Effect of Maternal Borderline Personality Disorder on Romantic Attachment in Adolescence

Thesis Presented for
The Master of Arts Degree
The University of Tennessee, Knoxville

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December 2011

Abstract

Borderline personality disorder (BPD) is a severe and chronic disorder that has been described as a disorder of attachment. The present study examined the effect of maternal BPD and borderline personality features on the romantic attachment styles of mothers with BPD and their 14-17 year old offspring. In a low socioeconomic status (SES) sample of *n*=28 adolescents whose mothers have BPD and *n*=28 normative comparisons, groups were compared on maternal and adolescent self-reported romantic attachment styles. Across the sample as a whole, the relationship between borderline features and romantic attachment styles were assessed. Also, the relationship between maternal borderline features and adolescent romantic attachment ratings were assessed. Mothers with BPD reported themselves as more anxious and more avoidant than normative comparisons did. Adolescent offspring of mothers with BPD also rated themselves as more anxious and more avoidant that normative comparisons did. Maternal anxiety and maternal avoidance correlated with adolescent avoidance. Maternal anxiety correlated with all maternal BPD features. Maternal avoidance correlated with identity problems, negative relationships, self harm, and total borderline features. Adolescent ratings of anxiety correlated with all adolescent borderline features. Maternal anxiety correlated with adolescent affective instability and total borderline features. Results are discussed in terms of precursors to BPD.

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Introduction

Since the inception of borderline personality disorder (BPD), clinical theorists have suggested that its core pathology arises in the domain of interpersonal relations (Masterson, 1986). More recently, attachment theory has been utilized to characterize the interpersonal problems of people with BPD. Indeed, BPD has been characterized as a disorder of attachment (Fonagy, 2000), and many of the core problems of people with BPD are similar to problems of people with the most severe types of insecure attachment—affective instability, identity disturbance, and troubled interpersonal relationships (Fonagy, 2000).

Attachment theory also provides a developmental perspective on the etiology of BPD with an emphasis on close interpersonal relationships. It begins with the caregiver-child relationship and moves towards adult romantic relationships. In fact, many of the difficulties experienced by those with BPD are conceptually similar to developmental tasks in early childhood. These are the same tasks that are that are modified in adolescence: attachment, self development, and self regulation (Sroufe, Egeland, Carlson, & Collins, 2005). Research has suggested that individuals with BPD have impaired interpersonal (Zimmerman & Coryell, 1989) and family functioning (Chen et al., 2004; Macfie, 2009; Zimmerman & Coryell, 1989).

In the present study, we examined the effects of maternal BPD on romantic attachment in adolescence. We did this by using a categorical diagnosis of BPD, a continuous measure of self-reported borderline features, and a continuous measure of self-reported romantic attachment. First, we compared the romantic attachment ratings of mothers diagnosed with BPD with normative comparisons. Second, we compared the romantic attachment ratings of adolescents whose mothers have BPD and normative comparisons. Third, we assessed the relationship between maternal romantic attachment and adolescent romantic attachment ratings. Forth, we

assessed the relationship between continuous measures of romantic attachment and borderline features in mothers and adolescent groups. Fifth, we assessed the relationship between adolescent romantic attachment ratings and adolescent borderline features. Finally, we investigated the relationship between continuous ratings of maternal borderline features and romantic attachment in adolescence.

Borderline Personality Disorder (BPD)

BPD is a severe, chronic, and pervasive personality disorder that affects interpersonal relationships, including romantic relationships. It is characterized by symptoms of instability in relationships, feelings of emptiness, efforts to avoid feelings of abandonment, a lack of a stable sense of self which is theorized to stem from impairments in the underlying attachment organization, and intense psychological turmoil (Fonagy, Target, & Gergely, 2000; Gunderson, 1996; Levy, Meehan, Weber, Reynoso, & Clarkin, 2005). Investigations into BPD have noted that the impulsivity, affective instability and self harming behaviors associated with it often occur within the context of close interpersonal relationships. Specifically, individuals with BPD report more family conflicts, more relationship troubles, and more insecure attachment styles than individuals without BPD (Goldman, D'Angelo, & DeMaso, 1993).

Developmental Psychopathology

Although BPD cannot be officially diagnosed until early adulthood, it is unlikely that it develops spontaneously at that time. This means we need to better understand developmental antecedents to this disorder. BPD may develop over time with contributions from genetic and environmental sources. Developmental psychopathology is an interdisciplinary perspective that investigates the interplay of biological, social, and psychological factors in life span development (Cicchetti & Toth, 2009; Sroufe & Rutter, 1984). It combines clinical psychology and

developmental psychology, creating a field that focuses on life span development that includes both normal and abnormal development. This allows for mutually informative investigations into psychological phenomena. Also, because psychopathology arises over time in a developing organism, a developmental perspective is essential to understand adaptive and maladaptive developmental trajectories (Sroufe & Rutter, 1984).

