Unraveling Prospective Reciprocal Effects between Parental Invalidation and Pre-Adolescents' Borderline Traits: Between- and Within-Family Associations and Differences with Common Psychopathology-Parenting Transactions

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Abstract

The etiology of borderline personality pathology has consistently been framed as an interactional process between child vulnerability and invalidating parenting strategies, which evolves into increased emotion dysregulation and disinhibited behavior of the child and in turn activates more parental invalidation. Despite the strong theoretical base in support of these high-risk parent-child transactions, invalidating parenting behaviors have mostly been explored as a cause of child dysregulation and disinhibition, rather than as a result of child-driven effects. Also, most transactional research in this regard focused at differences between families, thereby not addressing potential changes within families across time. The current study therefore examines bidirectional between- and within-family effects of childhood borderline-related traits and maternal invalidation in the sensitive developmental phase of pre-adolescence (n = 574; 54.4% girls) along three assessment points. Cross-Lagged Panel Models and Random-Intercept Cross-Lagged Panel Models indicated detrimental parenting effects of invalidation on subsequent development in borderline-related traits of the child both between and within families, and additional child-driven effects for subsequent invalidating parenting strategies within families. Beyond these transactions between borderline-related traits and parenting, the current study also indicates significant differences in the direction of effects when exploring transactions between more common dimensions of child internalizing/externalizing symptomatology and parental invalidation, suggesting a more substantial parenting etiology in the developmental process of borderline traits throughout pre-adolescence. Future longitudinal research may explore to what extent the transactional nature of borderline personality traits during important developmental stages indeed holds unique aspects compared to more common manifestations of symptomatology at young age.

Keywords: borderline personality pathology, pre-adolescence, parenting, development

Unraveling Prospective Reciprocal Effects between Parental Invalidation and Pre-Adolescents' Borderline Traits: Between- and Within-Family Associations and Differences with Common Psychopathology-Parenting Transactions

The biosocial theory on the development of borderline personality disorder (BPD; Crowell et al., 2009) asserts that its etiology can be understood from transactions between biologically-based temperamental vulnerabilities and an invalidating socialization context. In particular, childhood emotional sensitivity and reactivity (Carlson et al., 2009; Stepp et al., 2014a, 2016) as well as extreme childhood adversities including abuse (Battle et al., 2004; Jovev et al., 2013; Widom et al., 2009) and trauma (Ball & Links, 2009; Fossati et al., 2016) have been widely accepted as risk factors for later BPD. Also more common invalidating parenting behaviors as they occur in the daily socialization context, such as maternal inconsistency (Bezirganian et al., 1993), a lack of parental emotional warmth and unresponsiveness (Gratz et al., 2011; Johnson et al., 2006), as well as parental hostility (Carlson et al., 2009; Hallquist et al., 2015) have been indicated as significant environmental factors that contribute to the development of BPD. Across these more common invalidating parenting behaviors, the shared invalidating component can be defined as a parental intolerance toward the expression of private emotional experiences of the child, combined with an intermittent reinforcement of extreme expressions of emotion (Crowell et al., 2009; Linehan, 1993). Consequently, especially the emotional sensitive and reactive child learns to oscillate between emotional inhibition and extreme emotional lability, which evolves into the underlying core emotional dysregulation deficits as typically seen in BPD.

Although theoretically sound, empirical evidence in this regard mainly results from cross-sectional or retrospective studies with adult samples (for a review, see Steele et al., 2019; see also Dixon-Gordon et al., 2020; Sturrock & Mellor, 2014), holding the possibility that reports of exposure to invalidating environments are distorted through negative cognitive

bias associated with borderline personality symptomatology itself. In addition, only very few studies explored these parenting behaviors as a result of child-driven effects. However, it is plausible to think that childhood characteristics are likely to affect parental behavior as well, with some maladaptive trait tendencies being particularly challenging for parents to manage (De Haan et al., 2012). More specifically, emotionally sensitive and highly reactive children may evoke dysfunctional responses of parents in an effort to deal with their child's behavior (Lengua, 2006). Indeed, whereas extreme dysregulated behavior may induce parental support in the moment, this same dysregulated behavior can lessen the parents' trust and willingness to respond to their child's emotions and behavior in a supportive way on the long term (Crowell et al., 2009). Winsper et al. (2017) indeed found in this regard that dysregulated behavior in children exacerbated the risk to experience maladaptive parenting. These child-driven negative parenting behaviors may then promote further dysregulation in the child, resulting in a downward spiral of maladaptive trait development (De Fruyt & De Clercq, 2014) and increasing dysfunctional parenting patterns because of negative bidirectional influences (De Haan et al., 2012; Hallquist et al., 2015). From a more general perspective, recent studies confirmed reciprocal associations between negative parenting and broad dimensions of either child internalizing or externalizing pathology, in both clinical (Dieleman et al., 2017) and non-clinical samples (Kiff et al., 2011), and both at the between-person as well as at the within-person level (Mastrotheodoros et al., 2020). At the between person-level, most evidence was found for parent-driven effects of involvement and control on both externalizing and internalizing problems (Barbot et al., 2014; Gault-Sherman, 2012). A few studies also found evidence for reciprocal effects between child anxiety and parental hostility acts (Gouze et al., 2017), as well as between child externalizing problem behavior and parental punishment strategies and low parental involvement (Keijsers, 2016; Serbin et al., 2015). At the within-person level, results indicate a particular importance of child-driven

effects of internalizing and externalizing problems for negative parental controlling behavior in addition to parent-driven effects (Nelemans et al., 2020; Van Heel et al., 2019). While this research area increasingly accentuates the importance of including both between- and within-person perspectives on the transactional associations between child and parental factors, only the study of Stepp et al. (2014b) has specifically explored such between- and within-family perspective on BPD development, by examining reciprocity and directionality between harsh parenting behaviors and BPD symptoms in a sample of adolescent girls. They concluded that there are reciprocal relationships between child BPD symptoms, harsh parenting and parental low warmth, with some evidence for child-driven effects of elevations in BPD symptoms on subsequent parenting and little support for parent-driven effects at the within-family level.

The present study aims to build on these findings along the following lines. First, whereas Stepp et al. (2014b) focused on BPD symptoms in girls aged 14 to 17 years old, the current study aims to explore the bidirectional effects of parenting behaviors and child BPD traits in a prospective design, including both boys and girls aged from 10 to 12 years old. This age period of pre-adolescence may be particularly crucial for our understanding of the developmental process of BPD, as it directly precedes the key period of adolescence in which BPD symptomatology tends to peak and personality difficulties become increasingly observable because of cumulative failures in normative developmental tasks (Bornovalova et al., 2009). As adolescents build upon attachment and parenting experiences formed during childhood (Sroufe, 2005), examining interactional patterns between and within families during this pre-adolescent stage may thus be an interesting research perspective. Second, in the current study, BPD vulnerability is conceptualized at the trait level (De Clercq et al., 2014) by relying on an established dimensional measure of maladaptive traits in youth (De Clercq et al., 2006). This trait perspective may be an appropriate operationalization of BPD vulnerability in the developmental stage of pre-adolescence because acute symptoms of BPD

are often not yet manifest during this age phase. Third, beyond more explicit harsh strategies such as psychological aggression and spanking (Stepp et al., 2014b), other parenting constructs as proposed by Linehan's (1993) concept of a subtle invalidating context (i.e., ignorance of child emotions and behavior, inadequate parental support, inconsistent reinforcement of aversive expressions and behavior, and lack of involvement) are included in the current study. Furthermore, even though dynamic processes are theoretically presumed at the within-family level and research on the development of BPD indicates state-like within-person variability in addition to trait-like between-person stability (Stepp et al., 2014a), only few studies on the developmental trajectory of BPD relied on techniques that adequately disentangle the reciprocal within-family effects from the between family differences and associations (Stepp et al., 2014b). The current study addresses the importance of including both between-person models as well as within-person models, in order to unravel both between-family and within-family reciprocal processes. This differentiation is important, because between-level results may sometimes be opposite in direction and strength at the within-person level (Hamaker et al., 2015; Nelemans et al., 2020). In a similar vein, solely focusing at the within-person level creates insensitivity for differences between individuals. Therefore, examining both the within- and the between-person level is the most appropriate strategy to ensure the most comprehensive understanding of bidirectional processes between children and their parents.

The Present Study

The overall aim of the current study is to investigate the direction of longitudinal effects between developmentally sensitive BPD trait manifestations during pre-adolescence and subtle invalidating parenting behaviors that are proposed as core concepts by the biosocial theory of BPD development (Crowell et al., 2009; Linehan, 1993), but received less empirical attention compared to harsh parental strategies. As differences between families are not

necessarily the same as differences within families across time, disaggregation of between-family differences from within-family differences will be taken into account, using both Cross-Lagged Panel Models and Random Intercept Cross-Lagged Panel Models.

In a first research question, we aimed to examine the directionality in the established between-level association between invalidating parenting and child BPD traits. We explored to what extent mother-reported child BPD traits drive subsequent invalidating maternal behavior, resulting in more maternal inconsistent reward and ignorance and less emotional support and involvement as reported by fathers, and vice versa. Based upon evidence for the evocative effects of child personality on parenting behavior (De Haan et al., 2012; Hallquist et al., 2015; Winsper et al., 2017), we expected that higher child BPD traits would prospectively predict more invalidating parenting behavior. On the other hand, we also hypothesized that parental invalidation would lead to an increase in child BPD traits, as the detrimental effect of such parenting behavior can be considered particularly relevant for children with a constellation of vulnerable traits (Kiff et al., 2011).

In a second research question, we aimed to extend the study on these transactional dynamics to the within-family level, by exploring if fluctuations in invalidating parenting behavior and fluctuations in child BPD traits within families affect each other over time. Based on the assumption that within-family variability in both parenting and child BPD traits is substantial (Mabbe et al., 2018; Stepp et al., 2014b), we hypothesized that these fluctuations reflect a meaningful interconnection between parents and children within the same family, implying that instability in maternal invalidation as observed by fathers in a specific family is directly related to the degree of instability of child BPD trait expression as observed by mothers in that same family across time.

