety; fear of negative evaluation; and symptoms of depression, anxiety, and stress.

	df	*F*	$R^2\Delta$	B	SE	Sr^2	*P*
Step 1	3	7.92***	.10***				.00
SPS score (Social Anxiety)				.56	.17	.05	.00
BFNE score (Fear of Negative Evaluation)				.01	.19	.00	.60
DASS score (Depression, Anxiety, Stress)				.05	.10	.00	.94
Step 2	4	8.20***	.04**				.00
SPS score				.56	.17	.05	.00
BFNE score				-.10	.19	.00	.60
DASS score				-.15	-.12	.01	.22
BEST score (BPD Symptoms)				.74	.26	.03	.01
Step 3	5	7.06***	.01				.00
SPS score				.55	.16	.05	.00
BFNE score				-.19	.20	.00	.34
DASS score				-.17	.12	.01	.16
BEST score				.64	.27	.02	.02

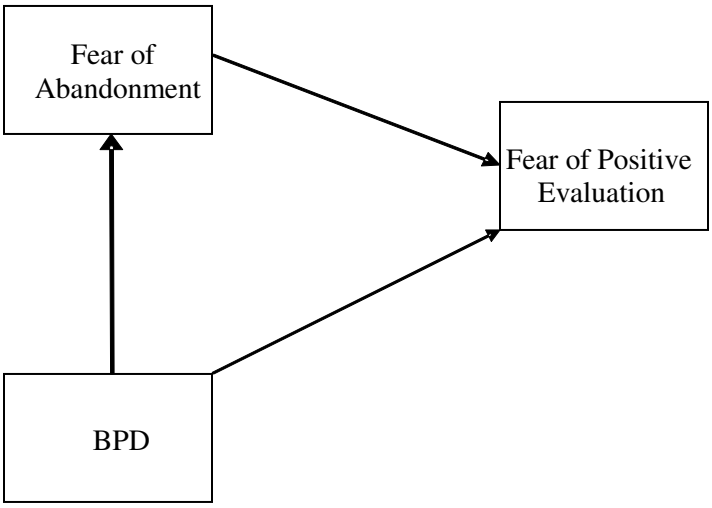
ECR score (Fear of Abandonment)	.14	.09	.01	.13

* indicates $p < .05$; ** indicates $p < .01$, *** indicates $p < .001$.

Summary of the effect of fear of abandonment on the relationship between BPD symptoms and fear of intimacy, controlling for social anxiety; fear of negative evaluation; and symptoms of depression, anxiety, and stress



Next, mediation was tested using a series of regression analyses to investigate whether fear of abandonment would eliminate or reduce the effect of BPD symptoms on difficulties with intimacy, as illustrated in the model segment below:



BPD was previously shown to be a significant predictor of fear of abandonment (F (209) = 81.39, p =.00, β = 1.39, sr^2 = .28). Using linear regression and controlling for social anxiety; fear of negative evaluation; and depression, anxiety and stress; BEST score was not found to significantly predict fear of positive evaluation. This indicates that there was no relationship between BPD symptoms and fear of positive evaluation when these covariates were taken into account (see table below). Since the effect of BPD symptoms on fear of positive evaluation was not significant when controlling for covariates, testing for mediation by fear of abandonment was not pursued.

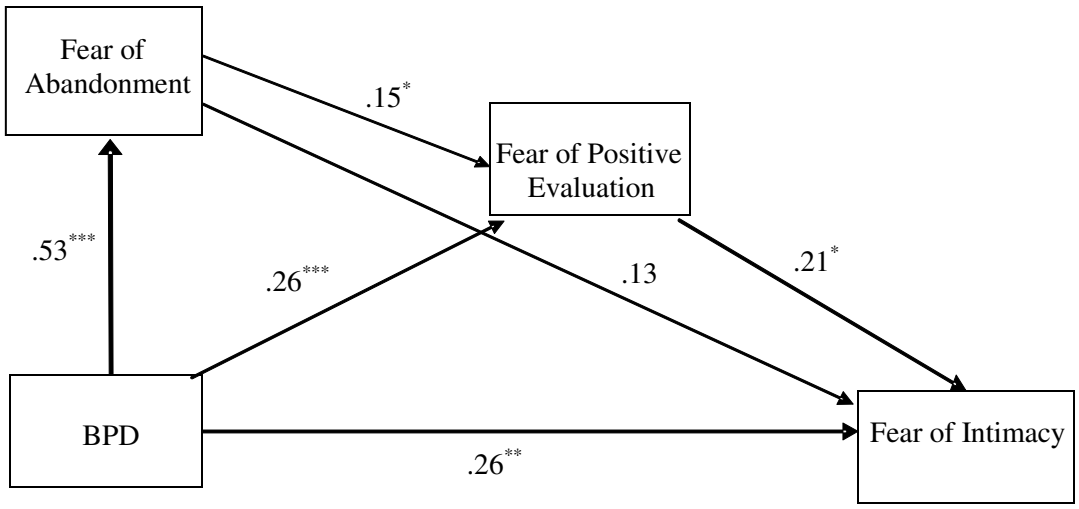
Summary of the linear regression analysis examining the relationship between BPD symptoms and fear of positive evaluation, controlling for social anxiety; fear of negative evaluation; and symptoms of depression, anxiety, and stress.

	df	*F*	$R^2\Delta$	B	SE	Sr^2	*P*
	4	35.77***	.40***				.00

SPS score (Social Anxiety)	.77	.09	.20	.00
BFNE score (Fear of Negative Evaluation)	.17	.11	.01	.11
DASS score (Depression, Anxiety, Stress)	-.06	.07	.00	.35
BEST score (BPD Symptoms)	.02	.14	.00	.87

* indicates p < .05; ** indicates p < .01, *** indicates p < .001.

The tested model with standardized regression coefficients is presented below:



As 75.6% of the sample was female, these three mediated relationships were tested in each gender individually, to determine the impact of gender on these relationships. When examining only females, results paralleled those of the mixed-gender sample. BPD (BEST score) was found to significantly predict fear of

intimacy (FIS score) when controlling for symptoms of depression, anxiety, and stress (DASS-21 score); social anxiety (SPS score); and fear of negative evaluation (BFNE score) (t (157) = 2.79, p <.01, β = .84, SE =.30, sr^2 = .04). When adding fear of abandonment as a potential mediator, partial mediation was indicated, in that the regression coefficient of BPD symptoms was decreased by 13.1% (β = .73, SE = .31). When examining fear of positive evaluation (FPES score) as a potential mediator of the relationship between BPD symptoms and fear of intimacy in females, including fear of positive evaluation reduced the coefficient of BPD symptoms by 2.4% (β = .82, SE = .30), which indicates a very small effect size, and less support for mediation. However, when examining only males, a different pattern of results emerged. BPD symptoms did not significantly predict fear of intimacy, so no further mediational analyses could be conducted.

When examining the relationship between BPD symptomatology (BEST score) and fear of positive evaluation (FPES score), controlling for symptoms of depression, anxiety, and stress (DASS-21 score); social anxiety (SPS score); and fear of negative evaluation (BFNE score), there was no significant relationship in either males or females. Instead, as was found with the mixed gender analyses, only social anxiety was a significant predictor of fear of positive evaluation (females: t (157) = 8.30, p <.001, β = .88, SE =.11, sr^2 = .23; males: t (50) = 2.50, p =.02, β = .45, SE =.18, sr^2 = .10).

These mediational models were also tested in the subset of individuals who never had a significant other (37% of the sample) as compared to those who had. In this case, results were not significantly different between the groups.

Finally, it may be the case that BPD symptomatology is a result of the other variables in the model, rather than the predictor of changes in these variables. To investigate this possibility, BPD symptomatology, as measured by BEST score, was entered into a multiple linear regression as an outcome variable, and all other variables were entered as predictors, using the backwards entry method. When fear of abandonment (ECR score); fear of positive evaluation (FPES score); depression, anxiety, and stress symptoms (DASS-21 score); social anxiety (SPS score); and fear of negative evaluation (BFNE score) were all tested as predictors of BPD symptoms, three significant predictors emerged: depression, anxiety, and stress symptoms (t (209) = 8.93, p <.001, β = .24, SE =.03, sr^2 = .18); fear of intimacy (t (209) = 2.50, p = .01, β = .05, SE =.02, sr^2 = .01); and fear of abandonment (t (209) = 3.34, p = .001, β = .08, SE =.02, sr^2 = .03). When examining only females, all of these predictors remained significant: depression, anxiety, and stress symptoms (t (157) = 8.35, p <.001, β = .25, SE =.03, sr^2 = .20); fear of intimacy (t (157) = 3.17, p = .02, β = .05, SE =.02, sr^2 = .02); and fear of abandonment (t (157) = 2.32, p = .002, β = .08, SE =.03, sr^2 = .03). However, when examining only males, depression, anxiety, and stress symptoms were the only significant predictor of BPD symptomatology (t (50) = 2.35, p = .02, β = .16, SE =.07, sr^2 = .07).

