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Children of Mothers with Borderline Personality Disorder: Identifying Parenting Behaviors as Potential Targets for Intervention

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Abstract

Children of mothers with BPD should be considered a high-risk group given the wide array of poor psychosocial outcomes that have been found in these children. This paper describes the parenting strategies that might explain the transmission of vulnerability from mothers with BPD to their offspring, from infancy through adolescence. We conclude that oscillations between extreme forms of hostile control and passive aloofness in their interactions with their children may be unique to mothers with BPD. We provide an overview of interventions that are currently recommended for mothers and family members with BPD, namely attachment therapy and psychoeducational approaches. Based on an integration of the empirical findings on parenting and child outcomes as well as from the review of current approaches to intervention, we conclude with recommendations for treatment targets. We argue that mothers with BPD need psychoeducation regarding child development and recommended parenting practices and skills for providing consistent warmth and monitoring, including mindfulness-based parenting strategies.

Keywords

Mothers with Borderline Personality Disorder; Parenting; Parent-child interventions; Parent skills training

Borderline Personality Disorder (BPD) is characterized by a pattern of intense and stormy relationships, uncontrollable anger, poor impulse control, affective instability, identity and cognitive disturbances, and recurrent suicidal behavior. Individuals with BPD are likely to face a host of negative outcomes, including poor treatment response, and poor social, occupational, and academic outcomes (Bagge, Nickell, Stepp, Durrett, Jackson, & Trull, 2004; Bender et al., 2001; Skodol et al, 2002). The day-to-day life of those with this disorder is fraught with high levels of misery, which often endures even after symptoms of impulsivity and suicide behaviors remit (Zanarini, Frankenburg, Hennen, & Silk, 2003). In clinical settings, 75% of those carrying a BPD diagnosis are women (Skodol & Bender, 2003), and there are estimated to be over 6 million women in the United States diagnosed with BPD (Friedel, 2004). There are likely a large number of women with BPD who are also

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mothers, which when combined with the extensive functional impairments associated with this disorder represents a problem of enormous public concern. Thus, it is somewhat surprising that the effects of maternal BPD on children's outcomes have been the focus of little empirical attention or treatment development efforts. Given that parenting impacts both the mother and the child, we feel that developing a parenting intervention specifically for this high-risk population is a particularly important endeavor.

Our overall aim for this work is to review parenting mechanisms that might explain the transmission of psychosocial vulnerability from mothers with BPD to their offspring, from infancy through adolescence. We first review gene-environment interaction models to explain the transgenerational transmission of the disorder. Second, we review evidence that suggests children of mothers with BPD should be considered a high-risk group given the wide array of poor psychosocial outcomes that have been found in these children. Next, we highlight parenting practices that may explain the transmission with a focus on particular parenting mechanisms that might be especially relevant for mothers with BPD across key developmental milestones. Finally, we discuss implications for interventions with mother-child dyads and provide recommendations regarding points of intervention for this population.

Transgenerational Transmission of Borderline Personality Disorder

There is good evidence for the transgenerational transmission of this disorder (for a review see White, Gunderson, Zanarini, & Hudson, 2003). For instance, family studies assessing the rates of BPD diagnoses and related traits in first-degree relatives have found a 4- to 20-fold increase in prevalence or morbidity risk for BPD compared to the general population (e.g., Barnow, Spitzer, Grabe, Kessler, & Freyberger, 2006; Zanarini, Gunderson, Marino, Schwartz, & Frankenburg, 1988). Research supports an even stronger familial aggregation of core features of BPD, namely affective instability and impulsivity, compared to the fully diagnosed disorder (Silverman et al., 1991). These features have been found to aggregate separately, suggesting that they may be inherited independently. Given the familial aggregation of these traits in BPD, it is not surprising that relatives of probands with BPD are also at increase risk for related psychiatric disorders, including Major Depressive Disorder, Substance Use Disorders, and Antisocial Personality Disorder (Riso, Klein, Anderson, & Ouimette, 2000; Schulz, Soloff, Kelly, Morgenstern, Franco, & Schulz, 1989; Zanarini et al., 1988).

Given the high rate of family transmission with the disorder and associated features, offspring of parents with BPD may inherit genes predisposing them to a difficult temperament, emotional reactivity, and/or impulsivity. Twin studies offer evidence for the genetic transmission of BPD. In a large, multinational community-based adult twin sample, Distel and colleagues (2007) reported a heritability estimate of 42% for BPD features. Torgersen (2000) reported a much higher heritability estimate of 69% for the diagnosis of BPD in a relatively small twin sample of clinic-referred adult participants. The discrepancy in heritability estimates is likely due to differences in sample size and sample ascertainment across the two studies. In addition, genetic influences may be stronger for individuals with more extreme forms of the disorder (i.e., those that are clinically referred and carry the diagnosis). Thus, findings from the population-based study suggest a relatively strong influence for both genetic and unique environmental experiences in accounting for variation in BPD features.

