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Attachment Studies with Borderline Patients: A Review

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Abstract

Clinical theorists have suggested that disturbed attachments are central to borderline personality disorder (BPD) psychopathology. This article reviews 13 empirical studies that examine the types of attachment found in individuals with this disorder or with dimensional characteristics of BPD. Comparison among the 13 studies is handicapped by the variety of measures and attachment types that these studies have employed. Nevertheless, every study concludes that there is a strong association between BPD and insecure attachment. The types of attachment found to be most characteristic of BPD subjects are *unresolved, preoccupied,* and *fearful*. In each of these attachment types, individuals demonstrate a longing for intimacy and—at the same time—concern about dependency and rejection. The high prevalence and severity of insecure attachments found in these adult samples support the central role of disturbed interpersonal relationships in clinical theories of BPD. This review concludes that these types of insecure attachment may represent phenotypic markers of vulnerability to BPD, suggesting several directions for future research.

Keywords

Adult Attachment Interview; attachment; borderline; personality disorder; self-report

Ever since the inception of the borderline personality disorder (BPD) diagnosis, clinical theorists[1-5] have suggested that the disorder's core psychopathology arises within the domain of interpersonal relations. These theories were prompted by the centrality of interpersonal demands and fears within clinical contexts. While there has been growing evidence and interest in biogenetic bases for borderline pathology,[6,7] these perspectives do not diminish the potential role that disturbed relationships have as risk markers or as mediating factors in BPD's pathogenesis.

In recent years the methodology for reliably measuring attachment styles has provided a welcome opportunity to characterize empirically the interpersonal problems of BPD patients. Because the insecure attachments of borderline patients are so manifest, so central to the problems that they present for treatment, and so central to theories about the pathogenesis of BPD, the empirical examination of these attachments has considerable clinical and theoretical significance. The resulting literature—still growing rapidly—is the subject of this review.

ATTACHMENT THEORY AND PSYCHODYNAMIC FORMULATIONS OF BPD

In the background of the attention being given to attachment problems in borderline patients is the seminal developmental theory of John Bowlby.[8-10] He postulated that human beings,

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like all primates, are under pressures of natural selection to evolve behavioral patterns, such as proximity seeking, smiling, and clinging, that evoke caretaking behavior in adults, such as touching, holding, and soothing. These reciprocal behaviors promote the development of an enduring, affective tie between infant and caregiver, which constitutes attachment. Moreover, from these parental responses, the infant develops internal models of the self and others that function as templates for later relationships.[9] These models, which tend to persist over the life span, guide expectations or beliefs regarding interactions in past, present, and future relationships. For Bowlby,[9] the content of the internal working model of *self* is related to how acceptable or lovable one is in the eyes of primary attachment figures. The content of an individual's model of *other* is related to how responsive and available attachment figures are expected to be.

The goal of attachment is the creation of an external environment from which the child develops an internal model of the self that is safe and secure. Secure attachment to the caregiver liberates the child to explore his or her world with the confidence that the caregiver is available when needed. A secure attachment should engender a positive, coherent, and consistent self-image and a sense of being worthy of love, combined with a positive expectation that significant others will be generally accepting and responsive. This portrait of secure attachment contrasts dramatically with the malevolent or split representations of self and others,[11] as well as with the needy, manipulative, and angry relationships, that characterize persons with BPD.[1,2,5]

Fonagy and colleagues[12-14] have proposed that a child is more likely to develop a secure attachment if his or her caregivers have a well-developed capacity to think about the contents of their own minds and those of others. This secure attachment, in turn, promotes the child's own mental capacity to consider what is in the mind of his or her caregivers. In contrast, individuals with BPD demonstrate a diminished capacity to form representations of their caretakers' inner thoughts and feelings. In this way a child defensively protects himself or herself from having to recognize the hostility toward, or wish to harm, him or her that may be present in the parent's mind. In Fonagy's theory this diminished capacity to have mental representations of the feelings and thoughts of self and others accounts for many of the core symptoms of BPD, including an unstable sense of self, impulsivity, and chronic feelings of emptiness.

Several clinical theorists have posited intolerance of aloneness as a defining characteristic for BPD that provides coherence to the DSM's descriptive criteria.[2,15] Gunderson[3] subsequently suggested that this intolerance reflects early attachment failures, noting that individuals with BPD are unable to invoke a “soothing introject” in times of distress because of inconsistent and unstable attachments to early caregivers or, in Bowlby's terms, because of insecure attachment. Gunderson observed that descriptions of certain insecure patterns of attachment —specifically, pleas for attention and help, clinging, and checking for proximity that often alternate with a denial of, and fearfulness about, dependency needs—closely parallel the behavior of borderline patients.

