Momentary borderline personality disorder symptoms in youth as a function of parental invalidation and youth-perceived support

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Abstract

Background: Parental invalidation is central to etiological models of borderline personality disorder (BPD). Previous studies relied on retrospective accounts or laboratory observations to examine these associations. There is a dearth of research assessing these constructs in daily life, and limited studies have tested the effect of parental invalidation on BPD symptoms during early adolescence, when BPD onsets. The current study took a dynamic approach to assess parents' validating and invalidating behavior and its effect on youths' BPD symptom expression in daily life, while accounting for parent-perceived helpfulness of these behaviors and youth-perceived support.

Methods: A psychiatric sample of 162 early adolescents (age range = 10–14 years; 47% female) and their parent completed a four-day ecological momentary assessment study. Parents reported on the use of validating and invalidating (e.g. punishing and ignoring) behaviors during parent–child conflict, as well as perceived helpfulness of these behaviors. Youth reported on their BPD symptoms and perceived parental support. Multilevel models were used to test the between- and within-person effects of parents' validating and invalidating behaviors, parent-perceived helpfulness and youth-perceived support, and their interaction on youth's momentary expression of BPD symptoms.

Results: At the between-person level, invalidating behaviors, specifically punishing behaviors, were related to greater BPD symptoms in daily life, while ignoring behaviors were associated with fewer BPD symptoms. Youth-perceived support predicted fewer BPD symptoms.

Conclusions: Results underscore the importance of parental invalidation for the expression of BPD symptoms in daily life and also highlight the importance of youth's subjective experience of parental support. Findings are discussed in terms of etiological and intervention models that emphasize a dyadic framework.

Keywords

Borderline personality disorder; adolescence; parental invalidation; ecological momentary assessment

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Introduction

Borderline personality disorder (BPD) is a serious mental illness characterized by emotional, behavioral, and interpersonal dysregulation, leading to debilitating outcomes across the life span (Gunderson et al., 2011) and high mortality (Kjær, Biskin, Vestergaard, & Munk-JØrgensen, 2018). The influence of the parent–child relationship is paramount in theories of BPD development, with a strong emphasis on the role of parental invalidation and lack of validation, defined as delegitimizing a child's emotional experience or expression (Linehan, 1993). However, there is a dearth of research that examines these associations in daily life, and only two recent studies that tested the effect of parental invalidation on BPD symptoms during early adolescence (Dixon-Gordon, Marsh, Balda, & McQuade, 2020; McQuade, Dixon-Gordon, Breaux, & Babinski, 2021), when BPD onsets (Bornovalova, Hicks, Iacono, & McGue, 2009). The current study sought to expand on previous research by assessing parents' validating and invalidating behaviors during parent–child conflict and its relationship with BPD symptom expression in daily life during this sensitive developmental window. Furthermore, we examined how parent-perceived helpfulness of these behaviors and youth-perceived support may modulate this effect.

Advances in symptom assessment as critical for BPD risk

BPD onsets in early adolescence and peaks in severity during mid-adolescence (Bornovalova et al., 2009). It is hallmarked by affective instability and anger, behavioral dysregulation (impulsivity/recklessness, self-harm/suicidality), and interpersonal dysfunction (identity problems, relationship instability). These symptoms predict a host of poor outcomes among youth, even in the absence of a full diagnosis (Thompson et al., 2018), underscoring the importance of characterizing risk factors during this sensitive developmental window. While previous work emphasized the relative stability of BPD across development (Gunderson et al., 2011), recent findings show substantial variability in daily expression of BPD symptoms, with fluctuations occurring within hours (Law, Fleeson, Arnold, & Furr, 2015). These momentary expressions are linked to proximal triggers, like invalidation, within the interpersonal context (Miskewicz et al., 2015). This suggests that assessing BPD symptoms in daily life (e.g. ecological momentary assessment [EMA]) could inform etiological models of BPD, enhance our understanding of proximal risk (Santangelo, Bohus, & Ebner-Priemer, 2012), and delineate dynamic processes affecting BPD symptom expression in daily life, pointing to potential intervention targets.