Studying individuals at high risk for the development of a disorder may shed light on the development of psychopathology or resilience (Wakefield, 1997). The offspring of women with borderline personality disorder represent one such at risk sample for the development of psychopathology. There is little research on this population so far and more needs to be done to understand the risks these individuals are presented with. In the current study, we used the developmental psychopathology perspective to focus on romantic attachment in adolescence.

Attachment Theory

Attachment theory posits that relationship between a child and its caregiver influences the development of future relationships by the creation representational models of self and others. Bowlby theorized that these representations develop though repeated interactions with attachment figures, and could be used to guide behavior and expectations in future relationships, including romantic relationships. Termed internal working models (Bowlby, 1989), they are theorized to organize personality development, direct future psychological development, and interpersonal functioning (Bowlby, 1973). These working models are theorized to act as heuristics in relationships, organizing personality development and other important psychological features. Research on infants whose mothers have BPD have shown high levels of disorganized attachment (Hobson et al., 2005) and research assessing factors related to mother-child attachment found that young children whose mothers have BPD show more parent-child

role reversal, more fear of abandonment, more negative parental relationship expectations, more disrupted and shameful representations of the self, and poorer emotion regulation than normative comparisons in their narrative story-stem completions (Macfie & Swan, 2009).

The attachment system in adolescence.

Adolescence is a developmental period of marked transformation in biological, cognitive, and socio-emotional domains. One of the key tasks in adolescence is the development of intimate extra-familial relationships, including romantic relationships. These relationships are linked to other key tasks in adolescence—individuation from the family, the formation of personal identity, and exploration of sexuality (Wilkinson, 2009). These relationships also play a role in psychological health, adaptive functioning, and provide protection against the negative effects of psychosocial stress (Berndt, Hawkins, & Jiao, 1999; Bukowski, Hoza, & Boivin, 1993; Furman, Laursen, & Mooney, 2006).

As relationships with peers increase in number and intimacy, they gradually take on more and more of the qualities of attachment relationships (Allen & Land, 1999). Research has shown the transfer of these characteristics from parent to peer occurs in a particular order as a function of development (Doyle, Lawford, & Markiewicz, 2009; Hazan & Zeifman, 1994). Essentially, as adolescents develop, they reorganize their attachment hierarchies, with romantic partners satisfying more attachment related needs as age increases.

Romantic attachment.

Empirical research based on attachment theory has developed along two parallel lines. Developmental psychologists utilized observational measures of attachment from infancy to adulthood. Social and personality psychologists on the other hand, utilized self report measures of attachment, including romantic relationships with adolescents and adults, but not with

children. Developmental measures include the strange situation (Ainsworth, Waters, & Wall, 1978) to assess attachment in infancy and the Adult Attachment Interview (George, Kaplan, & Main, 1985) to assess current stance toward childhood attachment in adulthood. Also based on Bowlby's attachment theory, research into romantic attachment started in the late 1970s in social and personality psychology (Hazan & Zeifman, 2008). However, unlike developmental psychologists' interest in child-parent attachment, the focus for social and personality psychologists was on the nature of adult loneliness and love. It was observed that many adults with loneliness and relationship difficulties reported troubled childhood relationships with attachment figures. While investigating this, social psychologists were working on classification systems for how adults approached romantic relationships, but lacked a theoretical framework to explain these individual differences, until they adopted Bowlby's attachment theory (Hazan & Zeifman, 2008). Research investigating attachment from a social/personality perspective has exclusively used self report measures (e.g. relationship questionnaire, experiences in close relationship questionnaire, parental attachment questionnaire, etc.).

Hazan & Shaver (1987) developed the first measure theorized to assess parallels between emotional and behavioral dynamics in infant mother-attachment relationships and adult romantic relationships. They conceptualized romantic relationships as an attachment process, involving the interaction of attachment, caregiving, and sexual behavior. They theorized that approaches to love and the experience of loneliness were due to individual differences in the organization of attachment systems developed in childhood and later manifesting in adulthood. They argued that the patterns they observed in adult romantic contexts were conceptually similar to the patterns observed during the Strange Situation (Ainsworth, et al., 1978). Although the life long effects of early attachment strategies had been discussed by Bowlby and Ainsworth, this was the first

attempt to apply these conceptually similar classifications to adult pair-bond contexts (Hazan & Zeifman, 2008). However, the link between infant attachment and adult romantic relationships remained theoretical and without empirical support.

Overall, self report classifications of romantic attachment styles describe strategies of attachment related behavior within romantic relationships. In accordance with attachment theory, these strategies are thought to be based on internal working models developed in early childhood. The quality of childhood relationships with caregivers is theorized to provide internal working models of the self and others that serve as prototypes for later social relations (Bowlby 1973, 1980, 1982). Thus adolescents do not necessarily have to have been in romantic relationships to have developed the relevant internal working models. Terminology was taken from the AAI although, as mentioned above, there is no known empirical relationship between the two measures.