Comparing theories of object relations and attachment, Lyons-Ruth[16,17] has distinguished normal processes of separation-individuation in early development from the disorganized conflict behaviors displayed toward attachment figures by toddlers at risk for later psychopathology. She has argued that *disorganized* insecure attachment in infancy (see below) represents a deviant developmental pattern that, when present, may be an identifiable risk factor for the later development of BPD.

DEVELOPMENTAL RESEARCH ON ATTACHMENT RELATIONSHIPS AND THE AAI

Attachment in Infancy and Childhood

The empirical assessment of patterns of attachment behaviors began with Ainsworth and colleagues'[18] typology of infant attachment behaviors toward their mothers when under stress. Under this typology, there were three organizations of infant attachment behavior: *secure*, *avoidant*, and *ambivalent* attachment (Table 1). In subsequent years, these infant behavioral patterns have been intensively researched, and a core body of empirical findings has been extensively replicated.[21]

As infant attachment assessments were extended to high-risk or psychiatric samples, many of the infant behavioral patterns observed did not conform to any of the three attachment patterns characteristic of infants in low-risk settings. These repeated observations led Main and Solomon[19] to review a large number of at-risk infant videotapes and develop coding criteria for a fourth category labeled *disorganized/disoriented* (Table 1). Disorganized attachment behaviors were subsequently found to be associated with family environments characterized by increased parental risk factors such as maternal depression, marital conflict, or child maltreatment. These attachment behaviors are also the behaviors most consistently associated with childhood psychopathology, including internalizing and externalizing symptoms at school age, as well as overall psychopathology and dissociative symptoms by late adolescence.[17]

Attachment in Adulthood

A major step in the developmental research literature on attachment occurred with the introduction by Main and colleagues[22] of the Adult Attachment Interview (AAI) in 1985. The AAI is a semistructured interview developed to assess the adult counterparts of the *secure*, *avoidant*, and *ambivalent* attachment strategies observed during infancy and childhood. The interview lasts approximately one hour and poses a series of questions probing how the individual thinks about his or her childhood relationships with parents or other central attachment figures. The interview is coded not for the positive or negative *content* of childhood experiences or memories, but in terms of narrative analysis—that is, for how the individual organizes his or her attention and discourse regarding attachment topics over the course of the interview.

Adult strategies for discussing positive and negative attachment experiences in childhood are observable in the interview and parallel the infant strategies described earlier. Flexible and coherent discourse around both positive and negative attachment experiences is termed *autonomous* (the equivalent of *secure* in childhood); deactivating strategies are termed *dismissing* (the equivalent of *avoidant*); and hyperactivating strategies are termed *preoccupied* (the equivalent of *ambivalent*).

Shortly after the introduction of the AAI, Ainsworth and Eichberg[23] reported that the parents' lapses in the monitoring of discourse or reasoning during discussions of loss or trauma on the AAI predicted *disorganized* attachment behaviors in their infants. This finding has now been well replicated, leading Main and Goldwyn[24] to develop a fourth category for the AAI labeled *unresolved* with respect to loss or trauma. Unresolved attachment patterns are the only patterns that are also given a secondary subclassification (namely, *unresolved/autonomous*, *unresolved/dismissing*, or *unresolved/preoccupied*) that indicates which organized attachment classification is the best-fitting alternative classification. That is, since an *unresolved* classification is understood as indicating a collapse of strategy—as seen in the failure to use a single, consistent strategy over the course of the interview—the secondary classification is used to indicate the best guess as to the strategy that has failed.

SOCIAL PSYCHOLOGICAL RESEARCH ON ATTACHMENT RELATIONSHIPS

Attachment Theory as Conceptualized Between Adults

Although Bowlby was primarily interested in young children, he maintained, as noted earlier, that the core functions of the attachment system continue throughout one's life span.[9] In a series of independent developments in the field of social psychology, Hazan and Shaver[25] were first to apply concepts of attachment developed from studies of the parent-child relationship to the romantic relationships found between adults. For example, feeling securely attached arises after receiving feedback from other adults that one is loved and capable.[26] This inner sense of security contributes to a stable, consistent, and coherent self-image and to the ability to reflect upon and correctly interpret others. The social psychological tradition has defined *secure*, *dismissing/avoidant*, *anxious/preoccupied*, and *fearful/avoidant* attachment (Table 1).[8,20] To simplify, these types will hereafter be referred to as *dismissing*, *preoccupied*, and *fearful*.

