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Regular Article

Parenting knowledge and parenting self-efficacy of mothers with borderline personality disorder and depression: “I know what to do but think I am not doing it”

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Abstract

Borderline personality disorder (BPD) is a complex mental health condition often associated with previous childhood adversity including maladaptive parenting. When becoming a parent themselves, mothers with BPD have difficulties with various parenting cognitions and practices, but unknown is whether they have appropriate knowledge of sensitive parenting. This study explored whether differences in parenting knowledge or self-efficacy are specific to BPD or also found in mothers with depression, and whether symptom severity or specific diagnosis better explain parenting perceptions. Mothers with BPD ($n = 26$), depression ($n = 25$) or HCs ($n = 25$) completed a Q-sort parenting knowledge task and a parenting self-efficacy questionnaire. Results showed mothers with BPD had the same knowledge of sensitive parenting behaviors as mothers with depression and healthy mothers. Self-reported parenting self-efficacy was lower in mothers with BPD and depression compared with healthy mothers, with symptom severity most strongly associated. A significant but low correlation was found between parenting self-efficacy and knowledge. Findings suggest that mothers with BPD and depression know what good parenting is but think they are not parenting well. Mental health difficulties are not associated with parenting knowledge, but symptom severity appears to be a common pathway to lower parenting self-efficacy. Future interventions should test whether reduction of symptom severity or positive parenting feedback could improve parenting self-efficacy.

Keywords: Borderline personality disorder; knowledge; parenting; Q-sort method; self-efficacy

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Introduction

Borderline personality disorder (BPD) is a complex mental health condition affecting 1–6% of the population, with many of those diagnosed with BPD (c.85%) being women of child-rearing age (Coid et al., 2006; Grant et al., 2008). The pervasive functional impairments in emotion regulation, interpersonal relationships, identity disturbance, and behavioral control associated with BPD (American Psychiatric Association, 2013) are recognized as having a substantial impact on family organization and functioning (Feldman et al., 1995) and poor developmental outcomes for children of parents with BPD (Stepp, 2012). As such, there is increasing interest in the impact of maternal BPD on parenting, with studies identifying a number of parenting challenges, such as diminished sensitivity, augmented overprotectiveness, and increased hostility (e.g., Apter et al., 2017; Eyden et al., 2016; Høivik et al., 2018; Kiel et al., 2017).

Previous studies have explored potential contributory factors to parenting in mothers with BPD, such as the child's temperament (Abela et al., 2005; Zalewski et al., 2014), maternal emotional dysregulation (Gratz et al., 2014), and maternal mind-mindedness (Schacht et al., 2013). However, no studies to date have examined the key question of whether mothers with BPD possess the *knowledge* of what makes an “ideal”¹ sensitive mother. Understanding levels of sensitive parenting knowledge is important as maternal sensitivity is well documented as being essential for children's secure attachment (e.g., Bakermans-Kranenburg et al., 2003), self-esteem (e.g., Shaffer & Kipp, 2010), and as a protective factor in a range of physical, cognitive, and socio-emotional difficulties (for a review see Deans, 2020).

Although less researched than other parenting domains, parenting knowledge matters as it shapes parenting cognitions, behaviors, and developmental expectations (Bornstein et al., 2020). The extant literature shows parenting knowledge is associated with parenting practices (Bornstein et al., 2010, 2020; Okagaki

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¹While there is no one ideal method of parenting, “ideal” in this context refers to those positive parenting behaviors consistently considered appropriate and beneficial for healthy child development and attachment as opposed to those that are known to have a deleterious effect.

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& Bingham, 2005), parenting competence (Winter *et al.*, 2012), and successful interpretations of child behavior (Bugental & Corpuz, 2019; Bugental & Happaney, 2002). Parents who are ill-informed about parenting have incongruent child expectations and experience more parental stress (Winter *et al.*, 2012). Lower parenting knowledge has potential implications on child outcomes such as internalizing behavior (Winter *et al.*, 2012), poorer mother-child interactions, and inappropriate discipline (Goodnow, 2002; Huang, 2005). Also, parenting knowledge is associated with increased age and higher education (Bornstein *et al.*, 2010), which is notable as mothers with BPD typically are younger when becoming a parent (Zanarini *et al.*, 2015) and have lower education attainment (Bagge *et al.*, 2004). Furthermore, parenting knowledge is associated with enhanced perceptions of parenting self-efficacy (Bornstein *et al.*, 2003, 2018), that is, the mother's belief regarding her ability to parent successfully (Jones & Prinz, 2005), which is salient given the consistent association between parenting self-efficacy, maternal mental health, and a range of parenting perceptions, practices, and child outcomes (e.g., Bornstein *et al.*, 2018; Goodman *et al.*, 2022; Jones & Prinz, 2005; Vance & Brandon, 2017). Therefore, exploring the knowledge that mothers with BPD possess of sensitive parenting and their perceptions of their parenting self-efficacy may be key to informing future effective interventions. As BPD and depression often co-occur (83% lifetime prevalence of major depressive disorder; Zanarini *et al.*, 1998), the present study will also compare to mothers with depression, and healthy mothers.

Mothers with BPD report feeling less competent and less satisfied with their parenting than healthy comparison mothers (Elliot *et al.*, 2014; Newman *et al.*, 2007; Steele *et al.*, 2020), and the identity disturbance and unstable sense of self often experienced by those with BPD can manifest in low self-confidence and poor self-regard (e.g., Zeigler-Hill & Abraham, 2006). Perceptions of their parenting being judged by others as poor (Lerner, 2021) may be further exacerbated by BPD symptomatology and impact on their parenting self-efficacy. Depression is also associated with parenting difficulties (Lovejoy *et al.*, 2000). Mothers with depression experience low self-esteem and poor self-concept (e.g., Fennell, 2004; Fox, 2000), and studies show low parenting self-efficacy is associated with maternal depression (Kohlhoff & Barnett, 2013).