Gene-environment interaction models demonstrate the importance of an individual's unique social environment in moderating the effects of genes on the development of psychopathology and other maladaptive outcomes (Cacioppo, Berntson, Sheridan, &

McClintock, 2000). Parenting serves as an important environmental context for offspring of mothers with BPD. Theoretical models (Linehan, 1993; Fruzzetti, Shenk, & Hoffman, 2005) posit that invalidating parenting experiences transact with a child's genetic vulnerabilities to put them at risk for poor psychosocial outcomes, including BPD and related psychopathology. Children lower in emotional reactivity may be more likely to maintain a positive parent-child relationship since their caregivers are willing to respond positively to their emotional expressions. In contrast, negative parent-child relationships can exacerbate both the internalizing and externalizing symptoms in youth who are already emotionally dysregulated (Feinberg et al., 2007; Huh, Tristan, Wade, & Stice, 2006). Warm and accepting parenting can shield a child from negative outcomes associated with genetic and physiological vulnerabilities (Eley et al., 2004). Alternatively, children with certain genetic and physiological factors may be protected from the effects of social environments characterized by abuse, neglect, and conflict (Kaufman et al., 2006). Although it is impossible to modify a child's genetic vulnerabilities, parenting practices may be modified and thus offer an environmental context ripe for intervention.

Several lines of evidence suggest that individuals with BPD would face heightened challenges in parenting, which could have a deleterious effect on the child's development. First, Hobson and colleagues (1998) demonstrated that individuals with BPD displayed dysfunctional moment-to-moment relatedness with a psychotherapist, including hostility and intense, idealizing, and devaluing exchanges when compared to individuals with dysthymia. If these patterns of interaction are typical between mothers with BPD and their children, then the impact on the child's social-emotional development would be substantial. Second, individuals with BPD tend to have attachment styles classified as disorganized and unresolved (Levy, 2005). These attachment styles may influence the manner in which a mother relates to her child; specifically, mothers with unresolved trauma may relate to their child in a manner that oscillates between hostility and passivity (Main & Hesse, 1990). Evidence suggests that maternal BPD impacts infant affect and early markers of self and emotion regulation skills (Crandell, Patrick, & Hobson, 2003; Hobson, Patrick, Crandell, García-Pérez, & Lee, 2005; Newman, Stevenson, Bergman, & Boyce, 2007). In sum, findings from moment-to-moment interpersonal exchanges and attachment strategies highlight that parenting styles oscillating between hostile control and passive, devaluing behaviors may lead to poor regulation in infants among mothers with BPD. Based on the biosocial theory (Linehan, 1993), mothers with BPD may inadvertently create these invalidating environments for their own children by modeling their parents' strategies; indeed, these parenting strategies may be "passed down" from generation to generation.

What Characterizes Children of Mothers with BPD?

Despite concerning epidemiological evidence regarding the heritability of BPD features, few studies, relative to other forms of maternal psychopathology, such as depression, have directly examined outcomes of the offspring of mothers with BPD. We now turn to reviewing the available findings regarding a broad array of psychosocial outcomes of children, from infancy through adolescence, whose mothers have BPD.

Outcomes during infancy and early childhood

Three studies have been conducted using infants of mothers with BPD (Crandell et al., 2003; Hobson et al., 2005; Newman et al., 2007). Newman and colleagues (2007) found that infants of BPD mothers ($n = 14$) aged 3 to 36 months were less attentive and less interested in interactions with their mother during a free-play interaction compared to infants of healthy control mothers ($n = 20$). The authors speculate that this could lead to avoidant interaction patterns between the children and their mothers. The still-face paradigm has also been used to examine infant outcomes. Crandell and colleagues (2003) found that during the

still-face paradigm, 2-month old infants of mothers with BPD demonstrated more dazed looks, more gaze aversion, and less overall responsiveness toward the mother than infants of mothers without a psychiatric disorder. The authors interpreted these results as suggestive of emotional dysregulation in the face of an interpersonally stressful situation. Furthermore, after the still-face paradigm, the mother-infant dyads showed less recovery in their interactions as the infants continued to show increasing negative affect and less-satisfying reengagement with their mothers. When this same group of infants was 12 months old, 80% presented with behavioral patterns consistent with disorganized attachment to their mothers (Hobson et al., 2005). Infants were rated as having more behavioral disorganization and poor mood toward a stranger when engaging in the still-face procedure. Recovery time from the still face procedure was longer, suggesting greater affective dysregulation.

Macfie and Swann (2009) examined mother-child attachment relationships in preschool and early school age (4–7) children of mothers with BPD. The investigators administered 5 items from the MacArthur Story Completion Task (Bretherton, Oppenheim, Buchsbaum, Emde, & The MacArthur Narrative Group, 1990) and 5 items from the Story-Stem Battery (Bretherton, Ridgeway, & Cassidy, 1990) to 30 preschool aged children whose mothers had BPD, and 30 healthy comparison 4–7 year olds. The story stems elicit responses concerning the attachment relationship in increasingly stressful interpersonal situations, such as parental discipline, parental comfort, and parental fighting. These narratives representations are hypothesized to reflect the child's actual experiences and internal working models of the caregiver, the self, and emotional coherence or regulation. Using these open-ended narrative paradigms, findings revealed poorer emotion regulation in the children's narratives as characterized by increased likelihood to talk about fantasies as well as material of a traumatic nature. Role reversal (e.g., child tells fighting parents to: "Stop that! Go to your room!") was also significantly more likely to be present in the narratives of children with a BPD mother. The children also exhibited greater fears of abandonment, where attempts are made to resolve an anticipated loss in their stories. More negative parent-child relationship expectations, such as the relationships characterized by danger and/or unpredictability were also found in the preschooler's narratives. Lastly, the children of BPD mothers also showed more incongruent (e.g. the child cleans his/her room then ruins it) and shameful self-representations (e.g. the child says he/she is bad) in the narratives.