Adult Attachment Self-Report Measures

Each of the self-report measures has its own distinguishing features that, while beyond the scope of this review, are described in a 1995 article by Crowell and Treboux.[27] In what follows, we focus on the measures most relevant for our purposes. As noted above, Hazan and Shaver[25] applied the three original patterns of attachment to the study of romantic relationships between adults, opening up a major paradigm of research focusing on adult attachment. The self-report instrument that was used, the Attachment Self-Report (ASR), asked subjects to pick the one of three paragraphs (representing *secure*, *anxious/ambivalent*, and a*voidant*) that best represented their relationships. Bartholomew and colleagues[28,29] took a step toward integrating the social-psychological and developmental attachment work by proposing a two-dimensional construct of adult attachment—one based on the intersection of a model of the self and a model of others. *Security* was defined as a positive model of self and a positive model of others. *Anxious/ambivalent* was relabeled as *preoccupied* and defined as representing a negative model of self, combined with a positive model of others. The *avoidant* classification was divided into two groups: *fearful*, representing a negative model of self with a negative model of others, and *dismissing*, representing a positive model of self with a negative model of others. Two popular measures were constructed to fit with this line of research. The Relationship Questionnaire[28] (RQ) asks participants to rate (on a scale of 1 to 7) how much they endorse four different paragraphs, each representing one of the four styles. The Relationship Scales Questionnaire[29] (RSQ) uses 17 items concerning feelings, thoughts, and behaviors in relationships to capture the dimensions of the internal working models (model of self and model of other) that are latent in each subject's particular style.

Simultaneously, other social psychologists developed additional self-report measures for assessing adult attachment. Of relevance to the research reviewed in this article is the Attachment Style Questionnaire.[30] This multi-item, self-report questionnaire, a derivative of the ASR and RQ, scores five dimensions *(confidence, discomfort with closeness, need for approval, preoccupation with relationships,* and *relationships as secondary)* that capture the behaviors and feelings latent in attachment styles.

Another development within the social psychological perspective has been the movement toward using dimensional scoring, rather than prototype measures, of attachment types. Hence, some studies reviewed in this article use a dimensional, rather than a prototypic, approach to attachment, asking “how much” of the *secure, dismissing, preoccupied,* and *fearful* attachment styles exist within the same individual, rather than strictly classifying each person as belonging to one or another style.

AAI AND SELF-REPORT MEASURES COMPARED

It is important to note that the attachment types derived from self-report measures or developed by social psychologists differ in several ways from the types derived from the AAI originated by developmental researchers. As noted above, the AAI is scored by analysis of an individual's narrative account rather than by the content of his or her statements regarding attachment to parents in the past. In contrast, the self-report measures rely on conscious perceptions of one's attachment (either retrospectively with parents or in current peer and romantic relationships) and thus are subject to response bias.[14] For example, a frightened person is apt to assign fearful qualities to his or her relationships. Moreover, the self-report measures provide information on the attachment-related style associated with a particular relationship rather than suggesting a single, underlying representational model for all attachment relationships derived from the early parent-child relationship, which is how the types derived from the AAI are interpreted.

Though both developmental and social psychological measures have similar theoretical roots in Bowlby's work, it is important to note that the aspects of attachment assessed by each tradition are different, and that the two sets of measures are not closely correlated with one another. On the plus side, Bartholomew and Horowitz[28] found very good correspondence between AAI and RQ measures of *preoccupied* and *dismissing* types. On the minus side, however, Waters and colleagues[31] found quite different correlates of the AAI and the Experiences in Close Relationships (ECL) self-report questionnaire.[32] In particular, Waters and colleagues[31] found that the AAI, consistent with expectations, correlated well with measures of parent-child interaction—that is, with laboratory observations of attachment security in infancy, with laboratory observations of the toddler's use of secure base support from the parent, and with the parent's knowledge of secure base scripts. In contrast, the ECL, consistent with expectations, correlated strongly with measures of adult marital satisfaction and dissatisfaction, depression, commitment, and passion and intimacy.

RESULTS

Table 2 summarizes (including sample size, comparison groups, and assessment tools) the 13 empirical studies that have linked BPD with attachment classifications. We will comment on the methodological and design issues found in the existing studies, and then examine how these studies characterize the types of attachment found in BPD samples.