Chapter 5: Discussion

When examining the relationships among BPD, fear of positive evaluation, fear of abandonment, and fear of intimacy, many aspects of the initial predictions were supported. Specifically, BPD symptoms, fear of positive evaluation, and fear of abandonment were all found to significantly predict difficulties within intimate relationships, as operationalized by fear of intimacy score, even when controlling for theoretically relevant variables (symptoms of depression, anxiety, and stress; fear of negative evaluation; and social anxiety). These findings are important because they illustrate that, even at the sub-clinical level observed in this undergraduate sample, BPD symptoms are related to impaired intimate relationship functioning. Further, the effect of BPD symptoms on fear of intimacy was significant above and beyond the impact of other disordered symptomatology, such as symptoms of depression, anxiety, and stress as well as social anxiety. This supports the work of Trull et al. (1997) and Bagge et al. (2004) who found that college students with BPD features exhibited higher rates of interpersonal dysfunction and distress, even though these students only displayed sub-clinical levels of the disorder, above and beyond the impact of other Axis I and II symptomatology. Therefore, at the univariate level, these findings add to the literature on sub-clinical BPD symptomatology as a predictor of interpersonal impairment.

Interestingly, there is evidence that the proposed model could also have been reworked, such that fear of abandonment; fear of intimacy; and symptoms of depression, anxiety, and stress all act as predictors of BPD symptomatology. This dovetails with both developmental and biologically-based etiological models of BPD.

Fear of abandonment is the hallmark of pre-occupied insecure attachment, and disturbed attachment with a caregiver has been theorized to lead to BPD (e.g., Gunderson, 1996; Linehan, 1993). Additionally, negative affect, which corresponds to symptoms of depression, anxiety, and stress, has been theorized to underlie BPD (e.g., Trull, 2001). It would be useful to examine this reversed model using longitudinal research, to determine whether fear of intimacy; fear of abandonment; and symptoms of depression, anxiety, and stress in childhood or adolescence could serve as risk factors for BPD in adulthood.

In the current sample, the effect of BPD symptoms on fear of intimacy was only found in females. This finding was surprising, as research investigating the effects of BPD symptomatology in college samples has traditionally found an effect of BPD symptoms above and beyond the effect of gender (e.g., Bagge et al., 2004; Trull et al., 1997). However, in a prospective study done by Bagge et al. (2004) on the effects of BPD symptomatology in undergraduates, some gender differences were found that are relevant to the findings in the current study. In this study, female college students had significantly higher scores than male college students on the Negative Relationships subscale of the Personality Assessment Inventory - Borderline Features scale (PAI–BOR; Morey, 1991), a self report measure of BPD symptomatology. Perhaps the main effect of gender on BPD symptomatology is in the area of intimate relationship functioning, which is why fear of intimacy scores would have been affected by gender as well as by BPD symptoms in the present investigation. Additionally, gender effects were found when using BPD symptomatology as an outcome variable rather than a predictor variable. Here, only

symptoms of depression, anxiety, and stress predicted BPD symptomatology among males, whereas among females, fear of intimacy and fear of abandonment were predictors as well. This indicates that perhaps the symptom profile of BPD is different in males and females; males may tend to exhibit more impulsive behaviors while women experience more fear of abandonment and relational problems. In support of such a gender difference in BPD, Barnow and colleagues (2007) found high rates of novelty-seeking behaviors only in male inpatients with BPD. Further support for gender differences in BPD comes from work done on an adolescent sample by Bradley, Conklin, and Westen (2005). Here, male adolescents diagnosed with BPD were found to have higher rates of aggressive, disruptive, and antisocial behaviors than female adolescents with BPD.

Support was not found for the hypothesis that BPD symptoms would contribute uniquely to fear of positive evaluation. Instead, BPD symptoms were not found to impact fear of positive evaluation once social anxiety was taken into account, a finding that is in accordance with the strong association between social anxiety and fear of positive evaluation that has been documented in the literature (e.g., Weeks, Heimberg, & Rodebaugh, 2008; Weeks, Heimberg, Rodebaugh, & Norton, 2008).

The strong relationship that was found between fear of positive evaluation and social anxiety and the absence of a significant relationship between BPD symptoms and fear of positive evaluation when controlling for social anxiety indicate that fear of positive evaluation and social anxiety may be part of the same construct. This was hypothesized by Weeks et al. (2008), who propose that fear of positive evaluation is a

cognitive component of social anxiety. From the results obtained in the present investigation, it appears the relationship between BPD and fear of positive evaluation was due to social anxiety. It may be the case that fear of positive evaluation is unique to social anxiety and does not appear within BPD; however, the results may also be due to other factors. Firstly, this sample had higher levels of social anxiety than other undergraduate samples (e.g., the sample used in the validation of the SPS; Mattick and Clarke, 1998), and the sample also had lower rates of BPD than was expected (see "Limitations"). Therefore, any relationship between BPD and fear of positive evaluation may have been masked by the strong relationship between social anxiety and fear of positive evaluation (e.g., Weeks, Heimberg, & Rodebaugh, 2008; Weeks, Heimberg, Rodebaugh, & Norton, 2008). Additionally, the lack of a relationship between BPD and FPE when controlling for social anxiety may have been due to the fact that the FPES did not serve as an accurate measure of fear of positive evaluation within BPD (see "Conclusions and Future Directions" for a discussion of the validity of the FPES for a BPD sample).

It is notable that results are not supportive of Linehan's (1993) clinical observation that fear of praise within BPD may be due to fear of abandonment; instead, current results suggest that fear of praise may covary with social anxiety. This relationship may have been obscured by the observed high rates of social anxiety among individuals with BPD; for example, 45.9% of inpatients with BPD in one large scale study (n = 504) met criteria for social anxiety (Zanarini, Frankenburg, et al., 1998). Thus, fear of positive evaluation may generally be due to social anxiety, which is extremely prevalent among individuals with BPD, but this may not have been taken

into account by Linehan (1993) when formulating the hypothesis that BPD relates to fear of praise. Since rates of co-occurrence between BPD and social anxiety are so high, fear of positive evaluation may frequently be observed when treating individuals with BPD, and should therefore be monitored and discussed as part of treatment.

Two marginally significant mediated relationships emerged: (1) that fear of abandonment mediated the relationship between BPD symptoms and fear of intimacy, and (2) that fear of positive evaluation mediated the relationship between BPD symptoms and fear of intimacy. Both relationships exhibited a small effect size, although the first relationship, that fear of abandonment mediated the relationship between BPD symptoms and fear of intimacy, exhibited a larger effect size than the second relationship. Thus, among individuals with heightened symptoms of BPD, the fear of possibly being abandoned may cause a more general fear of intimate relationships. These results help to explain findings that individuals with BPD avoid lasting intimate relationships, and specifically that they are less likely to marry and that they experience more romantic breakups (Labonte & Paris, 1993; Schwartz, Blazer, George, & Winfield, 1990). Such avoidance and conflict within romantic relationships may be due to the possibility of eventual abandonment, which individuals with BPD may find extremely anxiety-provoking. There are important clinical implications of this finding. Among individuals with BPD symptomatology, the avoidance of intimate relationships, or the fear of acting in an intimate manner within existing relationships, may be best understood as arising from a fear of eventual abandonment. It may therefore be less intimidating or frightening for an

individual with BPD to avoid intimacy in general than to initiate and maintain intimate relationships and risk eventual abandonment and loss. However, the avoidance of intimacy may lead to other difficulties, such as loneliness and limited social support, as well as the inability to test the hypothesis that all intimacy will end in abandonment.

The second mediated relationship, that fear of positive evaluation acts as a mediator between BPD symptoms and fear of intimacy, approached significance as well, but had a very small effect size. Therefore, the mediating role of FPE in the relationship between BPD symptoms and fear of intimacy may have been due to other factors, such as the large sample size. The more complex causal relationship that was hypothesized, that fear of positive evaluation would mediate the relationship between BPD symptoms and fear of intimacy, and that this relationship would be further mediated by the relationship between BPD symptoms and fear of abandonment, was not supported. In part, this may have been due to the factors noted above when discussing the lack of a significant relationship between BPD symptoms and fear of positive evaluation when controlling for social anxiety. These factors include the significant impact of social anxiety on fear of positive evaluation, the high rates of social anxiety and low rates of BPD in this sample, and the inability of the FPES to provide an accurate assessment of fear of positive evaluation as it might be manifested within BPD.