We posit that these constructs may be related to a variety of psychosocial outcomes. First, a child who demonstrates fear of abandonment in his or her parent-child narratives and/or negative expectations of parental relationships may demonstrate that same fear of abandonment in other relationships, making it difficult to form and maintain stable and meaningful interactions with others. Second, children demonstrating a shameful and incongruent sense of self in his or her narratives may continue to show identity disturbances into adolescence and adulthood. Disturbances in identity formation are one hallmark feature of BPD and have been associated with self-injurious behavior and dissociative symptoms (Ogawa et al., 1997; Yates, 2004). Early deficits in emotion regulation have also been shown to be associated with later internalizing and externalizing disorders in childhood (Eisenberg et al., 2001; Suveg, Hoffman, Zeman, & Thomassin, 2009).

Outcomes for school-age and adolescent children

School-age and adolescent children who have mothers diagnosed with BPD are at risk for both internalizing and externalizing problems. For instance, employing a wide age-range of children (4–18 years), those with maternal history of BPD ($n = 21$) had more BPD symptoms during childhood (as assessed with the adult symptomatology), attention deficit hyperactivity disorder (ADHD), and other disruptive behavior disorders (Feldman, Zerkowitz, Weiss, Vogel, Heyman, & Paris, 1995) compared to children of control mothers ($n = 23$).

Abela and colleagues (1995) studied 6–14 year-old children of mothers with co-morbid MDD and BPD ($n = 15$) compared to mothers with only MDD ($n = 87$). Children of mothers with both disorders showed higher levels of depressive symptoms and were 6.8 times more likely to have had at least one episode of MDD. These children also reported more cognitive and interpersonal vulnerability, such as a negative attributional style, ruminative response style, dysfunctional attitudes, self-criticism, insecure attachment style, and excessive reassurance seeking. These results held even when controlling for the mothers' concurrent depressive symptoms, suggesting that there are unique vulnerabilities associated with having a mother with BPD. In a small pilot study, 21 children of mothers with BPD have also been found to have more psychiatric diagnoses, such as ADHD and higher rates of BPD symptoms in childhood when compared to 23 children of control mothers (Weiss, Zerkowicz, Feldman, Vogel, Heyman, & Paris, 1996). These results held even after controlling for childhood trauma, demonstrating some specificity for these findings. This study also rated the children of mothers with BPD as higher on global ratings of impairment. After controlling for other contributing factors (depressive symptoms and childhood trauma), maternal BPD remained a significant factor related to poor outcomes for school-age and adolescent children.

Consistent with outcomes during the school-age period, adolescents aged 11–18 years whose mothers had BPD ($n = 23$) exhibited more attention problems, delinquency, and aggression than adolescents whose mothers had no psychiatric disorders ($n = 168$; Barnow et al., 2006). This same group of adolescents also reported more anxiety, depression, and low self-esteem than adolescents of mothers with major depressive disorder, other personality disorders, and healthy controls. In a community sample of mothers with 15 year-olds ($n = 354$), maternal BPD symptoms were related poor psychosocial outcomes in the adolescents, including lower social self-perception, greater fearful attachment cognitions, more chronic stress in the mother-adolescent relationship, and greater maternal hostility (Herr, Hammen, & Brennan, 2008). These findings held even after controlling for both adolescent and maternal depressive symptoms suggesting that maternal BPD and depressive symptoms may be separate and unique risk factors.

These studies have shown that, from infancy through early adolescence, maternal BPD places children at risk for a range of emotional and behavioral problems. However, several of these studies are limited by the wide age range in the offspring, as well as the variety of co-morbid conditions in the mothers. In addition, these studies did not account for the bidirectional influences inherent in mother-child relationships. Specifically, in addition to the role of maternal characteristics on the development of child psychopathology, the child's characteristics also exert an influence on his/her later outcomes. The effect of parenting practices on childhood outcomes is more salient during infancy and early childhood. As children develop more autonomy in the selection of their environment during adolescence, the effect of peers and other social influences may exert a unique effect on the child's functioning. During this time, parenting practices continue to play an important role in emotion socialization and provide appropriate monitoring and supervision to ensure healthy child outcomes (Steinberg & Morris, 2001).

What Parenting Mechanisms Are Involved in the Transmission of Vulnerability?

Despite its place as a major construct in Linehan's theory, the role of parental invalidation in the transmission and development of BPD remains largely untested. In normative samples, parental criticism or invalidation of children's emotions has been associated with social and emotional difficulties in early childhood (e.g., Eisenberg, Fabes, & Murphy, 1996) and psychological distress in adulthood (Krause, Mendelson, & Lynch, 2003). Based on this

theory, we hypothesize that mothers with BPD may invalidate the emotions of their children, especially when the mother inaccurately perceives these emotions. This may in turn lead to children who deny or question their emotions and emotional responses. This chronic invalidation of emotional experiences may disrupt the adaptive development of emotion processing systems. It is likely that mothers with BPD, as a result of their own difficulties understanding their feelings, lack of skills to manage their own emotions, and their own childhood history of parental invalidation would have a hard time modeling appropriate emotion socialization strategies. Mothers with BPD may thus teach their children maladaptive ways of expressing and managing emotions.