A history of childhood adversity is often associated with BPD (Battle *et al.*, 2004; Carlson *et al.*, 2009; Linehan, 1993), in particular abuse, neglect (Spatz Widom *et al.*, 2009; Zanarini *et al.*, 1997, 2002), and family adversity (Winsper *et al.*, 2012), with childhood adversity 13 times more likely in BPD than in other clinical and non-clinical controls (Kleindienst *et al.*, 2021; Porter *et al.*, 2020). Parenting received in childhood by those later diagnosed with BPD has been found to be typically more conflicting (Winsper *et al.*, 2012), less caring and affectionate (Bandelow *et al.*, 2005), and inconsistent and invalidating (Zanarini *et al.*, 1997). Furthermore, from a social learning theory perspective (Bandura, 1977) being less likely to have been exposed to or had opportunity to observe appropriate parenting during childhood (Pears & Capaldi, 2001) may generate maladaptive parenting schemas when later becoming a parent. Childhood adversity is also associated with severe chronic depression (Negele *et al.*, 2015). However, as depression can be of varied etiology, duration, and severity (NHS, 2020; Wang *et al.*, 2017) potentially limited to a current event/life circumstance rather than associated with adverse childhood experiences, childhood adversity may be less prevalent for mothers with depression than for those with BPD. As such, any

associations with childhood maltreatment (and subsequent poor parenting experiences/maladaptive parenting schemas) are potentially less prevalent, and parenting knowledge may be only mildly or not affected in those with maternal depression only, compared to mothers with BPD.

While often difficult to untangle comorbidities, it is important to delineate whether BPD, depression, or their combination is associated with parenting knowledge and self-efficacy, or whether it is the severity of maternal mental health, which has previously found to be associated with parenting difficulties, and child development outcomes (e.g., Brennan *et al.*, 2000; Mars *et al.*, 2012). Low social support is also associated with low parenting self-efficacy (Angle *et al.*, 2015), with larger social support networks associated with increased parenting knowledge (Cochran & Niegro, 2002); therefore, perceived social support was also explored in this current study. Parents typically rely on familiar sources for knowledge (Cochran & Niegro, 2002), and as mothers with BPD have fewer people for support and parenting discussions (Dunn *et al.*, 2020), often experience relationship instability (American Psychiatric Association, 2013), and have unstable social support (Clifton *et al.*, 2007), maternal perceived social support may be associated with parenting knowledge and/or self-efficacy. Further, with potentially fewer positive parenting models to draw upon, and with parenting most often learned from own parents (Dunn *et al.*, 2020), it is possible that when becoming a mother themselves their idea of appropriate sensitive parenting is limited or distorted.

The current study

The current study addressed a gap in the literature by exploring knowledge of "ideal" sensitive parenting and perceived parenting self-efficacy in mothers with BPD compared to mothers with depression, and mothers with no mental health difficulties. This investigation aimed to begin to understand how knowledge and self-efficacy are impacted in maternal clinical populations (BPD and depression) with the intention that findings would inform further exploration of the impacts of knowledge and self-efficacy on maternal parenting practices, as well as improving targeting of parenting interventions. The study addressed these questions: Do mothers with BPD have knowledge of sensitive parenting and/or diminished parenting self-efficacy, and are differences in parenting knowledge or self-efficacy specific to BPD or are comparable differences also found in mothers with depression? Are childhood adversity, mental health symptom severity, or social support associated with knowledge and self-efficacy outcomes? We first hypothesized that mothers with BPD will have lesser knowledge of sensitive parenting than mothers with depression or no mental health difficulties (H1), and second that both mothers with BPD and depression will have lower parenting self-efficacy than healthy comparison mothers (H2). Finally, we hypothesized that childhood adversity, symptom severity, and perceived social support are the major factors associated with poor parenting knowledge and diminished self-efficacy (H3).

Method

Participants

This study is part of a UK National Health Service (NHS) approved study (16/WM/0076, project ID:105429) exploring the parenting of mothers with BPD. Mothers were included if they were age 18 or over, fluent in English, had a child up to age 12 who had lived

with them for the majority of the child's life, and prior to identification for recruitment had either:

- received a primary clinical diagnosis of BPD (BPD group),
- received a primary clinical diagnosis of depression (DPN group) or
- had experienced no mental health difficulties whilst being a parent (healthy comparison, HC group).

Mental illness diagnoses had been made independently by a clinician using DSM/ICD diagnostic criteria (American Psychiatric Association, 2000; World Health Organization, 2004), and participants were not so severely impaired that they were unable to participate.

Recruitment took place from 2017 to 2018 in England, UK. Mothers with BPD were recruited from psychiatry services, dialectical behavior therapy clinics, or personality disorder services; mothers with depression were recruited from clinical services (psychiatry and psychology) or community services (mother and baby groups, school newsletters, social media); and mothers with no mental health difficulties were recruited from similar community services. In all contexts, interested mothers were given the study information and signed consent-to-contact was obtained. Consenting mothers were contacted to assess eligibility. Non-response rates could not be calculated due to the nature of recruitment; however, drop-out rates after consenting to be contacted or agreeing to participate were BPD $n = 2$; DPN $n = 7$; HC $n = 5$. Child age range was kept broad to maximize the recruitment potential of mothers with BPD. Due to developmental differences, children's developmental stage was stratified between groups, as was educational level of mothers.

A total of 76 mothers participated: BPD $n = 26$, DPN $n = 25$, HC $n = 25$. *A priori* power analysis using G-Power 3.1 (Faul et al., 2007) indicated a total of 73 participants to yield power of 0.95 for detecting medium effects with ANOVA statistics.² Home visits lasted approximately 2½ hr (one participant was seen at the University lab). Informed written consent was obtained. Mother's ages ranged from 20 to 54 years ($M_{\text{years}} = 33.35$, $SD = 7.59$), and child ages from 5 months to 11 years ($M_{\text{months}} = 51.37$, $SD = 38.40$). Significant between-group differences showed that mothers with BPD were the youngest with a mean age of 30 and were less likely to be in employment (Table 1). There were no group differences regarding mothers' qualification level, relationship/marital status, or ethnicity; children's ages (in months or developmental stage), gender, number of siblings, or presence of child learning/mental health difficulties; nor for the clinical groups with diagnosis duration or therapy history.