Chapter 6: Limitations

There were a number of limitations in the current study that must be taken into account when interpreting results.

Use of the IAT to Assess Constructs of Interest

Although the IAT has been utilized to assess attachment, it has never before been used to measure fear of positive evaluation. Therefore, it was initially unclear whether this construct would be able to be assessed successfully using implicit measures. However, because such a wide range of constructs had been successfully assessed by the IAT, including alcohol use and expectancies (e.g., Jajodia & Earleywine, 2003; Ostafin & Palfai, 2006), implicit attitudes about smoking (e.g., De Houwer, Custers, & De Clercq, 2006; Kahler et al., 2007), romantic attachment (e.g., Zayas & Shoda, 2005), anxiety sensitivity (e.g., Lefaivre, Watt, Stewart, & Wright, 2006), and anxiousness (e.g., Schnabel et al., 2006), it was expected that the target variables in this study would be measurable this way as well. The IAT was thought to be particularly useful for the current study, since individuals with BPD, due to emotion dysregulation, may have particular difficulties accessing their emotions in order to report on them. Therefore, the IAT was expected to provide a more objective assessment of constructs of interest.

However, in the present investigation, IAT measures were not found to correlate with target constructs. This is consistent with findings that implicit and explicit measures may examine distinct constructs and therefore not be significantly correlated (e.g., Nosek, Greenwald, & Banaji, 2005; Nosek & Smyth, 2007). For

example, one large meta-analysis of 126 independent study correlations derived from 517 single correlations (total n = 12,289) found a mean effect size of .24 for the relationship between self-report and IAT measures (Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005). In this meta-analysis, concordance between self-report and IAT measures changed as a function of the topic; specifically, concordance increased if a topic elicited spontaneous responses (e.g., how often individuals report their "gut feelings" about a given topic). Additionally, Nosek (2005) found that social desirability concerns decreased concordance between self-report and implicit measures. It is therefore possible that individuals did accurately report on their fear of abandonment or of positive evaluation, as these are sensitive topics. However, in this case, it would be assumed that the IAT's for these constructs would then be significantly correlated with scores on other measures, like measures of BPD symptoms or social anxiety. Since the IAT's did not correlate with any constructs of interest, while there were strong correlations in the expected directions between all self-report measures, it may be the case that either the IAT was not a valid measure of fear of abandonment or fear of positive evaluation in this population, or that the stimuli used in the IAT's were not effective at tapping into these constructs.

Furthermore, during the debriefing session, some participants reported that they did not know the meaning of certain IAT stimuli (e.g., "rebuff"). If the majority of participants did not know the meaning of various stimuli, this would have impacted IAT performance. Yet, this problem is unlikely to have rendered the IAT's completely invalid. As a manipulation check, the overall mean of the IAT scores for both constructs was in the expected direction, with higher fear of abandonment than

fear of positive evaluation (since it is probable that the majority of individuals would find "abandonment" to be more fear-inducing than "praise").

In the future, IAT items could be piloted on a large group of undergraduates to determine which items participants do not understand or do not think are related to the target construct. Additionally, participants with extreme scores on the high and low ends of self-report measures of fear of praise and fear of abandonment could be used to pilot these items, in order to ensure that the IAT items are able to discriminate between low and high scorers. If these additional steps did not increase the concordance between IAT and self-report measures, this would provide more concrete evidence that the IAT and self-report measures for these constructs are actually tapping into two distinct concepts.

Appropriateness of Analogue Sample

A broad range of BPD symptoms was observed in the undergraduate participant sample used in previous studies conducted by other researchers in the experimenter's laboratory (Tull, M.T., personal communication, August 17, 2007).Therefore, it was expected that this analogue sample would be appropriate for exploring the relationship between BPD symptoms and difficulties in intimate relationships in the current study. Additionally, high rates of BPD-relevant behaviors have been documented in undergraduates. For instance, estimates of deliberate self-harm range from 14% in an undergraduate sample (Favazza, De-Rosear, & Conterio, 1989) to 35% in a sample of undergraduates in introductory psychology classes (Gratz, 2001). Additionally, when examining the prevalence of impulsive behaviors

in college students that can be viewed as similar to impulsive behaviors seen in BPD, it is evident that many types of impulsive behaviors (e.g., binge-drinking [Perkins, 2002] and impulsive eating-disordered behaviors) are more frequent among undergraduates than non-undergraduates, which would speak to the relevance of using an undergraduate sample to examine BPD symptomatology in the present investigation. Specifically, prevalence of bulimia in college women is over five times that of the non-college student female population; while the National Comorbidity Survey Replication reported lifetime prevalence rates of bulimia of 1.5% among females (Hudson, Hiripi, Pope, & Kessler, 2007), studies examining female undergraduates report prevalence rates as high as 8% to 14% (e.g., Coric & Murstein, 1993; Edwards-Hewitt & Gray, 1993; Pyle, Halvorson, Neuman, & Mitchell, 1986).

Furthermore, according to Borkovec and Rachman (1979), a major advantage of analogue research is its ability to answer novel research questions empirically, using a well-controlled design that can help experimenters determine whether effects are due to specific variables of theoretical interest. Therefore, analogue research is appropriate for early-stage research on a proposed model, such as the current study, which was the first empirical investigation of fear of positive evaluation in BPD. Early analogue research can be used to guide later work where findings are generalized to clinical populations (Tull et al., in press).

However, it appears that an analogue sample, or characteristics specific to the sample obtained from the introductory psychology participant pool at this university, may have impacted the results of the present investigation. As discussed earlier, the DIPD clinical interview found that only 2.4% of the sample met criteria for BPD, and

62.4% of the sample endorsed no symptoms at all. Since it may be the case that low rates of BPD symptomatology affected the ability to examine relationships between BPD and fear of evaluation and fear of intimacy, recruitment strategies might be changed in future work. Specifically, it may be useful to oversample from departments that attract students who display more of the characteristics known to relate to BPD, such as female gender and attention-seeking or dramatic behavior. For example, in recent work done in the investigator's laboratory, participants with BPD were found by recruiting in drama, dance, and humanities classes in addition to psychology classes (Gratz, K.L., personal communication, June 12, 2008). Additionally, future recruitment efforts may benefit from a more detailed description of the study. Gratz (2001) notes that the high rates of self-harm behaviors that were found in her undergraduate psychology student sample may have been partially due to the fact that she disclosed that the study was about self-harm, which may have attracted students who engaged in these behaviors. Since the present study was examining BPD symptomatology continuously, participants were not informed that any BPD-relevant behaviors would be studied; instead, they were told that the focus of the study was on emotions and personality traits that may impact intimate relationship functioning. If the description of the study used for recruitment had focused on the impact of BPD-relevant behaviors on intimate relationship functioning, it is possible that more students with these behaviors would have chosen to participate in this study. Additionally, the participants in the current study had a mean age of 20.01 (*SD* = 2.07), whereas the Gratz (2001) study participants had a mean age of 23.19 (*SD* = 7.13). The older mean age and more variability in age of

the participants in Gratz's (2001) study may have increased the number and range of behaviors that were experienced by the participants in their lifetime. It is possible that an older sample would have had more experiences with intimate relationships and would have therefore been more aware of patterns that emerge within these relationships, including fear of abandonment, vacillation between idealization and devaluation, and other BPD-relevant characteristics, which could have increased observed rates of BPD.

Chapter 7: Conclusions and Further Directions

These results provide evidence that sub-clinical levels of BPD symptomatology have a significant impact on both fear of abandonment and fear of intimacy. Further, the relationship between BPD symptomatology and fear of intimacy was mediated by fear of abandonment. This is an empirical demonstration of the conceptual link between BPD, fear of abandonment, and interpersonal distress that is often cited by BPD theorists (e.g., Gunderson, 1996; Linehan, 1993).

In further research, it would be interesting to examining how the effect of BPD symptomatology on intimate relationship functioning is moderated by gender. In the present investigation, a significant effect of BPD symptomatology on fear of intimacy was only found in females. It may be the case that using other dependent variables to assess difficulties with intimate relationship functioning would have yielded different results, as females could be more open to answering questions about fear of intimacy than males. However, these findings could also indicate that BPD symptomatology affects intimate relationship functioning differently in each gender. As gender differences in the symptom profile of BPD is suggested by recent empirical investigations (e.g., Barnow et al., 2007; Bradley et al., 2005), future research is needed to explore the role of gender in BPD.