Romantic Attachment Research

The conceptualization and measurement of self-reported attachment styles have varied across studies (Crowell, Fraley, & Shaver, 1999). However, most investigators of romantic attachment agree that two primary dimensions are involved (Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998b). The first dimension, *attachment anxiety*, is associated with worry about rejection and abandonment; the second dimension, *attachment avoidance*, is associated with the degree to which a person feels lack of comfort depending on and being emotionally close to others.

For several measures, these two dimensions can be combined to create four categories of romantic attachment styles—secure, fearful, preoccupied, and dismissing. People who are report low anxiety and low avoidance are classified as secure. People who report high anxiety and high

avoidance are classified as fearful. High avoidance and low anxiety is classified as dismissing. Low avoidance and high anxiety is classified as preoccupied attachment.

Normative adult populations.

Most of the existing research in romantic attachment concerns couples and close adult interactions in normative populations. The majority of this work examines the link between romantic attachment security and the quality of couple relationships (Feeney, 2008). A number of studies indicate that secure individuals are more committed to their relationships, more satisfied, and more trusting than are insecure individuals. Also, secure married individuals have relationships characterized by more intimacy and positive exchanges, and fewer negative exchanges than do insecure individuals (Collins & Allard, 2004; Kirkpatrick & Davis, 1994; Kobak & Hazan, 1991; Mikulincer, 1998). Alternatively, insecure romantic attachment styles are described as maladaptive and are associated with a range of problematic outcomes, detailed below.

Cooper, Shaver, & Collins (1998) found that preoccupied romantic attachment is associated with high ratings of negative affect, poor self-concept, inappropriate disclosure, and other at risk behaviors. They also found that fearful romantic attachment is the most maladaptive attachment style and is associated with many poor adjustment outcomes—including high anxiety, avoidance of intimacy, and preoccupations with fears of rejection and abandonment. More recently, research has found that fearful attachment style was associated with intimacy difficulties, greater separation-individuation difficulties, higher rejection expectancy, dependency denial, and separation anxiety scores (Arseth, Kroger, Martinussen, & Bakken, 2009). Despite this, there is a small amount of research assessing the relationship

between attachment styles and severe psychopathology and more should be done to understand this relationship.

Currently, little is known about the intergenerational transmission of romantic attachment styles in adolescents. Most research assesses attachment to parents and associations to social and relationship functioning. For example, Engles et al. (2001) showed that attachment to parents was related to adolescents' social skills, which were associated with adolescents' friendship and romantic relationship competence. Developmental research assessing parent-child attachment using observational and interview based measures has been shown to have a high degree of intergenerational transmission (Fonagy, Steele, & Steele, 1991; van Ijzendoorn, 1995).

There are two studies that specifically assess the intergenerational aspects of romantic attachment theory. One study assessing romantic attachment styles and vulnerability to depression showed an intergenerational transmission of attachment styles in three generations of women, but used uncommon measures of romantic attachment (Besser, 2005). A second study, (Obegi, Morrison, & Shaver, 2004) examined the intergenerational transmission of romantic attachment organization in female adults and their parents. This study used a well know measure of adult romantic attachment and found that maternal attachment avoidance was related to daughter's attachment avoidance.

Normative adolescent populations.

Most of the research in romantic attachment styles focuses on college aged, adult samples(Allen & Land, 1999). Studies with adolescent samples often also include adult individuals, which limits understanding this concept at the particular stage of development (Allen & Land, 1999). While there is a fair amount of empirical work that assesses adolescent

attachment based on interview methods, much less is known about romantic attachment styles during this period of intense, psychosocial reorganization.

A notable exception, Furman, Simon, Shaffer, & Bouchey (2002) assessed the relationship between adolescents' attachment representations of parents, friends, and romantic partners in a sample of 68 high school seniors, aged 16-19 years. They assessed attachment using the AAI and a self report measure. Interestingly, there were similar findings by the different methodologies. They found a relationship between parental attachment and peer attachment and also between peer attachment and romantic attachment, but not a direct relationship between parental attachment and romantic attachment (Furman, Simon, Shaffer, & Bouchey, 2002).

This is important because there is some indication that romantic attachment styles are influenced by developmental and current relationship experiences (Chris Fraley, 2002). This would be very important to consider in an adolescent population because of the variation in social competence and romantic relationship experience. One's lack of experience in romantic relationships could limit the ability to reliability of self report attachment measures. However, romantic attachment styles are not just reflections of current romantic experiences, but integrated working models that incorporate all attachment experiences-past and current (Bowlby 1982; Creasy & Ladd, 1995). Some romantic attachment research has suggested that when adolescents lack experience in romantic relationships, they draw on other attachment experiences (parents, peers) for insight (Furman, et al., 2002). Also, romantic attachment research with late adolescents that has included the role of relationship histories has not found a relationship between attachment styles and romantic relationship experience (Feeney, Peterson, Gallois, & Terry, 2000). Indeed, longitudinal research has suggested that adolescent relationship experience

and internalized working models are important for understanding romantic attachment quality, but also, that internalized working models display a good degree of stability throughout adolescence (Bukowski, et al., 1993).

