

Infant Disorganized Attachment and the Pathogenesis of Borderline Personality Disorder

Abstract

It remains puzzling why some individuals who experience significant childhood trauma emerge with minimal personality disturbance, whilst others present with severe personality disorder, for example, Borderline Personality Disorder (BPD). Clinical studies suggest a link to disorganized childhood attachment, but there are currently few empirical data. This paper evaluates the literature on BPD. BPD is examined from an attachment perspective, as attachment theory, an important developmental paradigm formulated to explain both normal development and psychopathology may shed some light on the approach-avoidance dilemmas present in disorganized attachment and BPD. It is suggested the aetiological link with disorganized attachment is through continuity of attachment disorganization into adulthood and the mental representation associated with disorganized attachment. Recommendations are made for further research.

Keywords: Borderline Personality Disorder, disorganized attachment

Introduction

In the psychiatric literature, personality disorders are conceptualised as enduring, character-based psychopathologies that emerge in adolescence or adulthood (Young *et al*, 2003). Among the personality disorders, Borderline Personality Disorder (BPD) is a psychiatric diagnosis from the Diagnostic and Statistical Manual (DSM IV-TR) of a relatively stable, non-psychotic disorder characterized by frantic efforts to avoid real or imagined abandonment; unstable and intense interpersonal relationships; identity disturbance; impulsive, self-damaging behaviours; self-harm and/or suicidal behaviour; unstable affect; marked reactivity of mood; anxiety; inappropriate anger; and chronic feelings of emptiness.

BPD symptomatology has been recognized for a considerable time. As early as 1684 Bonet identified erratic and unstable moods that rarely follow a regular course (Crellin, nd), but aetiological models for BPD have only recently been developed (Adshead, 2001). More recently, the aetiological link to adverse childhood experience has come under investigation (Rogosch & Cicchetti, 2005).

Attachment patterns and personality disorders show some conceptual and empirical overlap: the attachment theory derived concept of disorganized attachment can be understood as an approach-avoidance dilemma for infants, and BPD as an approach-avoidance dilemma in adult relationships (Holmes 2004). Family environments hypothesized as environmental triggers in disordered personality trigger development of disorganized attachment (Young *et al*, 2003). The pervasive sense of mistrust characteristic of BPD stems from neglectful and/or abusive childhoods (Norton, 1996). Herman and colleagues

(1989) showed that significantly more borderline subjects had traumatic childhood histories of physical or sexual abuse. Abusive, neglectful and inconsistent parenting are linked to disorganized attachment (Bowlby, 1998b, Weinfield *et al*, 2004).

Even with socio-economic status controlled for (Lyons-Ruth 2008), D presents a significant risk factor for later psychopathology (Sroufe *et al*, 1997, 1999) in the context of a complex model of interactive biological and environmental variables (Carlson, 1998), Torgersen and colleagues' twin study (2000) demonstrated significant heritability for BPD. But genetic susceptibility only results in a disorder when exposed to a triggering environment. Jellema (2000), Crick *et al* (2002) and Fonagy *et al* (2003) indicate the importance of environmental factors, including a lack of safety and stability in family life in BPD aetiology.

Development of attachment theory

Attachment theory has become one of the most influential explanatory paradigms in psychology (Bernier & Meins, 2008) Formulated to explain certain behaviour patterns over the lifespan; it was always concerned with both normal development and psychopathology (Bowlby 1997, 1998). Unusually for a psychoanalyst, Bowlby used empirical data (Bowlby 1997). He formulated his ethological theory from his observation of infants developing attachment to primary caregivers through a repertoire of genetically based behaviours with protection as their biological function (*ibid*).

Infant attachment is conceptualised as an internal process that can be observed and classified as categorical patterns based on observation of a child's responses at reunion following a period of separation from the attachment figure, and measured as it changes and develops over the lifespan (Bowlby, 1997). During the first years of life children establish a pattern of organized behaviour within a relationship with their attachment figure that equips them to deal with stressful circumstances and negative emotions. At first these behaviours are activated independently, but are later organized towards the attachment figure, often, but not always the mother (*ibid*). This learning is adaptive to the infant's environment, and represents the child's strategy for maximizing proximity to the attachment figure by anticipating their reaction to stress/distress (*ibid*).

In the second year the child develops an internal working model (IWM) of self and attachment figure from experiences of the attachment figure's ability to meet the infant's attachment needs (Bowlby 1997). Early attachment experiences leave traces in multiple modes of representation, forming enduring cognitive structures with emotional components that summarize commonalities across a class of events, generating expectations and organizing behaviour. The IWM permits the child to plan and forecast others' actions. It represents the bridge between the young child's experiences of being cared for and later expectations of others (Bowlby, 1998, Waters & Waters, 2006).