Invalidating environmental factors that correlate with BPD include neglect and abuse (Bandelow, Krause, Wedekind, Broocks, Hajak, & Ruther, 2005; Bornovalova, Gratz, Delany-Brumsey, Paulson, & Lejuez, 2006), which may occur within the family of origin. However, the specific invalidating parenting practices that may play a role in the development of BPD has received little empirical attention. We first review studies examining the parenting practices among mothers with BPD, and then, given the little empirical attention that has been given to this topic, we discuss the evidence related to parenting of those with other personality disorders.

Mothers with BPD

The still-face paradigm has been used to investigate parenting behaviors of mothers with BPD. Crandell and colleagues (2003) found that the mothers with BPD were more likely to be characterized as intrusively insensitive based on ratings of their speech and behavior during both the free play period before the still face paradigm and the recovery period afterwards compared to healthy controls. The authors later replicated these findings in another sample of infant-mother dyads (Hobson et al., 2005). Hobson and colleagues (2009) also investigated the relationship between one-year old infants and their mothers with BPD. Using videotaped interactions of the Strange Situation paradigm, the authors found that mothers with BPD displayed dysregulated affective communication toward their infants, including critical and intrusive behaviors, role confusion, and frightened/frightening behaviors. In addition, the mothers showed more frightening and disorienting behavior than mothers with depression or without a personality disorder.

Consistent with some of the findings from the observational studies with infants, Macfie and Swan (2009) argue that role-reversal during the toddler period is particularly relevant for children of mothers with BPD. During the toddler period, children begin to develop a sense of autonomy. However, this milestone might be discouraged in toddlers of mothers with BPD, who might prefer the toddler to stay close in order to meet the mother's needs. Mothers with BPD may be frightened that their child might abandon them. This may result in role-reversal that is, the child's taking on an adult role of peer, friend, or parent. In line with this theory, disorganized attachment during infancy, which is also a likely outcome for infants of mothers with BPD (e.g. Hobson et al., 2005), has been shown to predict role-reversal during the toddler period (Macfie, Fitzpatrick, Rivas, & Cox, 2008) and early childhood (Main, Kaplan, & Cassidy, 1985).

The work on parenting behaviors has also included an assessment of parenting perceptions (Newman et al., 2007). Mothers with BPD were found to be less sensitive and demonstrated less structuring in their interaction with their infants when compared to psychiatrically healthy mother-infant dyads. These mothers also perceived differences in their parenting ability, reporting they were less satisfied, less competent and more distressed with their parenting abilities. Interestingly, the authors noted that the levels of distress and perceived difficulties with parenting roles may be a factor contributing to neglect and abuse.

Both neglect and emotional under-involvement by caretakers, an extreme form of emotional invalidation, appear to contribute to the development of BPD. Feldman and colleagues (1995) reported that children (aged 4–18) of BPD mothers were exposed to environmental instability in the form of frequent changes in housing and schooling, removal from the home, and maternal suicide attempts.

In sum, parenting behaviors that have been found to characterize mothers with BPD include insensitive forms of communication, such as critical, intrusive, and frightening comments and behaviors. Additionally, these mothers may be likely to engage in role confusion with their children and may reinforce their children for taking on the role of a parent or friend. Finally, mothers with BPD report experiencing high levels of distress in roles as parents which could lead to abuse out of frustration and hopelessness.

Mothers with personality disorders

Other studies have examined the effect of general personality pathology on parenting. Conroy and colleagues (2009) recruited a community sample of 200 mothers 8 weeks postpartum to participate in at-home assessments and observations. The authors found significant main effects of depression and personality disorders on infant care practices scores even after controlling for infant irritability, suggesting that women with depression and women with a personality disorder reported engaging in fewer recommended infant care practices (e.g., “baby is placed supine to sleep at night,” “baby is never exposed to cigarette smoke”) and lower observational ratings of maternal involvement compared to mothers without depression and without a personality disorder. When examining the effect of personality disorder on infant care at the personality disorder cluster level (A, B, and C), there was a main effect for cluster B personality disorder status (which includes BPD, histrionic, narcissistic, and antisocial) on infant care practices but not on maternal involvement observational ratings. The lack of association between cluster B personality disorder status and maternal sensitivity observational ratings is inconsistent with findings from other studies. This discrepancy may be due to the lack of diagnostic specificity as a result of grouping personality disorders into clusters. Additionally, the observational ratings were based on one 3-minute videotaped play interaction which may not have been able to detect differences in maternal sensitivity and responsiveness.