Assessing invalidation in the parent–child context

The parent–child relationship is a primary context in which BPD unfolds (Winsper, 2018). Linehan's (1993) biosocial theory suggests that repeated transactions between a child's biological proneness toward emotional sensitivity and invalidation, or insufficient environmental support, interfere with the development of adaptive emotion regulation, driving the development of BPD. Parental invalidation has been defined as neglecting or ignoring the expression of emotion, dismissing or minimizing emotional experiences, and/or punishing the emotion expression (Garside & Klimes-Dougan, 2002). In theory, these behaviors function to delegitimize youths' emotional experience and communicate that emotions are intolerable and unacceptable (Eisenberg et al., 1998), leading to emotional,

behavioral, and interpersonal dysregulation *sine qua non* of BPD (Ramakrishnan, Garside, Labella, & Klimes-Dougan, 2019).

Empirical studies show expected associations between parental invalidation and BPD symptoms using retrospective reports in adult (Gill & Warburton, 2014; Hong, Ilardi, & Lishner, 2011; Hope & Chapman, 2019; Sauer & Baer, 2010) and adolescent samples (Bennett et al., 2019). Observational studies also demonstrate associations between low validation and elevated BPD symptoms (Dixon-Gordon, Whalen, Scott, Cummins, & Stepp, 2015; Whalen et al., 2014). While these studies provide support for Linehan's biosocial theory, they are unable to capture the dynamics of the parent–child relationship or the effect of invalidation on BPD symptom expression in daily life. Parents' validating and invalidating behaviors may fluctuate meaningfully over time, as day-to-day fluctuations in other aspects of parenting (e.g. warmth and punishment) have predicted momentary youth outcomes, such as mood and self-esteem (e.g. Lehman & Repetti, 2007). An important next step is to capture daily experiences of parental invalidation naturalistically and assess their association with BPD symptom expression.

One important arbiter of whether invalidation has occurred is youth themselves. Fruzzetti, Shenk, and Hoffman (2005) theorized that invalidating responses are defined less by their content, and more by the function they serve for the person targeted by the response, based on that person's perception of the response. For instance, a parent may perceive their assurance that 'it's going to be okay' as helpful; however, it may actually delegitimize their child's current distress and be perceived by youth as unsupportive. Indeed, research has shown that, relative to parent report, youth's perception of parenting behaviors was more relevant in predicting their own BPD features (Vanwoerden, Kalpakci, & Sharp, 2017) and increases in emotion and behavior dysregulation 9-months later (Byrd et al., 2021). Studies of parental invalidation and BPD would therefore benefit from assessing parent and youth perceptions of behavior, as these perspectives may differentially predict symptom expression.

The current investigation

This study utilized an EMA protocol to evaluate the effects of parents' validating and invalidating behaviors on early adolescents' BPD symptom expression in daily life, while accounting for parent-perceived helpfulness and youth-perceived support. We assessed these constructs in the context of parent–child conflicts, given increases in parent–child conflict during the transition to adolescence (Branje, 2018) and evidence that parental invalidation may be more consequential in the context of negative emotion (e.g. Hubbard et al., 2002). We utilized multilevel modeling to examine within- and between-person effects and hypothesized that validating and invalidating behaviors would predict fewer and greater levels of BPD symptoms, respectively. We also hypothesized that greater youth-perceived support would predict fewer BPD symptom expression, even after accounting for the effects of the behaviors themselves. Finally, we expected that the strength of the effect of validating and invalidating behaviors on expression of BPD symptoms would vary as a function of youth-perceived support, such that when youth-perceived support was high, the effect of the behaviors themselves would be reduced.

Method

Participants

A sample of 162 parents and their children (age range = 10–14 years) were recruited from pediatric primary care and ambulatory psychiatric treatment clinics in a large urban setting. Demographic characteristics are described in Table 1. All parents had legal and primary physical custody, and most (94.4%) were biological parents of the child participating. All youth were receiving psychiatric treatment for a mood or behavior problem at the time of recruitment. To obtain a sample at high risk for BPD, youth were oversampled for emotional reactivity[1] using the Affective Instability subscale from the Personality Assessment Inventory-Adolescent version (Morey, 2007). Exclusion criteria included an IQ estimate <70, an organic neurological medical condition, diagnosis of an autism spectrum disorder, or a current manic or psychotic episode. Additional sample characteristics can be found elsewhere (Byrd et al., 2021; Vine, Victor, Mohr, Byrd, & Stepp, 2020).