As a subsidiary aim, sensitivity analyses explored whether the bidirectional pattern between early BPD traits and invalidating parenting strategies is unique, or instead, is found

for broader internalizing and externalizing dimensions of child psychopathology as well. More specifically, it will be explored to what extent BPD-like trait vulnerabilities during pre-adolescence and subtle invalidating parenting processes show a unique interactional pattern, or reflect interactional processes that are relevant to the overall development of psychopathology during this developmental period.

Method

Sample and Procedures

Participants were part of the ongoing Personality and Affect Longitudinal Study (PALS). As we aimed to model normative developmental processes, only the subsample of community-based subjects was included in the current study ($n_{time\ 1}$ = 574, M_{time1} = 10.69 years, SD_{time1} = 1.25, 55.1% girls). Data collection was approved by Ghent University's Ethical Review Board (No. 2007/21). For the purposes of the current study, data assembled during pre-adolescence (3 assessment points with 1-year time intervals between each time point; T1, T2, and T3) were selected. Participants were initially recruited by trained third-year psychology students of Ghent University, who randomly selected subjects in their neighborhood. Detailed information regarding study aims, procedure, and ethics of data collection was provided. Written informed consent was obtained from all mothers and children. Students visited the families at home and asked the mother and child to complete a set of questionnaires in two separate rooms to ensure that their independent opinion was assessed. Follow-up assessments were conducted one ($n_{time\ 2}$= 377, M_{time2} = 11.73 years, SD_{time2} = 1.24 , 57.8 % girls) and two (n_{time3} = 372, M_{time3} = 12.73 years, SD_{time3} = 1.23, 57.2 % girls) years after initial assessment. For these follow-up assessments, all participants received a package by mail, including two information letters (one directed to the child and one to the mother), two informed consent forms (one for the child and one for the mother), questionnaires, and a gift voucher worth €5 for compensation. Participants were asked to

complete the questionnaires and return them by mail using a stamped and addressed envelope that was also included in the mail package. At the initial assessment phase, 97.7 % of the participants had mothers with the Belgian nationality and 2.3% had mothers with a different nationality. 97.0% had fathers with the Belgian nationality and 3.0% had fathers with a different nationality. Most mothers were employed as clerk (n = 335), 95 were self-employed, 60 were employed as laborer, 15 had a management function, 56 were homemaker, and the occupation of the remainder 13 mothers was missing. Of the fathers, 220 were employed as clerk, 127 were self-employed, 112 were employed as laborer, 99 had a management function, 8 were homemaker and the occupation of the remainder 8 fathers was missing. Continued participation across three waves was 65%, with no significant differences between the respondents and nonrespondents for gender (with 48.2% drop-out in girls vs. 58.2% in boys; ($\chi^2(1) = 2.16$, $p = .141$), BPD total scores (Welch F [1, 564] = 3.22, $p = .073$), and parenting behaviors (Welch F [1, 564] = 0.81 – 1.00, $p = .317 – .369$). However, nonrespondents showed a lower grade point average at T1 (Welch F [1, 570] = 12.07, $p < .001$) and were raised by mothers and fathers with a lower educational level (Welch F [1, 570] = 23.23, $p < .001$ and F [1, 570] = 6.12, $p < .05$, respectively). Despite these minor differences between respondents and nonrespondents, Little's Missing Completely At Random (MCAR) test revealed that, in general, missingness in the data was completely at random, ($\chi^2(344) = 332.56$, $p = .661$).

Measures

Ghent Parental Behavior Questionnaire

All fathers of the participating adolescents were asked to rate the parenting behavior of their spouse (i.e., mothers of the target child) with the Ghent Parental Behavior Questionnaire (GPBS; Van Leeuwen & Vermulst, 2004). For the purpose of the current study, new scales were constructed in accordance with the parental constructs of the biosocial theory of Linehan

(1993), as represented in Table A of the Supplementary Information (Online Resource). In order to capture both validating and invalidating operationalizations of parenting (Gill et al., 2018), four parenting behaviors were operationalized along these two categories, with one category reflecting Linehan's parenting behaviors in a validating manner (i.e., Emotional Support and Involvement), and one category reflecting the constructs in an invalidating manner (i.e., Ignorance and Inconsistent Reward). These four parenting scales each comprised 4 items, to be rated on a 5-point Likert scale, ranging from 'never' to 'always'. A positive keyed item of the scale Emotional Support was for example "When our child seems to have a problem, my partner discusses with him/her what is actually going wrong". Involvement was for example measured with the item "In the evening, my partner talks with our child about the past and the coming day". An example item of the scale Ignorance is "When our child does something that is not allowed, my partner gives him/her an angry look and pretends he/she is not there". Finally, an item of the scale Inconsistent Reward was for example "When my partner has punished our child, it happens that she lets our child out of the punishment early". Cronbach's α's for the subscales across waves were acceptable to good, with coefficients ranging from .60 (Ignorance T3) to .78 (Emotional Support T2), as presented in Table B of the Supplementary Information (Online Resource). Mean difference tests for gender revealed no significant differences between boys and girls in experienced parenting behaviors.

Dimensional Personality Symptom Item Pool

The Dimensional Personality Symptom Item Pool (DIPSI; De Clercq et al., 2006) was administered to all mothers of the participating children in all waves. For the purpose of the current study, only DIPSI facets considered to be relevant to represent the developmental construct of borderline pathology, as outlined in De Clercq et al. (2014), were included in the present analyses. These facets can be listed as Anxiousness, Depressive traits, Emotional lability, Hyper-expressivity, Impulsivity, Ineffective stress coping, Insecure attachment,

Irritability, Lack of self-confidence, Paranoid traits, and Risk taking. All facets showed adequate reliability coefficients ranging between .73 (Depressive traits T1) and .94 (Emotional lability T3) across waves, as reflected in Table B of the Supplementary Information (Online Resource). Facets were averaged into a BPD trait score, showing an adequate reliability coefficient of .91 at Time 1, .93 at Time 2, and .94 at Time 3. Mean difference tests for gender revealed no significant differences between boys and girls in mother-reported borderline traits of their child.

Child Behavior Checklist

The Child Behavior Checklist (CBCL; Achenbach, 1999) is a broad measure of psychopathology completed by mothers of children during all three waves. The CBCL is a gold standard measure of childhood psychopathology, and consists of 113 items rated on a 4-point Likert scale ranging from 0 (not at all true) to 2 (very true). For the purpose of the current study, the broad scales of Internalizing problems and Externalizing problems were included. Both scales showed acceptable to good reliability coefficients, as presented in Table B of the Supplementary Information (Online Resource). Mean difference tests for gender revealed no significant differences between boys and girls for mother-reported internalizing problems, however, significant differences were found for externalizing problems, with boys scoring slightly higher on externalizing problems than girls (Welch F [1, 569] = 4.10 – 7.91, p < .05).

Plan of Analyses

Structural equation models were estimated using Mplus 8.1 (Muthén & Muthén, 1998 – 2017), using maximum likelihood (ML) parameter estimation[1]. To deal with missing values, we relied on full information maximum likelihood estimation. For the purpose of the present study, we constructed four Cross-Lagged Panel Models (CLPM), as well as four Random

[1] Maximum likelihood parameter estimation uses available data for each case to compute maximum likelihood estimates, i.e. the value of the parameter that is most likely to have resulted in the observed data.

Intercept Cross-Lagged Panel Models (RI-CLPM) for Emotional Support, Involvement, Ignorance and Inconsistent Reward respectively. Model fit was assessed with the ratio of chi-square/degrees of freedom, the comparative fit index (CFI; Bentler, 1990), the root mean square error of approximation (RMSEA; Steiger, 1990), and the standardized root mean square residual (SRMR; Jöreskog & Sörbom, 1982), using the conventional criteria of CFI > 0.95, RMSEA < 0.08 and SRMR < 0.10 (Schermelleh-Engel et al., 2003). Models were compared by evaluating the Satorra-Bentler scaled chi-square difference test (SBSχ^2 Δ).

For the first research question, CLPMs (see Figure 1) were constructed to examine the directionality in the established between-level association between invalidating parenting and child BPD traits. The CLPM consists of T1 correlations, correlated residuals at measurement T2 and T3, stability effects, and cross-lagged effects across two-year intervals. Also second-order autoregressive effects were included (between T1 and T3). The cross-lagged paths indicate the prospective effect of one variable on the other, after controlling for their concurrent associations and their temporal stabilities (i.e. previous levels of the construct).

For the second research question, examining the transactional dynamics at the within-family level, RI-CLPMS (see Figure 2) were constructed to explore if fluctuations in invalidating parenting behavior and fluctuations in child BPD traits within families affect each other over time. RI-CLPMs were applied to disaggregate within- from between-person variability by including a random intercept to account for invariant, trait-like stability in the constructs, in addition to temporal stability. Following the procedures described by Hamaker et al. (2015), random intercepts were created for BPD traits and parenting strategies in each model by regressing observed scores of the three waves on a latent factor with factor loadings constrained at one, resulting in five random intercept factors. In each of the models, there was one random intercept factor for BPD traits and one random intercept factor for one of the parenting strategies, representing expected scores for each person based on the sample mean

levels across time and the stable trait factor in that person. These two random intercepts were allowed to correlate. Second, each observed score was regressed on its own latent factor, with factor loadings constrained to one and variances of the observed scores constrained to zero. Consequently, all variation in the observed measures was completely captured by the within-person and between-person latent factor structure. Except for the second-order autoregressive effects, similar parameters as in the CLPMs were included, however, specified between these latent constructs rather than between the observed scores. A cross-lagged effect tests for the prospective effect of a within-person deviation from the trait level of one construct on change in the within-person deviation from the trait level of the other construct, again, after controlling for their concurrent associations and their stabilities (i.e., previous deviation in the construct) across time. Hence, this effect reflects how fluctuations in one variable over time within a person are linked to fluctuations over time within that same person in another variable. In contrast, the correlation between the overarching latent factors reflects how persons differ from each other, meaning how stable between-person differences in one construct are linked to stable between-person differences in another construct.

