



Perceived Parenting and Borderline Personality Features during Adolescence

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Abstract

This study investigates the associations between perceived parenting and borderline personality disorder (BPD) in adolescents. The relations between components of parenting and BPD features were explored. Participants ($N = 270$; mean age = 15.3) assessed their own BPD features (Personality Assessment Inventory) and both of their parents' parenting practices (Parents as Social Context Questionnaire; Perceived Parental Autonomy Support Scale). SEM results suggest that controlling, rejecting and chaotic parenting all predicted global BPD, and all these parenting components were significantly associated with at least one BPD feature. Chaotic parenting, a relatively neglected construct in the BPD literature, seems to play an important role in early BPD.

Keywords Adolescence · Borderline personality features · Detrimental parenting · Developmental psychopathology

Borderline personality disorder (BPD) is a severe and pervasive mental disorder characterized by instability in emotional regulation, impulse control, interpersonal relationships, and self-image, with a lifetime prevalence estimated between 1.6 and 5.9% in the general population [1]. Among other difficulties, it has been associated with severe impairments, high suicide risk and an extensive use of mental and physical health services [2–6].

In spite of a long-standing consensus on the disorder taking its roots in early negative life-experiences, BPD has long been considered to affect only adults. To this day, many clinicians and researchers are reluctant to acknowledge and diagnose BPD among youth [7]. In its latest edition, the *Diagnostic Statistical Manual* [1] defines BPD as a disorder emerging only in early adulthood, therefore excluding diagnoses among patients under the age of 18. Consequently, most research on the etiology of BPD has been conducted retrospectively, among diagnosed adult patients [8]. Identified determinants include difficult temperament, insecure attachment, childhood trauma, parental psychopathology and detrimental parenting practices [9].

Focusing on parenting, retrospective studies have identified a wide range of specific practices as risk factors for the development of BPD, such as harsh punishment, invalidation, over-involvement, overprotection, lack of care, conflictual and inconsistent relationships, emotional withdrawal or unavailability and role reversal [10]. Though informative, retrospective studies should be interpreted with caution, since they are limited by recall biases [11].

Developmental Psychopathology Approach to BPD

There has been a recent increase of research using the developmental psychopathology framework to explain the emergence of mental health problems. Within this framework, psychopathology and “normality” are considered opposite ends of a continuum rather than different in nature [12, 13]. Symptoms are considered to be the result of transactions, over the entire course of an individual's life, between certain biological characteristics and environmental influences, rather than as the direct consequences of disorder-specific risk factors [14]. Researchers adopting this approach recognize the value of studying normative samples early in life, before the onset of disorders, as a way to further our understanding of early risk factors and processes leading to psychopathology [15, 16].

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For example, studies have provided empirical and clinical support for the validity, reliability and clinical relevance of early symptomatic features of BPD [17]. Recognizing the existence of BPD features in youth is necessary to detect and treat this disorder as early as possible [18].

When assessing youth with BPD features in studies, the use of a dimensional approach is frequent [12]. Indeed, dimensional assessments of personality disorders (PDs) during adolescence and adulthood have been found to be more valid and reliable, as well as potentially less stigmatizing, than categorical assessments [19, 20]. Furthermore, dimensional measures allow to detect subthreshold symptoms among normative samples, thus facilitating screening and early intervention [3, 12, 20].

Some authors have proposed dimensional conceptualizations to assess personality disorders (PDs) [21–23]. For instance, Geiger and Crick [12] have created a dimensional conceptualization of PDs by proceeding to a content analysis of all DSM-IV-TR criteria for these disorders, which resulted in a set of seven dimensions that, when combined, can be used to define and assess all PDs. According to this conceptualization, BPD is characterized by five dimensions: (1) emotional dysregulation, (2) impulsivity, (3) relational instability, (4) identity disturbances, and (5) hypervigilance/hostile and paranoid world view. The Geiger and Crick's conceptualization offers a useful subdivision of BPD symptoms in parsimonious yet specific dimensions. It also resembles the Personality Assessment Inventory (PAI) [22], a validated self-reported questionnaire frequently used in both research and clinical settings.

Prospective Research on Parenting and BPD

As a whole, prospective studies broadly confirm findings stemming from retrospective studies. Offspring BPD symptoms were found to be associated with prior harsh treatment and punishment [24], parental criticism [25], overprotection [26], hostility [27], maternal withdrawal [8], low parental warmth [28] and role reversal or boundary dissolution [27]. General measures of detrimental parenting were also prospectively related to BPD symptoms in offspring [29].

Unfortunately, most of these studies focused solely on mothers' practices [30]. The scope of each study is also narrow, often targeting only one (or very few) specific parenting practice(s), or the use of an aggregated measure of detrimental parenting. Using an empirically-supported conceptualization of parenting practices [31], the goal of the present study is to examine how each of the main components of detrimental parenting relate to adolescents' BPD features.

