Parenting in mothers with borderline personality disorder and impact on child outcomes

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PARENTING IN MOTHERS WITH BORDERLINE PERSONALITY DISORDER
AND IMPACT ON CHILD OUTCOMES:

A SYSTEMATIC REVIEW

Lara Petfield, School of Psychology, University of Sussex, Brighton, UK.

Helen Startup, Sussex Partnership NHS Foundation Trust, Sussex Education Centre, Hove, UK.

Hannah Droscher, School of Psychology, University of Sussex, Brighton, UK.

Sam Cartwright-Hatton, School of Psychology, University of Sussex, Brighton, UK.

Corresponding Author: Dr Helen Startup, Sussex Partnership NHS Foundation Trust, Sussex Education Centre, Hove, UK. helen.startup@kcl.ac.uk

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ABSTRACT

Question

This systematic review explores two questions: what parenting difficulties are experienced by mothers with Borderline Personality Disorder (BPD); and what impact do these have on her children?

Study Selection and Analysis

Studies had to include mothers with a diagnosis of BPD, who was the primary caregiver to a child/children under 19 years. Psycinfo and MEDLINE were screened (update: July 2014), yielding 17 relevant studies.

Findings

Mothers with BPD are often parenting in the context of significant additional risk factors, such as depression, substance use and low support. Interactions between mothers with BPD and their infants are at risk of low sensitivity and high intrusiveness and mothers of babies have difficulty in correctly identifying their emotional state. Levels of parenting stress are high, and self-reported competence and satisfaction are low. The family environment is often hostile and low in cohesion, and mothers with BPD show low levels of mind-mindedness but high levels of overprotection of older children.

Outcomes for children are poor compared to both children of healthy mothers, and mothers with other disorders. Infants of mothers with BPD have poorer interactions with their mother (e.g. less positive affect and vocalising, more dazed looks and looks away). Older children exhibit a range of cognitive behavioural risk factors (e.g. harm avoidance, dysfunctional
attitudes and attributions), and have poorer relationships with their mothers. Unsurprisingly, given these findings, children of mothers with BPD have poorer mental health in a range of domains.

**Conclusions**

This review highlights the elevated need for support in these mother-child dyads.

250 words
BACKGROUND

Borderline Personality Disorder (BPD) affects around 0.7-1% of the British population(1). Although there is much controversy over its definition and diagnosis, it is generally agreed to be characterised by difficulties in emotion regulation, and interpersonal relationships. Some individuals with BPD struggle with empathy, resulting in difficulties identifying and understanding others’ feelings. Relationships are often unstable and high intensity, characterised by insecurity, hostility, and lack of trust. They often exhibit chronic concerns about rejection and abandonment, most pronounced in close interpersonal relationships. Anxiety and depression are common in BPD, as are impulsivity and risk-taking(2).

Individuals with BPD can also experience disturbances in their sense of identity, exhibiting unstable self-image, excessive self-criticism, and feelings of emptiness(2). Their self-presentation can fluctuate depending on the group or situation they are in, with the sufferer’s sense of identity being experienced as dependent on a specific relationship(3).

It is now widely accepted that mental health difficulties in parents impact on parenting, and subsequently on outcomes for the child(4–7). However, despite the clear need for it, there is a paucity of research into the influences of parental BPD on both parent and child. To the authors’ knowledge, no attempt has been made at synthesis of the little that does exist. A better understanding of the impact of BPD on parenting and on children’s outcomes might inform the development of interventions for this vulnerable group.

OBJECTIVES

Considering that BPD is most commonly diagnosed in women(8), many of whom will be mothers(9), the current review will draw together research considering maternal BPD. The
aim is to systematically synthesise the findings of this research, in order to provide a better understanding of the consequences of maternal BPD.

Two questions are explored:

1) Are there deficits and difficulties in the parenting of mothers with BPD?

2) What difficulties are experienced by children of mothers with BPD?

**STUDY SELECTION AND ANALYSIS**

Searches were conducted on Psycinfo and MEDLINE.

The search string was: "child*" AND ("borderline personality disorder" OR "emotionally unstable personality disorder"). Figure 1 depicts the search process at the final date for checking: 10th July 2014.

**INSERT FIGURE 1**

Non-English language articles were removed, leaving 3405 articles. After removing duplicates, there remained 2579. In stage one, titles and abstracts were read against inclusion/exclusion criteria by LP, and a random 10% were re-rated by an independent researcher. Agreement was 97.8%. Disagreements were resolved upon discussion.

This resulted in removal of 2510 articles, leaving 70. At stage two, each full paper was scrutinised against the inclusion/exclusion criteria (see Table 1).