In addressing the subsidiary sensitivity analyses, models were run again for each parenting strategy and both internalizing and externalizing problems separately, to explore whether the pattern of bidirectional associations between child BPD traits and parenting factors was similar to the pattern of broader dimensions of child psychopathology and invalidating parenting.

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--- INSERT FIGURE 2 HERE ---

Results

Measurement invariance

For each construct, we tested whether longitudinal metric measurement invariance was supported by the data. When using cross-lagged models such as CLPM and RI-CLPM, this level of measurement invariance is required to ensure that latent constructs have the same meaning across waves. In a first step, to examine configural invariance, we tested whether constructs had the same pattern of loadings and basic organization across the three waves of pre-adolescence. Configural measurement invariance was tested by evaluating the overall fit of the model. The absolute fit is represented by the ratio of the chi-square and its degrees of freedom, with ratios of less than three used as standard for adequate fit (Schermelleh-Engel et al., 2003). For all included variables, the ratio shows values ranging from .35 to 3.65, indicating an acceptable to good fit. However, this index has been the subject of criticism (Schermelleh-Engel et al., 2003) and has been recommended as a descriptive index of fit rather than a statistical test. An alternative index of overall fit is the RMSEA, which indicated a good fit with values ranging from .00 to .07. Finally, the comparative fit is represented by the CFI. The results show values ranging from .92 to 1.00, indicating an acceptable to good fit.

In the next step, equivalence of the item loadings on the factors was tested, indicating metric invariance. Factor loadings were constrained to be equal across time. This model with constrained factor loadings was then compared to the configural invariance model to determine fit. As mentioned above, because chi-square is overly sensitive to small, unimportant deviations from a perfect model in a large sample, researchers have shifted to alternative fit indices. A change of .01 in CFI, and .015 in RMSEA for nested models as an acceptable fit was suggested (Chen, 2007). For all parental constructs, the chi-square difference test, ΔCFI (.00) and ΔRSMEA (range 0.00 to 0.01) indicated that the constraints did not significantly decrease model fit, thus supporting metric measurement invariance. For the BPD trait construct, the chi-square difference test was significant ($\chi^2(20) = 55.50$, $p <$

0.001), however, both ΔCFI (.00) and ΔRMSEA (.00) indicated good fit, supporting metric invariance (See Supplementary Information in Online Resources, Table C).

Interrelatedness of parenting and child BPD traits

Table B of the Supplementary Information (Online Resource) provides an overview of the internal consistencies, means and standard deviations of all study variables across all three waves. The correlations of all study variables are reported in Table D of the Supplementary Information (Online Resource). Correlation coefficients between waves for each construct were (moderate to) strong and stable, with r = .58 to .60 for Emotional Support, r = .53 to .61 for Involvement, r = .49 to .50 for Ignorance, r = .55 to .68 for Inconsistent Reward, and r = .67 to .73 for BPD traits. Father-reported parenting behavior of their spouses showed overall a lower though significant degree of association with child BPD traits as reported by mothers, which is understandable given the multi-informant design (fathers rated parenting behavior of their spouse versus mothers rated the traits of their child). More specifically, negative parenting strategies (Ignorance and Inconsistent Reward) were slightly but significantly positively associated with child BPD traits across waves, while positive parenting strategies (Emotional Support and Involvement) were slightly but significantly negatively correlated with child BPD across waves. These associations suggest that child BPD traits and parenting factors are related in pre-adolescence, yet, it is important to examine the direction of these associations over time.

Intraclass correlation coefficients (ICCs) were calculated to examine whether there was sufficient variance at the within-person level. For father-reported Emotional Support, the ICC was .60, indicating that 60% of the variance in the measures of Emotional Support is explained by differences between parents, whereas the remaining 40% is explained by fluctuations within a family. Similarly, the ICC for Involvement was .57, .50 for Ignorance, and .61 for Inconsistent Reward. Hence, for each parenting strategy, a substantial part of the

variance was located at the within-person level. For adolescent-reported BPD traits, the ICC was .71, indicating that 29% of the variance is explained by fluctuations over time within individuals. These two types of variance will be disentangled in the RI-CLPMs.

Longitudinal relationships between parental invalidation and child BPD traits during pre-adolescence

The key objective of this study was to examine the longitudinal relationship between parenting and child BPD traits and to simultaneously examine the direction of effects. Although the different parenting constructs may be interrelated and co-occur at the same moment, bivariate models with BPD traits were constructed for each of the parenting constructs separately, in order to look at their unique role and because of concerns that the collinearity between predictors could generate unstable parameter estimates (Tabachnick & Fidell, 2001).

Table E and F of the Supplementary Information (Online Resource) present the fit indices for the CLPMs and RI-CLPMs. First, models were tested without constraining any parameters. Second, parameters were constrained across waves. The basic traditional CLPM was an unconstrained model with carry-over stabilities and cross-lagged effects free over time. Because these initial models resulted in relatively poor model fit, modification indices were inspected (Whittaker, 2012). These indices suggested adding second-order autoregressive paths between T1 and T3 for all variables. Adjustment of the models resulted in good fit for all four CLPMs. The inclusion of a random intercept improved model fit compared to the traditional CLPM for three of the four models, suggesting a better representation of the data. Only the model with Emotional Support did not improve when including a random intercept.

Next, both types of models were fully constrained with means, carry-over stability and cross-lagged effects fixed over time. The fixed CLPMs did not have a good model fit

according to the predetermined criteria. Although fixed RI-CLPMs had an acceptable to good fit, all fit indices indicated a decrease in model fit. For each parenting strategy, chi-square difference tests and alternative fit indices indicated that constraints over time decreased model fit for both CLPMs and RI-CLPMs, suggesting that participants' age moderates the effects of parental behavior on BPD traits and vice versa. Changes in the magnitude of either the autoregressive or the cross-lagged paths can be interpreted as shifts in the developmental system. Therefore, constraints in CLPMs and RI-CLPMs were not retained for further analysis. Tables 1 to 4 present the parameter estimates of both the CLPMs and RI-CLPMs for each parental behavior dimension with BPD traits.

Between-family

--- INSERT TABLE 1 HERE ---

--- INSERT TABLE 2 HERE ---

A first research question aimed to examine the directionality between invalidating parenting and child BPD traits at the between-family level using CLPMs. Tables 1 and 2 present the parameter estimates of the CLPMs for all four parenting strategies with BPD traits. The model including Ignorance showed no significant reciprocal associations with BPD traits at the between-family level, and will not be further discussed.

The model for Involvement showed a significant correlation with BPD traits at the age of 11, indicating that higher levels of maternal involvement as rated by fathers were linked with lower levels of child BPD traits as rated by mothers (r = -.12, $p < 0.01$). Also the model for Inconsistent Reward showed a significant correlation between father-reported maternal inconsistent reward and child BPD traits as rated by mothers at the age of 11 (r = .12, $p <$ 0.01). In addition, results of all CLPMs showed that all autoregressive coefficients were significant with standardized coefficients ranging from .24 to .72, suggesting that individuals' relative standing on the constructs changed very little between the age of 11 and 13 years.

Because of the greater time interval, the coefficient representing the stability from age 11 to age 13 was lower compared to stability coefficients representing the one year time intervals from age 11 to 12 and age 12 to 13.

From a parent-driven perspective, only one cross-lagged coefficient was significant. More specifically, maternal emotional support during the key age of 12 appeared to have a significant effect (β_h = -.07, $p < 0.05$) on subsequent BPD trait development at the age of 13. indicating that when children are strongly emotionally supported during the transitional age phase from elementary to secondary school by their mother, they show less BPD traits one year later. Other parental strategies were, however, not significant in the prediction of subsequent BPD traits across pre-adolescent assessment points.

From a child-driven perspective, BPD traits had overall no significant effect on subsequent development in emotional support (β_i = -.03, p = .452 ; β_j= -.04, p = .356), involvement (β_i = .03, p = .502; β_j= -.04, p = .306), ignorance (β_i = -.03, p = .530; β_j= .05, p = .212), or inconsistent reward (β_i = .08, p = .068; β_j= .03, p = .381) across both intervals.

Within-family

--- INSERT TABLE 3 HERE ---

--- INSERT TABLE 4 HERE ---

The second research question aimed to examine the transactional dynamics at the within-family level. Therefore, a second series of models, RI-CLPMs, were conducted to split the variance between between-person stable traits and within-person fluctuations in order to test whether statistical effects reflect within-family effects or time-invariant trait-like differences between families (Tables 3 and 4). At the between-family level, there was a significant negative correlation between maternal emotional support as reported by fathers and child BPD traits as reported by mothers (r = -.14, $p < .05$), indicating that maternal emotional support was negatively associated with child BPD traits across pre-adolescence.

This standardized between-family correlation was approximately two times stronger than the residual within-family correlation at T1, indicating that a substantial amount of the association can yet be declared by between-family variability. Also for the invalidating parenting behaviors of ignorance and inconsistent reward, significant overall between-family correlations were found. Both maternal ignorance and inconsistent reward as rated by fathers were positively associated with mother-reported child BPD traits (respectively $r = .17$, $p < .05$; $r = .26$, $p < .01$). These positive correlations indicate that fathers who reported higher levels of observed maternal ignorance and inconsistent reward, have children with higher levels of BPD traits across pre-adolescence. Regarding ignorance, comparing the standardized between-family association with the within-family associations at T1 indicates that the between-family correlation was five times stronger, and for inconsistent reward the between-family correlation was 3.5 times stronger than the within-family correlation. After controlling for these between-family trait-like differences, no significant correlations at the age of 11, nor correlated changes were found. This indicates that residual within-family changes in parental behaviors are not linked to residual within-family changes in BPD traits. For the model including maternal emotional support, no evidence was found for within-family processes, although some evidence was found for the models including the other parenting strategies. Two significant autoregressive coefficients were found from the age of 12 to age 13 both for involvement ($\beta_d = .22$, $p < .05$) and inconsistent reward ($\beta_d = .28$, $p < .01$). These significant stability paths can be interpreted as the extent to which a within-family change in the level of maternal involvement and inconsistent reward can be predicted by an individual's prior deviation from their expected score. Surprisingly, other stability paths were not significant, reflecting a lack of a carry-over effect, meaning that an elevation in a particular variable does not predict an increase or decrease in that same variable.