Parenting Conceptualization

Gray and Steinberg's [31] framework is particularly important as it unpacks Baumrind's [32] optimal authoritative parenting style into three independent dimensional components, namely (1) autonomy support vs. controlling parenting, (2) involvement vs. rejection, and (3) structure vs. chaos. This classification or similar ones, like Barber's [33], have been frequently applied in developmental psychology research, notably in studies investigating the association between parenting and psychological maladjustment [34].

The first parenting component, *autonomy support*, refers to understanding and acknowledging children's perspective, and encouraging them to act upon their own values, whereas *controlling* parenting practices attempt to limit and discourage children's manifestations of autonomy, consequently pressuring them to think, feel or act in a specific way [35]. Controlling parenting can take many forms, such as invalidation of feelings, threats to punish, guilt-inducing criticisms, performance pressures or love withdrawal [36]. When *involved*, parents are affectionate, accepting, emotionally available and interested in their children's lives, as well as responsive to their needs and demands, whereas *rejecting* parenting, on the other hand, refers to disapproval, aversion, and hostility [37]. Lastly, when parents provide adequate *structure*, they make clear demands and follow through with logical consequences when limits are transgressed, whereas *chaotic* practices lack coherence and contingency in disciplinary methods, attitude towards children and/or general family functioning, resulting in an unpredictable, chaotic family environment [38]. In light of previous research on parenting and BPD, it appears that controlling, rejecting and chaotic parenting could all represent risk factors for BPD features in offspring. We thus aimed to examine their unique and additive contribution to the development of this disorder.

Present Study

The main goal of this study was to investigate links between detrimental parenting (i.e., controlling, rejecting and chaotic practices) and the presence of BPD features within a non-clinical sample of adolescents. We expected all measured detrimental parenting practices, and especially controlling and rejecting practices [39], to be associated with higher global BPD scores. Our supplemental goal was to explore how each of these detrimental parenting practices relate to each BPD dimension. As no previous research had explored these specific associations,

we did not make precise hypotheses about these links. In general terms however, we did expect detrimental parenting to be associated with higher scores of at least one of the BPD dimensions.

Method

Participants and Procedure

Participants were 270 French-speaking adolescents (58.5% girls, 40.7% boys, 0.7% not specified) from the Montreal metropolitan area. They were students in grades 9 to 11, mainly recruited through two private high schools, after e-mail or in-person presentations of the study, as well as by word of mouth from previous participants to their friends and peers (5.9% of the sample). After receiving information about the study, adolescents interested in participating were given the hyperlink to the informed consent form, which preceded an online questionnaire. The study was approved by the authors' University Ethical Research Committee (CERAS-2015–16-221-P). All measures were self-reported by adolescents. Participants received a 10\$ iTunes gift card by e-mail for completing the questionnaire.

Adolescents were aged between 14 and 19 years old (mean age = 15.3, $SD = 0.97$) and were well distributed across the three grade levels (29.3% in grade 9; 36.3% in grade 10; 34.1% in grade 11). The majority of participants (73.3%) had been living in Canada for at least 14 years whereas 12.6% had been living in Canada for 3–13 years (14.1% did not answer this question). Most participating adolescents reported living with their two parents (67.8%) or in shared custody between both parents (7.8%). The others reported living exclusively with their mother (7.4%), exclusively with their father (1.1%), or with a tutor who wasn't a parent (3.3%). Many of our participants' parents were highly educated, as 34.8% of fathers and 35.9% of mothers had earned an undergraduate university degree, and 20.0% of fathers and 21.9% of mothers had earned a graduate university degree. Of the remaining parents, the highest education completed was college for 11.1% of fathers and 11.9% of mothers, a professional program for 3.7% of fathers and 3.3% of mothers, high school for 10.4% of fathers and 9.6% of mothers, and grade school for 3.0% of fathers and 2.6% of mothers.

Measures

BPD Features

BPD features were measured with the French version of the Personality Assessment Inventory (PAI) [22, 40]. The PAI is a self-report questionnaire used in research and clinical

settings to assess mental disorders, including BPD, among adults. The original English version has been used in a number of studies assessing BPD and was found to have good psychometric properties for this construct [41]. All four subscales (emotional dysregulation, impulsivity, relational instability and identity disturbances; 6 items each) of the BPD scale were administered. In addition, to include all of the five BPD dimensions proposed by Geiger and Crick [12], we included the hypervigilance subscale of the paranoid personality disorder scale (8 items) of the PAI to assess adolescents' hostile and paranoid world view within interpersonal relationships. Participants were asked to indicate the extent to which each characteristic represented them. All items were scored on a four-point Likert-type scale ranging from 0 (*false, not true at all*), to 3 (*very true*). The emotional dysregulation ($\alpha = 0.74$; e.g. "My mood can shift quite suddenly"), impulsivity ($\alpha = 0.60$; "I sometimes do things so impulsively that I get into trouble"), relational instability ($\alpha = 0.60$; "My relationships have been stormy"), identity disturbances ($\alpha = 0.65$; e.g. "My attitude about myself changes a lot"), and hypervigilance/hostile and paranoid world view ($\alpha = 0.60$; "Most of the people I know can be trusted"; reversed) subscales all showed good psychometric properties within this sample of adolescents. In addition to computing scores for each BPD dimension, a global BPD score was also created by calculating the mean of all five PAI subscale scores. Global BPD scores also showed good internal consistency ($\alpha = 0.86$).