Table 1

<table>
<thead>
<tr>
<th>Type</th>
<th>Inclusion criteria</th>
<th>Exclusion criteria</th>
</tr>
</thead>
</table>

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5
Mothers must have been diagnosed with BPD using standardised assessment procedures, such as the Structured Clinical Interview for DSM-IV (SCID-II; First, Spitzer, Williams & Benjamin, 1997), the Revised Diagnostic Interview for Borderlines (DIB-R; Zanarini, Gunderson, Frankenburg & Chauncey, 1989), the Structured Interview for DSM-IV Personality (SIDP-IV; Pfohl, Blum & Zimmerman, 1997), or the Borderline Evaluation of Severity over Time (BEST; Pfohl et al., 2009). Older studies using diagnostic techniques based on earlier editions of the DSM also acceptable.

- Mothers must be the primary caregiver to their child/children.
- Mothers must be aged 18 or over.
- The children must be aged 18 or under.

**Procedure**

Studies must measure factors influencing the mother's parenting and/or her child's functioning.

- Study does not measure these factors.

**Style**

Studies must be written in English.

- Studies written in any other language.
- Studies must present outcome data.
  - Study does not present unique outcome data (e.g. reviews, commentaries, opinion pieces, books or chapters).
- Studies must be from peer-reviewed journals.
  - Study is not peer-reviewed. Therefore, dissertations were excluded.
- Studies must be quantitative in design.
  - Case studies and qualitative papers were excluded.

Consequently, 54 papers were excluded, (reasons summarised in Table 2).

**Table 2**

*Reasons for exclusion following full text examination.*
<table>
<thead>
<tr>
<th>Reason for exclusion</th>
<th>Number excluded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non peer-reviewed studies, or reviews or commentary pieces</td>
<td>19</td>
</tr>
<tr>
<td>Investigated the parents or siblings of individuals with BPD (but not offspring)</td>
<td>11</td>
</tr>
<tr>
<td>Investigated several different personality disorders, and did not present specific results for those with BPD</td>
<td>7</td>
</tr>
<tr>
<td>Investigated mothers with BPD, or their children, but did not examine parenting or children's outcomes</td>
<td>7</td>
</tr>
<tr>
<td>Only measured borderline features, no diagnosis of BPD</td>
<td>5</td>
</tr>
<tr>
<td>Children were aged over 18</td>
<td>3</td>
</tr>
<tr>
<td>Case studies</td>
<td>2</td>
</tr>
</tbody>
</table>

This left 17 papers that satisfied the inclusion/exclusion criteria. Reference lists were scrutinised for titles relevant to the review. This revealed no further papers.

Eight prominent authors were contacted, and asked to identify any additional studies, but none were found.

**Quality Appraisal**

The Strengthening the Reporting of Observational studies in Epidemiology (STROBE) checklist,(10) is widely accepted as a tool for improving the quality of reporting of observational studies(11). The cross-sectional variant lists 22 areas that are required for highest quality reporting of cross-sectional research. For this review, each area was rated on a 5-point scale and scores averaged to provide a total score. Four papers were categorised as "average to above average", and 13 as "above average to good" (terms based upon the Jadad scale(12), which ranges from 0 (bad) to 5 (good)) (see Table 3).
Table 3

*Five-point rating system developed to score the STROBE checklist*

<table>
<thead>
<tr>
<th>Rating</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>weak, main points missing, with little thought or consideration given to important factors</td>
</tr>
<tr>
<td>2</td>
<td>below average, with some but not all main points included, some information still missing</td>
</tr>
<tr>
<td>3</td>
<td>average, acceptable amount of information on main areas given, but additional relevant information that would have made the section stronger is missing</td>
</tr>
<tr>
<td>4</td>
<td>above average, all main areas considered and discussed in depth, with a few pieces of less important information missing</td>
</tr>
<tr>
<td>5</td>
<td>good, all areas carefully considered and discussed, very little missing</td>
</tr>
</tbody>
</table>

Five randomly selected articles were re-scored by an independent rater. Inter-rater reliability was assessed using Spearman's correlation, giving a strong, positive correlation between quality ratings, \( r_s=.95, \) \( n=5, \) \( p=.014. \) The primary researcher's ratings were, therefore, accepted.

**FINDINGS**

**Maternal BPD and parenting**

Fourteen studies assessed parenting (see Table 4). Across the age range, these studies showed that mothers with BPD were parenting in the context of many factors that are known to put parenting and children’s mental health at risk: All studies that explored parental depression showed this to be significantly elevated in mothers with BPD, compared to a range of control groups(13–16). Feldman et al. noted higher drug and alcohol abuse in parents with BPD
(present in 88%) (17), and White noted that their sample of parents with BPD used more alcohol in pregnancy (18).