Additionally, it would be useful to examine rates of fear of positive evaluation within a sample of individuals who present with co-occurring BPD and social anxiety. It may be the case that individuals who have both BPD and social anxiety have higher rates of fear of positive evaluation than do individuals who only have

social anxiety. Moreover, the adverse effects of these disorders on intimate relationship functioning may not be additive; individuals with both of these disorders may be vastly more impaired within intimate relationships than individuals with either disorder alone. Relatedly, it may be the case that BPD interventions that target social anxiety as well as BPD may be more effective than those that focus solely on BPD symptomatology. For example, Linehan's (1993) well-supported treatment for BPD, Dialectical Behavior Therapy, may be so effective in part due to its overlap with social anxiety treatment protocols. Specifically, its "Interpersonal Effectiveness" module is similar to the assertiveness training modules in successful treatments for social anxiety (e.g., Social Effectiveness Training [SET]; Turner, Beidel, Cooley, & Woody, 1994). BPD researchers generally do not take levels of social anxiety into account when developing treatment protocols, and instead discuss clients' lack of assertiveness in terms that do not relate to social anxiety disorder (e.g., as the tendency to try to appease a significant other due to the fear of being abandoned; Gunderson, 1996). However, the present findings indicate the importance of assessing for social anxiety disorder when diagnosing and treating BPD. Future research could also investigate whether BPD treatment protocols that address social anxiety are more effective than those than do not.

It may also be the case that individuals with BPD fear abandonment mainly by a therapist or significant other, and may only fear praise given by these individuals rather than praise given by acquaintances. There also exists the possibility that individuals with BPD would only fear praise that is specifically tied to their progress in therapy or their success within a relationship, which would bring up the possibility

of termination or abandonment by a significant other who perceives that the individual is becoming more emotionally stable and capable of functioning independently. In either of these possible scenarios, the FPES would not be a valid measure of this more specific subtype of fear of positive evaluation within BPD, as many of its items are targeted to a more general fear of positive evaluation from all sources (e.g., "If I have something to say that I think a group will find interesting, I typically say it") or highlight the preference of praise within a more intimate setting to praise in a public setting (e.g., "I would rather receive a compliment from someone when that person and I were alone than when in the presence of others.") In this latter case, individuals with BPD may prefer praise within a public setting to the more intimate disclosure of praise that would imply a closer relationship with the praise-giver and thus may elicit more fear of abandonment by this person. Furthermore, high levels of dramatic and attention-seeking behaviors have been found within BPD (e.g., Gunderson, 1996). These behaviors run counter to the types of attention-deflecting behaviors included in the FPES. Future research could focus on creating a valid measure of fear of praise within BPD, which may manifest itself very differently than fear of praise within social anxiety disorder.

Lastly, future research could expand the measures of intimate relationship functioning that were used. In addition to self-report measures of participants' thoughts and emotions surrounding intimate relationships, more objective measures of relationship functioning could be included. For example, participants could be asked how many close friends and romantic partners they have had in their lifetimes, as well as currently. Additionally, friends' or partners' reports could be used to

corroborate participants' report of how participants actually act within their intimate relationships. Often, there is a disparity between participants' and other informants' reports about personality-disordered behavior, and this disparity is greater for younger individuals (e.g., Klonsky, Oltmanns, & Turkheimer, 2002). Therefore, in future research on undergraduate samples, it may be useful to obtain a range of informants' reports in addition to self-reports about participants' functioning within intimate relationships.

Appendices

Appendix A: Borderline Personality Disorder

Borderline personality disorder (BPD) is a chronic, severe, and debilitating disorder that affects 1-2% of the general population (e.g., Swartz, Blazer, George, & Winfield, 1990), including approximately 10% of psychiatric outpatients, 15-20% of inpatients, and 6% of primary care patients (Widiger & Weissman, 1991). Although the Diagnostic and Statistical Manual (DSM-IV; American Psychiatric Association, 2000) states that the disorder is three times more prevalent in females than in males, some researchers suggest that this disparity is due to sampling bias, in that more females than males seek psychological help overall (Skodol & Bender, 2003). The following section will review the symptom profile of BPD; its public health impact, including high rates of self-harm, suicidality, and impulsivity; commonly co-occurring disorders; the genetic and temperamental basis of BPD; and recent evidence about the prognosis of BPD.

According to the DSM-IV (APA, 2000), BPD is characterized by at least five of the following symptoms: frantic efforts to avoid real or imagined abandonments; a pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation; markedly and persistently unstable self-image or sense of self; impulsivity in at least two areas that are potentially self-damaging; recurrent suicidal gestures or threats, or self-mutilating behavior; affective instability due to a marked reactivity of mood, which refers to intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more

than a few days; chronic feelings of emptiness; inappropriate, intense anger or difficulty controlling anger; and transient, stress-related paranoid ideation or severe dissociative symptoms.

The major public health impact of the disorder can be illustrated by the extremely high rates of hospitalization and treatment reported by individuals with BPD. For example, Zanarini, Frankenburg, Hennen, Reich, and Silk (2005) followed patients with BPD for six years in the McLean Study of Adult Development (MSAD) and found that 79% of the sample reported a history of prior hospitalization, 60% had been hospitalized more than once, and 60% experienced hospitalizations of at least one month in duration. Additionally, Zanarini and colleagues found that over 70% of patients with BPD were in psychotherapy and/or pharmacotherapy over the entire six years of the study. Moreover, polypharmacy was common; 40% of the sample reported using three or more concurrent medications at each follow-up, 20% reported using at least four, and 10% reported using at least five.

Rates of suicidality and self-harm behaviors are extremely high in BPD. In terms of suicidality, research has indicated that approximately three-quarters of inpatients with BPD have attempted suicide at least once (Gunderson, 1984), and the completed suicide rate of individuals with BPD has been found to range from 3-9.5% (McGlashan, 1986; Pompili, Girardi, Ruberto, & Tatarelli, 2005; Zanarini et al., 2005). They also have been shown to exhibit high rates of deliberate self-harm behavior; approximately 70% of individuals with BPD are estimated to engage in deliberate self-harm (e.g., Kjellander, Bongar, & King, 1998). In fact, the rates of deliberate self-harm in BPD have been demonstrated to surpass those in other

personality disorders by a factor of four (Kjellander et al., 1998; Zanarini, Gunderson, et al., 1990). Relatedly, impulsivity is a key construct in BPD (e.g., Koenigsberg et al., 2001; Siever et al., 2002), and impulsive behaviors are found across a range of domains aside from self-harm behaviors, including binging and purging (Steiger, et al., 2005; Zanarini, Frankenburg, et al., 1990); substance abuse (e.g., Gunderson, 1984; Lieb, Zanarini, Schmahl, Linehan, & Bohus, 2004); risky sexual behavior, particularly under the influence of substances (e.g., Gunderson, 1984); and reckless driving (e.g., Gunderson, 1984).

BPD has been found to co-occur with a host of other disorders, and approximately 95% of individuals with BPD meet criteria for at least one other disorder (Widiger, Frances, Pincus, Davis, & First, 1991). The most common co-occurring disorders are major depressive disorder (MDD); substance abuse disorders; eating disorders; ADHD; and anxiety disorders, specifically post-traumatic stress disorder, social phobia, and panic disorder (Biederman, Newcorn, & Sprich, 1991; Davids & Gastpar, 2005; Shea et al., 2004; Stein, Hollander, & Skodol, 1993; Trull, Sher, Minks-Brown, Durbin, & Burr, 2000; Wonderlich, Swift, Slomik, & Goodman, 1990; Zanarini, Frankenburg et al., 1990); the yearly prevalence rates of these disorders are 5 to 50 times higher in individuals with BPD than in the general population (Friedel, 2007). Additionally, BPD frequently co-occurs with bipolar disorder; Gunderson et al. (2006) reported significantly higher rates of bipolar disorder (both subtypes I and II) in patients with BPD than in patients with other personality disorders (19.4% compared to 7.9%). In a review of the prevalence of co-occurring personality disorders among individuals with eating disorders, Sansone,

Levitt, and Sansone (2005) found BPD to be the most common co-occurring personality disorder with both anorexia nervosa binge-eating/purging type (25% prevalence of co-occurring BPD) and bulimia nervosa (over 28% prevalence of co-occurring BPD). Rates of co-occurring BPD were 10% and 12% for patients with anorexia nervosa and binge eating disorder, respectively.