Methods of the Review

We used MEDLINE for journals published in English with the search items “borderline personality” and “attachment.” We identified additional studies in the reference sections of these articles. The 13 studies that were thus identified are the basis for this review. Because the measures used to assess attachment differed substantially from study to study in their theoretical origins, descriptive terminology, procedures by which data were collected, and the particular relationships in which attachment was rated, we will consider the ways in which these differences influence the interpretation of the studies. We will also identify the ways in which differences in the samples of subjects affect the results. With due consideration for these methodological problems, we then describe the studies' results concerning the attachment patterns that characterize borderline patients.

Sample Size and Types

It is noteworthy that the sample size for most of these studies is either quite small or unclear due to reliance on a dimensional scheme. In eight of the nine studies that report the number of BPD subjects, that number ranges from 8[37] to 49.[39] The remaining, ninth study[40] has 426 BPD subjects, but this sample (representing 30.5% of a college population) is grossly

overinclusive; in the general population, the estimated prevalence for BPD is 0.6–3%.[45-47] The four studies that do not provide sample sizes of BPD subjects describe BPD dimensionally; that is, subjects are rated as being borderline to a greater or lesser extent. In these studies, the overall samples are larger, ranging from 60[38] to 393.[43]

Sample Selection

Four of the studies drew the BPD subjects from both inpatient and outpatient psychiatric settings;[33,37,41,42] three from inpatient psychiatric settings alone;[13,38,39] three from outpatient psychiatric settings alone;[34,36,44] two from university students;[40,43] and one from court-referred abusive men.[35] The possible significance of sample selection is demonstrated by two studies, both with carefully diagnosed BPD samples that used the same attachment measure (the ASR). *Ambivalent* attachment discriminated those with BPD traits among university students,[43] and *avoidant* attachment discriminated BPD patients who were selected from inpatients.[39]

Comparison Groups

Only one study[36] had a homogenous diagnostic comparison group—namely, dysthymic disorder. All others used a mixed population of other psychiatric disorders[13,37,38,43] or normals.[13,39-41] Two studies used comparison groups with a variety of other personality disorders or traits.[40-42] Only two studies used comparison groups that were matched with the BPD samples. Patrick and colleagues[36] matched the two groups for age and educational achievement. Fonagy and colleagues[13] matched the BPD group and normal control group for age, gender, social class, and verbal IQ, although they did *not* match the non-BPD psychiatric control group.

Type of Relationship That Is Targeted

The relationship targeted in the AAI studies is that between subjects and their parents. In the six studies based on self-reports, three are directed at peers,[35,40,43] two are directed at all (that is, unspecified) relationships,[41,42] and one includes separate assessments for peer, parental, and all relationships, each with a distinct instrument.[39] The significance of the target relationships is illustrated by the study by Sack and colleagues.[39] They concluded that relationships with mothers were most often classified as *ambivalent* (41%), with only 18% considered *avoidant*, whereas attachment to their fathers was most often classified as *avoidant* (44%), with only 18% considered *ambivalent*. By so clearly distinguishing the attachment to mother and father, this study shows that variations in the types of insecure attachment shown by BPD subjects may be partly accounted for by choice of the target relationship.

Attachment Types That Characterize BPD

Table 3 identifies attachment types that have been found to distinguish BPD from non-BPD samples in the 13 studies. Each type is accompanied by an abbreviated description.

Secure Attachments—Since all the theories discussed earlier, as well as the standard DSM description, indicate that, by definition, borderline subjects' relationships are not secure, it is of some interest that a fraction of borderline patients in these studies were found to be categorized as *secure*. Although two of the five studies utilizing the AAI showed that none of the individuals with BPD had *secure* attachment,[36,37] the other three of those studies[13,38,44] showed small percentages—either 7% or 8%—that did. Moreover, two studies using self-report measures[39,40] found that 9% and 29.8% of the BPD subjects had secure attachment. The other four studies did not report the proportion of *secure* attachment among the BPD patients. All studies demonstrated an inverse relationship between *secure* attachment and BPD

when the disorder was rated in a dimensional fashion. Fossati and colleagues[41] reported a lower mean *confident* (that is, *secure*) score among BPD subjects than nonpatients ($p = .0025$). Dutton,[35] Nickell,[43] and their colleagues showed that their dimensional ratings of borderline pathology were highly negatively correlated to *secure* attachment ($p = .001$ and $p = 0.01$, respectively). Meyer and colleagues[42] demonstrated a negative correlation between *secure* attachment and each of the 13 personality disorders that they examined; the negative correlation was most robust for the borderline scale ($p = .01$).