Some studies (15,19) noted that mothers with BPD were more likely than control groups to be parenting without the support of a partner, or within a household that frequently changed in its composition (17). This study also noted that children of BPD parents had experienced more changes in school, and more non-maternal care than controls.

Parental mental health also made its impact felt in other ways: Feldman and colleagues showed that children of parents with BPD were at risk of witnessing parental suicide attempts, with 24% of the sample (mean age 11 years) having witnessed a maternal attempt, and 19% having witnessed a paternal attempt (17).

The impacts of BPD on parenting are now presented by age of child: Babies and young children; older children.

**Babies and young children**

Parenting in the context of BPD is not well understood, but perhaps the greatest attention has been devoted to the newborn and toddler age group. All studies of this age group conclude that BPD mothers parent differently, on average, to a range of control samples.

**Interaction style**

White et al. studied mothers with BPD, Major Depressive Disorder (MDD) and healthy controls, in interaction with their 3-month old infants (18). Mothers with BPD smiled less, touched and imitated their infants less and played fewer games with their babies. Lack of sensitivity in interactions with offspring is a recurring theme: Crandell and colleagues observed mothers of 2-month old infants in face-to-face interaction with their child (20). Compared to healthy controls, mothers with BPD were less sensitive in their interactions, and
more intrusive. Observers subsequently rated their interactions as less ‘satisfying’ and ‘engaged’. Similarly Newman et al. rated BPD mothers of 16-month olds as less sensitive than healthy controls (13), and Hobson et al. also found their BPD mothers to be more ‘intrusively insensitive’ in their interactions with their one-year olds, compared to healthy controls, and these differences remained once demographic differences between the groups were controlled (21). Kiel et al. found that, in comparison to healthy control mothers, mothers with BPD showed less positive affect in response to infant distress, and took longer to do so (22). As infant distress increased in duration, BPD mothers were increasingly likely to show insensitive behaviour to their child. These differences remained even when group differences in anxiety and depression were controlled. Hobson et al. also explored affective communication, this time in BPD mothers of toddlers (23). This was found to be disrupted, in comparison to a healthy control group and a depressed control group. Mothers with BPD were also more likely to exhibit a ‘fear/disorientation’ response to their child’s attachment bids, a pattern that has been linked to disorganised attachment in the child (24). Finally, musicologists recorded interactions between mothers and their three-month old infants (25). They found that, in comparison with healthy controls, interactions where the mother had BPD differed in ‘temporal qualities and musical organisation’. Mothers with BPD paused longer and used more non-vocal sounds than controls.

Emotion Recognition

Ability to identify infants’ emotions was disrupted in BPD mothers of 3-14-month old children of BPD mothers (26). Compared to healthy controls, mothers with BPD were less accurate at identifying emotions in photographs of their own and unfamiliar children. In particular, they were prone to labelling neutral expressions as ‘sad’. This sample of mothers was also likely to self-report over-protection of their child.
Activity Structuring

On a pragmatic level, BPD mothers were found to be less good at structuring their children’s activities, in comparison to healthy controls (27).

Parenting Stress/Self-Competence

Unsurprisingly, given the results described above, BPD mothers of children in this age group have been shown to self-report higher parenting stress (15,26), lower competence (27,26), and lower satisfaction in the parenting role (13) than control parents.

Older children

Family Environment

Using the Family Environment Scale (28), Feldman and colleagues showed that mothers with BPD rated their family as lower in cohesion and organisation, and higher on conflict than the control group, which comprised mothers with other types of personality disorder (17). The children in this study (mean 11 years) were also more likely to rate their family as low in cohesion and expressiveness if their parent was diagnosed with BPD as opposed to another personality disorder. Similarly, Herr et al. found that BPD symptoms in mothers were correlated with ratings of maternal hostility given by their fifteen-year-old offspring (29). Feldman et al. concurred, finding that verbal abuse, physical abuse and witnessing of violence were common in their sample of children of BPD mothers, even in comparison to children whose parents had other personality disorders (17).

Mind-mindedness

Schacht, Hammond and Marks (16) explored mind-mindedness (parental ability and willingness to think about their child’s mental state (30) in parents of children aged 39-61 months). They found evidence of reduced mind-mindedness in interviews with BPD
mothers, in comparison to healthy controls, a difference that remained once maternal depression was controlled.

Overprotection

Two studies found that mothers with BPD scored higher on a measure of overprotection of children. Children (mean age 11) of mothers with BPD rated their mothers as less encouraging of independence than children whose mothers had other personality disorders (17). Similarly, mothers with BPD were reported to be more overprotective by their 11-18 year old children, in comparison to healthy controls and controls with depressive illness and other personality disorders (19). It should be noted, however, that children of mothers with BPD might be living in environments that are more risky than average children, and that this higher reported overprotection might be advantageous in these conditions.