Procedures

The current data were drawn from the initial assessment of a larger longitudinal study. During a clinical intake, trained research staff completed an EMA orientation. Youth and parents were each provided with separate phones to complete the 4-day EMA. The EMA protocol consisted of 10 time-based prompts (indicated via a 'beep') administered over four days, with two of the days including Saturday and Sunday (e.g. Friday: midday, nighttime; Saturday/Sunday: morning, midday, nighttime; Monday: midday, nighttime). Youth and parents were not provided with instructions about whether to communicate with each other about their responses. Compliance was high (youth: 91%; parent: 90%). All study procedures were approved by the Human Research Protection Office and the Clinical and Translational Science Institute pediatric practice-based research network. Youth and parents provided written informed consent and were compensated.

Momentary measures

Borderline personality disorder symptoms.—Borderline Personality Disorder Symptoms were measured at each prompt using multiple items from youths' EMA protocol to assess the nine DSM-5 diagnostic criteria: *negative affective instability* (8 items), *anger* (1 item), *stress-induced paranoia and dissociation* (4 items), *fear/avoidance of abandonment* (3 items), *impulsivity/recklessness* (4 items), *identity disturbance* (2 items), *self-harm/ suicidality* (2 items), *emptiness* (2 items), *and relationship instability* (1 item). Items were adapted from well-validated interview assessments for adolescent BPD (see Table S1 for item-specific references). Each criterion was first dichotomized (those assessed with several items were considered present if at least one item was endorsed), and criteria were then summed to reflect a total symptom score. For the negative affective instability criterion,

[1] Oversampling was conducted such that >85% of youth would fall in the clinical range of the PAI-A Affective Instability Subscale (i.e. 12; Morey, 2007). In the final sample, 89% of youth fell into the clinical range (12–18) and the remaining 11% had scores ranging from 1–11. Semi-structured interviews were conducted with parents and youth (Childhood Interview for Borderline Personality Disorder; Zanarini, 2003) by trained clinical staff with either a bachelor, master, or PhD degree. 33% of youth in the sample met diagnostic criteria for BPD (M = 6.17 criteria; SD = 1; range = 5–8) and the remainder of the sample met 0–4 criteria (M = 2.13, SD = 1.31).

within-person SD was calculated for eight negative affect items, representing overall dispersion, which has been shown to differentiate individuals with BPD from psychiatric controls (Trull et al., 2008). A median-split was used to dichotomize this variable. All items and descriptive statistics are in Table S1 and S2.

Parents' validating and invalidating behaviors.—Parents were asked at each prompt whether they had a conflict with their child since the last prompt. If they responded affirmatively, they were asked whether or not they engaged in a variety of validating and invalidating behaviors. These EMA-based validation and invalidation items were adapted from the Emotion Socialization Measure (ESM; Klimes-Dougan et al., 2007), which has been used to represent validation and invalidation related to BPD (e.g. Bennett et al., 2019), with results pointing to the construct validity of these items. Following the structure of the ESM, items reflected four dimensions of validation/invalidation: *validation* (4 items); *punishing* (3 items); *overriding* (3 items); and *ignoring* (1 item). These behaviors capture three of four components of invalidation outlined by Linehan (1993), including inaccuracy, or communicating that a child is wrong in their understanding of their emotional experience (captured inversely by *validation* items); discouraging negative emotions (captured by *punishing* and *ignoring* items); and oversimplification of problem-solving, which communicates that effort is sufficient to overcome hardships (captured by *overriding* items). Subscale scores for parents' validating and invalidating behaviors were calculated by averaging responses (no = 0; yes = 1) across all items comprising their respective scales. All items and their descriptive statistics are in Table S3.

Parent-perceived helpfulness and youth-perceived support.—Immediately following items about their validating and invalidating behaviors, parents were asked 'How helpful was this to your child?' (referred to as parent-perceived helpfulness). At each prompt, regardless of whether or not conflict occurred,[2] youth responded to the question 'How supported did you feel by your parent?' (referred to as youth-perceived support). These items were rated from 0 ('not at all helpful/supported') to 3 ('very helpful/supported').

Covariates

Youth gender (0 = female; 1 = male), age, racial/ethnic minority status (0 = white; 1 = minority status), and family income were included as covariates due to associations with BPD and parenting (Banzhaf et al., 2012; De Genna & Feske, 2013; Reiss, 2013).