Additionally, the Children in the Community Study (CIC; e.g., Cohen, 1996) has provided a longitudinal prospective account of parenting, parental psychopathology, and child outcomes, and was one of the first to look at child rearing in parents with Axis II disorders, but not specifically BPD. In ten recent papers using data from late childhood and early adolescence, they have shown that: (1) parental personality disorder is associated with problematic parenting; (2) maladaptive parenting is predictive of later personality disorder symptoms in offspring; and (3) parental personality disorder is associated with symptoms and disorders in offspring (Berg-Neilsen, Vikar, & Dahl, 2002; Bezirgianian, Cohen, & Brook, 1993; Cohen, 1996; Cohen, Crawford, Johnson, & Kasen, 2005; Johnson, Cohen, Brown, Smailes, & Bernstein, 1999; Johnson, Cohen, Chen, Kasen, & Brook, 2006; Johnson, Cohen, Gould, Kasen, Brown, & Brook, 2002; Johnson, Cohen, Kasen, & Brook, 2006; Johnson, Cohen, Kasen, Smailes, & Brook, 2001; Johnson, Cohen, Smailes, Skodol, Brown, & Oldham, 2001). This work illustrates the importance of parenting in the transgenerational transmission of personality disorders.

What Parenting Challenges Are Specific to Mothers with BPD?

One of the challenges faced when studying this topic area is how to disentangle parenting practices that might be unique to mothers with BPD from those that are related to other forms of psychopathology, such as depression. From the studies reviewed, we posit that

maternal parenting strategies characterized by oscillations between over-involvement and under-involvement to be specific to mothers with this disorder. We view these oscillations as extreme forms of inconsistencies. Inconsistencies in emotion socialization practices as well as in discipline and monitoring strategies appear to contribute to the development of BPD (Bezirgianian et al., 1993). Mothers with BPD may oscillate between over-involved, intrusive behaviors and withdrawn, avoidant behaviors. These behaviors may also manifest as oscillations between hostile control and coldness. For example, mothers with BPD reported more neglectful and punishing responses to their adolescent's emotional displays, even when controlling for current depressive symptoms (Whalen, Dahl, & Silk, in prep). These same mothers also reported almost equal amounts of reward, a supportive emotion socialization strategy compared to depressed and healthy control mothers, suggesting that mothers with BPD may be more inconsistent in their emotion socialization strategies. Over time, this inconsistency may lead their adolescents to deny or question their emotional responses increasing the potential for emotional vulnerability and further invalidation by others or self.

Furthermore, it seems that mothers with BPD may engage in a greater number of negative parenting behaviors, which may increase their offspring's risk for psychopathology (e.g., Johnson et al., 2006). The combined effects of maternal inconsistency across emotion socialization as well as monitoring, for example, may create an environment invalidating enough to contribute to the development of BPD in the offspring. For example, Bezirgianian and colleagues (1993) reported clinical examples of perceptions that mothers with BPD had about their children. In one example a mother reported that she wished to, "place [her son] in the freezer so that he could never grow old enough to leave [me]." She went on to describe her negative reactions, such as pouting and pleas for his company, to his invitations to go out with friends; however, she would always let him socialize. These interactions were characterized by inconsistency in that her verbal and emotional expressions conveyed one meaning, but the end result of the interaction conveyed another. In addition, this type of interaction could be characterized as emotionally over-involved in that it inhibits the child's autonomy in order to meet the mother's emotional needs. Mothers with BPD may find it difficult to balance appropriate limit setting with the encouragement of exploration and growth for their children. It may also be that mothers with BPD find it difficult to adjust their parenting strategies to match the developmental needs of their children. For example, a discipline strategy that worked well for a toddler may not have the same impact on an adolescent.

Current Interventions

Based on our review, children of mothers with BPD are at risk for poor psychosocial outcomes and the transmission of this vulnerability may be due to certain deficits in parenting skills. Interventions designed specifically for mothers with BPD and their children do not exist. However, authors have made general recommendations favoring attachment therapies (c.f., Macfie, Fitzpatrick, Rivas, & Cox, 2008), especially during infancy through the preschool period and/or psychoeducation-based interventions (c.f. Gunderson, Berkowitz, & Ruiz-Sancho, 1997) for family members of those with BPD.

Attachment-based interventions

Attachment-based interventions generally approach preventing the transmission of insecure and/or disorganized attachment from parent (usually the mother) to the child in one of two ways: (1) individual psychotherapy with the mother and (2) psychotherapy with the mother-infant (or toddler) dyad. Interventions designed with the parent as the primary patient aim to provide "corrective" attachment experiences through interactions and experiences with the therapist (e.g., Lieberman & Zeanah, 1999; Lieberman, Weston, & Pawl, 1991). During

individual psychotherapy, the mother is encouraged to talk about her own childhood experiences and link these events to her current relationship with her child, allowing her to gain insight into how she perpetuates the cycle of insecure and /or disorganized attachment. This mode of improving attachment security via individual psychotherapy with the mother has not been well manualized, which has impeded dissemination and evaluation efforts.

The second approach of attachment-based psychotherapy intervenes at the level of the relationship between the mother and child (Stern, 1995). As with individual psychotherapy, mothers also discuss their developmental history in terms of interactions and experiences with caregivers. However, the difference with this approach is that the therapist observes the interactions between the mother and the child to facilitate the mother linking her past experiences and own attachment style to that of her current relationship with her child. There are several codified examples of this type of parent-infant relationship psychotherapy, including Watch, Wait and Wonder (WWW; Muir, Lojkasek, & Cohen, 1999); Preschooler-Parent Psychotherapy (PPP; also referred to as infant-parent psychotherapy, and toddler-parent psychotherapy; e.g., Cicchetti, Rogosch, & Toth, 2000); and Circle of Security (COS; Marvin, Cooper, Hoffman, & Powell, 2002). These interventions vary in terms of amount of psychoeducation, with WWW providing the least parent training and COS providing the most structured format, specifically in regards to the skills necessary to provide a secure base for infants and toddlers. For example, in COS, parents record their interactions with their infant and are given explicit feedback in a group psychotherapy session regarding the techniques they use while engaging with their child. These interventions have been applied widely with maltreated children (e.g., Toth, Maughan, Manly, Spagnola, & Cicchetti, 2002), disadvantaged parent-child dyads (e.g., Hoffman, Marvin, Cooper, & Powell, 2006) and depressed mothers (e.g., Cicchetti, Toth, & Rogosch, 1999).