When examining the rates of personality disorders that co-occur with BPD, Zanarini et al. (2004) found the most common to be avoidant personality disorder (AVPD) and dependent personality disorder (DPD). In this study, individuals with BPD were followed for six years, and classified into "remitted" versus "non-remitted" groups. Of the non-remitted BPD sample, 59% met criteria for AVPD and 45% met criteria for DPD. Of the remitted sample, rates were 16% and 8% respectively for AVPD and DPD.

There is strong evidence for a genetic component underlying BPD (see Skodol, Gunderson, et al., 2002 for a review). The disorder is much more common in relatives of probands with BPD than in the general population; estimated rates of BPD in first degree relatives of BPD probands range from 13% to 40% depending on how BPD is measured (i.e., as a DSM diagnosis or as a syndrome of certain focal symptoms; Zanarini et al., 2004). One possibility that accounts for this finding may be that there is a heritable temperament that is a risk factor for the later development of BPD. In an attempt to delineate the temperamental characteristics of BPD, Clarkin and Posner (2005) found that individuals with BPD display higher levels of negative affect and lower levels of effortful control (i.e., difficulty with efficiently making choices in conflict situations) than control participants; Trull (2001) also found

negative affect to be a core trait underlying BPD. Other research on temperamental correlates of BPD has shown that individuals with BPD exhibit higher levels of novelty seeking than non-disordered controls and individuals with other psychiatric disorders (including personality disorders) (e.g., Fossati et al., 2001; Pukrop, 2002). Affective instability, defined as the tendency to exhibit emotional reactivity to environmental stressors (particularly those involving frustration or loss), is another salient temperamental characteristic of BPD (e.g., Skodol, Siever, Livesley, Gunderson, Pfohl, & Widiger, 2002). As previously discussed, this trait is central to models of BPD; it corresponds to the "temperament-based emotional vulnerability" discussed by Linehan (1993), and, in Sanislow and colleagues' three-factor model of BPD, affective instability is considered to be part of the "affective dysregulation" factor of the disorder. In trait conceptualizations of BPD, affective instability has been shown to be a unique, heritable feature of the disorder (Skodol, Siever, et al., 2002). Impulsivity, or disinhibition, discussed earlier as a core feature of BPD, is also considered to have a strong temperamental basis. For example, Trull (2001) posits disinhibition as a core personality trait underlying BPD. In this model, parental disinhibition was also found to be associated with the development of BPD, which suggests that disinhibition is a heritable trait that is central to the etiology of the disorder. Additionally, in his review on the development of impulsivity and suicidality in BPD, Paris (2005) conceptualizes impulsivity as a group of more basic personality traits (e.g., extraversion and nonaffective constraint) that interact and are manifested in externalizing behaviors. Further support for the conceptualization of disinhibition as a trait underlying BPD comes from Nigg, Silk, Stavro, and Miller

(2005), who found a relationship between BPD symptoms and poor response inhibition on a cognitive task that required participants to interrupt a prepared response.

Recent evidence has shown that there is a more positive prognosis for individuals with BPD than was previously thought. In the McLean Study of Adult Development (MSAD), Zanarini et al. (2005) found that approximately 74% of patients with BPD remitted, as defined by no longer meeting diagnostic criteria for BPD on either the Revised Diagnostic Interview for Borderlines (DIB-R; Zanarini, Gunderson, Frankenburg, & Chauncey, 1989b) or the DSM-III-R criteria during at least two year one follow-up. Furthermore, remissions were found to be stable, with only 6% of patients meeting criteria for a recurrence of BPD.

Appendix B: Biopsychosocial Model of the Development of BPD

Linehan (1993) conceptualizes BPD as developing from a confluence of biological, psychological, and environmental factors. She states that individuals' innate temperament-based emotional vulnerability (which is comprised of both hypersensitivity to emotional stimuli and highly intense emotional reactions) combines with an invalidating childhood environment to lead to emotion dysregulation. Invalidation is conceived of as "one in which communication of private experiences is met by erratic, inappropriate, and extreme responses… it is often punished and/or trivialized" (Linehan, 1993: p.49). One way in which an invalidating environment is problematic is that it does not provide children with the opportunity to learn how to identify and regulate their emotions (Linehan, 1993). Children in invalidating environments thus do not learn how to tolerate emotional distress, as they are never taught to do so by caregivers. They also do not learn how to trust their own emotions to provide accurate information about life experiences (Linehan, 1993). This may explain the lack of emotional awareness and clarity that is a hallmark of BPD (Leible & Snell, 2004; Levine, Marziali, & Hood, 1997). Zanarini et al. (1997) found support for this model in their study of pathological childhood experiences in inpatients with BPD. They found that patients with BPD endorsed significantly higher rates of various invalidating parenting practices (e.g., emotional withdrawal, inconsistent treatment, denial of the patient's thoughts and feelings, being placed in the role of a parent by a caretaker, and failure to provide needed protection) than were reported by patients with other personality disorders.

Linehan's proposed relationship between invalidating environments and BPD is also supported by research citing the high prevalence of childhood abuse in BPD (e.g., Goodman & Yehuda, 2002; Murray, 1993). Abuse is a prototypical example of invalidation, as children's distress in response to being abused or neglected is often ignored or minimized by parents and others, which prevent a child from learning to trust his or her own emotional responses. The work of Zanarini and colleagues (1997) supports the link between childhood abuse and BPD. This study of a large sample of inpatients with BPD found that 91% reported having been abused before the age of 18, and 92% reported having been neglected. Furthermore, patients with BPD were significantly more likely than patients with other personality disorders to have experienced emotional and physical abuse in childhood by a caretaker and to have been sexually abused by a non-caretaker.

Appendix C

Tables

1. Implicit Association Task (IAT) stimuli
2. Intercorrelations between demographics, mood, personality, and intimacy variables
3. Intercorrelations between IAT variables and theoretically related variables

Figures

1. Model of the relationships between BPD symptoms and difficulties in intimate relationships
2. Brennan, Clark, and Shaver's 1998 model of adult attachment

Self-report Measures

1. Demographics
2. Borderline Evaluation of Severity over Time (BEST)
3. Depression and Stress Scale (DASS-21)
4. Experiences in Close Relationships Scale (ECR)
5. Fear of positive evaluation Scale (FPES)
6. Brief Fear of Negative Evaluation Scale (BFNE)
7. Social Phobia Scale (SPS)
8. Fear of Intimacy Scale (FIS)
9. Miller Social Intimacy Scale (MSIS)

Table 1

IAT stimuli

Fear	*Positive Evaluation*	*Abandonment*	*Calm*	*Furniture*
Panic	Admire	Reject	Serene	Sofa
Anxiety	Acclaim	Neglect	Placid	Chair
Dread	Commend	Dump	Relax	Futon
Scared	Approval	Rebuff	Peace	Table
Frightened	Compliment	Breakup	Ease	Desk
Afraid			Tranquil	Cabinet
Horror			Resting	Couch
Terror			Quiet	Bed
Terrified			Unwind	Dresser
Panic			Soothe	Nightstand

Table 2
Descriptive statistics of sample

Variable	Mean (SD)
Age (> 20 years)	53.8%
Gender (female)	75.6%
Income (> $95,000)	51.5%
BPD Symptomatology (BEST score)	24.30 (7.66)
Number of BPD Symptoms (DIPD)	.76 (1.24)
Fear of positive evaluation Scale (FPES)	29.33 (14.66)
Fear of abandonment (ECR)	60.47 (20.06)
Fear of Intimacy (FIS)	73.86 (21.74)
Social Intimacy (MSIS)	131.45 (18.23)
Depression, anxiety, stress Symptoms (DASS)	24.53 (17.65)
Social anxiety (SPS)	15.59 (11.48)
Fear of negative evaluation (BFNE)	36.08 (9.38)
Length of longest friendship (years)	10.89 (5.04)
Years dated significant other	1.20 (1.54)
Fear of positive evaluation IAT difference score	-.07 (.08)
Fear of abandonment IAT difference score	.07 (.09)

Table 3

Intercorrelations between demographics, mood, personality, and intimacy variables