Measures

All participating mothers completed the following questionnaires.

BPD

The Personality Assessment Inventory (PAI-BOR; Morey, 1991) is a 24-item self-report Likert scale questionnaire used to assess the BPD subscales of *affective instability*, *identity disturbance*, *negative relationships*, and *impulsivity/self-harming*. The PAI-BOR has concurrent validity with DSM-IV (APA, 2000) and SCID-II (First

et al., 1997). Possible scores range from 0 (*not true at all*) to 3 (*very true*). Consistent with Morey's PAI scoring, subscale totals and overall total scores were transformed to *T*-scores for analyses to provide comparison with normative community sample scores (Morey, 1991). Cronbach's alpha for the current sample was .92.

Depression

Current depression symptoms were measured using the Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001), a 9-item self-report Likert scale questionnaire. Possible scores range from 0 (*not at all*) to 3 (*nearly every day*). Validity and reliability for the PHQ-9 have been well established (e.g., Löwe, Spitzer, et al., 2004; Löwe, Unützer, et al., 2004), and is the measure used by NHS, England. Cronbach's alpha for the current sample was .93.

Knowledge of sensitive parenting

A Q-sort task was used to assess mothers' knowledge of the behaviors that most indicate a sensitive mother. The maternal behavior Q-set (MBQS) was based on and correlates highly with Ainsworth's scales of maternal sensitivity and attachment (Behrans et al., 2011, 2012), and has been used with a variety of populations including mothers with psychopathology (e.g., Kim & Kim, 2009). It was originally designed by Pederson and Moran (1995) for clinician use and later adapted by Mesman et al. (2015) for self-report. Ninety behavior statements are ranked from the *most ideal* to the *least ideal* sensitive mother behaviors. Examples of behavior statements include "Makes sure she can hear or see her child"; "Her responses to her child are unpredictable." Pilot testing revealed a few misinterpretations of the Mesman-adapted statements, which were amended whilst retaining Pederson and Moran's intended meanings (supplementary item 1 shows the full list). Correlation coefficients were computed comparing the mother-ranked behavior scores with Pederson and Moran's criterion of an ideal sensitive mother (MBQS-score). High MBQS scores indicate an understanding of maternal sensitive parenting behavior. A discrepancy score was calculated to denote the number of items which differ by 3 or more from Pederson and Moran's criterion score representing behaviors ranked in a different category (e.g., an "ideal" statement ranked as "not ideal").

Parenting self-efficacy

Mothers' parenting self-efficacy was measured using the Tool to Measure Parenting Self-Efficacy (TOPSE; Kendall & Bloomfield, 2005). The TOPSE is a 48-item self-report Likert scale questionnaire, which assesses eight parenting domains: *emotion and affection*; *play and enjoyment*; *empathy and understanding*; *control*; *discipline and setting boundaries*; *parenting pressure*; *parenting self-acceptance*; and *parenting knowledge and learning*. In each parenting domain are six items to rate; for example: "I am able to stay calm when my child is behaving badly" (Control subscale), "I find it hard to cuddle my child" (Emotion and Affection), "I am able to have fun with my child" (Play & Enjoyment). Possible scores range from 0 (*completely disagree*) to 10 (*completely agree*). A score was given for each subsection, however as the adapted TOPSE baby questionnaire (for mothers with a child under 12 months) excludes the domains of *Control* and *Discipline*, for comparability the overall TOPSE score was converted to a percentage score for each participant (TOPSE%). The TOPSE has good internal and external reliability and construct validity (e.g., Bloomfield & Kendall, 2007). Cronbach's alpha for the current sample was .97.

²Using G-Power 3.1 to conduct post hoc power calculations, ANCOVA with 2 covariates, 76 participants, 3 groups, with significance set at .05 shows 0.99 power for detecting a large effect and 0.96 power for moderate effect. Multiple Hierarchical Regression with four predictors shows 0.75 power for detecting moderate effects and 0.99 power for detecting large effects.

Table 1. Mother and child demographic characteristics

Characteristics	BPD (<i>n</i> = 26) (25 children)	Depression (<i>n</i> = 25)	No mental health (<i>n</i> = 25)	<i>F</i>	<i>p</i>	η_p^2
	Mean (<i>SD</i>)	Mean (<i>SD</i>)	Mean (<i>SD</i>)			
Age of mother (years)	30.4 (6.8)	33.6 (7.5)	35.8 (7.7)	3.46	.037	.087
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	χ^2	<i>p</i>	ϕ_c
Marital status				4.31	.116	.238
Married/living with	15 (57.7)	18 (72)	21 (84)			
Single	11 (42.3)	7 (28)	4 (16)			
Employment status				7.81	.020	.321
Not currently working	19 (73.1)	11 (44)	9 (36)			
Working/studying	7 (26.9)	14 (56)	16 (64)			
Qualification level				6.64	.156	.209
GCSE (equiv)/none	12 (46.2)	9 (36)	7 (28)			
A-level diploma (equiv)	11 (42.3)	6 (24)	9 (36)			
Degree/postgrad (equiv)	3 (11.5)	10 (40)	9 (36)			
Ethnicity				2.42	.298	.178
White	25 (96.2)	21 (84)	21 (84)			
Other	1 (3.8)	4 (16)	4 (16)			
Duration of diagnosis				.267	.966	.072
0–1 years	7 (26.9)	8 (32)	n/a			
1–2 years	7 (26.9)	6 (24)	n/a			
2–3 years	4 (15.4)	3 (12)	n/a			
>3 years	8 (30.8)	8 (32)	n/a			
Therapy for MH				2.83	.243	.236
No therapy	8 (30.8)	4 (16)	n/a			
Current therapy	11 (42.3)	9 (36)	n/a			
Previous therapy	7 (26.9)	12 (48)	n/a			
	Mean (<i>SD</i>)	Mean (<i>SD</i>)	Mean (<i>SD</i>)	<i>F</i>	<i>p</i>	η_p^2
Age of child (months)	54.7 (39.6)	45.6 (36.5)	55.3 (39.9)	.50	.612	.012
Number of siblings	1.2 (1.4)	.72 (.84)	1.0 (.96)	1.01	.369	.023
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	χ^2	<i>p</i>	ϕ_c
Developmental age group				1.45	.963	.098
Infant/toddler (5–36 months)	10 (40)	13 (52)	10 (40)			
Preschool (37–60 months)	4 (16)	3 (12)	5 (20)			
Early childhood (61–84 months)	6 (24)	4 (16)	5 (20)			
Mid childhood (85–143 months)	5 (20)	5 (20)	5 (20)			
Gender				2.03	.363	.179
Boys	10 (40)	15 (60)	13 (52)			
Girls	15 (60)	10 (40)	12 (48)			
Child learning/mental health difficulties	2 (8)	2 (8)	0 (0)	2.11	.348	.165