Newman and Stevenson (2008) describe the application of WWW with 20 mothers who had a diagnosis BPD. However, it was not modified from its original form. Although this application did not involve an evaluation of this treatments' effectiveness in improving maternal-infant relationship outcomes, it is the only published paper that we are aware of that describes a treatment application for mothers with BPD. WWW involved 12–14 therapy sessions over a 5-month period. The first half of the session involved the mother being invited by the therapist to follow her child's lead in playing with toys. The second half of the session involved the therapist discussing with the mother the activities initiated by the child as well as the mother's understanding of the child's behavior during the play session. They also describe the difficulties parents expressed to their therapists regarding everyday parenting skills, for example maintaining daily feeding and sleeping schedules for their infants. The authors elected not to address these issues but to stick strictly to the WWW protocol, believing that this intervention would better serve the long-term outcomes for the child than would parent management training techniques.

Results regarding the efficacy of these interventions in improving attachment security are mixed (see Lieberman & Zeanah, 1999 for a review). There is great variability regarding the techniques employed across different attachment-based interventions, which has likely impeded researchers' ability to demonstrate their effectiveness. Findings from a meta-analysis by van Ijzendoorn, Juffer, and Duyvesteyn (1995) demonstrated that while attachment-based interventions with mothers increased maternal sensitivity toward their infants and children, they had little impact on attachment security of the mother or the child. More recent efforts have included manualizing these interventions, especially for parent-child dyads, which has resulted in more evidence supporting their effectiveness in improving attachment security. Specifically, PPP for depressed mothers (Cicchetti et al., 1999) and maltreated children (Toth et al., 2002), COS for disadvantaged parent-toddler or parent-preschool dyads in Head Start and Early Head Start Programs (Hoffman et al., 2006; Marvin

et al., 2002), as well as WWW for high-risk mother-infant dyads (Cohen et al., 2002) have all demonstrated efficacy for improving attachment security and/or attachment organization in children.

Even though attachment-based interventions are becoming codified and researchers seem eager to demonstrate their effectiveness in improving attachment security in high-risk parent-infant dyads, the utility of these interventions when offered alone for mothers with BPD and their children may be compromised. There appears to be a gap between the objectives of attachment-based interventions and the goals of mothers with BPD when they seek professional help. Findings from research regarding parenting practices and efficacy underscore this concern (Conroy et al., 2009; Newman et al., 2007). Attachment-based interventions applied without explicit focus on parenting skills are unlikely to alleviate the distress and concerns they have for providing basic needs for their children. It appears that mothers with BPD may require psychoeducation and parent skills training before addressing parent-infant attachment strategies.

Psychoeducational interventions

In contrast to attachment therapies where the patient is primarily the individual with BPD, psychoeducational approaches typically provide information on a variety of issues relevant to family members of the afflicted, including spouses, adult children, friends, and parents of teens. Although none of these treatments have been developed specifically for mothers with BPD and their offspring, we review them here because of their relevance to a systems-based approach to the treatment of this disorder. Additionally, many of the guiding principles of family psychoeducation, including forming support networks with other individuals in the group (e.g., other mothers) as well as learning information about the targeted individual (e.g., infancy and toddlerhood developmental milestones), will be relevant for a parent-child intervention for mothers with BPD.

Family-based psychoeducation programs for individuals with serious mental illness have received extensive empirical support for reducing relapse rates and reducing family stress and burden (for a review see Cohen et al., 2008). The impact of family psychoeducation for individuals with BPD has lagged behind that of other forms of serious mental illness, especially schizophrenia. Gunderson and colleagues (1997) advocate for a family psychoeducational approach to the treatment of BPD. They describe the development of a pilot Multiple Family Group (MFG) program and reported improvements in family communication and family burden after 6 months of treatment. There are three treatments that include family psychoeducation as one component of the treatment model and have published at least one empirical article on the effectiveness of the intervention for families with BPD: (1) Family Connections (FC; Fruzzetti & Hoffman, 2004), (2) Systems Training for Emotional Predictability and Problem Solving (STEPPS; Blum, Pfohl, St. John, Monahan, & Black, 2002), and (3) Multigroup Family Skills Training as part of Dialectical Behavior Therapy for adolescents (Miller, Rathus, & Linehan, 2006). The relative focus on the family members and other support persons compared with the afflicted individual varies among these treatments. FC focuses exclusively on family psychoeducation and the other programs focus solely on the individual with BPD and include family members and other support persons in an ancillary fashion.