Parenting Stress/Satisfaction

Finally, given the differences in parenting reported above, it is not surprising that Herr, Hammen and Brennan noted chronic stress in the relationship between mothers with high levels of BPD symptomatology and their 15-year old offspring (29), and Feldman et al. found extremely low self-reported satisfaction with their family (at the 1st centile) in mothers with BPD (19).

Influence of maternal BPD on children's outcomes

Twelve papers measured the association between maternal BPD and child outcomes (see Table 4). As above, the outcomes are reported separately for babies/toddlers and for older children.
Babies/toddlers

Across five studies, babies/toddlers of mothers with BPD behaved differently to those of control mothers. Crandell, Patrick and Hobson found that when exposed to a 90-second ‘still-face’ challenge, 2-month old infants of mothers with BPD were more likely to look away, or to look dazed than children of healthy controls (20). In a standard face-to-face interaction with their mother, children of the BPD mothers showed less positive affect, and again, more dazed looks. In similar studies of face-to-face interactions between mothers and their infant children, children of BPD mothers were shown to smile less (18), vocalise less (18,25), avert their gaze more, appear more fearful and be less soothable (18), be less responsive to mothers’ bids for interaction, and show less optimally ‘involving’ behaviours towards their mothers than control mothers (27). They also displayed lower ‘availability for positive engagement’ with and fewer positive looks towards a stranger, and had lower ‘behavioural organisation’ and mood state (21).

Older children

Cognitive and Behavioural Risk Factors

Older children of BPD parents showed a range of cognitive and behavioural risk factors in comparison to control children. Herr, Hammen and Brennan found that maternal BPD symptoms were negatively correlated with Harter social acceptance scores, and ability to make close friends in their 15-year old sample, and that this relationship held even after maternal depression was controlled (29). Schacht, Hammon and Mark found that pre-school aged children of women with BPD had poorer theory of mind when given a false belief task, and were poorer at both labelling pictures of emotional faces and identifying possible causes of the depicted emotions (16). Macfie and Swan found that their 4-7 year old children of mothers with BPD displayed more negative self-representations, more fantasy-proneness and fantasy-reality confusion, lower narrative coherence and more intrusion of traumatic material
when participating in a series of role-play scenarios, when compared to children of healthy mothers (31). Abela et al. found their 6-14 year old children of BPD mothers to have a more negative attribution style, more dysfunctional attitudes, a more ruminative response style, engage in more reassurance-seeking, and have higher levels of self-criticism than a sample of children of depressed mothers (32). Finally, in the study by Barnow et al. children (aged 11-18 years) showed excessive harm-avoidance, in comparison to children of depressed mothers and healthy mothers (19).

Parent-child relationships

As well as these elevated cognitive and behavioural risk factors, children seem to have a higher risk of problematic relationships with their BPD parents. Four studies showed that children of mothers with BPD had elevated instances of disrupted attachment styles (21,29,31,32). Additionally, in role-play tasks, children of mothers with BPD (aged 4-7 years) showed excessive role-reversal (31), and fear of abandonment in their relationships with their parents, and more negative expectations of these relationships. Interestingly, Gratz and colleagues (14) reported that although there was no direct relationship between maternal BPD symptoms and infant emotion regulation in their sample, there was an indirect relationship, which was mediated by maternal emotional dysfunction, and that this was particularly the case for the large proportion of children in their sample who were classified as having an insecure-resistant attachment style.

Mental health outcomes

In almost all instances where mental health outcomes were explored, children of BPD parents fared worse than control children, even when these control children had parents with significant mental health difficulties, for example, Weiss and colleagues found that children of BPD mothers (mean age around 11 years) had lower CGAS scores than children of
mothers with other personality disorders, and that the mean of these scores was in the ‘nonfunctional’ range (33). The one exception was the study by Abela, Skitch, Auerbach et al., (2005)(32) which did not find increased difficulties with self-esteem or dependency in 6-14 year old children of mothers with BPD, compared to children of depressed mothers. It should be noted that lack of power (there were only 20 mothers with BPD) in this study could have accounted for this null finding.

Three studies that explored symptoms of emotional disorders found that these were higher in children of parents with BPD compared to control groups: Barnow et al. compared 11-18 year old children of mothers with BPD to children of mothers with depression, and mothers with other personality disorders, and found the children of mothers with BPD to have signs of higher levels of emotional disorder and of suicidal ideation [21]. Indeed, 9% of children whose mothers had BPD had already attempted suicide, compared with 2% of children of healthy mothers. Abela et al. studied 6-14 year old children and found that those with a mother with BPD had experienced more depression (45% had suffered a major depressive episode), than a sample of children whose mothers were currently depressed (32). This study explored a number of potential cognitive and behavioural risk factors in children (see above) and found that these partly mediated the relationship between maternal BPD and children’s depression. Finally, Herr, Hammen and Brennan found that symptoms of BPD in mothers were positively associated with depression in their 15-year old youth, although in this instance, this relationship disappeared when maternal depression was controlled (29).