Cooper, Shaver, & Collins (1998) examined a community sample of adolescents, aged 13-19 years. This study did collect data on participant's sexual histories, but did not collect data on relationship experience. They found that secure adolescents were the best adjusted group, and anxious adolescents were the worst adjusted group, reporting the poorest self-concepts and the highest levels of psychological dysfunction. Further analysis suggested that insecure adolescents experienced more distress (primarily hostility and depression) and less social competence (Cooper, Shaver, & Collins, 1998). In summary, high levels of attachment related anxiety and avoidance is association with poor adjustment outcomes and should be considered a risk-factor for adolescent development.

Using the same sample, (Collins, Cooper, Albino, & Allard, 2002) conducted a longitudinal study that assessed whether attachment style during adolescence (ages 13-19) predicted the quality of romantic relationships during early adulthood. Adolescents completed the relationship questionnaire and 6 years later participated in a follow up interview with their romantic partners. Insecure attachment in adolescence was considered a risk factor for adverse relationships in adulthood. These results were more consistent for avoidant adolescents and in addition, avoidant adolescents had less relationship satisfaction, less pro relationship behaviors, and chose partners with less healthy personality profiles (Collins, et al., 2002).

BPD studies.

A number of studies have examined the relationship between self-reported romantic attachment patterns and features of BPD. Generally, these studies have found that both diagnosis

and also features of BPD are significantly related to high levels of attachment avoidance and attachment anxiety. (Brennan & Shaver, 1998) examined the connections between adult attachment patterns and personality disorders (PD) in a sample of 1,407 adolescents and young adults. They used discriminant function analysis to predict attachment dimensions based on PD symptoms. Their results indicate a large overlap between attachment and PD measures. When examined more closely, they found that BPD symptomology was strongly related to fearful romantic attachment and participants diagnosed with BPD rated the fearful and preoccupied dimensions significantly higher than the other two dimensions. Extending this research, Stern (1998) found that BPD features were related to both the avoidance and anxiety dimensions. This has been consistently found in other studies assessing the relationship between BPD and romantic attachment (Critchfield, Levy, Clarkin, & Kernberg, 2008; Riggs et al., 2007); (Scott, Levy, & Pincus, 2009).

In summary, consistent with conceptualizations of BPD, insecure romantic attachment is very prevalent in individuals with BPD. Across self report measures, all studies have found an inverse relationship between scores on borderline dimensions and secure attachment(Agrawal, Gunderson, Holmes, & Lyons-Ruth, 2004). These studies have consistently found that features of BPD are significantly positively correlated with high levels of attachment anxiety and attachment avoidance.

The Current Study

It is important to assess the effects of maternal BPD on romantic attachment in adolescence for several reasons. First, from a developmental psychopathology perspective, studying child development in children at high risk of developing a disorder may inform etiology and help develop preventive interventions. The offspring of women with BPD represent one such

high risk population. Because of the relevance of difficulties with romantic attachment for symptoms of BPD, a disruption in their romantic attachment style may be a precursor to the development of BPD. Understanding these trajectories may inform the development of psychopathology and also normative development. Second, not only is adolescence the key developmental period for romantic attachment, it is also the earliest time that BPD can be diagnosed. Third, study of both mothers and their adolescent offspring may inform intergenerational transmission of attachment patterns. Although there has been some research on romantic attachment in adolescence, there is far less assessing the transmission of romantic attachment styles across generations.

Based on existing literature, we hypothesize that mothers with BPD will be more anxious and avoidant in their romantic attachment than will normative comparisons. We hypothesize that their adolescent offspring will follow a similar pattern, also exhibiting more anxious and avoidant attachment styles romantic attachment than will normative comparisons. We hypothesize there to be an intergenerational transmission of romantic attachment ratings, which would mean a positive relationship between maternal attachment styles and adolescent attachment styles. We also hypothesize there to be a significant relationship between adolescent attachment anxiety and avoidance and adolescent borderline features. Finally, we hypothesize that maternal borderline features will be significantly correlated with adolescent anxious and avoidant attachment styles.

Method

Participants

This sample was composed of 56 mother-adolescent dyads. Of these dyads, $n = 28$ adolescents' mothers were diagnosed with BPD, and $n = 28$ adolescents whose mothers were not.

Participants were recruited from a five county region that included both rural and urban areas. Mothers with BPD were recruited from outpatient mental health settings and advertisements placed in the community. Referring individuals included therapists, psychiatrists, nurse practitioners, case managers and other professionals. Comparison participants were recruited from aftercare programs for children and from flyers placed in the community.

The adolescents were 93% Caucasian, 7% identified with minority racial status, and 4% identifying as Hispanic. Their average age was 15 years and 5 months (*SD* = 1 year and 3 months). Their family's socioeconomic status was low and the average yearly income was $24,588 (*SD* = $14,558). The two groups were matched on age and all demographic variables. *See Table 1*.