Variable	*Gender*	*Age*	*Income*	*BPD*	*DIPD*	*Fear of Aband*	*FPE*	*FNE*	*Dep, Stress,Anx*	*Dep*	*Stress*	*Anx*	*Soc Anx*	*Soc Int*	*Fear of Int*	*Length Friend*
Gender	---	.10	-.03	-.02	-.13	-.02	.14	.01	-.04	.06	-.09	-.05	.04	-.29**	.08	.14*
Age (> 20)		---	.10	-.17*	-.21**	-.15*	-.02	-.05	-.15*	-.14*	-.11	-.12	-.02	-.04	.02	.05
Annual parental income (> $95,000)			---	.06	.02	.06	.09	.05	.01	.03	.02	-.01	-.01	-.13	.12	.13
BPD Symptoms (BEST)				---	.52**	.53**	.26**	.42**	.68**	.65**	.62**	.42**	.42**	.04	.29**	-.17*
BPD Symptom Count (DIPD)					---	.41**	.20**	.37**	.50**	.41**	.46**	.36**	.31**	.05	.17*	-.13
Fear of abandon-ment (ECR)						---	.38**	.53**	.49**	.44**	.43**	.34**	.44**	.06	.26**	-.05
Fear of positive evaluation (FPES)							---	.43**	.30**	.26**	.26**	.24**	.63**	-.04	.32**	.01
Fear of negative evaluation (BFNE)								---	.40**	.44**	.35**	.21**	.57**	.06	.20**	-.07

Depression, anxiety, stress (DASS total score)	---	.81**	.90**	.79**	.54**	.09	.20**	-.13
Depression (DASS subscale)		---	.60**	.44**	.38**	-.01	.23**	-.11
Stress (DASS subscale)			---	.59**	.47**	.15*	.16*	-.13
Anxiety (DASS subscale)				---	.50**	.07	.12	-.09
Social anxiety (SPS)					---	.02	.32**	-.08
Social intimacy (MSIS)						---	-.38**	-.13
Fear of intimacy (FIS)							---	-.08
Length of longest friendship								---

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

Table 4

Intercorrelations between IAT variables and theoretically related variables

Variable	*FPE IAT*	*FoA IAT*	*BEST*	*FPES*	*ECR*	*BFNE*	*SPS*	*FIS*	*MSIS*
Fear of positive evaluation IAT	---	-.12	.12	-.03	.05	.18*	.05	.01	-.01
Fear of abandonment IAT		---	.05	.01	-.04	-.08	-.07	-.02	.01
BPD Symptoms (BEST)			---	.26**	.53**	.42**	.42**	.29**	.04
Fear of Positive Evaluation (FPES)				---	.38**	.43**	.63**	.32**	-.04
Fear of Abandonment (ECR)					---	.53**	.44**	.26**	.06
Fear of Negative Evaluation (BFNE)						---	.57**	.20**	.06
Social Anxiety (SPS)							---	.32**	.02
Fear of Intimacy (FIS)								---	-.38**
Social Intimacy (MSIS)									---

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

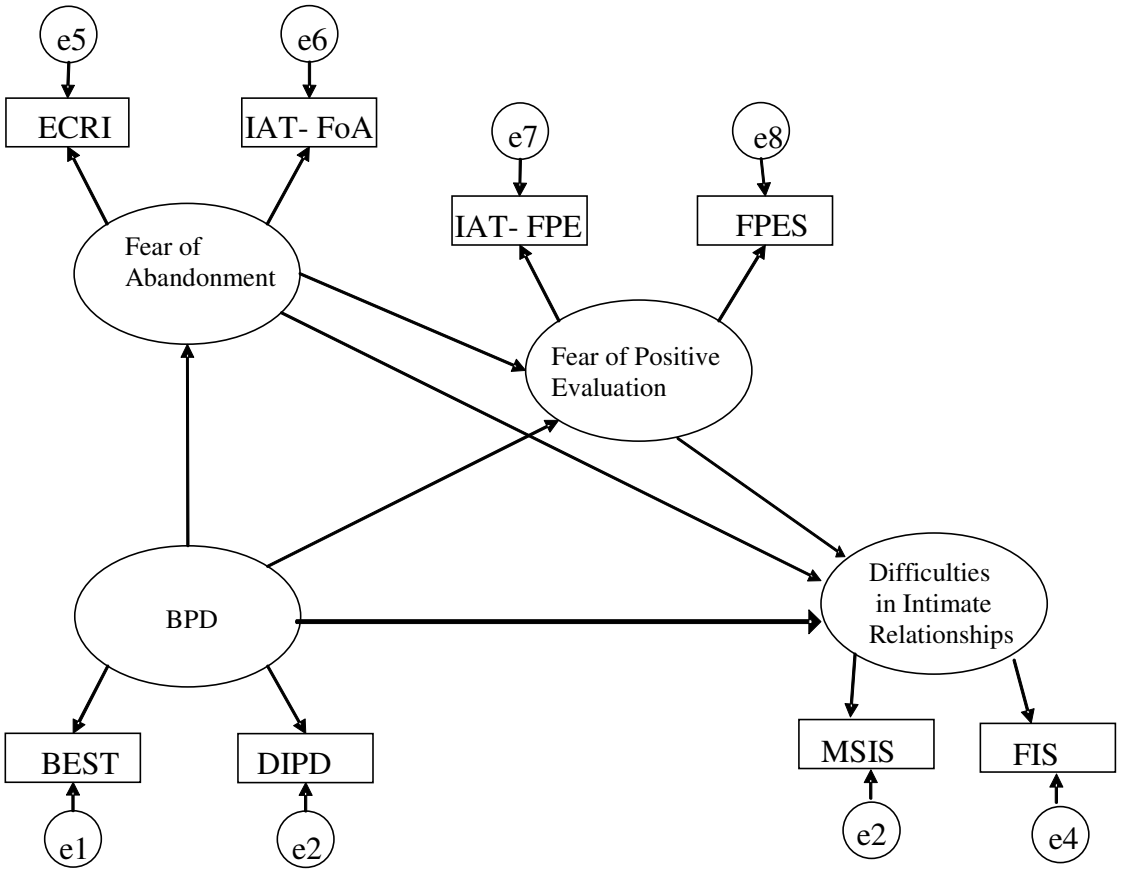


Figure 1. Original model of the relationships between BPD symptoms and functioning within intimate relationships.

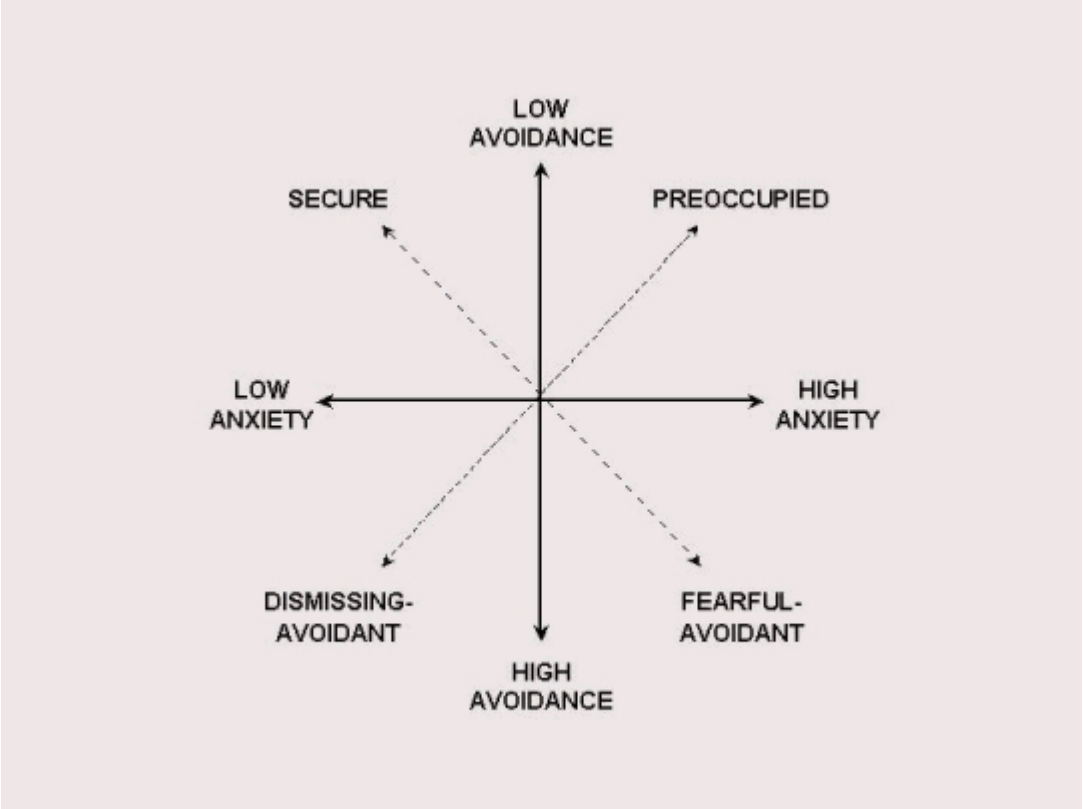


Figure 2. Brennan, Clark, and Shaver's 1998 model of adult attachment.