Insecure Attachment—All of the studies revealed an association between the diagnosis of BPD and insecure forms of attachment. Of the seven studies employing the categories *preoccupied* or *unresolved*, the five using the AAI all showed that the greatest proportion of borderline individuals fall into these attachment types.[13,34,35,38,44] In the two studies using self-report measures of *preoccupied* attachments[35,40]—which, as shown in Table 1, is a somewhat different construct—the results were different. For Patrick and colleagues,[36] all 9 of the borderline patients who had experienced loss or trauma were given a primary classification as *unresolved* with respect to loss or abuse, as well as a secondary classification as *preoccupied.* Three additional patients with BPD were given a primary classification of *preoccupied.* Ten out of the 12 patients with any *preoccupied* classification were assigned to a rare *preoccupied* subtype termed “confused, fearful, and overwhelmed” by traumatic experiences. Stalker and colleagues[37] found 7 out of the 8 women with BPD were given a primary classification of *unresolved*, and 5 of 8 were given a primary or secondary classification of *preoccupied.* Fonagy and colleagues[13] described 32 of 36 patients with BPD (89%) as having a primary classification of *unresolved*, and 27 of 36 patients (75%) as having a primary or secondary classification of *preoccupied.* Barone[44] found that out of 40 BPD patients, 50% were given a primary classification of *unresolved;* 23%, of *preoccupied;* and 20%, of *dismissing.* Rosenstein and Horowitz[38] found 8 of 14 adolescents with BPD (64%) to have a *preoccupied* attachment style. This study did not assess *unresolved* attachment. The two studies that used self-report measures found that *fearful* attachment characterized BPD. For Dutton and colleagues,[35] both *fearful* and *preoccupied* attachment, as assessed by the RQ and RSQ in abusive men, were predictive for borderline personality, but *fearful* attachment was so strong a predictor that the authors concluded that having borderline personality was the prototype for this particular attachment style. Using the RQ and their overinclusive sample of students, Brennan and Shaver[40] found that 32.2% were *fearful;* 24.6%, *preoccupied;* 13.4%, *dismissing;* and 29.8%, *secure*.

Fossati and colleagues[41] found that inpatients and outpatients with BPD scored significantly higher than non-patients on all *insecure* dimensions—that is, *preoccupation* ($p = .0025$), *discomfort with closeness* ($p = .0025$), *need for approval* ($p = .0025$), and *relationships as secondary* ($p = .0025$). This result suggests that the combination of *unresolved* and *preoccupied* or *fearful* classifications may serve to identify a complex combination of insecure features. Consistent with the complexity of insecure features in the study by Fossati and colleagues,[41] West and colleagues[34] found that high scores on each of four attachment scales —*feared loss*, *secure base* (coded negatively), *compulsive caregiving*, and *angry withdrawal* —successfully distinguished patients with BPD among 85 female outpatients. Among the studies that did not include categories or scales for *fearful* or *unresolved* attachment, Sperling and colleagues[33] used a three-category coding of the AAI among 24 hospitalized BPD patients. They found that a *dependent* style of attachment was associated with less BPD pathology than an *avoidant* or an *ambivalent* style. Finally, Meyer and colleagues[42] found that three patients with BPD scored very highly on the study's measure of borderline attachment prototype, which is defined as “ambivalent and erratic feelings in close relationships.”

DISCUSSION

These studies of borderline personality employ a variety of measures and types of insecure attachment. Moreover, the target relationship varies in the different studies from one with peers, parents, or a generic other. These variations make comparisons between studies difficult (see reviews by Stein and colleagues[14] and by Crowell & Treboux).[27] The attachment field sorely needs studies that document the correlations among the different attachment types identified by the various instruments. The particular area reviewed here also still needs large samples of carefully diagnosed borderline patients with matched comparison groups. For the present review, we must rely on our hypothesized correlations among the attachment types—hypotheses based on the concordance of, or differences between, the definitions posited by each instrument. Moreover, the studies under review have utilized varied sources for sample acquisition (colleges versus hospitals, for example), various comparison groups and diagnostic methods, and generally small sample sizes. Finally, these studies have used measures developed to describe attachment styles among nonclinical populations. Arguably, however, rather than attempting to fit attachment patterns seen in high-risk or clinical samples into descriptors developed for normative populations, what is needed is further description of the specific attachment behaviors and internal models characteristic of the clinical groups themselves; these patterns are likely to be more complex and contradictory than those prevalent in nonclinical samples (for example, see additional AAI codes for hostile-helpless states of mind developed by Lyons-Ruth and colleagues).[50] The conclusions to be drawn from this review are thereby greatly limited and should be considered, at best, as informed hypotheses.