Procedure and Measures

After an initial screening process on the phone, participants were seen in two sessions. In the first session, research assistants met with participants at their home or public place as requested by the participant. During this session, informed consent, self-reported BPD symptoms and demographic information were obtained. If mothers and their adolescent offspring met study criteria they were invited to a university laboratory for one approximately three hour visit. At this visit, maternal BPD status was assessed in a clinical interview, dimension ratings of BPD features and romantic attachment ratings were collected from mothers and their adolescent offspring with self-report questionnaires.

Demographics. Demographic information was collected with a maternal interview (MHFC, 1995). *See Table 1*.

Borderline personality disorder diagnosis. After an initial self report screening, maternal BPD was assessed using the Structured Clinical Interview for DSM-IV Axis II

Disorders, SCID-II (First, Gibbon, Spitzer, Williams, & Benjamin, 1997). The SCID-II is a structured clinical interview that has be used as a diagnostic instrument in over 700 published studies (First, et al., 1997). Overall, there is substantial agreement between clinicians' diagnosis and SCID-II assessment in BPD (Fridell & Morten 2006).

Borderline features. In addition to categorical diagnostic classifications, we obtained dimensional ratings of BPD features from mothers and their adolescent offspring using the Personality Assessment Inventory—Borderline Features Scale (PAI-BOR, Morey, 1991). The PAI-BOR is a well validated 24 item self report scale that reports features of borderline pathology empirically associated with BPD. It is composed of a total score (BOR) and four subscales—affective instability, identity problems, negative relationships, and self-harm. Information reported in early validation studies provided strong support for the validity of this scale (Morey, 2007). The PAI-BOR correlates highly with interview based BPD diagnostic criteria (Morey, 2007). In the current sample, mothers' BPD diagnosis was significantly correlated with *BOR*, r =.70, $p < .001$, *affective instability* $r = .61$, $p < .001$, *identity problems*, $r = .67$, $p < .001$, *negative relationships*, $r = .51$, $p < .01$, and with *self-harm*, $r = .51$, $p < .001$. Chronbach's alphas for the mother's BOR and adolescent's BOR was α =.77 and α =.74, respectively.

Romantic attachment. Romantic attachment ratings were assessed in mothers and their adolescents using the Experiences in Close Relationships Scale (ECR;(Brennan, Clark, & Shaver, 1998a). This is a widely used self reported measure of adolescents' and adults' attachment related anxiety and avoidance within the context of romantic relationships. The *anxiety* subscale is composed of 18 questions and measures the extent to which individuals are worried about being rejected, abandoned, and unloved by others. Mothers ($\alpha = .72$, $M = 59.29$,

SD = 26.79) and adolescents (α = .73, *M* = 59.29, *SD* = 26.79) had similar reliability on this scale. The *avoidance* subscale is also composed of 18 questions and measures the extent to which individuals are uncomfortable with closeness, intimacy, depending on others, and perception of the partners dependability. For each item, individuals rate their degree of attachment related anxiety or avoidance using a 7-point Likert scale, ranging from (1) disagree strongly to (7) agree strongly. Mothers (α = .79, *M* = 58.30, *SD* = 23.70) and (α = .78, *M* = 58.30, *SD* = 23.70) adolescents had similar reliabilities for this scale. Items are summed to generate two summary scores for attachment anxiety and attachment avoidance. The ECR is a popular measure for assessing romantic attachment and is used in both adult and adolescent populations (Crowell, Fraley, & Shaver, 2008; Mikulincer & Shaver, 2007). Research shows that it gives more precise scores than other measures of this construct. It also demonstrates higher-test-retest reliabilities than other measures of romantic attachment (Fraley et al., 2000).

Results

Preliminary Analyses

There were no significant group differences on adolescent age or on demographic variables. See Table 1 for means, standard deviations, and tests of significance. We first conducted independent samples *t*-tests on mother and adolescent ratings of PAI-BOR variables and romantic attachment ratings.

Hypothesis testing

Hypothesis 1 We predicted mothers with BPD will rate themselves as more anxious and more avoidant than would normative comparisons. To examine this, we conducted two independent samples *t*-tests with maternal BPD status (BPD, no BPD) as the independent variable and romantic attachment ratings as the dependent variables. Mothers with BPD rated

themselves as more anxious, $t(54) = 5.83$, $p < .001$ and more avoidant, $t(54) = 4.11$, $p < .001$ than did comparisons.

Hypothesis 2 We predicted adolescent offspring of mothers with BPD would rate themselves as more anxious and more avoidant than would normative comparisons. To examine this, we conducted two independent samples *t*-tests with maternal BPD status (BPD, no BPD) as the independent variable and adolescent romantic attachment ratings as the dependent variable. Adolescents whose mother had BPD rated themselves as more anxious, $t(54) = 2.10$, $p < .05$ and more avoidant $t(54) = 3.36$, $p = .001$ than did normative comparisons.