Demographic Data

Age: ___
Sex: Female___ (0) Male (1)

Year in school: _____

Marital/Relationship Status:
___ (1) Single (never married, living alone, divorced, widowed, etc.)
___ (2) Living with a partner as if married
___ (3) Married but separated
___ (4) Married

Ethnicity/Race (please check one)
___ (1) White/Caucasian
___ (2) Black/African American
___ (3) Asian/Southeast Asian
___ (4) Hispanic/Latino
___ (5) Native American/American Indian
___ (6) Other: _____

Education (the highest grade or degree you have completed)
___ (1) None
___ (2) 1st-8th grade
___ (3) Some High School
___ (4) High School Graduate
___ (5) GED
___ (6) Some College
___ (7) Technical or Business School
___ (8) College Graduate
___ (9) Some Graduate School
___ (10) Graduate or Professional Degree

Total Family/Household Income (please check one) ___ (1) $0-15,000
___ (2) $15,000-25,000
___ (3) $25,000-35,000
___ (4) $35,000-45,000
___ (5) $45,000-55,000
___ (6) $55,000-65,000
___ (7) $65,000-75,000
___ (8) $75,000-85,000
___ (9) $85,000-95,000
___ (10) $100,000+

Employment Status:
___ (1) Unemployed

___ (2) Employed Part Time (working 1-30 hours a week)
___ (3) Employed Full Time (working more than 30 hours a week)
___ (4) Full Time Student
___ (5) Homemaker
___ (6) Part Time Student
___ (7) Retired
Occupation:
_____

BEST:

THINK ABOUT YOUR BEHAVIORS OVER THE PAST 30 DAYS FOR THIS QUESTIONNAIRE.

For the first 12 items, the highest rating (5) means that the item caused extreme distress, severe difficulties with relationships and/or kept you from getting things done. The lowest rating (1) means it caused little or no problems. Rate items 13-15 (positive behaviors) according to frequency.

Circle the number which indicates how much the item in each row has caused distress, relationship problems, or difficulty with getting things done

A. THOUGHTS AND FEELINGS: [ ]	None/Slight	Mild	Moderate	Severe	Extreme
1. Worrying that someone important in your life is tired of you or is planning to leave you.	**1**	**2**	**3**	**4**	**5**
2. Major shifts in your opinions about others such as switching from believing someone is a loyal friend or partner to believing the person is untrustworthy and hurtful.	**1**	**2**	**3**	**4**	**5**
3. Extreme changes in how you see yourself. Shifting from feeling confident about who you are to feeling like you are evil, or that you don't even exist.	**1**	**2**	**3**	**4**	**5**
4. Severe mood swings several times a day. Minor events cause major shifts in mood.	**1**	**2**	**3**	**4**	**5**
5. Feeling paranoid or like you are losing touch with reality.	**1**	**2**	**3**	**4**	**5**
6. Feeling angry.	**1**	**2**	**3**	**4**	**5**
7. Feelings of emptiness.	**1**	**2**	**3**	**4**	**5**
8. Feeling suicidal.	**1**	**2**	**3**	**4**	**5**

B. BEHAVIORS (Negative): [ ]	None/Slight	Mild	Moderate	Severe	Extreme
9. Going to extremes to try to keep someone from leaving you.	**1**	**2**	**3**	**4**	**5**

10. Purposely doing something to injure yourself or making a suicide attempt.	**1**	**2**	**3**	**4**	**5**
11. Problems with impulsive behavior (not counting suicide attempts or injuring yourself on purpose). Examples include: over-spending, risky sexual behavior, substance abuse, reckless driving, binge eating, other_____ *(circle those that apply)*	**1**	**2**	**3**	**4**	**5**
12. Temper outbursts or problems with anger leading to relationship problems, physical fights, or destruction of property.	**1**	**2**	**3**	**4**	**5**

Circle the number below which indicates how often you used the following positive behaviors:

C. BEHAVIORS (Positive): [ ]	Almost always	Most of the time	Half of the time	Sometimes	Almost never
13. Choosing to use a positive activity in circumstances where you felt tempted to do something destructive or self-defeating.	**5**	**4**	**3**	**2**	**1**
14. Noticing ahead of time that something could cause you emotional difficulties and taking reasonable steps to avoid/prevent the problem.	**5**	**4**	**3**	**2**	**1**
15. Following through with therapy plans to which you agreed (e.g., talk therapy, “homework” assignments, coming to appointments, medications, etc.)	**5**	**4**	**3**	**2**	**1**

DASS-21

INSTRUCTIONS: Please read each statement and choose the number which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement. The rating scale is as follows:

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

_____ 1. I found it hard to wind down.

_____ 2. I was aware of dryness in my mouth.

_____ 3. I couldn't seem to experience any positive feeling at all.

_____ 4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).

_____ 5. I found it difficult to work up the initiative to do things.

_____ 6. I tended to over-react to situations.

_____ 7. I experienced trembling (e.g., in the hands).

_____ 8. I felt that I was using a lot of nervous energy.

_____ 9. I was worried about situations in which I might panic and make a fool of myself.

_____ 10. I felt that I had nothing to look forward to.

_____ 11. I found myself getting agitated.

_____ 12. I found it difficult to relax.

_____ 13. I felt down-hearted and blue.

_____ 14. I was intolerant of anything that kept me from getting on with what I was doing.

_____ 15. I felt I was close to panic.

_____ 16. I was unable to become enthusiastic about anything.

_____ 17. I felt I wasn't worth much as a person.

_____ 18. I felt that I was rather touchy.

_____ 19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat).

_____ 20. I felt scared without any good reason.

_____ 21. I felt that life was meaningless.

Experiences in Close Relationships Inventory (*Brennan, Clark, & Shaver, 1998)*

The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

1	2	3	4	5	6	7
Disagree Strongly			Neutral/ Mixed			Agree Strongly

_____ 1. I prefer not to show a partner how I feel deep down.
_____ 2. I worry about being abandoned.
_____ 3. I am very comfortable being close to romantic partners.
_____ 4. I worry a lot about my relationships.
_____ 5. Just when my partner starts to get close to me I find myself pulling away.
_____ 6. I worry that romantic partners won't care about me as much as I care about them.
_____ 7. I get uncomfortable when a romantic partner wants to be very close.
_____ 8. I worry a fair amount about losing my partner.
_____ 9. I don't feel comfortable opening up to romantic partners.
_____ 10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.
_____ 11. I want to get close to my partner, but I keep pulling back.
_____ 12. I often want to merge completely with romantic partners, and this sometimes scares them away.
_____ 13. I am nervous when partners get too close to me.
_____ 14. I worry about being alone.
_____ 15. I feel comfortable sharing my private thoughts and feelings with my partner.
_____ 16. My desire to be very close sometimes scares people away.
_____ 17. I try to avoid getting too close to my partner.
_____ 18. I need a lot of reassurance that I am loved by my partner.
_____ 19. I find it relatively easy to get close to my partner.
_____ 20. Sometimes I feel that I force my partners to show more feeling, more commitment.
_____ 21. I find it difficult to allow myself to depend on romantic partners.
_____ 22. I do not often worry about being abandoned.
_____ 23. I prefer not to be too close to romantic partners.
_____ 24. If I can't get my partner to show interest in me, I get upset or angry.
_____ 25. I tell my partner just about everything.
_____ 26. I find that my partner(s) don't want to get as close as I would like.
_____ 27. I usually discuss my problems and concerns with my partner.
_____ 28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
_____ 29. I feel comfortable depending on romantic partners.
_____ 30. I get frustrated when my partner is not around as much as I would like.
_____ 31. I don't mind asking romantic partners for comfort, advice, or help.
_____ 32. I get frustrated if romantic partners are not available when I need them.
_____ 33. It helps to turn to my romantic partner in times of need.
_____ 34. When romantic partners disapprove of me, I feel really bad about myself.
_____ 35. I turn to my partner for many things, including comfort and reassurance.
_____ 36. I resent it when my partner spends time away from me.

FPES

Read each of the following statements carefully and fill in a numbered bubble on the answer sheet to indicate the degree to which you feel the statement is characteristic of you, using the following scale. For each statement**, respond as though it involves people that you do not know very well.** Rate each situation from 0 to 9. Please fill in only one bubble for each statement.