Data analytic strategy

Descriptive statistics were conducted in SPSS (IBM Corp., 2017), and multilevel analyses were conducted with R (R Core Team, 2013) using the lme4 package (Bates, Mächler, Bolker, & Walker, 2015). First, we calculated within- and between-person correlations, descriptive statistics, and intraclass correlations (ICCs). Next, a multilevel regression with

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[2] Because parent behaviors were only assessed following conflict, and parent and youth reports occurred on the same time schedule, listwise deletion during analysis made it such that effects of youth-perceived support were only based on prompts in which a conflict was reported.

maximum-likelihood estimation was conducted, which included the four validating and invalidating (punishing, overriding, ignoring) behaviors, parent and youth perceptions, and all two 2-way interaction terms between validating and invalidating behaviors and perceptions. This model included within-person and between-person effects, with all within-person predictors centered around each person's mean, and between-person predictors centered around the sample mean. Youth gender, age, racial/ethnic minority status, and family income were included as covariates. Random slopes were tested in an iterative fashion and were retained if they resulted in a statistically significant improvement of model fit (based on chi-square difference tests), relative to a random intercept model. 95% confidence intervals (CI) are reported based on 5,000 bootstrap samples.

Results

Preliminary analyses

Table 2 displays descriptive statistics for primary study variables at the within- and between-person levels. BPD symptoms demonstrated an ICC of 49%, illustrating the appropriateness of momentary assessment. Parents reported $n = 232$ conflict events during the four-day (10 prompts) EMA period. Within dyads, 0–8 conflicts were reported ($M = 1.44$, $SD = 1.62$).

Bivariate correlations

There were no significant within-person correlations between validating and invalidating behaviors and youth BPD symptoms, and minimal associations between validating and invalidating behaviors, suggesting independent use of behaviors during conflict (Table 2). Parent-perceived helpfulness was negatively associated with punishing behaviors. Youth-perceived support correlated negatively with their BPD symptoms. Between-person correlations demonstrated that punishing behaviors were positively correlated with youth BPD symptoms, while overriding behaviors were negatively associated with youth BPD symptoms (Table 2). Youth-perceived support was also negatively associated with youth BPD symptoms. There were positive intercorrelations between validating and invalidating behaviors, possibly reflecting general tendencies toward parent engagement. Parent-perceived helpfulness was correlated positively with validating behaviors and negatively with punishing behaviors.

Main and interactive effects of behaviors and perceptions on BPD symptoms

At the between-person level, invalidating behaviors, specifically punishing behaviors, predicted greater BPD symptoms, while ignoring behaviors predicted fewer BPD symptoms (Table 3). Additionally, youth-perceived support predicted fewer BPD symptoms. There were no main effects of behaviors or perceptions at the within-person level. One within-person interaction demonstrated $p < .05$; however, because the 95% CI included 0, this effect was not interpreted.

Discussion

The current study is the first to test the effects of parents' validating and invalidating behaviors on youths' momentary BPD symptoms while also accounting for the effects

of parent-perceived helpfulness and youth-perceived support. Importantly, these constructs were assessed in daily life in a heterogenous, clinically referred sample during early adolescence, a critical window for the development of BPD (Bornovalova et al., 2009). Consistent with hypotheses, youths' momentary BPD symptoms, at the between-person level, were associated with invalidating behaviors, specifically punishing and ignoring behaviors. Notably, effects were in opposite directions, with punishing behaviors predicting greater BPD symptoms and, contrary to hypotheses, ignoring behaviors predicting fewer BPD symptoms. Additionally, youth-perceived support was associated with fewer BPD symptoms after accounting for all validating and invalidating behaviors.

Results demonstrated that approximately half of the variance in BPD symptoms was at the within-person level, similar to previous research using composite measures of BPD pathology (Vanwoerden, Hofmans, & De Clercq, 2020) as well as single BPD symptoms or criteria (e.g. Scott et al., 2015). Meaningful variability in BPD symptoms at the within-person level supports a growing literature suggesting that BPD, and personality disorders in general, consists of both stable and variable features (Wright & Simms, 2016), warranting a multilevel approach. Furthermore, our dimensional assessment BPD symptoms provides a wholistic picture of symptom severity expressed at a momentary level, including low base rate symptoms (e.g. suicidal behavior) and symptoms characterized by episodic variability (e.g. impulsivity). The level of within-person variability in total symptom expression underscores the importance of examining proximal triggers for BPD symptoms in daily life to shed light on mechanisms underlying BPD.