Hypothesis 3 We predicted that in the sample as a whole, mother's anxious and avoidant attachment ratings would correlate with their offspring's anxious and avoidant ratings. To assess the relationship between maternal romantic attachment ratings and their offspring's romantic attachment ratings, we conducted two-tailed Pearson bivariate correlations between maternal romantic attachment ratings and adolescent's romantic attachment ratings. As hypothesized, maternal anxiety and maternal avoidance correlated with adolescent avoidance. However, contrary to hypothesis, there was no observed relationship between maternal ratings and adolescent anxiety.

Hypothesis 4 We predicted that in the sample as a whole, maternal anxious and avoidant attachment would be correlated with maternal BPD features. To assess this, we conducted two-tailed Pearson bivariate correlations. Maternal anxiety correlated with all maternal BPD features. Maternal avoidance correlated with Identity problems, negative relationships, self harm, and total borderline features. However, contrary to hypothesis, maternal avoidance did not correlate with maternal affective instability.

Hypothesis 5 We predicted that in the adolescent sample as a whole, adolescent anxious and avoidant attachment ratings would correlate with adolescent BPD features. To assess this, we conducted two-tailed Pearson bivariate correlations. Adolescent ratings of anxiety correlated with all adolescent borderline features. However, contrary to hypothesis, Adolescent ratings of avoidance did not correlate with any adolescent borderline features.

Hypothesis 6 We predicted that in the sample as a whole, maternal anxious and avoidant attachment would be correlated with adolescent's self-reported BPD features. Maternal anxiety correlated with adolescent affective instability and BOR Total, however, it did not correlate with adolescent identity problems, negative relationships, or self-harm. Maternal avoidance did not significantly correlate with any adolescent borderline ratings.

Discussion

The present study assessed the effects of maternal BPD on romantic attachment in adolescence. We did this by assessing romantic attachment styles in mothers with BPD and their adolescent offspring. Then, we assessed the relationship between maternal romantic attachment styles and adolescent styles. We then assessed the relationship between these romantic attachment styles and core features of borderline personality disorder. Lastly, we investigated continuous ratings of maternal borderline features on romantic attachment in adolescence.

As hypothesized, Mother's with BPD and their adolescents rated their romantic attachment styles as more anxious and more avoidant than normative comparisons did. We found that maternal romantic attachment avoidance and anxiety were correlated with their offspring's avoidance, but not anxiety. Maternal anxiety correlated with all maternal borderline features (affective instability, identity problems, negative relationships, self-harm, and total borderline features) and adolescent anxiety was related to all adolescent borderline features.

Maternal avoidance was correlated with all maternal borderline features except affective instability and adolescent avoidance did not correlate with any adolescent BPD features. Lastly, maternal anxiety correlated with adolescent affect instability and total borderline features. Maternal avoidance did not correlate with any adolescent borderline features.

Maternal findings

Research has shown that adults with borderline personality disorder often exhibit the insecure attachment. Specifically, adults with BPD often report higher rates of anxious and avoidant romantic attachment styles then both normative and clinical comparison groups (Agrawal, et al., 2004). This study replicated those findings by showing mothers with BPD rate themselves as more anxious and avoidant then normative comparisons did.

This suggests these mothers are at risk for interpersonal and intrapsychic distress, and it also reveals additional environmental risk factors for their adolescent offspring. Romantic attachment research suggests there is a relationship between maternal romantic attachment and parenting behaviors. Insecure attachment styles are associated with decreased caregiving behaviors, decreased emotional support, decreased positive regard, and a general devaluation of their offspring's attachment related needs (Edelstein et al., 2004; Rholes, Simpson, & Blakely, 1995; Selcuk et al., 2010). In developmental research with the AAI, mothers classified as preoccupied were observed to be higher on angry/intrusive parenting, negative affectivity, and inconsistent responsiveness (Adam, Gunnar, & Tanaka, 2004). In addition to this, they have also been observed to have difficulty regulating their emotions when having conversations with their offspring (Kobak, Ferenz-Gillies, Everhart, & Seabrook, 1994). Dismissing individuals display more negative portrayals of children, harsher discipline, lack of intimacy, and cognitive disconnection (Britner et al. 2005; George and Solomon 1996). It has been suggested insecure

parents with insecure children are at greater risk for psychological distress, increased family conflict, and maladaptive parenting behaviors (George & Solomon, 2008; Kobak & Esposito).

We have extended prior research on BPD offspring by examining the relationship between specific features of this disorder and its relationship to adult romantic attachment ratings. As hypothesized, all borderline features were associated with anxious romantic attachment ratings. Also as hypothesized, total borderline features, negative relationships, identity problems, and self-harm were related to avoidant styles. However, affective instability did not correlate with avoidant attachment ratings. This may be due to psychological defenses related to attachment avoidance—research has suggested that individuals that have high romantic attachment avoidance often use deactivation strategies when they experience attachment-related distress (Cassidy & Kobak, 1988). This deactivation includes the suppression of thoughts, feelings, and memories associated with attachment experiences (Fraley, Davis, & Shaver, 1998; Fraley & Shaver, 1997).