Two studies explored the relationship between maternal BPD and children’s externalising symptoms. In both cases, there was a positive association. Weiss et al. reported that children (with a mean age of 11) whose mother had BPD were more likely to have a behaviour disorder or Attention Deficit Disorder than the children in the control group, whose parents had a range of other personality disorders, (but not BPD) (33). Barnow et al. also found
more parent-reported symptoms of (11-18 year old) children’s behaviour problems in their sample of mothers with BPD, in comparison to children of healthy controls (19).

CONCLUSIONS AND CLINICAL IMPLICATIONS

In studies employing a range of designs and comparison groups, and all of reasonable quality, mothers’ BPD diagnosis was clearly associated with differences in parenting. In the studies of early childhood, most of which focussed on mother-child interactions, maternal BPD was associated with reduced sensitivity and increased intrusivity towards the child (13,20–22). This is, perhaps, not surprising, given the finding that mothers with BPD found it difficult to correctly identify emotions in photographs of both their own and strangers’ children (26). Mothers with BPD also found it more difficult to structure their young child’s activities (13), and in later childhood were rated as having poorer levels of family organisation (17). The family environment where mothers had BPD was characterised by high levels of hostility (17,29), and low levels of cohesion (17), according to both parent- and child-report. Mothers with BPD were reported to show high levels of overprotection towards their children (17,19) but to have lower levels of mind-mindedness (16), that is, a reduced ability to reflect on their child’s internal world.

Given these difficulties in parenting experienced by mothers with BPD, it is perhaps unsurprising that they reported feeling less competence (13,26) and satisfaction (27,17) in the parenting role. In a number of studies, they also found parenting to be a very stressful task (15,26,29).

The children of mothers with BPD experience a range of negative outcomes. In infancy, they appear to experience interactions with their mother as less satisfying (20), showing signs of less positive affect (18,20,21), more looks away (18,20), more dazed looks (20) and fewer vocalisations (18,25). Subsequently, these children experience a range of cognitive-
behavioural risk factors: compared to control children, they had more difficulties with friendships(29), poorer theory of mind(16), difficulties labelling and understanding the causes of common emotions(16), increased fantasy proneness and difficulty distinguishing fantasy and reality(31), increased negative attributional style, dysfunctional attitudes, rumination and self-criticism(32). They also experience difficulties in the mother-child relationship, with four studies reporting high levels of disrupted attachment styles (21,29,31,32), and in role-play scenarios elevated levels of role-reversal with parents, fear of abandonment, and negative expectations of parents(31). These factors are known to put children at risk of poor mental health outcomes, and indeed, this appears to be the case. Children of mothers with BPD had poorer mental health than control groups, showing substantially elevated levels of depression (19,29,32), suicidality(19), fearfulness (18,29), behaviour problems (19,33) and Attention Deficit Disorder(33).

Most notably, many studies included parents with other diagnoses as control groups, typically other severe presentations, such as MDD and other personality disorders. In most instances, mothers with BPD (and their children) had greater difficult and poorer outcomes than any of these groups, underscoring the particularly severe difficulties that are faced by these mothers and their children.

But, can a causal relationship between BPD and impaired parenting, and subsequently between parenting and child outcome be assumed? Given the difficult circumstances in which mothers with BPD are often parenting (increased likelihood of lone-parenting(15,19), depression(13–16,26), substance misuse(17,18), we must consider the possibility that it is these factors, rather than BPD that cause the poor outcomes for their children. However, many of the studies reported here controlled for maternal depression and/or demographic factors, and in almost every instance, the relationship between BPD and impaired parenting, or BPD and child outcomes, was upheld. Unfortunately, few studies have studied both
parenting risks and child outcomes, and explored the mediating role of the former. However, in the handful of studies that did this, it was apparent that the relationship between parent and child mental health was mediated by parenting difficulties.

The current systematic review is subject to some limitations. First, owing to a lack of resource for translation, it excluded all papers that were not in English. Second, although all studies were deemed to be of a reasonable standard, all were subject to some risk of bias. In particular, all were cross-sectional in design, which limits the conclusions that may be drawn. Similarly, although all studies made some attempt to confirm a diagnosis of BPD in participants, in some cases (14,22,29), this was achieved only by means of self-report questionnaire measures, which is not an optimally valid approach. Similarly, parents were often the primary reporter on children’s outcomes, which is likely to have introduced a bias. Almost all of the studies were very small (see table 4), meaning that they were probably underpowered to detect smaller group differences (although it should be noted that most studies found significant between groups on almost all of their outcome measures). However, the very small samples of mothers with BPD that were present in most of the studies will have had an impact on generalizability of the findings. The risk of publication bias is probably quite high, given the small sample sizes in the field, and the consequent lack of power likely in many studies. Finally, it is not clear whether the studies reported here employed samples that are highly representative of the diverse population of mothers with BPD. Most employed clinic samples, which is likely to be over-representative of the severe end of the disorder. It should be noted that all of these studies represent the ‘average’ parent with BPD, and it is likely that many such parents actually manage very well and have children with good outcomes.