In addition, some cross-lagged paths were significant. From a parent-driven perspective, within-family increases in maternal involvement at the age of 11 appeared to have a significant negative effect (β_e = -.24, p < .05) on subsequent BPD trait development of their child at the age of 12. A second significant child-driven path indicates that within-family increase in child BPD traits at the age of 11 was predictive of decreases in ignorance at the age of 12 (β_g = -.24, p < .05).

Overall, both parent-driven and child-driven effects were moderated by age, as the coefficients of both autoregressive and cross-lagged paths decrease in magnitude and significance as children grow older.

Sensitivity analyses

The third research question aimed to examine whether the bidirectional pattern with parenting strategies can exclusively be found for BPD traits, or instead, are also observed for broader internalizing and externalizing domains of child psychopathology. Therefore, all models were run again with the broad CBCL dimensions of internalizing and externalizing problems instead of the developmental BPD trait construct. Tables G to J of the Supplementary Information in Online Resources present the parameter estimates of the CLPMs and RI-CLPMS for all four parenting strategies with internalizing problems, and Tables K to N of the Supplementary Information in Online Resources present the parameter estimates of the CLPMs and RI-CLPMS for all four parenting strategies with externalizing problems. For both internalizing and externalizing problems, a different pattern of bidirectional associations with parenting strategies was found. At the between-level, two child-driven paths were significant. A first path indicates that between-family differences in child internalizing problems at the age of 12 are associated with less maternal emotional support at the age of 13 (β_j = -.09, p < .05). A second significant path shows that between-family differences in externalizing problems at the age of 11 are associated with more

maternal ignorance at the age of 12 ($\beta_i = .09$, $p < .05$). At the within-level, only one cross-lagged path was significant, indicating that within-family increases in child internalizing problems at the age of 11 predicts subsequent increases in maternal involvement at the age of 12 ($\beta_g = .20$, $p < .05$). No significant bidirectional associations were found for externalizing problems at the within-family level.

Discussion

The current study investigated the direction of longitudinal effects between a developmentally sensitive BPD trait construct and a set of specific and subtle invalidating parenting behaviors, as theorized to be relevant by the biosocial theory of BPD (Crowell et al., 2009; Linehan, 1993). The developmental time span considered in the current study can be defined as pre-adolescence, representing a meaningful transition phase between childhood and adolescence, in which parent-child relationships are marked by both risks and opportunities. As children enter pre-adolescence, they encounter possibilities for developing autonomy and increasing their self-management skills. This may be particularly challenging for children with maladaptive tendencies of emotion dysregulation and disinhibition, two core and observable trait vulnerabilities at young age that form the trait basis of BPD (Beauchaine et al., 2009), long before acute symptoms of BPD become manifest (Kaess et al., 2014). From this perspective, it is of particular interest to know how subtle invalidating parenting behaviors during this age period actually relate to these trait vulnerabilities over time, beyond the knowledge we have on established evidence regarding the role of more harsh parental strategies (Hallquist et al., 2015; Stepp et al., 2014b). Overall, the results of the current study provide more support for parent-driven compared to child-driven effects, although specifications can be defined at the between-family level versus the within-family level respectively.

Results of the first research question showed that maternal emotional support is associated with lower subsequent BPD traits, after controlling for the stability of parenting and BPD traits and concurrent associations between both. Whereas the three other components of invalidation did not seem to impact upon subsequent BPD trait development, maternal support appeared to actively protect children from accumulating BPD trait manifestations. This finding partially aligns with previous evidence underscoring the protective effect of positive parenting in the development of psychopathology (Gill et al., 2018; Whalen et al., 2014), and specifies that a lack of maternal support may represent the key aspect of invalidation with aggravating effects on further BPD trait development during pre-adolescence. Notwithstanding we hypothesized to also find effects of child BPD traits on subsequent parenting behavior (see for instance Stepp et al., 2014b), our results suggested that at least at the between-level of analysis, this process does not occur in pre-adolescence.

Based upon the results of the second research question, it can be concluded that a similar protective effect of validating parental strategies occurs at the within-family level. However, whereas at the between-level of analysis, maternal support appeared to be the central protective strategy, it is maternal involvement that shows significant effects on subsequent BPD development at the within-family level. These differences in between- versus within family findings are in accordance with research stating that supportive parenting is affected by a mother's own emotion and cognitive regulation which is an attribute that highly differs between mothers (Morris et al., 2017), whereas level of maternal involvement rather is subject of daily fluctuations in mother's experiences on a given day (Van der Kaap-Deeder et al., 2019). In addition to these findings, results also showed that within-family increases in BPD traits result in decreases in subsequent maternal ignorance of the child's behavior. These findings suggest that parents may learn to respond to their child's dysregulated emotions and behavior in a more explicit way when outbursts of the child actually occur. This suggestion

aligns with Linehan's theory stating that when a child displays an increase in disruptive symptoms, parents no longer ignore the child but instead turn to more harsh strategies in an effort to manage the extreme emotions and behavior of the child (Crowell et al., 2009; Hallquist et al., 2015; Stepp et al., 2014b). Although premature, this finding may specifically connect to Linehan's idea that part of the etiological process of BPD development can be understood from a transactional process in which the child learns to oscillate between suppressing and extreme expression of emotions, here empirically illustrated with decreases in ignorance after increases in a child's disruptive behavior are observed.

From an age-specific perspective, our findings indicate that within-family transactions rather take place from the age of 11 to 12, than from 12 to 13. This finding may be situated in the context of the more central role of parenting earlier in childhood, and may also suggest that establishment of within-family dynamics may especially take place during childhood, rather than during adolescence, a period in which within-family connections become less stringent and peer relations become more important (del Voile et al., 2010). This finding is also in line with previous research suggesting no within-family effects of parenting on the development of depressive symptoms during adolescence (Mastrotheodoros et al., 2020).

In a subsidiary aim, it was explored whether the pattern of bidirectional associations between child BPD traits and parenting strategies is similar for broader domains of child psychopathology domains as well. The results revealed a different pattern of associations for both internalizing and externalizing problems at both the between- and within-family level, with more evidence in support of child-driven effects. Most importantly, no protective effect of maternal emotional support or any of the other included parenting strategies on the subsequent development of internalizing/externalizing problems at the between-level was found, whereas this was particularly true for BPD trait development. Instead, results showed that it is the problem behavior of the child that shapes subsequent parenting behavior, with

internalizing symptomatology leading to lower subsequent maternal emotional support and externalizing symptomatology predicting more maternal ignorance. This diverging transactional pattern for BPD trait development compared to the development of more overall dimensions of psychopathology underscores that a lack of parental emotional support may represent a core parental risk factor in the etiology of borderline-related psychopathology (Crowell et al., 2009), potentially because it hinders growth in a child's emotion regulation deficits. Indeed, these deficits are central in borderline related personality difficulties, as reflected in both high levels of emotional sensitivity as well as emotional reactivity of the child. Also at the within-family level, direction of effects between child and parenting factors diverge for broad dimensions of child psychopathology relative to child BPD traits. Again, parenting effects of invalidation were observed for subsequent BPD trait development, whereas this was not the case for any of the models including CBCL dimensions of broad internalizing or externalizing psychopathology. One similarity at the within level of analysis was found, however, as CBCL internalizing problems of the child resulted in an increase in maternal involvement and child BPD traits predicted less maternal ignorance. Overall, the findings suggest that the reciprocal pattern between child internalizing/externalizing psychopathology and parental strategies of invalidation shows significant differences from the pattern found for BPD traits in terms of direction of effects, potentially indicating that the nature of the clinical constellation of early BPD traits and its development may reflect a more substantial parenting factor compared to more common forms of internalizing and externalizing symptoms respectively, which was also very recently suggested by Beeney and colleagues (2021).

From an applied perspective, the current findings indicate that the above described transactional parent-child processes are particularly relevant to BPD development during pre-

adolescence[2], with decreasing strength in associations as children grow older. This finding underscores the relevance of early intervention in vulnerable families, before the stage of adolescence and before acute BPD symptoms actually occur. In this regard, the current findings suggest that early support programs may be most effective when targeting the key parental validation constructs of maternal support and maternal involvement during pre-adolescence in order to optimize protective effects toward further BPD trait development. At the same time, parents may benefit from short educational support focusing on the potential paradoxical effect of ignoring a child's unwanted behavior in the context of increasing emotional and impulsive outbursts as children approach the threshold of adolescence.

Several limitations must be taken into account when considering the results of the current study. First, our study does not provide a full test of causality, because effects may be confounded by third variables that were not controlled for. Second, the bidirectional processes between parenting behaviors and child BPD traits may take place at longer or shorter time intervals. In addition, only maternal parenting was included, whereas the role of fathers is significant as well (Jeynes, 2016) and may provide better insight in parent-child transactions, especially at the within-family level. Although father reports of maternal parenting were used to reduce self-report bias, these reports may be biased by the perception of fathers and thus not represent the actual maternal parenting behavior. Relatedly, no child self-reports on BPD traits were used, however, taking into account the self-perception of the child is a viable way to most comprehensively capture the variance of the constructs of interest, which may be addressed in future studies. Third, explorations at the within-family level reflect averaged within-family effects, and thus, do not take into account within-family heterogeneity. Models incorporating random slopes for the structural part are needed to determine whether effects

[2] Additional analyses, empirically demonstrating that the described transactional processes are actually mostly predictive of borderline personality disorder outcome in young adulthood, relative to other PD outcomes, are available upon request from the first author.

can be generalized across individuals. Notwithstanding these limitations, the present research has some important strengths, such as the use of a prospective longitudinal sample of children with multi-informant ratings. This multi-informant approach allows to control for measurement error in the reports of children, mothers, and fathers, which decreases the likelihood that the observed effects are due to shared method variance. Also the use of statistical analyses that allow to disentangle between- and within-person processes in parent-child transactions, by relying on narrow and common behavioral-oriented parenting constructs of invalidation, adds to the BPD development literature that is heavily focused on more extreme rearing experiences, such as abuse and neglect.