0	1	2	3	4	5	6	7	8	9

Not at all True **Somewhat true** **Very True**

1. I am uncomfortable exhibiting my talents to others, even if I think my talents will impress them.
2. It would make me anxious to receive a compliment from someone that I am attracted to.
3. I try to choose clothes that will give people little impression of what I am like.
4. I feel uneasy when I receive praise from authority figures.
5. If I have something to say that I think a group will find interesting, I typically say it.
6. I would rather receive a compliment from someone when that person and I were alone than when in the presence of others.
7. If I was doing something well in front of others, I would wonder whether I was doing "too well".
8. I generally feel uncomfortable when people give me compliments.
9. I don't like to be noticed when I am in public places, even if I feel as though I am being admired.
10. I often feel under-appreciated, and wish people would comment more on my positive qualities.

BFNE

Read each of the following statements carefully and indicate how characteristic it is of you according to the following scale. Fill in a bubble to indicate how characteristic the statement is of you.

1 = **Not at all** characteristic of me **2** = **Slightly** characteristic of me **3** = **Moderately** characteristic of me **4** = **Very** characteristic of me **5** = **Extremely** characteristic of me

1. I worry about what other people will think of me even when I know it doesn't make a difference.

   ① ② ③ ④ ⑤

2. I am unconcerned even if I know people are forming an unfavorable impression of me.

   ① ② ③ ④ ⑤

3. I am frequently afraid of other people noticing my shortcomings.

   ① ② ③ ④ ⑤

4. I rarely worry about what kind of impression I am making on someone.

   ① ② ③ ④ ⑤

5. I am afraid that others will not approve of me.

   ① ② ③ ④ ⑤

6. I am afraid that people will find fault with me.

   ① ② ③ ④ ⑤

7. Other people's opinions of me do not bother me.

   ① ② ③ ④ ⑤

8. When I am talking to someone, I worry about what they may be thinking about me.

   ① ② ③ ④ ⑤

9. I am usually worried about what kind of impression I make.

   ① ② ③ ④ ⑤

10. If I know someone is judging me, it has little effect on me.

① ② ③ ④ ⑤

11. Sometimes I think I am too concerned with what other people think of me.

① ② ③ ④ ⑤

12. I often worry that I will say or do the wrong things.

① ② ③ ④ ⑤

SPS

For each question, please select the appropriate numbered response on the scale provided to indicate the degree to which you feel the statement is characteristic of you. The rating scale is as follows:

0 – Not at all characteristic or true of me **1 – Slightly** characteristic or true of me **2 – Moderately** characteristic/true of me **3 – Very** characteristic or true of me **4 – Extremely** characteristic or true of me

1. I become anxious if I have to write in front of other people. ____
2. I become self-conscious when using public toilets. _____
3. I can suddenly become aware of my own voice and of others listening to me. ____
4. I get nervous that people are staring at me as I walk down the street. ____
5. I fear I may blush when I am with others. ____
6. I feel self-conscious if I have to enter a room where others are already seated. ____
7. I worry about shaking or trembling when I'm watched by other people. ____
8. I would get tense if I had to sit facing other people on a bus or a train. ____
9. I get panicky that others might see me faint, or be sick or ill. ____
10. I would find it difficult to drink something if in a group of people. ____
11. It would make me feel self-conscious to eat in front of a stranger at a restaurant. ___
12. I am worried people will think my behavior odd. ____
13. I would get tense if I had to carry a tray across a crowded cafeteria. ____
14. I worry I'll lose control of myself in front of other people. ____
15. I worry I might do something to attract the attention of other people. ____
16. When in an elevator, I am tense if people look at me. ____
17. I can feel conspicuous standing in a line. ____
18. I can get tense when I speak in front of other people. ____
19. I worry my head will shake or nod in front of others. ____

20. I feel awkward and tense if I know people are watching me. ____

FIS

Part A. Instructions: Imagine you are in a *close, dating* relationship. Respond to the following statements as you would *if you were in that close relationship.* Rate how characteristic each statement is of you on a scale of 1 to 5 as described below, and put your responses on the answer sheet.

1	2	3	4	5
not at all characteristic of me	*slightly characteristic of me*	*moderately characteristic of me*	*very characteristic of me*	*extremely characteristic of me*

Note. In each statement "____" refers to the person who would be in the close relationship with you.

1. I would feel uncomfortable telling ____ about things in the past that I have felt ashamed of. _____
2. I would feel uneasy talking with ____ about something that has hurt me deeply. _____
3. I would feel comfortable expressing my true feelings to ____. _____
4. If ____ were upset I would sometimes be afraid of showing that I care. _____
5. I might be afraid to confide my innermost feelings to ____. _____
6. I would feel at ease telling ____ that I care about him/her. _____
7. I would have a feeling of complete togetherness with ____. _____
8. I would be comfortable discussing significant problems with ____. _____
9. A part of me would be afraid to make a long-term commitment to ____. _____
10. I would feel comfortable telling my experiences, even sad ones, to ____. _____
11. I would probably feel nervous showing ____ strong feelings of affection. _____
12. I would find it difficult being open with ____ about my personal thoughts. _____
13. I would feel uneasy with ____ depending on me for emotional support. _____
14. I would not be afraid to share with ____ what I dislike about myself. _____
15. I would be afraid to take the risk of being hurt in order to establish a closer relationship with ____. _____
16. I would feel comfortable keeping very personal information to myself. _____
17. I would not be nervous about being spontaneous with ____. _____
18. I would feel comfortable telling ____ things that I do not tell other people. _____
19. I would feel comfortable trusting ____ with my deepest thoughts and feelings. _____

20. I would sometimes feel uneasy if ____ told me about very personal matters. _____
21. I would be comfortable revealing to ____ what I feel are my shortcomings and handicaps. _____
22. I would be comfortable with having a close emotional tie between us. _____
23. I would be afraid of sharing my private thoughts with ____. _____
24. I would be afraid that I might not always feel close to ____. _____
25. I would be comfortable telling ____ what my needs are. _____
26. I would be afraid that ____ would be more invested in the relationship than I would be. _____
27. I would feel comfortable about having open and honest communication with ____. _____
28. I would sometimes feel uncomfortable listening to ____'s personal problems. _____
29. I would feel at ease to completely be myself around ____. _____
30. I would feel relaxed being together and talking about our personal goals. _____

Part B Instructions: Respond to the following statements as they apply to your past relationships. Rate how characteristic each statement is of you on a scale of 1 to 5 as described in the instructions for Part A.

31. I have shied away from opportunities to be close to someone. ____
32. I have held back my feelings in previous relationships. ____
33. There are people who think that I am afraid to get close to them. ____
34. There are people who think that I am not an easy person to get to know. ____
35. I have done things in previous relationships to keep me from developing closeness. ____

MSIS

Please use your closest relationship, either a romantic relationship or a friendship, to answer these questions.
This person is a:
Significant other [ ]
Friend [ ]
I have known him/her for _____ (length of time)
If this is a significant other, I have dated him/her for _____ (length of time)

	Very Rarely				Some of the Time				Almost Always	
1. When you have leisure time how often do you choose to spend it with him/her alone?	1	2	3	4	5	6	7	8	9	10
2. How often do you keep very personal information to yourself and do not share it with him/her?	1	2	3	4	5	6	7	8	9	10
3. How often do you show him/her affection?	1	2	3	4	5	6	7	8	9	10
4. How often do you confide very personal information to him/her?	1	2	3	4	5	6	7	8	9	10
5. How often are you able to understand his/her feelings?	1	2	3	4	5	6	7	8	9	10
6. How often do you feel close to him/her?	1	2	3	4	5	6	7	8	9	10
	Not Much				A Little				A Great Deal	
7. How much do you like to spend time alone with him/her?	1	2	3	4	5	6	7	8	9	10
8. How much do you feel like being encouraging and supportive to him/her when he/she is unhappy?	1	2	3	4	5	6	7	8	9	10
9. How close do you feel to him/her most of the time?	1	2	3	4	5	6	7	8	9	10
10. How important is it to you to listen to his/her very personal disclosures?	1	2	3	4	5	6	7	8	9	10
11. How satisfying is your relationship with him/her?	1	2	3	4	5	6	7	8	9	10
12. How affectionate do you feel towards him/her?	1	2	3	4	5	6	7	8	9	10
13. How important is it to you the he/she understands your feelings?	1	2	3	4	5	6	7	8	9	10
14. How much damage is caused by a typical disagreement in your relationship with him/her?	1	2	3	4	5	6	7	8	9	10
15. How important is it to you that he/she be encouraging and supportive to you when you are unhappy?	1	2	3	4	5	6	7	8	9	10
16. How important is it to you the he/she show you affection?	1	2	3	4	5	6	7	8	9	10
17. How important is your relationship with him/her in your life?	1	2	3	4	5	6	7	8	9	10

Approximately how long was your longest lasting friendship?
____ years ____ months ____ days

Approximately how long was your longest lasting romantic relationship?
____ years ____ months ____ days

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