The findings of this review show how very difficult parenting is for mothers with a diagnosis of BPD. These difficulties are probably more severe than for families where a parent has
MDD or another personality disorder. Furthermore, it seems likely that if these mothers are not supported in the parenting role, their children are at risk for a range of poor outcomes. Whilst interventions exist for women with BPD[9], there are currently no interventions that aim to reduce the risk to their children. These families do not deserve to be as overlooked as they have been, as there is evidence, even though it is limited, that they are in particular need of help.

**Competing interests and funding information**

The authors report no competing interests. This report is independent research arising from an NIHR Career Development Award supported by the National Institute for Health Research. The views expressed in this publication are those of the authors and not necessarily those of the NHS, the National Institute for Health Research of the Department of Health.
REFERENCES


Table 4

Summary of studies investigating the impact of maternal BPD on parenting, and on children

<table>
<thead>
<tr>
<th>Study (children’s ages)</th>
<th>N of mothers</th>
<th>N of children</th>
<th></th>
<th>How BPD in the mother was diagnosed</th>
<th>Measures</th>
<th>Quality rating out of 5</th>
<th>Summary of findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abela et al., (2005)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>20</td>
<td>- SCID-II</td>
<td>Verbal interviews, K-SADS, CASQ, CRSQ, SEQ, CDAS-R, CDEQ, IPPA and RSSC</td>
<td>3.6 Parental BPD was significantly related to children having more depressive symptoms, negative attributional style, dysfunctional attitudes, insecure attachment style, and excessive reassurance seeking. 45% of these children had experienced a major depressive episode</td>
</tr>
<tr>
<td>(6-14 years)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barnow et al. (2006)</td>
<td>16</td>
<td>116</td>
<td>36 mothers with depression</td>
<td>23</td>
<td>156 SCID-II</td>
<td>Diagnostic Expert System for Psychiatric Disorders, SSAGA, and the</td>
<td>4 More comorbidity in the mothers with BPD. Described by their children as being overprotective. Children whose mothers had</td>
</tr>
<tr>
<td>Age Group</td>
<td>Number of Mothers</td>
<td>Measures Used</td>
<td>Cluster C PDs</td>
<td>Children Diagnosed with Cluster C PDs</td>
<td>BPD had higher harm avoidance, more attention problems, more delinquency and aggression, social problems, and more self-ratings of depression, anxiety, emotional problems, suicidal tendencies, and lower self-esteem</td>
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<td>-------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(11-18 years)</td>
<td>28 mothers</td>
<td>CBCL, TCI, EMBU, YSR, Rosenberg Self-Worth Scale</td>
<td>Cluster C PDs</td>
<td>Children interviewed using the Diagnostic Expert System for Psychiatric Disorders, and SSAGA</td>
<td>BPD had higher harm avoidance, more attention problems, more delinquency and aggression, social problems, and more self-ratings of depression, anxiety, emotional problems, suicidal tendencies, and lower self-esteem</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crandell et al., (2003)</td>
<td>8 months</td>
<td>Completion of the questionnaire and full interview section of the SCID-II</td>
<td>Interactions between mother and baby rated using the global ratings for mother-infant interactions (Murray et al., 1996)</td>
<td>4</td>
<td>Mothers with BPD relate to their infants in an intrusively insensitive manner, and their mother-infant interactions were scored as less satisfying by an objective rater. During the mother's non-response stage, infants of mothers with BPD had</td>
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</tbody>
</table>
Crittenden & Newman (2010) (3-36 months) 15 17 - - - - DIB-R AAI, Working Model of the Child Interview 3.8 Mothers with BPD reported higher levels of depression and parenting stress

Delavenne et al., (2008) (3 months) 17 17 - 17 17 - SIDP4 Used vocal recordings of interactions and used software to define interactional phrases 3.8 Mothers with BPD had more fragmented interactions with their infants, characterised by longer pauses, fewer interactional phrases, and more non-vocal sounds to fill gaps. Infants of mothers with BPD vocalised less than control infants. Their vocalisations were also shorter