Summary

In conclusion, the findings of this study provide a better understanding of the processes at play in pre-adolescent's development of BPD traits and invalidating parenting behavior both at the between-family as well as at the within-family level. Overall, our results suggest a protective parenting effect of validating parenting behaviors on BPD trait development at both levels, whereas a child-driven effect of BPD traits on subsequent levels of maternal ignorance was found at the within-family level. From an applied perspective, the findings of this study indicate that early support programs for the prevention of BPD trait manifestations should not only focus on decreasing invalidating parenting behavior as often prioritized, but especially on strengthening validating parenting behaviors of support and involvement and stimulating parental consistency in the daily management of the child.

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Tables and Figures

Fig 1

Three-Wave Cross-Lagged Panel Model Linking Father-Reported Maternal Parenting With Mother-Reported Child BPD Traits

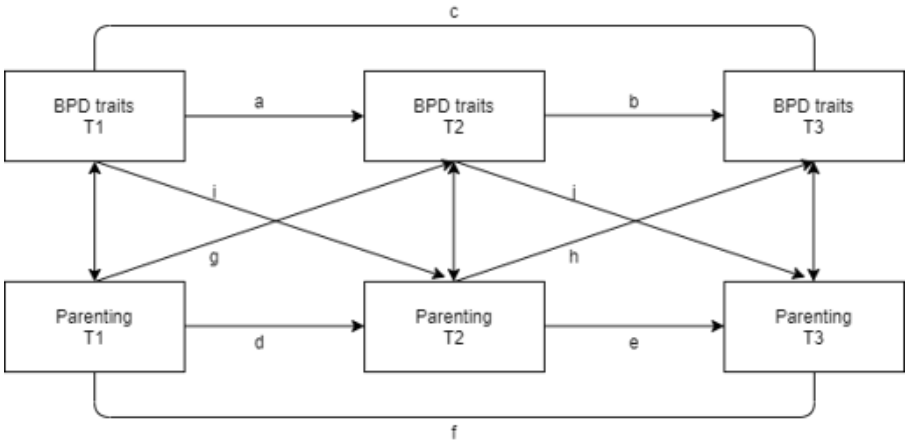

Fig 2

Three-wave Random-Intercept Cross-Lagged Panel Model Linking Father-Reported Maternal Parenting With Mother-Reported Child BPD Traits and a Longitudinal Association With PD Outcomes In Young Adulthood

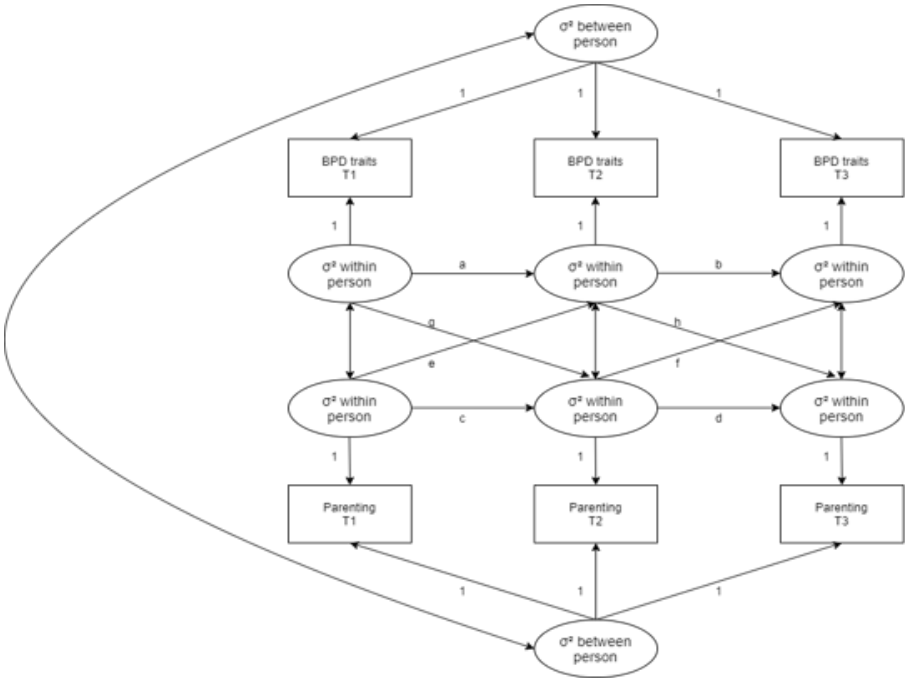

Table 1

Parameter Estimates Obtained with CLPM-Free Linking Maternal Emotional Support and Involvement to BPD Traits

	Cross-Lagged Panel Model-Free							
	Emotional Support				Involvement			
Parameters	B	SE	*p*	*β*	B	SE	*p*	*β*
Correlations								
T1	-.19	.13	.130	-.06	**-.03**	**.01**	**.006**	**-.12**
Stability paths								
BPD T1 → BPD T2 [a]	**.71**	**.04**	**.000**	**.72**	**.70**	**.04**	**.000**	**.72**
BPD T2 → BPD T3 [b]	**.52**	**.05**	**.000**	**.51**	**.52**	**.05**	**.000**	**.52**
BPD T1 → BPD T3 [c]	**.30**	**.05**	**.000**	**.30**	**.30**	**.05**	**.000**	**.30**
PAR T1 → PAR T2 [d]	**.60**	**.04**	**.000**	**.59**	**.58**	**.04**	**.000**	**.56**
PAR T2 → PAR T3 [e]	**.40**	**.05**	**.000**	**.38**	**.46**	**.05**	**.000**	**.46**
PAR T1 → PAR T3 [f]	**.38**	**.05**	**.000**	**.35**	**.29**	**.05**	**.000**	**.28**
Cross-lagged effects								
PAR T1 → BPD T2 [g]	-.05	.03	.111	-.06	-.06	.03	.086	-.06
PAR T2 → BPD T3 [h]	**-.07**	**.03**	**.032**	**-.07**	-.01	.03	.784	-.01
BPD T1 → PAR T2 [i]	-.03	.05	.452	-.03	.03	.05	.502	.03
BPD T2 → PAR T3 [j]	-.04	.05	.356	-.04	-.05	.05	.306	-.04
Correlated change								
T2	.00	.01	.812	.01	.00	.01	.985	.00
T3	.00	.01	.964	-.00	-.01	.01	.103	-.09

Note. CLPM = cross-lagged panel model (Figure 1); BPD = borderline personality disorder traits; PAR = maternal parenting behavior; Bold values denote statistical significance at the $p < 0.05$ level.

Table 2

Parameter Estimates Obtained with CLPM-Free Linking Maternal Ignorance and Inconsistent Reward to BPD Traits

	Cross-Lagged Panel Model-Free							
	Ignorance				Inconsistent Reward			
Parameters	B	SE	*p*	*β*	B	SE	*p*	*β*
Correlations								
T1	.03	.01	.063	.08	**.05**	**.02**	**.004**	**.12**
Stability paths								
BPD T1 → BPD T2 [a]	**.71**	**.04**	**.000**	**.72**	**.71**	**.04**	**.000**	**.72**
BPD T2 → BPD T3 [b]	**.53**	**.05**	**.000**	**.52**	**.53**	**.05**	**.000**	**.52**
BPD T1 → BPD T3 [c]	**.29**	**.05**	**.000**	**.30**	**.30**	**.05**	**.000**	**.30**
PAR T1 → PAR T2 [d]	**.50**	**.05**	**.000**	**.51**	**.57**	**.04**	**.000**	**.58**
PAR T2 → PAR T3 [e]	**.35**	**.05**	**.000**	**.34**	**.56**	**.05**	**.000**	**.54**
PAR T1 → PAR T3 [f]	**.33**	**.05**	**.000**	**.33**	**.24**	**.05**	**.000**	**.24**
Cross-lagged effects								
PAR T1 → BPD T2 [g]	.02	.03	.584	.02	.01	.02	.642	.02
PAR T2 → BPD T3 [h]	-.01	.03	.786	-.01	-.01	.02	.701	-.01
BPD T1 → PAR T2 [i]	-.04	.06	.530	-.03	.11	.06	.068	.08
BPD T2 → PAR T3 [j]	.07	.06	.212	.05	.05	.06	.381	.03
Correlated change								
T2	.02	.01	.111	.08	.02	.01	.125	.08
T3	.01	.01	.222	.07	.01	.01	.370	.05

Note. CLPM = cross-lagged panel model (Figure 1); BPD = borderline personality disorder traits; PAR = maternal parenting behavior; Bold values denote statistical significance at the $p < 0.05$ level.