Despite the great variation in study design and methodology, all 13 of the studies relating attachment to BPD concluded that there was a strong association with insecure forms of attachment. This finding is consonant with theories that see interpersonal instability as the core of BPD psychopathology. Still, given that BPD samples were defined, in part, by DSM criteria that include intense and unstable relationships as a diagnostic feature, this result is somewhat circular. A recent report by Meyer and colleagues[42] illustrates this point. They found that their Borderline Attachment Prototype correlated so highly with borderline criteria that only a single variable could be used in a regression analysis. Nonetheless, this result suggests that despite measures that differ substantially, all are capturing some essential subsyndromal—that is, phenotypic—problems in the interpersonal relationships of borderline individuals. The one exception to this pattern of insecure attachments—the study by Brennan and Shaver,[40] with nearly 30% of the subjects having *secure* attachment—is likely a consequence of the study's highly overinclusive method of sampling. Indeed, given the emphasis on interpersonal problems in borderline psychopathology, it would seem that anytime *secure* attachment is found, either the diagnosis or the attachment measure should be considered suspect.

The most consistent findings from this review are that borderline patients have *unresolved* and *fearful* types of attachment. In all studies using the AAI, from 50% to 80% of borderline patients were classified as *unresolved*. In the two studies using self-report instruments that assessed *fearful* attachment, that classification was the one most frequently associated with borderline features (among abusing men and college students).

It is notable that all *unresolved* subjects were also secondarily classified as *preoccupied.* Moreover, in the self-report studies that included a *fearful* classification, *preoccupied* attachment was the second most strongly endorsed category among borderline subjects. In no study that included the *unresolved* or *fearful* classification, however, was *preoccupied* the most prevalent classification. *Preoccupied* (or *ambivalent*) attachments are defined as ones in which individuals seek close, intimate relationships but are very reactive to their perceived dependency or undervaluation. This description is close to what Meyer and colleagues[42] defined as the prototypic *borderline* form of attachment—that is, “ambivalent and erratic

feelings in close relationships." The characterization as *fearful* also entails a longing for intimacy, but *fearful* individuals are concerned about rejection rather than excessive dependence. Patrick and colleagues[36] bridged these types by demonstrating that borderline patients had a *fearful* subtype of *preoccupied* attachment (as well as being *unresolved*). In sum, then, BPD attachments seem best characterized as *unresolved* with *preoccupied* features in relation to their parents, and *fearful* or, secondarily, *preoccupied* in their romantic relationships. While in our view and that of others,[51] the self-report *fearful* category and the AAI *unresolved* category seem to overlap, such an overlap remains to be demonstrated empirically.

The high prevalence and severity of *unresolved/preoccupied* (AAI) or *fearful* (self-report) attachments found in these adult samples support the central role that interpersonal relationships have had in clinical theories on BPD. Insecure attachments, especially of *unresolved* or *fearful* type—or their disorganized analogues in infancy and childhood—might serve as markers of risk for development of BPD. This hypothesis invites other research in which these forms of insecure attachment in adults could be used as a subsyndromal phenotype signifying a predisposition to BPD that takes its place alongside the phenotypes of affective instability and impulsivity as predisposing toward BPD.[6] Such possibilities are confirmed by evidence that disturbed attachments may have heritable components.[52-54] Family-study methodology could usefully test whether a BPD-related risk factor exists in the form of *unresolved* or *fearful* attachments that are transmitted across generational boundaries.