Elliot et al. 13 13 - 13 13 - Zanarini Rating Scale EPDS, BDI, Alcohol Use 4 Mothers with BPD were less accurate when
<table>
<thead>
<tr>
<th>Year</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Measure 1</th>
<th>Measure 2</th>
<th>Measure 3</th>
<th>Measure 4</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>(3-14 months)</td>
<td></td>
<td>for Borderline Personality Disorder</td>
<td>CTQ, DERS, ECRS, PSI-SF, and PACOTIS</td>
<td>identifying emotions in infants. Higher scores for depression, total emotional dysregulation, and parenting stress. Lower perception of their own parenting competence.</td>
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<tr>
<td>Feldman et al. (1995)</td>
<td>9</td>
<td>-</td>
<td>14 mothers with other personality disorders</td>
<td>21</td>
<td>-</td>
<td>23 from mothers with other personality disorders</td>
<td>DIB-R</td>
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<tr>
<td>Gratz et al. (2014)</td>
<td>23</td>
<td>78</td>
<td>-</td>
<td>23</td>
<td>78</td>
<td>-</td>
<td>DIB-R, BEST</td>
</tr>
<tr>
<td>Situation Scenario</td>
<td>Coding System</td>
<td>Scores</td>
<td>Results</td>
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<tr>
<td>(12-23 months)</td>
<td>AFFEX</td>
<td>4.2</td>
<td>Higher levels of maternal intensity and reactivity, found in those with BPD, were linked with lower self-focused emotion regulation, blunted fear and more anger in their infants.</td>
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<tr>
<td>Herr et al., (2008)</td>
<td>SCID-II, KSADS-E, BDI, YCS, SPPA, Teacher Report of Youth Interpersonal Functioning, Bartholomew Attachment Prototypes Questionnaire, PPQ</td>
<td>4.2</td>
<td>Children of mothers with BPD found it hard to make friends and be socially accepted. Also had more fearful attachment cognitions. Rated their mothers as more likely to be hostile.</td>
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<tr>
<td>Hobson et al., (2005)</td>
<td>SCID-II</td>
<td>4.4</td>
<td>Mothers with BPD were found to be more intrusively insensitive. Infants whose mothers had</td>
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<td>(12 months)</td>
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<tr>
<td>(Murray et al., 1996)</td>
<td>BPD displayed less availability for positive engagement, lower behavioural organisation and mood state, and they gave fewer positive looks to a stranger.</td>
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<table>
<thead>
<tr>
<th>Hobson et al. (2009)</th>
<th>13</th>
<th>31</th>
<th>15 mothers with depression</th>
<th>13</th>
<th>31</th>
<th>15 from mothers with depression</th>
<th>SCID-II, AMBIANCE</th>
<th>4</th>
<th>Mothers with BPD were more likely to have disrupted affective communication with their infants. Showed more disorientation and fear during infants' attachment bids.</th>
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<tbody>
<tr>
<td>(Unclear. Circa 1-2 years. Average age 69 weeks.)</td>
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</table>

<p>| Kiel et al., (2011) | 22 | 77 | - | 22 | 77 | - | BEST, DERS, DASS, maternal affective and behavioural expressions were coded | 4 | Mothers with BPD had more emotion dysregulation. Took longer to display positive affect in response to infant distress. BPD mothers were more likely to respond insensitively when infant |</p>
<table>
<thead>
<tr>
<th>Study</th>
<th>Age Range</th>
<th>Sample Size</th>
<th>Procedure</th>
<th>Measures</th>
<th>Effect Size</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macfie &amp; Swan (2009)</td>
<td>(4-7 years)</td>
<td>-</td>
<td>-</td>
<td>30/30</td>
<td>-</td>
<td>SCID-II, PPVT-III, ASCT, the MacArthur Story Stem Battery, coded using the same systems as Macfie, Swan, Fitzpatrick, Watkins &amp; Rivas (2014)</td>
</tr>
<tr>
<td>Newman et al., (2007)</td>
<td>(mean 16 months)</td>
<td>14/20</td>
<td>-</td>
<td>14/20</td>
<td>-</td>
<td>Independent clinical diagnosis of BPD, meeting DSM-IV criteria for BPD, and DIB-R</td>
</tr>
</tbody>
</table>
Mothers with BPD were more likely to report depressive symptoms. They also used significantly fewer mind-related comments to describe their children. Children who had mothers with BPD struggled to identify and describe causes of emotion, and had less understanding of mental states, doing less well in the Theory of Mind tasks.