Table 3

Parameter Estimates Obtained with RI-CLPM-Free Linking Maternal Emotional Support and Involvement to BPD Traits

	Random Intercept Cross-Lagged Panel Model-Free							
	Emotional Support				Involvement			
Parameters	B	SE	*p*	*β*	B	SE	*p*	*β*
Correlations								
Between-family	**-.03**	**.01**	**.032**	**-.14**	-.02	.01	.172	-.10
Within-family	.01	.01	.428	.08	-.02	.01	.133	-.15
Stability paths								
BPD T1 → BPD T2 [a]	.13	.14	.339	.14	.10	.13	.459	.10
BPD T2 → BPD T3 [b]	.16	.13	.215	.16	.16	.13	.234	.15
PAR T1 → PAR T2 [c]	-.05	.15	.727	-.05	.10	.13	.466	.09
PAR T2 → PAR T3 [d]	.07	.11	.504	.07	**.23**	**.09**	**.015**	**.22**
Cross-lagged effects								
PAR T1 → BPD T2 [e]	-.01	.10	.965	-.01	**-.17**	**.08**	**.026**	**-.24**
PAR T2 → BPD T3 [f]	-.08	.09	.368	-.09	.00	.08	.997	.00
BPD T1 → PAR T2 [g]	.04	.15	.818	.03	.13	.17	.436	.10
BPD T2 → PAR T3 [h]	-.12	.15	.399	-.09	-.11	.14	.421	-.07
Correlated change								
T2	.00	.01	.784	.04	.00	.02	.908	.02
T3	-.01	.01	.383	-.07	-.01	.01	.203	-.10

Note. RI-CLPM = random intercept cross-lagged panel model (Figure 2); BPD = borderline personality disorder traits; PAR = maternal parenting behavior; Bold values denote statistical significance at the $p < 0.05$ level.

Table 4

Parameter Estimates Obtained with RI-CLPM-Free Linking Maternal Ignorance and Inconsistent Reward to BPD Traits

	Random Intercept Cross-Lagged Panel Model-Free							
	Ignorance				Inconsistent Reward			
Parameters	B	SE	*p*	*β*	B	SE	*p*	*β*
Correlations								
Between-family	**.03**	**.02**	**.021**	**.17**	**.06**	**.02**	**.001**	**.26**
Within-family	-.01	.01	.715	-.03	-.01	.02	.488	-.07
Stability paths								
BPD T1 → BPD T2 [a]	.19	.14	.180	.19	.14	.14	.340	.14
BPD T2 → BPD T3 [b]	.22	.13	.085	.21	.20	.13	.123	.19
PAR T1 → PAR T2 [c]	-.02	.10	.851	-.02	.07	.13	.583	.08
PAR T2 → PAR T3 [d]	-.03	.11	.787	-.03	**.30**	**.10**	**.004**	**.28**
Cross-lagged effects								
PAR T1 → BPD T2 [e]	-.01	.06	.911	-.01	-.05	.06	.405	-.09
PAR T2 → BPD T3 [f]	-.09	.06	.182	-.13	-.06	.07	.415	-.09
BPD T1 → PAR T2 [g]	**-.36**	**.18**	**.039**	**-.24**	-.08	.22	.720	-.05
BPD T2 → PAR T3 [h]	-.05	.18	.803	-.03	-.15	.17	.378	-.08
Correlated change								
T2	-.01	.02	.763	-.04	.00	.02	.921	.01
T3	.01	.01	.518	.06	.00	.01	.948	.01

Note. RI-CLPM = random intercept cross-lagged panel model (Figure 2); BPD = borderline personality disorder traits; PAR = maternal parenting behavior; Bold values denote statistical significance at the $p < 0.05$ level.

Supplementary Information

Table A

Item Description for the Parenting Constructs

New scale	Original scale	Item description
Emotional Support	Positive parenting	My partner makes time to listen to our child, when he/she wants to tell something.
	Positive parenting	When our child seems to have a problem, my partner discusses with him/her what is actually going wrong.
	Positive parenting	When our child has a problem, my partner looks together with him/her at different possible solutions.
	Positive parenting	When my partner and child have a disagreement, they talk it over and they look together for a solution.
Involvement	Positive parenting	In the evening my partner talks with our child about the past and the coming day.
	Positive parenting	My partner asks our child about his/her hobbies and interests.
	Positive parenting	When my partner sees our child after a day of school, she makes it possible to spend some time with him/her.
	Positive parenting	My partner does activities together with our child, because she knows that our child likes it (for instance playing a round game, shopping together)
Ignorance	Ignoring	When our child does something that is not allowed, my partner gives him/her an angry look and pretends he/she is not there.
	Ignoring	When our child does something that is not allowed, my partner only talks to him/her again when he/she behaves better.

	Ignoring	When our child does something that is not allowed, my partner gives him/her an angry look and ignores him/her afterward.
	Ignoring	When our child does something that is not allowed, my partner doesn't talk to him/her until he/she says sorry.
Inconsistent reward	Discipline	It happens that my partner doesn't punish our child after he/she has done something that is not allowed.
	Inconsistent discipline	When our child doesn't obey a rule, it happens that my partner threatens with a punishment, but that in the end she doesn't carry it out.
	Inconsistent discipline	When my partner has punished our child, it happens that she lets our child out of the punishment early.
	Inconsistent discipline	Before my partner eventually gives a punishment, she has told our child many times that she would punish his/her behavior.

Note. Parenting ratings ranged from 1 (never) to 5 (always).

Table B

Internal Consistencies and Descriptive Statistics of All Study Variables Across Three Waves

	Time 1 (n = 574)			Time 2 (n = 377)			Time 3 (n = 372)		
Variable	α	*M*	*SD*	α	*M*	*SD*	α	*M*	*SD*
GBS									
Emotional Support	.75	4.19	.53	.78	4.16	.54	.80	4.17	.57
Involvement	.69	3.90	.57	.73	3.90	.59	.75	3.87	.59
Ignorance	.64	1.83	.69	.65	1.81	.67	.60	1.87	.67
Inconsistent Reward	.66	2.95	.74	.66	2.80	.73	.71	2.74	.75
DIPSI									
Facets									
Anxiousness	.90	1.89	.71	.92	1.71	.63	.92	1.71	.58
Depressive traits	.73	1.40	.51	.76	1.41	.51	.83	1.46	.57
Emotional Lability	.92	1.89	.78	.94	1.77	.74	.94	1.79	.71
Hyperexpressivity	.89	1.90	.74	.91	1.74	.66	.90	1.74	.66
Impulsivity	.89	1.91	.83	.89	1.78	.72	.90	1.77	.70
Ineffective stress coping	.90	2.07	.77	.90	1.88	.69	.92	1.88	.68
Insecure attachment	.77	1.99	.74	.78	1.81	.67	.78	1.79	.65
Irritability	.91	1.88	.70	.94	1.75	.69	.93	1.72	.62
Lack of self-confidence	.88	2.04	.88	.89	1.90	.79	.88	1.89	.75
Paranoid traits	.79	1.41	.48	.86	1.37	.49	.86	1.41	.49
Risk taking	.86	1.61	.61	.87	1.56	.98	.89	1.55	.54
Total BPD score	.91	1.94	.60	.93	1.85	.61	.94	1.86	.62
CBCL									
Internalizing problems	.70	.15	.16	.74	.14	.16	.70	.13	.16
Externalizing problems	.60	.15	.15	.60	.12	.14	.63	.10	.13

Note. Parenting and BPD variables ranged from 1 to 5, Internalizing and Externalizing variables ranged from 0 to 1.

Table C

Longitudinal Measurement Invariance for the Main Study Variables

Invariance type	χ^2	*df*	CFI	RMSEA	$\Delta\chi^2$	Δ *df*	Δ CFI	Δ RMSEA	*p*
Emotional Support									
Configural	45.23	39	1.00	0.02					
Metric	46.85	45	1.00	0.01	1.61	6	0.00	0.01	.952
Involvement									
Configural	87.13	39	0.97	0.05					
Metric	94.23	45	0.97	0.04	7.10	6	0.00	0.00	.312
Ignorance									
Configural	13.60	39	1.00	0.00					
Metric	17.83	45	1.00	0.00	4.23	4	0.00	0.00	.376
Inconsistent Reward									
Configural	15.19	39	1.00	0.01					
Metric	17.45	45	1.00	0.00	2.26	4	0.00	0.01	.689
BPD traits									
Configural	1457.00	399	0.92	0.07					
Metric	1512.51	419	0.92	0.07	55.50	20	0.00	0.00	.000

Note. χ^2 = chi-square test of model fit; *df* = degrees of freedom; CFI = comparative fit index; RMSEA = root mean square error of approximation.

Table D

Correlations Of the Main Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Emotional Support T1 (F)	1														
2. Emotional Support T2 (F)	**.60**	1													
3. Emotional Support T3 (F)	**.58**	**.60**	1												
4. Involvement T1 (F)	**.60**	**.43**	**.43**	1											
5. Involvement T2 (F)	**.45**	**.64**	**.45**	**.56**	1										
6. Involvement T3 (F)	**.44**	**.46**	**.63**	**.53**	**.61**	1									
7. Ignorance T1 (F)	**-.21**	**-.15**	**-.17**	**-.16**	**-.16**	**-.10**	1								
8. Ignorance T2 (F)	**-.18**	**.23**	**-.20**	**-.23**	**-.15**	**-.14**	**.50**	1							
9. Ignorance T3 (F)	**-.21**	**-.14**	**-.21**	**-.20**	-.10	**-.15**	**.49**	**.50**	1						
10. Inconsistent Reward T1 (F)	**-.18**	**-.19**	**-.17**	**-.11**	**-.16**	**-.17**	**.16**	**.16**	**.11**	1					
11. Inconsistent Reward T2 (F)	**-.17**	**-.17**	**-.16**	**-.16**	**-.11**	**-.12**	**.16**	**.25**	**.12**	**.60**	1				
12. Inconsistent Reward T3 (F)	**-.22**	**-.21**	**-.16**	**-.19**	**-.12**	**-.12**	**.14**	**.16**	**.19**	**.55**	**.68**	1			
13. BPD traits T1 (M)	-.06	-.09	-.05	**-.12**	-.06	**-.10**	.08	.01	**.11**	**.12**	**.15**	**.17**	1		
14. BPD traits T2 (M)	**-.12**	-.08	**-.10**	**-.17**	-.07	**-.11**	.06	.06	.10	**.11**	**.17**	**.12**	**.72**	1	
15. BPD traits T3 (M)	**-.12**	**-.13**	**-.12**	-.07	-.05	**-.12**	.04	.03	**.11**	.09	**.10**	**.14**	**.67**	**.73**	1

Note. M = mother-report; F = father-report; BPD traits = borderline personality disorder traits; Bold values denote statistical significance at the $p < .05$ level.