Notes. MH = mental health.

Values in the table in bold denote those reaching statistical significance.

Childhood adversity

Mothers' recall of their own childhood adversity was measured using the Adverse Childhood Experiences questionnaire (ACE-IQ; World Health Organization, 2018). The ACE-IQ has robust validity and reliability and is widely used (e.g., Kazeem, 2015; Wingefeld *et al.*, 2010). Items on *neglect* (emotional and physical),

abuse (emotional, physical, and sexual), family household adversities (witnessing home violence; household member with substance abuse, psychopathology, or incarcerated; separation/death of a parent), and bullying are included in an 11-subcategory, 23-item self-report Likert scale questionnaire. Possible responses range from *always* to *never* for questions regarding occurrence of an

event, and *yes/no* for binary questions. Responses were coded using the ACE-IQ score calculation guide (WHO, 2020). The ACE-binary scale denotes the presence/absence of each ACE, and ACE-frequency the prevalence of each adversity. Possible scores range from 0–11 on each scale (to represent each ACE-IQ subcategory above), the higher the ACE scores the greater the childhood adversity. Cronbach's alphas for the current sample were .82 (ACE-binary) and .83 (ACE-frequency).

Perceived social support

The Significant Others Scale (SOS, Power et al., 1988) measured the levels of received and preferred emotional and practical support from significant others in the mother's life. The SOS includes four self-report Likert scale questions assessing the level of *support received* (e.g., "Can you trust, talk to frankly and share feelings with this person?"). To capture *preferred/ideal support*, each question was followed by "what rating would your ideal be?" Possible scores ranged from 0 (*never*) to 7 (*always*); participants could report up to four significant persons. SOS variables were created for received/actual support, preferred/desired support, and a discrepancy score of preferred minus received support. Cronbach's alphas for the current sample were .90 (received support) and .91 (preferred support).

Procedures

Mothers provided demographic information (Table 1) and completed clinical, adverse childhood, and parenting self-efficacy questionnaires. For the 4-sort Q-sort task, mothers were asked to consider the "ideal" behaviors of a sensitive mother parenting a 0–3-year-old.³

Sort 1: Mothers sorted the behavior cards into piles of *most ideal, least ideal, or neither most nor least ideal* parenting. The cards were then ranked from 9–1 (sorts 2, 3, & 4 below) with 9 representing the most ideal maternal parenting behaviors.

Sort 2. From the *ideal behaviors* pile, mothers chose the top 10 behaviors (ranked as 9), the 10 next most ideal behaviors (ranked 8), and then the 10 they ranked as 7. Any remaining cards were placed in the *neither/nor* pile.

Sort 3. The *least ideal* pile was ranked in a similar manner from 1 to 3 with 10 in each (1 being the least ideal). Any remaining cards were placed in the *neither/nor* pile.

Sort 4. Finally, the *neither/nor* pile was ranked choosing the most ideal 10 out of the remaining cards ranked as 6, followed by 5 then 4. Mothers were given a £10 voucher as a thank you for participating and a debriefing letter signposting to relevant support services.

Data processing and analysis

Missing data

Missed questions on the TOPSE questionnaire ($n = 2$) were omitted from the overall percentage score. A question missed on the PAI-BOR ($n = 1$) was replaced with the mean value for that subsection, and questions where participants ($n = 7$) opted for "prefer not to answer" on the ACE-IQ questionnaire were not included in total ACE scores. The two ACE scales (binary, frequency) were highly correlated, $r(76) = .91$, $p < .001$; therefore ACE-binary (i.e., number of ACEs) was used in the main analyses.

³This age group was specified to represent an age of child which all mothers would have experienced and give continuity across the mother's choices as statements such as "always aware of what her child is doing" would be much more important for a mother of a toddler than a mother of an 11-year-old.

Statistical methods

IBM SPSS version 25 was used. Analyses of covariance (ANCOVA) were computed to identify group differences in each of the clinical/support variables (PAI-BOR, PHQ-9, ACE-IQ, SOS) and outcome variables (TOPSE, MBQS). As mother's age and employment status differed between groups, these demographic characteristics were entered as covariates, with Bonferroni correction applied in post hoc multiple comparisons. To address multicollinearity between borderline severity (PAI-BOR) and depression severity (PHQ-9), $r(76) = .84$, $p < .001$, principal components analysis was used to create a composite variable of mental health symptom severity (Field, 2009; Song et al., 2013). Variables included borderline severity (PAI-BOR), depression severity (PHQ-9), number of diagnosed comorbid conditions, and difficulty in daily functioning measures (as measured on the PHQ-9). No rotation method was required as only one composite had an Eigen value > 1 . The Kaiser-Meyer-Olkin measure of sampling adequacy exceeded the minimum recommended value ($> .5$): Kaiser-Meyer-Olkin = .69, and Bartlett's test of sphericity was significant: $\chi^2(6) = 167.47$, $p < .001$. The extracted composite explained 68% of the variance, with PAI-BOR, PHQ-9, comorbidity, and functioning difficulty loading as .928, .910, .839, and .561 respectively. Standardized Cronbach's alpha = .83.