As predicted, invalidating behaviors were associated with youth BPD symptom expression in daily life. This effect was only seen at the between-person level, indicating that, on average, dyads with parents who reported *more* punishing behaviors and *fewer* ignoring behaviors had youth with greater BPD symptoms. The association between punishing behaviors and greater BPD symptom expression in daily life extends prior work demonstrating that harsh punishment predicts BPD during adolescence (Boucher et al., 2017; Stepp, Lazarus, & Byrd, 2016) and may uniquely predict BPD compared to other forms of adolescent psychopathology (Beeney et al., 2020). By contrast, our finding that ignoring behaviors were associated with *fewer* BPD symptoms stands contrary to hypotheses and previous findings (Hope & Chapman, 2019). While prior research focused on retrospective accounts of general parenting experiences, the current study expanded this work by focusing on invalidation during parent–child conflict. It is possible that, in the midst of highly emotional events such as conflict, ignoring behaviors provide emotionally reactive youth the necessary space to regulate their emotions without inadvertently reinforcing dysregulated behavior (Miller, Glinski, Woodberry, Mitchell, & Indik, 2002). This notion is consistent with research suggesting that youth with BPD may experience their parents as intrusive (Boucher et al., 2017); these youth may find that being ignored during conflict alleviates stress, which contributes to symptom reduction. Notably, our cross-sectional design and limited sampling period precluded our ability to disentangle the temporal dynamics of these associations. Evidence suggests that adolescents with BPD have evocative effects on their parents (Kaufman et al., 2020). Thus, as BPD symptoms are expressed, parents are presented with more opportunities to respond, and may be more likely to punish and ignore symptoms in an attempt to mitigate conflict escalation. Future work

should examine the transactional nature of these effects and may explore causality using experimental designs (e.g. Kaufman et al., 2019).

Results also demonstrated that, on average, youth who perceived their parent as more supportive reported fewer BPD symptoms, even after accounting for validating and invalidating behaviors, and parent-perceived helpfulness. This, combined with our failure to find unique effects of parent-perceived helpfulness, further underscores the relevance of youth's subjective experience to their momentary symptom expression. These findings echo research demonstrating that youth- but not parent-reported support predicted decreases in emotion and behavior dysregulation (Byrd et al., 2021). Results are also consistent with the social support literature, which shows perceived social support predicts health outcomes, often more than objective measures of support provision (Lakey & Orehek, 2011). Altogether, these results underscore that who and what is supportive may be largely subjective. Interestingly, nearly 70% of variation in youth ratings of perceived support was due to between-person differences, which suggests that perceptions of parents' support may be an enduring feature of the relationship (i.e. perceived relationship quality) that withstands momentary fluctuations in behavior. While the current study was likely underpowered to detect within-person effects of validating and invalidating behavior, these results speak to the clinical relevance of youth-perceived support.

Limitations

While the current study expands on previous research by capturing the effect of parents' validating and invalidating behaviors, as well as parents' and youths' perceptions, on BPD symptom expression in daily life, there are several limitations that should be noted. First, the study focused on a clinically referred sample, limiting the generalizability of findings. Second, dyads reported engaging in conflict at approximately 20% of prompts. While this rate is consistent with a previous report (Chung, Flook, & Fuligni, 2011), it reduces power to detect within-person effects. Thus, our limited sampling frame (4 days) may have restricted findings to the between-person level. In fact, while a within-person interaction with youth-perceived support was statistically significant, a CI that included 0 suggested that this effect was unstable. Future work may utilize a daily diary strategy that spans at least two weeks to allow for a greater sampling of conflicts within dyads. This would increase power to detect hypothesized within-person effects and allow for testing temporal dynamics (i.e. lagged effects) and reciprocal effects. Furthermore, advanced statistical analysis such as group iterative multiple model estimation (GIMME) has the potential capture dyad-specific effects with the nomothetic approach used in the current analysis (Wright & Zimmermann, 2019). Relatedly, our analyses focused on a single time period, leaving unanswered questions about how these associations may change over time. Fourth, our measure of validating and invalidating behaviors did not capture communication of misattribution (e.g. attributing children's emotional expression to unfavorable characteristics such as manipulation), the final component of Linehan's (1993) invalidation construct. As there is not yet a standardized method to assess misattribution (Musser, Zalewski, Stepp, & Lewis, 2018), creating one is a task for future work. Finally, we focused on youth-perceived support in an attempt to capture their subjective experience of parental invalidation and

validation. We acknowledge the novelty of this approach and assert that future work is needed to further refine our assessment of this important construct.