Adolescent romantic attachment

The adolescent group those with mothers who have BPD gave higher ratings of anxious and avoidant romantic attachment. This contributes to the literature on developmental psychopathology by identifying specific risk factors that are related to developmental experiences and associated with maladaptive functioning. Specifically, anxious and avoidance romantic attachment are associated with a myriad of risk factors—including relationship problems, at-risk behaviors, substance abuse, and other forms of psychopathology (Cooper, et al., 1998). Although we did not test if individuals are high in both factors concurrently, it is important to note that high ratings of both of these factors has been described as the most maladaptive kind of insecure romantic attachment and is most commonly found in samples of

individuals with BPD (Agrawal, et al., 2004). Also, our findings suggest that these adolescent have a fundamental problem meeting an important developmental challenge, which could affect their behavior in close relationships across their lifespan (Dykas & Cassidy, 2011). In fact research has suggested that during adolescence, individuals begin to develop mature caregiving abilities (Solomon & George, 1996) and important social processing skills (Dykas & Cassidy, 2011). Insecure adolescents assessed with the ECR showed deficits in attention to social information (Cassidy, Ziv, Mehta, & Feeney, 2003), misperceptions and misattributions to peers behaviors (Mikulincer & Selinger, 2001). Also, adolescent boys who rate themselves as more avoidant, were more aggressive in romantic relationships and committed more physical, verbal, and emotional abuse that normative peers. Girls who were more avoidant and more anxious were also more likely to report more aggression, verbal, and physical abuse than normative peers did (Grych & Kinsfogel, 2010).

Furthermore, these attachment styles were associated with adolescent borderline features. Similar to their mothers and other adults diagnosed with BPD, anxious attachment was associated with all borderline features. This is important because it suggests an intergenerational continuity of a core feature of BPD, which could inform our understanding of the etiology of BPD. Indeed, longitudinal investigations into other cluster B psychopathology suggest that adolescents tend to replicate parental maladaptive behaviors and acquire similar diagnoses (Thornberry, 2009).

However, avoidant attachment was not associated with any borderline features, which may be due to several factors. Avoidant attachment behaviors are less prominent in BPD symptomology and may only be relevant in contexts with co-ocurring anxiety (Scott, et al., 2009). Hence, the role of avoidant attachment in BPD is less direct and could be based on more

developmentally mature relationships. This could be related to another factor that may be a source of resiliency with these adolescents. Indeed, individuals with avoidant attachment styles engage in deactivating strategies when faced with attachment-related conflicts(Cassidy & Kobak, 1988; (Fraley, et al., 1998; Fraley & Shaver, 1997)—these strategies may be successful in decereasing the occurrence of borderline features. However, because of the size of our sample, we analyzed the relationship between these factors across clinical groups. The relationship between them could by masked by the inclusion of normative controls who have already reported different attitudes and behaviors with respect to romantic attachment styles.

Research assessing the intergenerational transmission of romantic attachment styles has not been investigated in great detail. However, in developmental psychology, there is a strong link between maternal attachments, early child attachment, and future adult offspring attachment (van Ijzendoorn, 1995). However, research on questionnaire based methods has produced mixed results. Our study contributed to this investigation by assessing the relationship between maternal attachment style and adolescent attachment styles across samples. We did not observe a relationship between maternal anxious romantic attachment and adolescent anxious romantic attachment. This is surprising because developmental research on the transmission of parent-child attachment and romantic relational styles has suggested these factors are similar to their parents. However, maternal avoidant romantic attachment was correlated with both adolescent insecure styles.

These findings suggest a possible link between maternal romantic attachment and romantic attachment of their adolescent aged offspring. This agrees with previous findings in adult populations and extends it by suggesting earlier developmental experiences that contribute

to these outcomes. At the least, this finding highlights the continued importance of the relationship between the mother and the adolescent during this period.

Limitations

There are several limitations to our study. The sample was small, mostly Caucasian and low SES, which limits generalizability. This study is cross-sectional rather than longitudinal; these explanations must be considered speculative. Other unmeasured factors may be responsible for our observed results. Although our sample was statistically matched on age, subtle variations in this variable could still affect ratings of romantic attachment styles. Dividing adolescents into subgroups based on age (i.e. early, middle, and late adolescence), or controlling statistically for age, could reveal other limitations in our study or could contribute to our findings. Also, we did not investigate the effects of other possible contributing factors—comorbid diagnoses, family/parenting stress, maternal parenting behaviors, adolescent negative life events, relationship history or status. Research has shown that although romantic attachment is largely an integration of all attachment experiences, ratings can be influenced by current, non-parental attachment relationships (Allen & Land, 1999). Indeed, research has shown that both peer friendships and romantic relationships can affect insecure attachment styles and could have affected our sample (Furman, et al., 2002). In addition to this, our sample may have a limited range of relationship experiences or possibly no experiences in romantic relationships. While romantic attachment research has not shown a relationship or age effect in adolescent groups, this could still be a relevant factor. The relationship between historical attachment experiences and attachment styles are intimately related and an important factors to consider.