Where significant group differences were found, hierarchical regressions were performed to explore the strength of associations among the variables (childhood adversity, mental health severity, social support, maternal knowledge). For parenting self-efficacy, childhood adversity (ACE-binary) was included at step 1 due to the temporal priority of this variable; mental health severity was added at step 2; and given the importance of a supportive social network on parenting self-efficacy and the relation between knowledge and self-efficacy, discrepancy between received and preferred support (SOS), and parenting knowledge (MBQS) were added at step 3. Approximate normality, multicollinearity, homoscedasticity, linearity, outliers, and independence of errors assumptions were met with the exception of one outlier, which was a valid response and therefore retained. Significance was set at .05.

Results

Clinical profile

For all BPD scales, BPD mothers scored significantly higher than DPN and HC mothers; DPN mothers scored significantly higher than HC mothers on all scales except self-harm/impulsivity (see Table 2). For current depression symptoms, BPD mothers had higher scores than DPN mothers who had higher scores than HC mothers. Moderate or severe depression (≥ 10 on PHQ-9) was reported in 88% ($n = 23$) of BPD mothers, 56% ($n = 14$) of DPN mothers, and 4% ($n = 1$) of HC mothers, $\chi^2(2, N = 38) = 34.43$, $p = .077$. No difference was found between the two clinical groups for difficulty in daily functioning score; however, BPD mothers had significantly more comorbid conditions. All effect sizes were large.

Childhood adversity

BPD mothers reported experiencing more abuse and neglect and experienced these adversities more frequently than DPN or HC mothers. BPD mothers self-reported more family adversity than HC mothers (see Table 2). No differences were found between DPN and HC mothers on ACE-binary scores except for neglect, where DPN mothers scored significantly higher than HC mothers.

Table 2. Means, standard deviation, ANCOVA statistics, and pairwise comparisons (with Bonferroni correction applied) for BPD scores (PAI-BOR), depression scores (PHQ-9), comorbidity, childhood adversity scores (ACE-IQ), and social support (SOS) by participant group

Measures	BPD (<i>n</i> = 26)	DPN (<i>n</i> = 25)	HC (<i>n</i> = 25)	Between-group comparisons				Pairwise comparisons (<i>p</i>)		
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>df</i>	<i>F</i>	<i>p</i>	η_p^2	BPD-DPN	BPD-HC	DPN-HC
<i>BPD pathology</i>										
PAI-BOR <i>T</i> -score	82.96 (11.65)	63.80 (12.22)	43.36 (7.05)	2, 71	69.80	<.001	.669	<.001	<.001	<.001
BOR-A <i>T</i> -score ^a	79.12 (9.98)	64.16 (12.18)	45.56 (8.87)	2, 71	51.93	<.001	.601	<.001	<.001	<.001
BOR-I <i>T</i> -score	74.27 (10.49)	64.04 (12.62)	42.00 (5.82)	2, 71	57.12	<.001	.623	.026	<.001	<.001
BOR-N <i>T</i> -score ^b	74.85 (10.58)	62.20 (12.90)	45.20 (9.41)	2, 71	33.64	<.001	.494	.025	<.001	<.001
BOR-S <i>T</i> -score	79.38 (16.63)	53.00 (12.07)	46.76 (7.44)	2, 71	32.48	<.001	.485	<.001	<.001	.339
<i>Depression</i>										
PHQ-9 total score	16.15 (5.58)	11.24 (6.05)	2.16 (2.12)	2, 71	45.04	<.001	.566	.012	<.001	<.001
Functioning	1.50 (0.86)	1.48 (1.74)	0.20 (0.41)	2, 71	10.03	.003	.225	1.00	<.001	<.001
Comorbidity	2.12 (0.77)	0.84 (0.62)	0.00 (0.00)	2, 71	66.65	<.001	.659	<.001	<.001	<.001
<i>Childhood adversity</i>										
ACE-IQ binary	8.00 (1.88)	5.64 (2.68)	3.84 (2.90)	2, 71	12.10	<.001	.260	.008	<.001	.165
Abuse	2.70 (0.47)	1.73 (1.03)	1.16 (1.07)	2, 65	12.65	<.001	.286	.005	<.001	.244
Neglect ^c	1.58 (0.58)	0.83 (0.70)	0.48 (0.65)	2, 70	13.61	<.001	.286	.002	<.001	.343
Family adversity	3.04 (1.15)	2.36 (1.38)	1.56 (1.42)	2, 71	4.84	.011	.123	.288	.008	.375
ACE-IQ frequency	6.73 (2.03)	4.08 (3.10)	2.24 (2.44)	2, 71	14.18	<.001	.291	.004	<.001	.100
Abuse	2.17 (0.89)	0.91 (1.11)	0.48 (0.82)	2, 65	16.17	<.001	.339	<.001	<.001	.508
Neglect	1.38 (0.57)	0.87 (0.68)	0.24 (0.52)	2, 70	19.36	<.001	.363	.011	<.001	.004
Family adversity	2.92 (1.19)	2.08 (1.55)	1.26 (1.35)	2, 71	4.77	.011	.121	.210	.009	.530
<i>Social support</i>										
Actual support	17.95 (4.66)	20.29 (3.42)	23.15 (3.45)	2, 71	7.59	.001	.180	.462	.001	.038
Ideal support	24.82 (3.35)	25.67 (2.15)	26.42 (1.69)	2, 71	1.85	.195	.051	1.00	.190	.736
SOS discrepancy	7.41 (3.80)	5.53 (2.88)	3.36 (2.65)	2, 71	6.81	.002	.165	.317	.001	.096

^aThe covariate of age of mother had a significant main effect on BOR-A *T*-score, $F(2,71) = 5.95, p = .017, \eta_p^2 = .079$, whereby as mother's age increased affective instability decreased $r(76) = -.40, p < .001$.