Patterns of attachment

Attachment is best conceptualised as a pattern of organized behaviour within a relationship, not a trait possessed by individuals in varying quantities (Sroufe *et al*, 1999). Categories of attachment security-insecurity were initially developed by Ainsworth. In a laboratory procedure, the Strange Situation, she observed two separations and reunions. Ecological validity was achieved by also

undertaking home observations. Categories are anxious-avoidant (A), secure (B) and anxious-ambivalent (C) (Ainsworth & Bowlby, 1991).

There is some doubt that separation means the same for every child, and categorizing relationship qualities based on few reunions can be challenged. Ainsworth questioned the over-use of the Strange Situation, and stressed the importance of longer, naturalistic observation to maintain ecological validity (Ainsworth and Bolwby, 1991). More recent techniques like the Q sort provide for ecological validity (Prior and Glaser, 2006).

A further category, disorganized-disorientated (D) emerged from reassessment by Main & Soloman of Ainsworth's observation data of difficult-to-classify infants (Prior & Glaser, 2006). They found that some children did not show a new pattern of behaviour, but instead lacked a coherent, organized strategy for dealing with separation distress. D represents a breakdown of consistent and organized strategy of emotion regulation, and indicates the child's inability to resolve experiences of stress and anxiety because the attachment figure represents both a safe haven and a source of fear (Main & Cassidy, 1988, George & Soloman 1996). Carlson (1998) found that disorganization was associated with single parenthood, maternal risk status for parenting difficulties, insensitive/intrusive caregiving and abuse/neglect during the first year of life.

Noting the unpredictable combination of behaviours associated with insecure classifications A and C, Crittenden's dynamic maturation model categorizes D as A/C (2005, 2006). Main & Hesse (1990) argue that D is best understood not as a classification itself, but as dimension that can accompany any other classification. This generates sub-groups: D/A, D/B and D/C.

Attachment pattern continuity

Bowlby (1988) observed that representations of early experiences influence attachment throughout the lifespan, and that once a pattern of attachment developed, it tends to persist over time. He demonstrates that during the early years, attachment is the property of the relationship, but for older children it becomes increasingly a property of the child, and is imposed on new relationships.

The first assessments of attachment security were based on observations of infant and toddler behaviours evoked when the attachment system is aroused. Main & Cassidy's (1988) follow-up study of infants seen in the Strange Situation identified specific variables around which attachment relationships can be identified to establish the six-year classification. They coded reunion responses following a 1-hour laboratory separation according to attachment categories. A strong relationship between early attachment security and security at age six was demonstrated: for categories A, B and D 84% of the sample could be predicted for 6-year attachment compared to approximately 35% predicted by chance alone. There was 77-83% intercoder agreement across dyads. Fraley's (2002) meta-analysis of existing longitudinal data on attachment stability supports Main & Cassidy's findings.

Adult attachment representation is commonly assessed through the Adult Attachment Interview (AAI), developed by George, Kaplan & Main. This is a semi-structured interview that assesses an individual's current state of mind in regards to their earlier attachment experiences (Levy, 2005). The coding

scheme yields four classifications for overall state of mind in respect to attachment: autonomous-secure (present coherent and consistent responses), dismissing-insecure (tend to give a very supportive account of parents, unsupported or contradicted by recall evidence), preoccupied-entangled (preoccupied with dependency on their own parents, and still actively trying to please them), unresolved-disorganized (traumatic separation from the attachment figure not worked through) (Prior & Glaser, 2006).

In a long-term study that involved administering the AAI at age 19 to a sub-sample from the Minnesota child study, Weinfield *et al* (2004) showed continuity between behavioural measures of infant attachment and mental representations at age 19. Stability was particularly strong for disorganized attachment. There were no single events that ensured continuity or discontinuity of attachment pattern. Classifications remained stable across development if reinforced by the caregiving environment, but changed if adaptation required it, confirming the idea that attachment is not a static personal trait, but an adaptive, relational quality.

Moss and colleagues (2004) used Main and Cassidy's six-year classification in a longitudinal study to show how continuing environments support attachment pattern stability. However, the developing child is also influencing their environment as the child interprets and creates experience (Sroufe *et al*, 1999). Bowlby was struck by the significance of parents' roles in the development of children's personalities (Bowlby 1979), but insisted their role was dependent on environmental factors that are transactionally influenced by the child: "child and context are mutually transforming" (Ainsworth & Bowlby, 1991 p 2).