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TABLE 1

Comparison of Attachment Types in the Traditions of Developmental Versus Social Psychology

Attachment in infancy/childhood—developmental tradition*	Attachment between adults—social psychological tradition†
Secure (autonomous)‡	Secure
Open communication of positive and negative affects with the caregiver	Positive self-image and a sense of being worthy of love, combined with a positive expectation that others will be generally accepting and responsive
Insecure	Insecure
Avoidant (dismissing)‡	Dismissing/avoidant
Restricted communication of vulnerable affects and deactivated attention to attachment needs	Positive self-image and a sense of lovability, combined with a negative expectation of significant others as demanding, clingy, and dependent
Ambivalent (preoccupied)‡	Anxious/preoccupied
Exaggerated communication of vulnerable affects and hyperactivated attention to attachment concerns	Negative self-image and a sense of unlovability, combined with a positive evaluation of others (in terms of their strength and independence)
Disorganized/disoriented (unresolved)‡	Fearful/avoidant
Contradictory, apprehensive, aimless, or conflicted behaviors in response to attachment needs	Negative self-image combined with a skepticism that significant others can be trusted to be loving and available

* Ainsworth et al. (1978),[18] Main & Solomon (1990).[19]

† Fraley et al. (1998).[20]

‡ The parenthetical expression is the equivalent term (for adults rather than infants/children) that is used in the Adult Attachment Interview.

TABLE 2

Studies of Attachment in Borderline Personality Disorder Samples

	BPD sample			Comparison group				Attachment			
Study	***n***	**Diagnostic method**	**Comments**	***n***	**Diagnostic type**	**Diagnostic method**	**Comments**	**Measure**	**Type**	**Target relationships**	**Comments**
Sperling et al. (1991)[33]	24	Records + DSM-III-R	Reliability unnoted	128	Normals	None	Reliability unnoted; unmatched	ASI	Ambivalent, avoidant, hostile	Peers	
West et al. (1993)[34]	47	MCMI	Reliability unnoted	38	Others	MCMI	Reliability unnoted; unmatched	RAQ	Feared loss, secure base, compulsive care seeking, angry withdrawal	Unspecified	
Dutton et al. (1994)[35]	?	BPOQ	Reliable	40	Non-abusive men	N/A	Reliability unnoted; unmatched	RQ, RSQ	Fearful, preoccupied	Peers	
Patrick et al. (1994)[36]	12	Records + DSM-III-R	Reliability unnoted	12	Dysthymia	Records	Reliability unnoted; matched	AAI	Unresolved, preoccupied (predominantly fearful subtype)	Mother/father	Reliability unnoted, blind
Stalker & Davies (1995)[37]	8	SCID-II	Reliable	32	Others	SCID-II	Reliable; unmatched	AAI	Unresolved, preoccupied, dismissing	Mother/father	Reliable, not blind
Fonagy et al. (1996)[13]	36	SCID-II	Reliable	49 85	Others Normals	SCID-II	Reliable; matched	AAI	Unresolved, preoccupied	Mother/father	Reliable, ? blind
Rosenstein & Horowitz (1996)[38]	?	MCMI	Reliable	?	Others	MCMI	Reliable; unmatched	AAI	Preoccupied, dismissing	Mother/father	Reliable, blind
Sack et al. (1996)[39]	49	Records + DSM-II-R	Reliability unnoted	53	Normals	N/A	Reliability unnoted; unmatched	ASR ASI RAQ	Avoidant, anxious/ambivalent Ambivalent, hostile, avoidant Compulsive caregiving, compulsive care seeking, compulsive self-reliance, angry withdrawal	Peers Mother/father Unspecified	
Brennan & Shaver (1998)[40]	426	PDQ-R	Reliability unnoted; dimensional scores	341 630	Normals Other PD	PDQ-R	Unmatched	RQ	Fearful, preoccupied, dismissing	Peers	
Fossati et al. (2001)[41]	44	SCID-II	Reliable	206 39 70	Normals Other PD No PD	SCID-II	Reliable; unmatched	ASQ	Preoccupied, fearful, dismissing	Unspecified	
Meyer et al. (2001)[42]	?	PDE or SIDP	Dimensional scores	?	Other PD dimensions	PDE or SIDP	Reliable; unmatched	N/A	Borderline	Unspecified	
Nickell et al. (2002)[43]	?	PAI-BOR, SIDP-IV, DIB-R, MMPI-BPD	Reliable	?	Others	PAI-BOR, SIDP-IV, DIB-R, MMPI-BPD	Reliable; unmatched	ASR	Anxious/ambivalent	Peers	
Barone (2003)[44]	40	SCID-II	Reliable	40	Normals	N/A	Reliability unnoted; matched	AAI	Unresolved, preoccupied	Mother/father	