^bThe covariate of working status had a significant main effect on BOR-N *T*-score, $F(2,71) = 4.89, p = .030, \eta_p^2 = .066$, whereby as working status increased (i.e., when in employment) negative relationships decreased $r(76) = -.43, p < .001$.

^cThe covariate of age of mother had a significant main effect on Neglect binary score, $F(2,71) = 5.54, p = .021, \eta_p^2 = .075$, as mothers age increased, neglect was less likely to have occurred, $r(76) = -.39, p = .001$.

Values in the table in bold denote those reaching statistical significance.

No differences were found between the BPD, DPN, and HC groups for occurrences of being bullied (42% $n = 11$; 28% $n = 7$; 16% $n = 4$ respectively; $\chi^2(2, N = 76) = 4.30, p = .116$). All effect sizes were large except for family adversity (moderate).

Perceived social support

ANCOVA analyses showed a difference between groups for received support with large effect sizes; both mothers with BPD and DPN received less actual support than HC mothers (Table 2). For preferred support there were no significant group differences; all mothers had similar support preferences. Significant group differences were found with SOS discrepancy (i.e., the difference between actual/received support and ideal/preferred support) again with large effects. BPD mothers had a significantly larger discrepancy than HC mothers (all other comparisons were not significant). As the discrepancy score most accurately reflects the mother's perception of support, this variable was used in subsequent analyses.

Main results

H1: Mothers knowledge of ideal sensitive parenting

H1 was not supported as no significant differences were found between groups with the MBQS ideal sensitive mother score (see Table 3). To investigate whether there were any group differences by specific maternal behavior statements, the ten highest scoring items and the ten lowest scoring items were reported by group. Table 4 shows almost complete convergence of the most ideal and least ideal maternal behavior items chosen by the BPD, DPN, and HC mothers. All Q-sort findings indicate that BPD mothers have the same knowledge of what makes an ideal sensitive mother as DPN and HC mothers.

H2: Mother's parenting self-efficacy

H2 was supported as separate ANCOVAs revealed significant group differences for the total TOPSE% score and for each TOPSE subscale (Table 4). All yielded large effect sizes. Post hoc tests showed both mothers with BPD and DPN had overall lower

Table 3. Means, standard deviations, ANCOVA statistics, and pairwise comparisons (with Bonferroni correction applied) for mother's parenting perceptions (TOPSE) and mother's parenting knowledge (MBQS) by participant group

MBQS & TOPSE measures	BPD (<i>n</i> = 26)	DPN (<i>n</i> = 25)	HC (<i>n</i> = 25)	Between-group comparisons				Pairwise comparisons (<i>p</i>)		
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>df</i>	<i>F</i>	<i>p</i>	η_p^2	BPD-DPN	BPD-HC	DPN-HC
<i>Knowledge</i>										
MBQS	0.79 (0.5)	0.79 (0.05)	0.81 (0.03)	2, 71	2.03	.140	.055	–	–	–
<i>Self-perceptions</i>										
Total TOPSE %	64.92 (17.39)	74.20 (15.78)	87.76 (8.91)	2, 71	12.54	<.001	.267	.267	<.001	.003
Emotion	49.08 (10.56)	53.64 (7.39)	57.24 (2.70)	2, 71	4.68	.012	.119	.395	.010	.305
Play	42.92 (13.72)	47.84 (11.23)	56.44 (4.63)	2, 71	8.03	.001	.189	.719	.001	.017
Empathy	42.92 (11.40)	49.52 (9.48)	54.40 (4.75)	2, 71	6.68	.002	.162	.063	<.001	.059
Control ^a	32.90 (12.21)	41.10 (12.34)	46.29 (8.01)	2, 60	5.46	.007	.163	.209	.005	.390
Discipline ^a	33.33 (14.62)	46.52 (9.35)	47.24 (11.19)	2, 60	6.64	.003	.192	.011	.005	1.00
Pressures ^b	29.00 (14.64)	26.28 (15.72)	48.12 (10.84)	2, 71	18.72	<.001	.352	1.00	<.001	<.001
Self-accept	35.96 (12.61)	42.88 (12.08)	54.12 (6.75)	2, 71	15.54	<.001	.314	.270	<.001	.001
Learning	41.08 (13.20)	48.67 (9.57)	55.24 (4.93)	2, 71	11.40	<.001	.251	.064	<.001	.039

^a*n* = 21 for BPD, DPN & HC.

^bThe covariate of age of mother had a significant main effect on TOPSE Pressure score, $F(2,71) = 6.43$, $p = .013$, $\eta_p^2 = .085$, whereby as mother's age increased their ability to manage parenting pressures increased, $r(76) = -.32$, $p = .005$.

Values in the table in bold denote those reaching statistical significance.

Table 4. Highest and lowest scoring MBQS items by participant group

Highest scoring behavior statements	Highest 10 BPD (<i>n</i> = 26)	Highest 10 DPN (<i>n</i> = 25)	Highest 10 HC (<i>n</i> = 25)
Responds well when child is upset or distressed	✓	✓	✓
Makes sure she can see or hear her child	✓	✓	✓
Steps in when her child does something dangerous	✓	✓	✓
Is enthusiastic when she does things with her child	✗	✓	✗
Praises her child, acknowledges achievements	✓	✓	✓
Makes sure the environment is interesting for her child	✓	✗	✗
Shows that she enjoys doing things with her child	✓	✓	✓
Responds to what her child does or says	✗	✗	✓
Notifies when her child is distressed	✓	✓	✓
Holds her child close to her to comfort him/her	✓	✓	✓
Clearly shows her child love and acceptance	✓	✓	✓
The way she handles her child makes her child settled and content	✓	✓	✓
Lowest scoring behavior statements	Lowest 10 BPD (<i>n</i> = 26)	Lowest 10 DPN (<i>n</i> = 26)	Lowest 10 HC (<i>n</i> = 26)
Her responses to her child are unpredictable	✓	✓	✓
Treats her child as an object when holding him/her	✗	✓	✗
Her way of showing affection to her child seems insincere or mechanical	✓	✓	✓
Often scolds or criticizes her child	✓	✓	✓
Is irritated when her child wants to be near to her	✓	✓	✓
Shows that she is aware of her child's distress but does not respond	✓	✓	✓
Never responds to her child	✓	✓	✓
Responds only when her child shows prolonged or intense distress	✓	✗	✓
The feelings she shows do not match the child's feelings (laughs when child is upset)	✓	✓	✓
Often disagrees or argues with her child (underlying hostility)	✓	✓	✓
Is negative and hostile towards her child	✓	✓	✓

Note. Ticks represent the mother behavior statements chosen by each group.