Clinical implications

Findings have important implications for interventions for BPD during this sensitive developmental window. Given noted associations between invalidating behaviors and momentary BPD symptoms, treatment targets might include conflict management strategies for parents, specifically reducing punishing behaviors. Based on the protective effect of parent 'ignoring' behavior, it may be useful to enhance parents' ability to give dysregulated youth needed space, by encouraging taking breaks during conflict. Given the impact of youth-perceived support on BPD symptoms in daily life, clinical assessments with youth should incorporate indices of perceived parental support and measures of parent–child relationship quality as potential indicators of risk or resilience. Additionally, interventions may focus on the parent–child relationship. Existing interventions for youth BPD (i.e. Mentalization Based Therapy [MBT] and Dialectical Behavior Therapy) include optional family components, and MBT trials in particular have shown improvements in adolescents' attachment to their parents (Byrne, Murphy, & Connon, 2020). Moreover, recent research links enhanced mentalizing capacity among parents to fewer child-perceived maladaptive parenting behaviors, which in turn predicts fewer BPD symptoms (Vanwoerden et al., 2021). This suggests that interventions that encourage parents to explicitly reflect on and inquire about youths' perceptions of conflict may help parents become more aware of which behaviors are most supportive.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgements

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Key points

- While parental invalidation is central to etiological models of borderline personality disorder (BPD), there is a dearth of research that assesses these constructs in daily life, and only two studies that have tested the effect of parental invalidation on BPD symptoms during early adolescence, when BPD onsets.

- The current study assessed the effect of parents' validating and invalidating behaviors during conflict on the momentary expression of youth BPD symptoms during early adolescence, while accounting for parent-perceived helpfulness of these behaviors and youth-perceived support.

- Punishing behaviors during conflict were related to greater BPD symptoms, while ignoring behaviors were associated with fewer BPD symptoms.

- Youth-perceived support also predicted fewer BPD symptoms, after accounting for parent behaviors and parent-perceived helpfulness.

- Results have implications for interventions targeting youth at risk for BPD and suggest focusing on dyadic interaction within the parent–child relationship, especially during conflict.

Table 1

Demographic characteristics of the sample

	Youth Mean(*SD*)/%	Parents Mean(*SD*)/%
Gender (%female)	46.9%	92.3%
Age	12.03 (0.92)	39.84 (7.25)
Ethnoracial identity		
White	42%	53.7%
Black	40.7%	39.5%
Hispanic/Latino	3.7%	1.9%
Asian	0.0%	0.6%
American Indian/Alaskan Native	0.6%	2.5%
Multiracial	16.7%	6.2%
Employed		51.2%
Income		
<$20,000		30.9%
$20,000-$39,000		19.1%
$40,000-$59,000		17.9%
$60,000-$79,000		8.0%
>$80,000		19.7%