Overall, research supports FC to alleviate caregiver stress and STEPPS and multifamily skills training to improve patient outcomes. We are not aware of research to date that has examined the impact of family psychoeducational approaches on both caregiver stress *and* patient outcomes. Furthermore, STEPPS and multifamily groups do not routinely collect information from family members or friends involved in the treatment, which limits our ability to determine the effectiveness of these treatments for family and friends involvement

in treatment. Nonetheless, these programs have implications for the development of parent-child interventions for mothers with BPD, especially if the child is also experiencing psychological problems. Mothers with BPD may benefit from information about typical and atypical child development as well as recommended parenting practices and behaviors.

Implications for the Development of a Parenting Intervention for Mothers with BPD

Based on our review of parenting practices of mothers with BPD as well as the poor psychosocial outcomes characterized by many of their children, a parent-child treatment intervention specifically for mothers with BPD is needed. An intervention for mothers and children should address the unique parenting challenges that mothers with BPD experience, namely experiencing oscillations between hostile control and withdrawn behaviors as well as oscillations between intrusiveness and coldness. It is also important for this intervention to address parenting behaviors that may be more effective given existing vulnerabilities (e.g., temperament) in the child. In the next sections, we describe the targets for this intervention that incorporates what we know about attachment and family-based interventions for BPD.

Psychoeducation regarding childhood development

As discussed previously, we think that mothers with BPD may first need basic psychoeducation on appropriate developmental tasks and expectations. Many mothers are unfamiliar with appropriate developmental milestones and may have difficulty coping with the normal behaviors of infants, children, and adolescents. This may lead to maternal stress and a failure to meet the child's needs. By learning what happens as an infant grows into a toddler and a toddler into a preschooler, mothers can be better prepared for the challenges ahead and develop reasonable expectations given the child's current developmental state. For example, mothers with BPD may believe that the cries of their infant daughter or son reflect that they are a bad parent. Basic psychoeducation on an infant's needs and cognitions may alter these beliefs and create a more positive relationship between the mother and child. Mothers may benefit from psychoeducation regarding basic parenting skills and positive parenting, such as how to get a child to go to bed, how to manage feeding, and non-physical discipline strategies. Learning this information may help the mother take on the child's perspective and mothers may find it beneficial to know what signs to look for in the growth and development of their children. With the help of a therapist, mothers can assess and celebrate their child's growth and development.

Mothers can learn that each child is different and possess his or her own needs. Instead of punishing or neglecting a younger child because he or she does not behave like an older sibling, mothers will be able to appreciate the child for his or her unique qualities and developmental trajectory. Education on the developmental milestones also needs to extend beyond infancy and toddlerhood. Important physical, emotional, and cognitive changes occur throughout childhood and adolescence. Knowledge about these changes may assist mothers in realizing that their role is still crucial for facilitating positive outcomes in older children even though they are no longer physically dependent on their caretaker.

Mothers can also learn that previous parenting experiences with their own caretakers can be a trap, leading to ineffective parenting strategies with their current child. They may need to learn how to identify oscillations between controlling, punitive parenting to more permissive parenting practices by ignoring or withdrawing.

Skills to promote consistency in scheduling and monitoring

As stated above, the importance of psychoeducation in developmental milestones extends into consistency in scheduling and monitoring. The studies reviewed above suggest that mothers with BPD may have difficulty maintaining a stable and nurturing environment for their children. For example, Feldman and colleagues (1995) found that children of BPD mothers were exposed to several facets of environmental instability such as frequent changes in housing and schooling, removal from the home, and maternal suicide attempts. Additionally, research suggests that mothers with BPD may have difficulties in scheduling and providing consistent feeding and sleep-wake times (Conroy et al., 2009). An important intervention target for mothers with BPD will learn the importance of providing a consistent and predictable routine for their child that also consists of predictable transition times, for example from play to sleep time. Routines provide both a sense of structure and security to children. Routines assist children in learning that their environment or home is a stable and safe place, and research has promoted the protective effects of parental routines and monitoring (Murphy, Marelich, Herbeck, & Payne, 2009). For example, the adolescents of mothers with HIV/AIDS who engaged in more family routines showed lower rates of anxiety, depression, and conduct disorder (Murphy, Marelich, Herbeck, & Payne, 2009). The family routine of meal time has been associated with fewer depressive symptoms, alcohol use, and marijuana use in adolescents (Eisenberg et al., 2004).

Parental monitoring of their children's activities and behaviors is a key feature of a stable and predictable home environment. Consistent monitoring and supervision has been demonstrated to be an important factor to reduce childhood injuries (e.g., Petrass, Blitvich, & Finch, 2009). Additionally, these parenting strategies are also associated with less substance use as well as fewer delinquent behaviors during adolescence and young adulthood (e.g., Clark, Kirisci, Mezzich, & Chung, 2008; Hoeve et al., 2007). Mothers with BPD may have difficulty consistently monitoring and supervising their child, vacillating between using harsh punishment strategies to control their children to laissez-faire, permissive strategies that provide little guidance for their children. Thus, a related target for intervention with this population will be to train mothers in how to effectively monitor, supervise and set limits with their child (c.f. Koestner, Ryan, Bernieri, & Holt, 2006).