Table 5. Hierarchical regression exploring the relative contribution of childhood adversity, symptom severity and social support in mother's self-perceptions of parenting (TOPSE%)

Variable	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	<i>R</i>	<i>R</i> ²	ΔR^2
Step 1						.29	.08	.08
Constant	85.15	4.17		20.43				
ACE-IQ (binary)	−1.65	.63	−.29	−2.61	.01			
Step 2						.67	.45	.37
Constant	73.62	3.64		20.24				
ACE-IQ (binary)	.32	.57	.06	.56	.58			
MH severity	−12.01	1.71	−.70	−7.01	<.001			
Step 3						.71	.50	.05
Constant	37.36	27.76		1.35				
ACE-IQ (binary)	.70	.57	.12	1.23	.22			
MH severity	−10.48	1.76	−.61	−5.94	<.001			
SOS discrepancy	−1.62	.47	−.21	−2.25	.03			
Knowledge (MBQS)	50.03	34.39	.125	1.46	.15			

Notes. *N* = 76.

Values in the table in bold denote those reaching statistical significance.

parenting self-efficacy than HC mothers. Similarly, both clinical groups had lower perceived self-efficacy on the measures of Play, Parenting pressures, Self-acceptance, and Learning than HC mothers. Mothers with BPD had lower perceived self-efficacy than HC mothers for Emotion and affection, Empathy, Control, and lower self-efficacy than DPN and HC mothers for Discipline/boundary setting.

H3: Associations with maternal parenting self-efficacy

H3 was partially supported. Significant negative correlations were found between mother's parenting self-efficacy (TOPSE%) and ACE-binary $r(76) = -.29$, $p = .006$; symptom severity $r(76) = -.67$, $p < .001$; SOS discrepancy $r(76) = -.45$, $p < .001$, and a positive correlation between parenting self-efficacy and MBQS $r(76) = .24$, $p < .020$. Step 1 of the hierarchical regression showed that childhood adversity contributed significantly to the regression model, $F(1, 74) = 6.79$, $p = .01$, $f^2 = .09$, accounting for 8.4% of the variance of mother's parenting self-efficacy (Table 5). At step 2 the model was again significant, $F(2, 73) = 30.14$, $p < .001$, $f^2 = .82$, but with symptom severity added childhood adversity no longer significantly contributed to the model ($p = .60$); symptom severity accounted for 36.8% of the variance. Finally at step 3, the addition of support discrepancy resulted in a significant model, $F(4, 71) = 17.74$, $p < .001$, $f^2 = 1.0$, with support uniquely accounting for 3.6% of the variance. Childhood adversity and knowledge coefficients were not significant ($p = .22$, $p = .15$); symptom severity and support discrepancy were significant ($p < .001$, $p = .04$). The final model accounted for 47% of total variance, with symptom severity having the strongest effect on mother's parenting self-efficacy ($\beta = -.61$); three times that of perceived social support ($\beta = -.21$).

Discussion

This is the first study to explore whether mothers with BPD are knowledgeable about "ideal" sensitive parenting behaviors: Do they

know what sensitive parenting looks like and do they think they are parenting well? Mothers with BPD had a similar knowledge of parenting as mothers with depression and mothers with no mental health difficulties. However, both clinical groups had lower overall perceptions of their parenting efficacy than those without mental health difficulties. Mothers with BPD had experienced more childhood adversity, and the clinical groups received less support than HCs despite having similar social support preferences. The discrepancy between preferred and received support was significantly larger in mothers with BPD than healthy comparison mothers.

H1: Parenting knowledge

Contrary to our hypothesis, mothers with BPD appear to know what good parenting is, and at the same level as healthy mothers despite experiencing greater childhood adversity and presumably having had fewer opportunities to observe appropriate parenting (Pears & Capaldi, 2001). Similarly, having fewer people for support and fewer with whom to discuss parenting strategies did not limit parenting knowledge in mothers with BPD, despite social parenting models suggesting that parents rely first and foremost on family and friends for support (Cochran & Niegro, 2002). Knowledge of parenting practices are often learned from one's own parents (Dunn et al., 2020); however, such knowledge may also be gleaned from other sources such as psychiatric services and health visitors, in particular regarding infant parenting (the age of focus for the parenting knowledge Q-sort task); from other relatives, friends' parents during childhood, and observing other mothers in the community; and from the plethora of literary, media, and online resources of parenting strategies readily accessible to help-seeking parents (e.g., Bornstein et al., 2010; Bornstein, 2015; Smith, 2010). Further exploration of how mothers with BPD (and mothers with other psychopathology) gain parenting knowledge despite often-adverse childhood experiences and relationship difficulties (as identified in this study, and Stepp et al., 2016), is warranted.

It could be that mothers with BPD have an abstract general understanding of parenting knowledge but perhaps are less knowledgeable about when and how to translate their knowledge into parenting practices, for example, timings of child developmental abilities (Tamis-LeMonda et al., 2002), or show poor synchronicity with their child (Feldman, 2003). Discrepancies between cognitions and practices in parenting are well known (Bornstein, 2015). Alternatively, it could be that mothers with BPD are fully aware of how to apply this knowledge but are less able to do so due to their BPD symptomatology (e.g., emotional dysregulation, American Psychiatric Association, 2013) and/or associated difficulties (e.g., reflective functioning, Bateman & Fonagy, 2008, making it difficult to place themselves in the child's mind; Steele et al., 2020). How parenting knowledge is applied in actual parenting practices calls for future investigation.