BPD from an attachment perspective

BPD is a bio-psycho-social construct effecting 1-2% of the adult population (Department of Health, 2000). As personality is not seen as cohesive or coherent before age 18, early diagnosis of BPD is strongly discouraged before that age. Whilst a genetic basis is well established (Young *et al* 2003) BPD assumes certain psychological dispositions combined with distinct social disruption, including unstable and intense personal relationships. Fruzzetti *et al* (2005) argue that negative or critical family behaviours and the absence of more validating interactions, interact transactionally with the child's own behaviours and emotional vulnerabilities in the development of BPD.

BPD can partly be understood as damage to the attachment system (De Zulueta, 1999). Bowlby (1998) postulates that early attachment experiences are major determinants of personality development. Disorganized attachment represents an approach-avoidance-dilemma that can spill over into later personality disturbances (Holmes, 2004). Fonagy and colleagues (1996) used the Structured Clinical Interview to show that psychiatric patients with personality disorders are more likely than clinical controls to be assessed as pre-occupied or unresolved on the AAI. They suggest that the impulsivity and self-damaging behaviours that are the hallmark of BPD occur in an interpersonal context, precipitated by real or imagined relationship events. Children with frightened/frightening attachment figures have grown up in a state of recurring terror, with a desperate need to control the world. Disorganized attachment leaves the child without important regulatory and representational abilities. Unable to hold the 'other' in mind, separation becomes abandonment,

experienced as an attack on the self. Without emotional attunement, the child is left unable to self-regulate affect. Stress is intolerable and the sense of self is fragmented as the child attempts to cut off from traumatic memories (Fonagy, 2003).

The strongest evidence linking BPD to infant attachment patterns would be longitudinal data linking specific infant attachment patterns specifically to the disorder. Although no such evidence exists (Agrawal, *et al* 2004), current investigation suggests that infant disorganized attachment, which is associated with a range of emotional/behavioural problems, may be a risk factor (Lyons-Ruth, 2007). As adult attachment disturbance assessed in adulthood is associated with BPD (Holmes, 2003), lifespan attachment continuity is significant.

De Zulueta (1999) links maladaptive brain activities resulting from chronic childhood stress and early trauma to later BPD. She expands on the dissociative aspect of BPD, which arises as a defence against the experience of fear without possibility of safety, and links this to disorganized attachment and/or trauma reaction. As well as linking established sequelae of disorganized attachment to the symptomatology of BPD, Zulueta attempts to establish the developmental pathway by which this disorder occurs, and explores how neurological effects of disorganized attachment link to BPD.

Crick, *et al* (2005) explore the possibility of BPD symptomatology present in childhood. They developed a Features Scale for Children (BPDFS-C) from a perspective study of 400 8-10 year olds. Scores on the BPDFS-C were uniquely related to BPD pathology. They identified five childhood indicators: hostile/paranoid worldview; intense, unstable and inappropriate emotion; overly close relationships; impulsivity; lacking sense of self.

Reich & Zanarini assessed 290 patients with BPD and 72 with other personality disorders using an instrument to rate memories of separation difficulties, temperamental problems, and onset of symptoms before age 18. BPD patients remembered more difficulties with separation between ages 6 and 17 years, more mood reactivity and poorer frustration tolerance between ages 6 and 17, and the onset of more sadness, depression, and anxiety before age 18 than did patients with other personality disorders, indicating that many of the features of BPD may initially appear during childhood and adolescence and that these features may be used to differentiate borderline from other personality disorders.

Lyons-Ruth's (2008) argues that the clinical causal-developmental model for BPD is of difficult family environment associated with exposure to traumatic events and abuse, which trigger defensive mental processes, including borderline, anti-social and depressive symptoms to prevent re-experience of traumatic events. Her longitudinal study of 56 families from infancy and 60 families recruited in young adulthood analyses early caregiving, trauma and genetic factors as predictors of Cluster B dramatic/erratic personality disorder symptoms, and found parent-infant interactions poor enough to result in clinical referral associated with disorganized attachment.

Psychological mechanism for an aetiological link

Although anxious attachment arises from sub-optimal parenting, it is not a risk factor in later psychopathology (Sroufe *et al* 1999). However, van Ijzendoorn *et al* (1999) show that disorganized attachment is over-represented in clinical samples, and Sroufe *et al*, (1999) and Bernier & Holmes, (2008) argue that it is critical in the developmental dynamic of psychopathology. Angrawal and colleagues (2004) reviewed the evidence for childhood attachment as antecedent to BPD. Although they found no strong empirical evidence, clinical investigations reviewed point to the role of disorganized childhood attachment in the pathogenesis of BPD. Furthermore, Fonagy (nd), Fonagy *et al* (2003, 2007) and Liotti (nd, 2004) theorize a link to childhood disorganized attachment from clinical studies.