Table E

Model Fit Indices of the Main Analyses

	Model Type	χ^2	*df*	CFI	RMSEA	SRMR
Community sample PALS						
BPD - Emotional Support	CLPM-Free*	0.74	2	1.00	0.00	0.01
BPD - Emotional Support	RI-CLPM-Free	1.37	1	1.00	0.03	0.01
BPD - Emotional Support	CLPM-Fixed	113.30	12	0.89	0.12	0.18
BPD - Emotional Support	RI-CLPM-Fixed	45.60	9	0.96	0.08	0.06
BPD - Involvement	CLPM-Free	6.42	2	1.00	0.06	0.01
BPD - Involvement	RI-CLPM-Free*	1.44	1	1.00	0.03	0.01
BPD –Involvement	CLPM-Fixed	118.25	12	0.89	0.12	0.15
BPD - Involvement	RI-CLPM-Fixed	49.37	9	0.96	0.09	0.06
BPD - Ignorance	CLPM-Free	4.13	2	1.00	0.04	0.01
BPD - Ignorance	RI-CLPM-Free*	1.09	1	1.00	0.01	0.01
BPD - Ignorance	CLPM-Fixed	110.73	12	0.88	0.12	0.13
BPD - Ignorance	RI-CLPM-Fixed	44.32	9	0.96	0.08	0.05
BPD - Inconsistent Reward	CLPM-Free	5.04	2	1.00	0.05	0.01
BPD - Inconsistent Reward	RI-CLPM-Free*	1.79	1	1.00	0.04	0.01
BPD - Inconsistent Reward	CLPM-Fixed	142.83	12	0.87	0.14	0.14
BPD - Inconsistent Reward	RI-CLPM-Fixed	68.08	9	0.94	0.11	0.08

Note. BPD = borderline personality disorder traits; CLPM-Fixed = cross-lagged panel models with time invariance constraints on means, autoregressive stabilities and cross-lagged effects; CLPM-Free = fully unconstrained cross-lagged panel models; RI-CLPM-Fixed = random-intercept cross-lagged panel models with time invariance constrains on means, autoregressive stabilities and cross-lagged effects; RI-CLPM-Free = fully unconstrained random-intercept cross-lagged panel models; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; *Model with the best model fit.

Table F

Model Fit Indices of the Sensitivity Analyses

	Model Type	χ^2	*df*	CFI	RMSEA	SRMR
Community sample PALS						
INTER - Emotional Support	CLPM-Free	1.77	2	1.00	.00	.01
INTER - Emotional Support	RI-CLPM-Free	0.01	1	1.00	.00	.00
EXTER - Emotional Support	CLPM-Free	1.72	2	1.00	.00	.01
EXTER - Emotional Support	RI-CLPM-Free	0.51	1	1.00	.00	.01
INTER - Involvement	CLPM-Free	1.40	2	1.00	.00	.01
INTER - Involvement	RI-CLPM-Free	0.62	1	1.00	.00	.01
EXTER –Involvement	CLPM-Free	2.10	2	1.00	.01	.01
EXTER - Involvement	RI-CLPM-Free	1.80	1	1.00	.04	.01
INTER - Ignorance	CLPM-Free	1.09	2	1.00	.00	.01
INTER - Ignorance	RI-CLPM-Free	0.73	1	1.00	.00	.01
EXTER - Ignorance	CLPM-Free	1.71	2	1.00	.00	.01
EXTER - Ignorance	RI-CLPM-Free	4.26	1	1.00	.08	.02
INTER - Inconsistent Reward	CLPM-Free	3.11	2	1.00	.03	.01
INTER - Inconsistent Reward	RI-CLPM-Free	0.01	1	1.00	.00	.00
EXTER - Inconsistent Reward	CLPM-Free	1.10	2	1.00	.00	.01
EXTER - Inconsistent Reward	RI-CLPM-Free	3.15	1	1.00	.06	.02

Note. INTER = internalizing problems; EXTER = externalizing problems; CLPM-Free = fully unconstrained cross-lagged panel models; RI-CLPM-Free = fully unconstrained random-intercept cross-lagged panel models; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual.

Table G

Parameter Estimates Obtained with CLPM-Free Linking Maternal Emotional Support and Involvement to Internalizing problems

	Cross-Lagged Panel Model-Free							
	Emotional Support				Involvement			
Parameters	B	SE	*p*	*β*	B	SE	*p*	*β*
Correlations								
T1	.00	.00	.539	-.03	-.01	.01	.051	-.08
Stability paths								
INTER T1 → INTER T2 [a]	**.44**	**.04**	**.000**	**.54**	**.44**	**.04**	**.000**	**.54**
INTER T2 → INTER T3 [b]	**.59**	**.04**	**.000**	**.61**	**.59**	**.04**	**.000**	**.61**
INTER T1 → INTER T3 [c]	**.11**	**.04**	**.006**	**.14**	**.11**	**.04**	**.007**	**.14**
PAR T1 → PAR T2 [d]	**.61**	**.04**	**.000**	**.59**	**.57**	**.04**	**.000**	**.56**
PAR T2 → PAR T3 [e]	**.41**	**.05**	**.000**	**.39**	**.47**	**.05**	**.000**	**.46**
PAR T1 → PAR T3 [f]	**.38**	**.05**	**.000**	**.35**	**.28**	**.05**	**.000**	**.27**
Cross-lagged effects								
PAR T1 → INTER T2 [g]	-.01	.01	.603	-.02	-.01	.01	.316	-.04
PAR T2 → INTER T3 [h]	-.02	.01	.085	-.06	-.01	.01	.595	-.02
INTER T1 → PAR T2 [i]	-.08	.12	.494	-.03	.23	.13	.084	.08
INTER T2 → PAR T3 [j]	**-.31**	**.14**	**.022**	**-.09**	-.22	.14	.119	-.06
Correlated change								
T2	.00	.00	.250	.06	.00	.00	.370	-.05
T3	.00	.00	.883	-.01	.00	.00	.132	-.08

Note. CLPM = cross-lagged panel model (Figure 1); INTER = internalizing problems; PAR = maternal parenting behavior; Bold values denote statistical significance at the $p < 0.05$ level.

Table H

Parameter Estimates Obtained with CLPM-Free Linking Maternal Ignorance and Inconsistent Reward to Internalizing problems

	Cross-Lagged Panel Model-Free							
	Ignorance				Inconsistent Reward			
Parameters	B	SE	*p*	*β*	B	SE	*p*	*β*
Correlations								
T1	.01	.01	.318	.04	.00	.01	.785	-.01
Stability paths								
INTER T1 → INTER T2 [a]	**.44**	**.04**	**.000**	**.54**	**.44**	**.04**	**.000**	**.55**
INTER T2 → INTER T3 [b]	**.59**	**.04**	**.000**	**.61**	**.58**	**.04**	**.000**	**.61**
INTER T1 → INTER T3 [c]	**.11**	**.04**	**.006**	**.14**	**.11**	**.04**	**.006**	**.14**
PAR T1 → PAR T2 [d]	**.48**	**.05**	**.000**	**.49**	**.57**	**.04**	**.000**	**.58**
PAR T2 → PAR T3 [e]	**.34**	**.05**	**.000**	**.34**	**.54**	**.05**	**.000**	**.52**
PAR T1 → PAR T3 [f]	**.31**	**.05**	**.000**	**.31**	**.25**	**.05**	**.000**	**.24**
Cross-lagged effects								
PAR T1 → INTER T2 [g]	.01	.01	.575	.02	.02	.01	.053	.08
PAR T2 → INTER T3 [h]	-.01	.01	.177	-.05	.01	.01	.558	.02
INTER T1 → PAR T2 [i]	-.07	.14	.624	-.02	.20	.13	.135	.07
INTER T2 → PAR T3 [j]	.12	.15	.446	.03	.19	.14	.192	.05
Correlated change								
T2	.00	.00	.400	.05	.00	.00	.849	.01
T3	.01	.00	.082	.09	.00	.00	.423	.04

Note. CLPM = cross-lagged panel model (Figure 1); INTER = internalizing problems; PAR = maternal parenting behavior; Bold values denote statistical significance at the $p < 0.05$ level.

Table I

Parameter Estimates Obtained with RI-CLPM-Free Linking Maternal Emotional Support and Involvement to Internalizing problems

	Random Intercept Cross-Lagged Panel Model-Free							
	Emotional Support				Involvement			
Parameters	B	SE	*p*	*β*	B	SE	*p*	*β*
Correlations								
Between-family	**-.01**	**.00**	**.016**	**-.21**	-.01	.01	.105	-.17
Within-family	.01	.00	.092	.14	.00	.01	.857	-.02
Stability paths								
INTER T1 → INTER T2 [a]	.14	.09	.117	.20	**.18**	**.09**	**.044**	**.26**
INTER T2 → INTER T3 [b]	**.29**	**.14**	**.041**	**.31**	**.33**	**.13**	**.012**	**.36**
PAR T1 → PAR T2 [c]	-.07	.21	.293	-.06	.04	.23	.734	.04
PAR T2 → PAR T3 [d]	.06	.11	.60	.05	**.20**	**.10**	**.033**	**.20**
Cross-lagged effects								
PAR T1 → INTER T2 [e]	.06	.04	.134	.17	.00	.03	.951	-.01
PAR T2 → INTER T3 [f]	.01	.03	.595	.05	.02	.02	.517	.06
INTER T1 → PAR T2 [g]	-.07	.15	.649	.11	**.48**	**.23**	**.036**	**.20**
INTER T2 → PAR T3 [h]	.06	.11	.601	.02	-.16	.37	.676	-.04
Correlated change								
T2	**.01**	**.00**	**.034**	**.28**	.00	.01	.731	.04
T3	.00	.00	.649	-.04	.00	.00	.210	-.10

Note. RI-CLPM = random intercept cross-lagged panel model (Figure 2); INTER = internalizing problems; PAR = maternal parenting behavior; Bold values denote statistical significance at the $p < 0.05$ level.