H2: Parenting self-efficacy

Mothers with BPD and depression reported lower parenting self-efficacy (Elliot et al., 2014; Kohlhoff & Barnett, 2013; Newman et al., 2007; Steele et al., 2020) than healthy comparison mothers. Lower discipline and boundary setting (permissive parenting) was specific to BPD, consistent with previous research (Bartsch et al., 2022; Harvey et al., 2011). Parenting knowledge does not appear to equate to perceived parenting self-efficacy in that mothers with BPD or depression thought they were not doing well as parents, nor parenting as well as other mothers (as seen by the self-acceptance scores). Borderline personality and depression

symptomatology of low sense of self and low self-esteem (APA, 2013) could color their responses. However, mothers with BPD and depression could be accurately reporting their parenting efficacy, as highlighted by maternal BPD and depression studies of observed parenting behavior (Bornstein et al., 2022; Eyden et al., 2016; Lovejoy et al., 2000), and may instead struggle to translate parenting knowledge into sensitive parenting behavior. For instance, poorer reflective capacity may make it difficult for mothers with BPD to understand their child's mind and thus effectuate confident, appropriate play and/or attunement (Steele et al., 2020). As parenting self-efficacy is associated with effective parenting behavior (Vance & Brandon, 2017), indirectly affecting the child via parenting practices (Jones & Prinz, 2005; Reiner-Hess et al., 2004), these findings raise important questions of how, for example, mothers utilize parenting self-efficacy in parenting practices, which require exploration in these two clinical groups.

H3: Associations with maternal parenting self-efficacy and knowledge

Whilst a history of adverse childhood experiences can affect own parenting self-perceptions (Michl et al., 2015) and although childhood adversity was initially associated with lower parenting self-efficacy in the regression analyses, symptom severity was most strongly associated with mothers' parenting self-efficacy scores over and above the contribution of childhood adversity. If childhood adversity is involved with parenting self-efficacy in any causal way, then the relation could be due to the impact of childhood adversity on mental health severity, which calls for evaluation with longitudinal data. Associations of borderline severity with depression severity, comorbidity of depression with BPD, and the inability to untangle the two make it challenging to conclude with certainty whether differences found in mothers' parenting self-efficacy are due to borderline personality or depression symptomatology. However, it is likely that lower reported self-efficacy is linked to negative cognitive self-schemas often associated with these disorders (Baer et al., 2012; Beck, 1967). Similarly, it is not conclusive whether the results are due to depression severity or the severity of mental health more generally. However, the findings suggest that severity of mental health rather than specific diagnosis underpins the association with parenting self-efficacy given that mothers with depression also had higher borderline severity scores than healthy comparison mothers.⁴ The finding regarding mental health severity is consistent with the general shift in conceptualization of mental health difficulties along dimensions of severity rather than via diagnostic categories alone (e.g., Bach & First, 2018; Caspi et al., 2014).

Regardless, implications of these findings for interventions with mothers with BPD or depression are the same: that is, to treat those with low parenting self-efficacy and implement strategies to reduce symptom severity, in particular impulsivity and emotional dysregulation. Early intervention to improve maternal parenting self-efficacy is important as mothers who consider themselves as competent parents are typically more responsive and attentive, discipline their children less, and have more realistic expectations of their children's developmental capabilities (De Hann et al., 2009; Meunier et al., 2011). Mother-Infant Dialectical Behavior Therapy has been associated with reported improvement in parenting confidence in mothers with BPD (Sved Williams et al., 2021), as have recently developed parenting interventions

specifically for mothers with BPD (e.g., McCarthy et al., 2015; Renneberg & Rosenbach, 2016).

Strengths and Limitations

This study is the first to examine parenting knowledge in mothers with BPD. Comparison with healthy mothers and including a comparison clinical group of mothers with depression permitted a test of how BPD, depression, and the severity of mental health symptoms are associated with parenting self-efficacy and knowledge. Depression and symptom severity proved major predictors.

The study has some limitations as well. First, the sample is small to moderate in this acknowledged hard-to-reach population (e.g., Woodall et al., 2010), although larger than 70% of the studies that have examined parenting in mothers with borderline pathology (Eyden et al., 2016). However, effect sizes were typically large, indicating statistically significant and substantively meaningful findings. Furthermore, findings of $p > .05$ and moderate effect size showed the same patterns, whereby mothers with BPD typically had lower scores followed by mothers with depression then healthy mothers. Second, not all mothers in the depression group were currently experiencing depression symptoms due to practical and logistical difficulties between initial recruitment and assessment at time of study. Nevertheless, perceptions of parenting self-efficacy of mothers with depression were collectively lower than in healthy mothers. Third, mothers with BPD in this sample were receiving NHS care typically indicating those who have quite complex presentations relative to those who could meet diagnostic threshold in the wider population. Finally, we acknowledge that causal conclusions cannot be made from these results and the potential for bias when using self-report. However, the questionnaires used report construct validity (e.g., Bloomfield & Kendall, 2007; Wingenfeld et al., 2010), substantial effects were observed, and findings are consistent with previous studies of self-perceptions of parenting (e.g., Elliot et al., 2014; Kohlhoff & Barnett, 2013). Furthermore, for the novel parenting knowledge finding we used a Q-sort method, which is acknowledged as an objective way to investigate more subjective issues (Robbins & Krueger, 2000).

Conclusions

Mothers with BPD and depression know what good parenting is but believe they are not parenting well. The higher their mental health symptom severity, the lower their parenting self-efficacy. Parenting self-efficacy in mothers with BPD or depression may be improved by reducing mental health symptoms in individual treatment or via parenting programs that provide feedback on positive parenting and boost self-efficacy.

Supplementary material. The supplementary material for this article can be found at <https://doi.org/10.1017/S095457942200147X>

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⁴Regression results were re-run with BPD severity (PAI-BOR) scores and depression severity (PHQ-9) scores, and all results were the same.

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