<table>
<thead>
<tr>
<th>Study</th>
<th>Age Range</th>
<th>Sample Size</th>
<th>Measures</th>
<th>Findings</th>
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</thead>
<tbody>
<tr>
<td>(39-61 months)</td>
<td>20-19</td>
<td>20-19</td>
<td>Children given SCQ, BPVT-II, false-belief tasks, affective-labelling task, and a modified version of the causes of emotions interview.</td>
<td>Mothers with BPD were more likely to report depressive symptoms. They also used significantly fewer mind-related comments to describe their children. Children who had mothers with BPD struggled to identify and describe causes of emotion, and had less understanding of mental states, doing less well in the Theory of Mind tasks.</td>
</tr>
<tr>
<td>Weiss et al. (1996)</td>
<td>4+ Mean approx. 11</td>
<td>21-23 from mothers with other personality disorders</td>
<td>DIB-R, FTRI, KSADS-E, CGAS and CDIB</td>
<td>Children of mothers with BPD had significantly more general psychopathology. Both groups had history of trauma.</td>
</tr>
<tr>
<td>White et al., (2011) (circa 3 months)</td>
<td>17</td>
<td>25</td>
<td>25 mothers with Major Depressive Disorder (MDD) and 20 mothers with BPD comorbid with MDD</td>
<td>17</td>
</tr>
<tr>
<td>Key</td>
<td>CTQ - Childhood Trauma Questionnaire</td>
<td>PAI - Personality Assessment Inventory</td>
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<tr>
<td>AAI - Adult Attachment Interview</td>
<td>DASS - Depression, Anxiety, Stress Scales</td>
<td>PPQ - Perceived Parenting Quality Questionnaire</td>
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<tr>
<td>ADHD - Attention Deficit Hyperactivity Disorder</td>
<td>DERS - Difficulties in Emotion Regulation Scale</td>
<td>PPVT-III - Peabody Picture Vocabulary Test, Third Edition</td>
<td></td>
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</tr>
<tr>
<td>AFFEX - System for Identifying Affect Expression by Holistic Judgement</td>
<td>DIB-R - Revised Diagnostic Interview for Borderlines</td>
<td>PSI-SF - Parenting Stress Index Short Form</td>
<td></td>
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<tr>
<td>AIM - Affect Intensity Measure</td>
<td>EA - Emotional Availability Scales</td>
<td>PSOC - Parenting Sense of Competence Scale</td>
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<tr>
<td>AMBIANCE - Atypical Maternal Behavior Instrument for Assessment and Classification</td>
<td>ECRS - Experiences in Close Relationships Scale</td>
<td>RSSC - Reassurance-Seeking Scale for Children</td>
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<tr>
<td>ASCT - Attachment Story Completion Task</td>
<td>EMBU - Swedish acronym for Own Memories Concerning Upbringing</td>
<td>SCID-II - Structured Clinical Interview for DSM-IV</td>
<td></td>
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<tr>
<td>BAI - Beck Anxiety Inventory</td>
<td>EPDS - Edinburgh Postnatal Depression Scale</td>
<td>SCL-90-R - Symptom Checklist 90 Revised</td>
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<tr>
<td>BDI - Beck Depression Inventory</td>
<td>FES - Family Environment Scale</td>
<td>SCQ - Social Communication Questionnaire</td>
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<tr>
<td>BEST - Borderline Evaluation of Severity over Time</td>
<td>FSS - Family Satisfaction Scale</td>
<td>SEQ - Children’s Self-Esteem Questionnaire</td>
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<td></td>
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<tr>
<td>BPVS-II - British Picture Vocabulary Scale II</td>
<td>FTRI - Family Trauma and Resilience Interview</td>
<td>SIDP4 - Structured Interview for DSM-IV Personality</td>
<td></td>
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</tr>
<tr>
<td>CASQ - Children’s Attributional Style Questionnaire</td>
<td>IBQR - Infant Behaviour Questionnaire, Revised</td>
<td>SPPA - Self-Perception Profile for Adolescents</td>
<td></td>
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</tr>
<tr>
<td>CBCL - Child Behavior Checklist</td>
<td>IPPA - Inventory of Parent and Peer Attachment</td>
<td>SSAGA - Semi-Structured Assessment for the Genetics of Alcoholism</td>
<td></td>
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</tr>
<tr>
<td>CDAS-R - Children’s Dysfunctional Attitudes Scale-Revised</td>
<td>K-SADS - Kiddie Schedule for Affective Disorders and Schizophrenia for School-Age Children</td>
<td>TCI - Temperament and Character Inventory</td>
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<tr>
<td>CDEQ - Children’s Depressive Experiences Questionnaire</td>
<td>K-SADS-E - Kiddie Schedule for Affective Disorders and Schizophrenia-Episodic Version</td>
<td>YCS - Youth Chronic Stress Interview</td>
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</tr>
<tr>
<td>CDIB - Child Diagnostic Interview for Borderlines</td>
<td>PACOTIS - Parental Cognitions and Conduct Toward the Infant Scale</td>
<td>YSR - Youth Self-Report</td>
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