ASI, Attachment Styles Inventory; BPOQ, Borderline Personality Disorder Questionnaire; DIB-R, Diagnostic Interview for Borderlines, Revised; DSM, Diagnostic and Statistical Manual; MCMI, Millon Clinical Multiaxial Inventory; MMPI-BPD, MMPI Borderline Personality Disorder Scale; N/A, not applicable; Normals, nonpatients; Others, nonborderline patients; PAI-BOR, Personality Assessment Inventory Borderline Features Scale; PD, personality disorder; PDE, Personality Disorder Examination; PDQ-R, Personality Diagnostic Questionnaire Revised; RAQ, Reciprocal Attachment Questionnaire; Records, clinical chart; SCID-II, Structured Clinical Interview for DSM-III-R Axis II; SI, structured interview; SIDP-R, Structured Interview for DSM-III-R Personality; SIDP-IV, Structured Interview for DSM-IV Personality.

TABLE 3

Descriptions of the Types of Attachment Found to Characterize Borderline Patients

Type	Definition	Measure	Method
Secure	Coherent, believable, consistent account	AAI	Narrative analysis*
	Trust, intimacy, reciprocity, comfort with dependency in romantic relationships	ASR	Prototypes: categorical†
	Acknowledgment of dependence, but little anger toward mother/father/friend/sexual partner	ASI	Prototypes: categorical & dimensional†
	Comfort with intimacy, dependence, and aloneness	RQ, RSQ	Prototypes: categorical & dimensional†
	Confident about relationships; finding enjoyment in closeness	ASQ	Categorical and dimensional‡
Preoccupied	Verbose, confusing accounts suggestive of continued entanglement	AAI	Narrative analysis*
	Desire for closeness, but a concern about being undervalued	RQ, RSQ	Prototypes: categorical & dimensional†
	Preoccupation with relationships; discomfort with closeness; need for approval	ASQ	Categorical & dimensional‡
Ambivalent	Anxiety, fear, and loneliness in romantic relationships; craving intimacy and fearing dependency	ASR	Prototypes: categorical †
	High dependence and high anger	ASI	Prototypes: categorical & dimensional†
Fearful	Longing for intimacy, but fearful of rejection and being hurt; mistrustful	RQ, RSQ	Prototypes: categorical & dimensional†
	Distress with closeness; worry about approval of others	ASQ	Categorical & dimensional‡
Dismissing	Minimizing importance of attachment; normalizing of painful experience	AAI	Narrative analysis*
	Emotionally detached; undervaluing of the importance of relationships	RQ, RSQ	Prototypes: categorical & dimensional†
	Undervaluing relationships; confident; uncomfortable with closeness; valuing approval of others	ASQ	Categorical & dimensional‡
Avoidant	Avoidance of social contact; lacking in trust; fearful of dependency and rejection	ASR	Prototypes: categorical†
	Low dependence and low anger	ASI	Prototypes: categorical & dimensional†
Unresolved	Lapses in reasoning or discourse when discussing loss or trauma (e.g., confusion of past/present, long silences)	AAI	Narrative analysis*
Borderline	Ambivalent and erratic feelings in close relationships	Unspecified	Consensus ratings about prototypes from structured and semistructured interviews
Other insecure types	Compulsive caregiving; compulsive care seeking; compulsive self-reliance; angry withdrawal	RAQ	Categorical & dimensional‡

AAI, Adult Attachment Interview (George C, Kaplan N, & Main M, unpublished manuscript [1984]); ASI, Attachment Styles Inventory (Sperling&Berman [1991]);[48] ASQ, Attachment Style Questionnaire (Feeney et al. [1994]);[30] ASR, Attachment Self-Report (Hazan&Shaver [1987]);[25] RAQ, Reciprocal Attachment Questionnaire (West et al. [1987]);[49] RQ, Relationship Questionnaire (Bartholomew & Horowitz [1991]);[28] RSQ, Relationship Scales Questionnaire (Griffin & Bartholomew [1994]).[29]

*In narrative analysis, interviewers ask about childhood experiences with primary caregivers and also about evidence for the subject's representations of those experiences. Raters gauge a subject's state of mind through analysis of the form of his/her narrative.

†In prototype evaluations, subjects choose a prototype description that matches their experiences in relationships (categorical). The results are reportable in dimensional terms (and not just by categories) when subjects rate the prototypes on Likert scales or when they respond to a multi-item questionnaire that references these prototypes and is scored on Likert scales.

‡Categorical & dimensional: subjects respond to a multi-item questionnaire scored on Likert scales. These dimensional results are reportable in categorical terms after statistical analysis yields clusters corresponding to attachment terms.