Conclusion

Attachment theory can be used to describe normal child development, but can also be used to understand deviations from this norm. When used with a developmental psychopathology perspective, it can help us understand the dynamics of an at-risk sample, which in turn can also be used to better understand typical human development. Offspring of mothers with BPD have been identified as a risk group and in this study, appear to be at risk for the development of psychopathology. With a few notable exceptions, this risk group has been grossly understudied and future research should focus more on the unique challenges they face.

Furthermore, this study provides some implications for the treatment of individuals whose mothers have BPD. It suggests that their difficulties are related to challenges forming secure attachments to parents, which probably still exists in current interactions with parents. Specifically individuals with these patterns of insecure attachment exhibit difficulties expressing emotions and managing conflicts. Mothers and their adolescents could benefit from therapeutic interventions that encourage healthier interpersonal interactions and ultimately, more attachment security. Also, this study suggests that these adolescents already display risk factors that have been associated with lifelong intrapsychic and interpersonal turmoil. Preventative interventions could include therapeutic interventions that focus on developing healthier friendships, healthier romantic relationships, coping strategies for dealing with psycho-social stress, and techniques that increase one's ability to reflect on internal states. These kinds of interventions have been show to help individuals diagnosed with BPD (Bateman & Fonagy, 2004, 2006; Linehan, 1993) and could help mitigate the effects of maternal BPD on romantic attachment in adolescence.

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Appendix

Table 1. Adolescent age and demographic differences between the BPD and normative comparison groups

Variable	Whole sample *N* = 56 *M* (*SD*)	BPD *n* = 28 *M* (*SD*)	Comparisons *n* = 28 *M* (*SD*)	*t*
Adolescent age (years)	15.48 (15.29)	15.22 (1.13)	15.74 (1.27)	1.63
Hollingshead Occupational and Education Index	36.05 (15.29)	33.80 (15.37)	38.37 (15.14)	1.11
Family Yearly Income ($)	25,588 (14,725)	22,509 (12,783)	28,667 (16,081)	1.59
				λ^2
Adolescent Gender (girls)	51%	54%	50%	.79
Adolescent Minority Ethnic Background	7%	4%	11%	.299
Adolescent Hispanic Background	4%	4%	4%	1.00

Table 2. Correlations between maternal and adolescent attachment styles in the sample as a whole, N = 56.

Maternal Attachment Style	*Adolescent Attachment Style*	
	Anxious	Avoidant
Anxious	.20	-.10
Avoidant	.27*	.36**

$^{\dagger}p < 10$; $*p < .05$; $**p < .01$.

Table 3. Correlations between maternal attachment styles and borderline features in the sample as a whole, N = 56.

	1.	2.	3.	4.	5.	6.	7.
1. Anxiety	--						
2. Avoidance	.50***	--					
3. Borderline Features Total	.72***	.44***	--				
4. Affective Instability	.47***	.10	.78***	--			
5. Identity Problems	.76***	.47***	.67***	.63***	--		
6. Negative relationships	.49***	.44***	.79***	.53***	.58***	--	
7. Self-harm	.61***	.40**	.84***	.50***	.67***	.60***	--

$^{\dagger}p < 10$; $*p < .05$; $**p < .01$; $p \leq .001$.

Table 4. Correlations between adolescent attachment styles and adolescent borderline features in the sample as a whole, N = 56

	1.	2.	3.	4.	5.	6.	7.
1. Anxiety	--						
2. Avoidance	.05	--					
3. Borderline Features Total	.68***	.11	--				
4. Affective Instability	.43***	.08	.77***	--			
5. Identity Problems	.71***	.01	.77***	.43***	--		
6. Negative relationships	.40**	.099	.66***	.40**	.26*	--	
7. Self-harm	.49***	.14	.84***	.60***	.58***	.36**	--

$^{\dagger}p < 10$; $*p \leq .05$; $**p < .01$; $p \leq .001$.

Table 5. Correlations between maternal attachment styles and adolescent borderline features, N = 56.

Adolescent borderline feature)	Maternal Attachment Style	
	Anxious	Avoidant
Affective instability	.33**	.03
Identity disturbance	.03†	-.01
Negative relationships	.19†	.00
Self-harm	.18†	.13
Borderline features total	.23†	.05

†$p \leq 10$; *$p < .05$; **$p \leq .01$; $p < .001$.

Vita

Christopher Watkins received a Bachelor's of Arts in Anthropology and Psychology from the University of Tennessee in 2005. Afterwards, he worked as a counselor with adolescent aged patients at an inpatient psychiatric hospital and as a data manager for the University of Tennessee's Child and Adolescent Development Lab. He enrolled in the graduate program in Clinical Psychology at the University of Tennessee in 2008. Since then, he has worked as a therapist, teaching assistant, and as graduate research assistant studying the effects of maternal borderline personality disorder on adolescent and preschool aged children.