Vaughn and colleagues (1979) show how the organizing goal of the behavioural system remains constant even though attachment behaviours change consequent to developmental advances in the child, and changes in the parent, family and social context. Bowlby (1988) argues that for a behavioural system to demonstrate such complex changes yet remain organized around a specific goal it must be guided at the representational level. Solomon *et al* (1995) show that mental representations of attachment are organized by a set of information-processing rules that regulate information and affect in a consistent and predictable manner.

Once developed, D tends to persist as the child's behaviour elicits unfavourable responses and a vicious circle develops (Bowlby 1988). Carlson (1998) shows that D is linked to later psychopathology as a risk factor in the context of a complex model of interactive biological and environmental variables. Sroufe *et al* (1999) showed that the functioning of adolescents in groups is highly predictable from infant attachment pattern, as the emotional investments of adolescence taps into early attachment experiences, and that inadequate attachment history leaves individuals vulnerable to depression in the face of further loss.

Although there is no strong evidence for stability in attachment behaviours, Thompson & Raikes (2003) show that when viewed organizationally, individual differences in attachment behaviours are meaningfully inter-related and predictable across circumstances. Ogawa *et al* (1997) confirm that the predictive power of attachment for later psychopathology is more likely to be at the level of organization than security. Bowlby offers the concept of developmental pathways whereby ongoing circumstances support or deflect the development of psychopathology, and subsequent development builds upon as well as transforms what preceded (Bowlby, 1979, 1997, Sroufe, 1999). In disorganized attachment the caregiving experiences that give rise to the attachment figure as the source of fear, establish an IWM of the self as bad yet powerful and the attachment figure as frightening (Main & Cassidy, 1988).

Attachment pattern continuity and associated mental representations may link BPD and disorganized attachment. Fonagy argues that a child is more likely to develop secure attachment and the capacity to form representations of their caretakers' inner thoughts when the attachment figure has well-developed capacity to think about the contents of their own and others' minds. In contrast, the capacity of children with disorganized attachment to form these mental representations is diminished as they defensively protect themselves from having

to recognize the wish to harm the child that may be present in the mind of the attachment figure. This diminished capacity for mentalisation accounts for many of the core symptoms of BPD, including an unstable sense of self, impulsivity, and chronic feelings of emptiness. (Fonagy nd, Fonagy *et al* 2003).

The presence of an attachment control system and its linkages to the IWM of self and attachment figure that is built in the mind during childhood are central features of personality throughout life (Bowlby 1988). The IWM is gradually updated for a securely attached child, but for A or C updating is obstructed by a "defensive exclusion of dispersant experiences and information " (*ibid*, p147). Built on experiences of being cared for, the IWM develops into a wider representation of self, and influences interpretations of experiences and decisions about how to interact with others (Thompson& Raikes, 2003). Main & Cassidy's (1988) observations confirm the idea that stability may at the level of organization: by age six, some children who remain disorganized at a representational level, attempt to resolve the paradox of a frightening or frightened caregiver by becoming behaviourally organized as controlling-punitive or controlling-overbright/caregiving, others remain behaviourally disorganized (insecure-unclassified).

Lyons-Ruth (2008) examined similarities between infant disorganized attachment strategies and lack of mental integration in dissociative symptoms. She proposes the likely long-term consequences of disorganized attachment as contradictory and unintegrated mental processes. Data indicate that maternal flatness of affect and disrupted communication at 18 months made strong contributions to predicting dissociative symptoms at age 19. These maternal qualities are also strongly related to disorganized attachment.

Lyons-Ruth *et al's* (2007) comparison of dysthemic and BPD patients shows childhood experiences influencing social and emotional functioning to increase the risk of BPD, and suggests that the psychological mechanism may be the mental representations of relationships between self and others associated with disorganized attachment.

Whilst the aetiological link between disorganized attachment and BPD requires further investigation, the idea of a link is strengthened by research that looks at adult attachment states of borderline patients. Lyons-Ruth (2007) found unresolved-disorganized adult Attachment style to be more frequent in borderline patients than the control group when comparisons were made using AAI.

Conclusion

Without attachment organization, the child is left with the insoluble problem of fear and safety being represented by the attachment figure. This approach-avoidance dilemma resonates with the relational problems symptomatic of BPD. Although attachment can perhaps be too easily used to explain everything as other socio-cognitive processes can be applied to many developmental phenomena explained by the IWM (Thompson & Raikes, 2003), and the influences of temperament and genetic predisposition cannot be ignored, attachment theory and disorganized attachment provides a framework for thinking about the question as to why some individual's develop BPD. Borderline

patients are more likely to exhibit unresolved-disorganized adult attachment, and at an organizational level at least, there is continuity between childhood and adult attachment. Growing evidence exists for a role of disorganized attachment in the pathogenesis of BPD, although the influence of sub-types remains uninvestigated. As attachment research continues over the coming years, this could be a useful area of investigation.

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