Table 2

Within- and between-person correlations and descriptive statistics

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	Mean (SD)	Range	Skew	Kurt.	Alpha
1. BPD symptoms		.11	-.04	-.00	.03	-.10	-.15**					1.73 (1.18)	0–9	0.62	1.24	.71
2. Punishing	.28**		.12	.15*	-.03	-.22**	.01					0.37 (0.21)	0–1	0.06	0.17	.38
3. Ignoring	.04	.36**		.06	-.12	-.04	-.01					0.04 (0.13)	0–1	2.38	19.88	
4. Overriding	-.11**	.22**	.24**		.05	-.00	.07					0.15 (0.15)	0–1	0.20	2.02	.19
5. Validation	.04	.07*	.16**	.31**		.02	.05					0.40 (0.19)	0–1	0.01	1.39	.60
6. Parent Perc. Helpfulness	-.14**	-.25**	.05	-.01	.23**		.17*					1.28 (0.60)	0–3	0.31	1.37	
7. Youth Perc. Support	-.41**	-.22**	-.21**	-.09**	.02	.24**						2.36 (0.51)	0–3	-0.50	3.50	
8. Child Gender (male)	-.30**	.07*	.01	.11**	.04	.08*	.23**									
9. Child Age	.13**	.08*	.03	.05	-.10**	-.31**	-.22**	-.21**								
10. Minority Status	-.21**	-.09**	-.06*	-.01	.02	.05	.24**	.09**	-.11**							
11. Income	.24**	.08*	.10**	-.14**	-.06	-.00	-.22**	-.19**	.18**	-.51**						
ICC	.51	.19	.25	.16	.42	.30	.67									
Mean (SD)/%age	1.75 (1.33)	0.37 (0.26)	0.04 (0.16)	0.16 (0.18)	0.40 (0.29)	1.26 (0.77)	2.29 (0.82)	53.1%	12.03 (0.92)	59.9%	2.92 (1.99)					
Range	0.10–6.29	0.00–1.00	0.00–0.67	0.00–1.00	0.00–1.00	0.00–3.00	0.17–3.00		10.00–14.00		1.00–7.00					
Skew	1.37	0.58	5.00	1.11	0.35	0.55	-0.92		-0.35		0.89					
Kurtosis	1.79	0.03	25.69	0.79	-0.70	-0.04	-0.43		-0.94		-0.43					
Cronbach's Alpha	.83	.40	.25	.17	.66											

Between-person effects displayed below the diagonal, within-person effects displayed above the diagonal.

*
 $p < .05$.

**
 $p < .01$.

Table 3

Multilevel regression models predicting momentary BPD symptoms from parents' invalidating and validating behaviors, parent-perceived helpfulness, and youth-perceived support

	Within		Between	
	Est. (*SE*), *t*	95% CI	Est. (*SE*), *t*	95% CI
Intercept	1.41 (0.31), 4.56**,**	0.80, 2.01		
Lapsed time	−0.01 (0.00), −1.36	−0.01, 0.00		
Punishing	0.07 (0.44), 0.16	−0.84, 0.99	2.20 (0.65), 3.40**,**	0.92, 3.51
Ignoring	−0.08 (0.85), −0.10	−1.81, 1.68	−4.38 (1.42), −3.08**,**	−7.21, −1.52
Overriding	−0.27 (0.54), −0.50	−1.39, 0.83	−0.22 (0.91), −0.24	−2.01, 1.57
Validation	0.60 (0.51), 1.19	−0.46, 1.59	−0.45 (0.56), −0.80	−1.55, 0.63
Parent-Perceived Helpfulness	0.04 (0.22), 0.18	−0.41, 0.48	−0.01 (0.21), −0.07	−0.43, 0.41
Youth-Perceived Support	−0.09 (0.16), −0.58	−0.42, 0.24	−0.58 (0.21), −2.69**,**	−0.99, −0.16
Punishing × Parent Perception	0.61 (0.92), 0.66	−1.33, 2.54	−1.15 (0.80), −1.44	−2.74, 0.38
Punishing × Youth Perception	−0.37 (0.99), −0.38	−2.36, 1.72	−0.97 (0.80), −1.21	−2.54, 0.60
Ignoring × Parent Perception	−1.05 (1.10), −0.96	−3.35, 1.25	−1.05 (1.27), −0.82	−3.54, 3.99
Ignoring × Youth Perception	1.33 (2.16), 0.61	−3.21, 5.77	−2.43 (1.26), −1.93	−4.90, 0.03
Overriding × Parent Perception	0.99 (1.37), 0.72	−1.88, 3.86	−1.05 (1.10), −0.96	−3.49, 1.45
Overriding × Youth Perception	−1.25 (1.24), −1.01	−3.74, 1.23	2.28 (1.16), 1.96	−0.01, 4.62
Validation × Parent Perception	0.18 (0.76), 0.24	−1.43, 1.75	0.37 (0.77), 0.48	−1.21, 1.91
Validation × Youth Perception	1.71 (0.86), 2.00*,*	−0.08, 3.54	0.58 (0.69), 0.83	−0.76, 1.96
Youth age			0.03 (0.16), 0.19	−0.30, 0.35
Youth gender			0.25 (0.32), 0.79	−0.39, 0.88
Minority Status			0.74 (0.34), 2.19*,*	0.08, 1.41
Family income			0.27 (0.09), 3.18**,**	0.11, 0.44

*
$p < .05.$

**
$p < .01.$