In sum, important intervention targets for this population will be to assist mothers in setting routines for their child as well as effective ways of adhering to them even during difficult circumstances. Learning about the psychological importance of routines (both for themselves and their children) as well as how to effectively start and maintain a schedule would be useful. In addition, learning how to consistently monitor and supervise their child based on their developmental stage and individualized needs would also be important. Increasing these skills will promote parenting self-efficacy and decrease distress regarding their role as a parent.

Skills to promote consistency in warmth and nurturance

Emotion related parenting practices are believed to play a key role in the socialization of emotion regulation in children (Morris et al., 2007). Several studies suggest that failing to regulate negative emotions may be associated with psychopathology during childhood and adolescence (e.g., Eisenberg et al., 2001).

Research suggests that parents possess a "meta-emotion philosophy" that guides responses to their children's emotional expressions (Gottman, Katz, & Hooven, 1996). Parental discomfort with emotional displays has been shown to be associated with worse emotion regulation and behavior problems (Lunkenheimer, Shields, & Cortina, 2007). Given the research on maternal BPD reviewed, it appears that these mothers may be likely to engage in

parental emotion-dismissing behaviors, setting their children up for difficulties in emotion regulation.

Maternal responses to their child's emotional expression also play a significant role in teaching the child how to manage his or her own emotions (Eisenberg et al., 1996; Morris et al., 2007). Mothers who respond positively to their children's emotional displays support the child's emotion regulation by encouraging the use of more adaptive strategies, such as reappraisal and problem solving. Supportive maternal responses can also assist children in practicing strategies for managing emotions during more stressful social interactions with peers and adults.

Mothers with BPD may utilize nonsupportive emotion socialization strategies and invalidate the emotions of their children. Mothers who inaccurately perceive their child's emotions are particularly likely to have invalidating responses to their children's emotional displays (Gottman, Katz, & Hooven, 1997). Criticizing, mocking, or punishing a child for his or her emotional expression may encourage the suppression of emotion and the use of avoidant or aggressive emotion regulation strategies (Buck, 1984; Eisenberg et al., 1996). This may in turn lead to children who deny or question their emotions and emotional responses. Several studies reviewed above suggest that mothers with BPD may engage in nonsupportive responses to their children's emotional displays (e.g. Johnson et al., 2006). When these children are later faced with situations that provoke negative emotions, they may learn to suppress the emotional expression while still experiencing heightened physiological arousal (Gross & Levenson, 1997).

An important target for these mother-child dyads will be to facilitate mother's responding positively and *consistently* to their children's emotional displays. It will also be important to help the mother plan how to consistently provide warmth and nurturance even during times of her own extreme emotional distress and urges to avoid or control the child's emotional expression.

Mindfulness-based parenting skills to facilitate behavioral and emotional consistency

In order to engage in providing consistent behavioral and emotional support to their children, mothers with BPD may benefit from mindfulness-based parenting strategies. Dumas (2005) describes the habitual nature of many disagreements and conflicts that arise between parents and children and argues that mindfulness based parenting strategies can help families become "unstuck" from such negative patterns. After 8 weeks of mindfulness training with parents and adolescents with externalizing disorders, children reported a significant reduction in both internalizing and externalizing symptoms and parents reported an improvement in goal attainment with their child (Bögels, Hoogstad, van Dun, de Schutter, Restifo, 2005). The goal of self-awareness might help the mother with BPD gain objectivity in difficult parenting situations, especially when the child is experiencing a strong emotion or eliciting a strong emotion in the mother. Self-awareness would also help mothers with BPD learn their own limits in parenting and when to ask for support and advice. This "meta-skill" weaved throughout the intervention might lead to an improvement in the ability to provide a stable warm home environment.

Limitations

Despite the strong rationale for a specific parenting intervention for mothers with BPD, there are several factors that may limit intervention development. First, there is a lack of information on this topic. For instance, we do not even have accurate estimates regarding the prevalence of mothers with BPD. Second, we recognize that many children of mothers with BPD are resilient to poor outcomes and that positive outcomes may be due to the

exceptional parenting capabilities of some mothers with BPD. We also realize that a variety of environmental factors, not only parenting practices, put children at risk for the development of BPD. However, we feel that mothers with BPD, due to specific aspects of their illness, may face special challenges to parenting and that increased research in this area is sorely needed. The assumption underlying this review is that parenting skills are amenable to change, and that these changes may have profound positive effects on children's outcomes, especially when these skills deficits are targeted during early development.

Conclusions

In sum, genetic and environmental vulnerabilities put children of mothers with BPD at risk for BPD and related psychopathology. One environmental context that may confer risk is parenting. Mothers with BPD may encounter unique parenting challenges, especially in light of the lack of efficacy they feel as parents. The parenting strategy that might be most deleterious to children of mothers with BPD may be oscillations between extreme forms of control and passivity that provide little consistency for the child's day to day experience. By addressing parenting skills, we expect to see improvements in parent-child interactions, which will lead to reductions in the mother's and child's distress. Based on our thorough review of the literature, we outline several points for a parenting intervention, namely psychoeducation, consistency in scheduling and monitoring, consistency in warmth and nurturance, as well as the application of mindfulness-based parenting strategies. The development of an intervention for mothers with BPD is critical to ameliorate parenting problems and promote the positive adjustment of children. We hope that this review will generate novel research questions regarding parenting strategies in mothers with BPD as well as spur treatment development efforts for this population.

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