Table J

Parameter Estimates Obtained with RI-CLPM-Free Linking Maternal Ignorance and Inconsistent Reward to Internalizing problems

	Random Intercept Cross-Lagged Panel Model-Free							
	Ignorance				Inconsistent Reward			
Parameters	B	SE	*p*	*β*	B	SE	*p*	*β*
Correlations								
Between-family	.00	.01	.568	-.06	**.01**	**.01**	**.036**	**.20**
Within-family	.01	.01	.181	.10	**-.01**	**.01**	**.027**	**-.18**
Stability paths								
INTER T1 → INTER T2 [a]	.16	.09	.074	.23	.16	.09	.086	.23
INTER T2 → INTER T3 [b]	**.31**	**.14**	**.027**	**.34**	**.31**	**.14**	**.027**	**.33**
PAR T1 → PAR T2 [c]	.05	.11	.614	.05	.01	.14	.965	.01
PAR T2 → PAR T3 [d]	.03	.10	.742	.03	**.27**	**.10**	**.008**	**.24**
Cross-lagged effects								
PAR T1 → INTER T2 [e]	.04	.03	.153	.14	-.01	.03	.716	-.04
PAR T2 → INTER T3 [f]	-.01	.02	.791	-.02	-.02	.02	.489	-.06
INTER T1 → PAR T2 [g]	.03	.24	.898	.01	-.13	.26	.602	-.06
INTER T2 → PAR T3 [h]	.61	.43	.160	.16	.07	.38	.850	.02
Correlated change								
T2	.01	.01	.225	.14	.00	.01	.720	-.05
T3	.01	.00	.097	.14	.00	.00	.541	.05

Note. RI-CLPM = random intercept cross-lagged panel model (Figure 2); INTER = internalizing problems; PAR = maternal parenting behavior; Bold values denote statistical significance at the $p < 0.05$ level.

Table K

Parameter Estimates Obtained with CLPM-Free Linking Maternal Emotional Support and Involvement to Externalizing problems

	Cross-Lagged Panel Model-Free							
	Emotional Support				Involvement			
Parameters	B	SE	*p*	*β*	B	SE	*p*	*β*
Correlations								
T1	**-.02**	**.00**	**.000**	**-.17**	**-.02**	**.00**	**.000**	**-.18**
Stability paths								
EXTER T1 → EXTER T2 [a]	**.64**	**.03**	**.000**	**.68**	**.63**	**.03**	**.000**	**.68**
EXTER T2 → EXTER T3 [b]	**.51**	**.05**	**.000**	**.57**	**.52**	**.05**	**.000**	**.58**
EXTER T1 → EXTER T3 [c]	**.19**	**.04**	**.000**	.23	**.19**	**.04**	**.000**	**.23**
PAR T1 → PAR T2 [d]	**.60**	**.04**	**.000**	**.59**	**.57**	**.05**	**.000**	**.55**
PAR T2 → PAR T3 [e]	**.40**	**.05**	**.000**	**.39**	**.46**	**.05**	**.000**	**.46**
PAR T1 → PAR T3 [f]	**.37**	**.05**	**.000**	**.35**	**.28**	**.05**	**.000**	**.27**
Cross-lagged effects								
PAR T1 → EXTER T2 [g]	-.02	.01	.105	-.06	-.02	.01	.070	-.06
PAR T2 → EXTER T3 [h]	-.01	.01	.309	-.04	.00	.01	.851	.01
EXTER T1 → PAR T2 [i]	-.14	.15	.359	-.04	-.04	.17	.831	-.01
EXTER T2 → PAR T3 [j]	-.13	.17	.415	-.03	-.14	.18	.433	-.03
Correlated change								
T2	.00	.00	.515	.04	.00	.00	.983	.00
T3	.00	.00	.817	-.01	**-.01**	**.00**	**.017**	**-.13**

Note. CLPM = cross-lagged panel model (Figure 1); EXTER = externalizing problems; PAR = maternal parenting behavior; Bold values denote statistical significance at the $p < 0.05$ level.

Table L

Parameter Estimates Obtained with CLPM-Free Linking Maternal Ignorance and Inconsistent Reward to Externalizing problems

	Cross-Lagged Panel Model-Free							
	Ignorance				Inconsistent Reward			
Parameters	B	SE	*p*	*β*	B	SE	*p*	*β*
Correlations								
T1	.01	.00	.059	.08	**.01**	**.00**	**.007**	**.12**
Stability paths								
EXTER T1 → EXTER T2 [a]	**.64**	**.03**	**.000**	**.69**	**.64**	**.03**	**.000**	**.69**
EXTER T2 → EXTER T3 [b]	**.52**	**.05**	**.000**	**.57**	**.52**	**.05**	**.000**	**.57**
EXTER T1 → EXTER T3 [c]	**.20**	**.04**	**.000**	**.24**	**.19**	**.04**	**.000**	**.23**
PAR T1 → PAR T2 [d]	**.48**	**.05**	**.000**	**.48**	**.55**	**.04**	**.000**	**.56**
PAR T2 → PAR T3 [e]	**.33**	**.05**	**.000**	**.34**	**.54**	**.05**	**.000**	**.52**
PAR T1 → PAR T3 [f]	**.30**	**.05**	**.000**	**.31**	**.25**	**.05**	**.000**	**.25**
Cross-lagged effects								
PAR T1 → EXTER T2 [g]	.00	.01	.663	.02	.00	.01	.793	.01
PAR T2 → EXTER T3 [h]	-.01	.01	.291	-.04	.00	.01	.821	.01
EXTER T1 → PAR T2 [i]	**.34**	**.17**	**.042**	**.09**	.38	.16	.019	.10
EXTER T2 → PAR T3 [j]	.25	.18	.158	.06	.13	.17	.434	.03
Correlated change								
T2	.00	.00	.725	.02	.00	.00	.753	-.02
T3	.00	.00	.429	.04	.00	.00	.377	.05

Note. CLPM = cross-lagged panel model (Figure 1); EXTER = externalizing problems; PAR = maternal parenting behavior; Bold values denote statistical significance at the $p < 0.05$ level.

Table M

Parameter Estimates Obtained with RI-CLPM-Free Linking Maternal Emotional Support and Involvement to Externalizing problems

	Random Intercept Cross-Lagged Panel Model-Free							
	Emotional Support				Involvement			
Parameters	B	SE	*p*	*β*	B	SE	*p*	*β*
Correlations								
Between-family	**-.01**	**.00**	**.000**	**-.29**	**-.01**	**.00**	**.010**	**-.21**
Within-family	.00	.00	.886	-.01	-.01	.00	.074	-.14
Stability paths								
EXTER T1 → EXTER T2 [a]	**.29**	**.09**	**.001**	**.34**	.26	.09	.003	.31
EXTER T2 → EXTER T3 [b]	.18	.13	.173	.24	.18	.13	.162	.25
PAR T1 → PAR T2 [c]	-.04	.14	.769	-.04	.08	.13	.564	.07
PAR T2 → PAR T3 [d]	.05	.12	.697	.04	**.22**	**.09**	**.025**	**.21**
Cross-lagged effects								
PAR T1 → EXTER T2 [e]	.00	.03	.942	-.01	-.03	.02	.106	-.14
PAR T2 → EXTER T3 [f]	.03	.02	.270	.13	.02	.02	.429	.10
EXTER T1 → PAR T2 [g]	.21	.32	.515	.07	.12	.38	.752	.03
EXTER T2 → PAR T3 [h]	.33	.50	.512	.08	-.07	.47	.889	-.01
Correlated change								
T2	.00	.00	.247	.14	.00	.00	.926	.01
T3	.00	.00	.434	.08	.00	.00	.324	-.10

Note. RI-CLPM = random intercept cross-lagged panel model (Figure 2); EXTER = externalizing problems; PAR = maternal parenting behavior; Bold values denote statistical significance at the $p < 0.05$ level.

Table N

Parameter Estimates Obtained with RI-CLPM-Free Linking Maternal Ignorance and Inconsistent Reward to Externalizing problems

	Random Intercept Cross-Lagged Panel Model-Free							
	Ignorance				Inconsistent Reward			
Parameters	B	SE	*p*	*β*	B	SE	*p*	*β*
Correlations								
Between-family	.00	.00	.373	.08	**.01**	**.00**	**.026**	**.17**
Within-family	.00	.00	.287	.08	.00	.00	.646	.04
Stability paths								
EXTER T1 → EXTER T2 [a]	**.28**	**.09**	**.002**	**.33**	**.28**	**.09**	**.002**	**.34**
EXTER T2 → EXTER T3 [b]	.18	.13	.172	.25	.20	.02	.128	.26
PAR T1 → PAR T2 [c]	.04	.10	.696	.04	.04	.13	.770	.04
PAR T2 → PAR T3 [d]	.03	.10	.739	.03	**.28**	**.10**	**.006**	**.26**
Cross-lagged effects								
PAR T1 → EXTER T2 [e]	.02	.02	.274	.09	.00	.02	.964	.00
PAR T2 → EXTER T3 [f]	.00	.02	.857	.02	.00	.02	.914	.01
EXTER T1 → PAR T2 [g]	.50	.37	.175	.13	.38	.39	.318	.11
EXTER T2 → PAR T3 [h]	.56	.52	.281	.12	-.11	.47	.815	-.02
Correlated change								
T2	.00	.00	.321	.11	.00	.00	.875	.02
T3	.00	.00	.527	.07	.00	.00	.830	.00

Note. RI-CLPM = random intercept cross-lagged panel model (Figure 2); EXTER = externalizing problems; PAR = maternal parenting behavior; Bold values denote statistical significance at the $p < 0.05$ level.