Parenting Practices

Adolescents rated both of their parents' controlling parenting practices through the Perceived Parental Autonomy Support Scale (P-PASS) [42], which measures adolescents' and young adults' perceptions of their parents' autonomy-supportive and controlling practices. Using a seven-point Likert-type scale ranging from 0 (*do not agree at all*) to 6 (*very strongly agree*), adolescents were asked to indicate the extent to which each parent used three types of controlling behaviors: threats to punish (4 items; e.g. "When I refuse to do something, my mother/father threatens to take away certain privileges in order to make me do it"), guilt-inducing criticisms (4 items; e.g. "When my mother/father wants me to do something differently, she/he makes me feel guilty"), and performance pressure (4 items; e.g. "My mother/father refuses to accept that I can simply want to have fun without trying to be the best"). Although the P-PASS was first validated in samples of young adults, the controlling parenting scale included in the present study showed good psychometric properties when answered by adolescents in this sample (12 items; $\alpha_{\text{mothers}} = 0.92$; $\alpha_{\text{fathers}} = 0.91$), as well as in other samples [36, 43].

Participants also rated both of their parents' rejecting and chaotic parenting practices via the corresponding scales of the Parents as Social Context Questionnaire (PASCQ) [37]. The original version of the PASCQ was validated with 3744 American adolescents (13 to 18 years old) and has also been shown to have good psychometric properties in other samples of adolescents [44]. In the present study, items were adapted and repeated to inquire about each parent. Adolescents were asked to rate, on a four-point Likert-type scale ranging from 0 (*not at all true*) to 3 (*very true*), the extent to which each statement was true regarding their parent. The French version, obtained by reversed parallel translation [45], showed good psychometric properties in the present sample for both the rejecting (4 items; $\alpha_{\text{mothers}} = 0.70$; $\alpha_{\text{fathers}} = 0.71$; e.g. "My mother/father makes me feel like I'm not wanted") and the chaotic (4 items; $\alpha_{\text{mothers}} = 0.82$; $\alpha_{\text{fathers}} = 0.71$; "My mother/father keeps changing the rules on me") parenting scales.

Covariates

Since sex and/or gender has been identified as a putative risk factor for BPD in previous studies [46], participants were asked to report their identified gender. They were also questioned about both of their parents' highest completed level of education, as a proxy of their family's socio-economic status (SES), rated on a six-point scale ranging from *elementary school to university—graduate degree*, for each parent. When data regarding both parents' level of education was available, the mean for both parents was computed to obtain an approximate indicator of familial SES. We also collected participants' age to control for its possible effect on BPD features.

Analytic Strategy

We examined descriptive statistics (means, standard deviations, ranges) of all variables before conducting bivariate correlations. We then tested hypothesized models in Mplus, version 7.4 [47] using path analysis with maximum likelihood estimation. Since the positive correlations between mothers' and fathers' parenting practices were strong (r s from 0.52 to 0.63), mean scores of both mothers' and fathers' parenting were used in further analyses. When participants had provided data for only one parent after declaring living solely with him or her, the score for this parent was used. In the main model, global BPD scores were regressed on computed mean scores of both parents' detrimental parenting practices (i.e., controlling, rejecting and chaotic practices), as well as with all measured covariates (i.e., gender, age, and/or parents' education) found to be correlated with the outcome variable. For the supplemental model, the five BPD dimensions were regressed on the same set of variables. All

models controlled for correlations among endogenous and exogenous variables respectively.

To assess model fit, the comparative fit index (CFI), the Tucker-Lewis index (TLI), the root mean square error of approximation (RMSEA) and the standardized root square mean residual (SRMR) were examined. A value of 0.08 or less for the SRMR and of 0.06 or less for the RMSEA are considered an adequate fit, while a value of 0.90 and above for the CFI and TLI are considered an adequate fit [48, 49].

Results

Preliminary Analyses

Means, standard deviations, actual and theoretical ranges as well as the number of participants that have provided data for each continuous variable are presented in Table 1. Bivariate correlations between all variables are shown in Table 2. As regards to the links between the three detrimental parenting practices and BPD features, all detrimental parenting indicators (maternal, paternal, averaged) were significantly and positively correlated to global BPD and its features.

Regarding potential covariates, no significant correlation was found between participants' age and any of the variables of interest. Age was thus not included in further analyses. In contrast, gender was associated with BPD; being a girl was associated with higher scores on the global BPD subscale, as well as with the emotional dysregulation, relational instability and identity disturbances subscales.

Parental education was correlated with many of the variables of interest. Lower parental education was associated with higher global BPD scores, as well as related greater impulsivity, identity disturbances and hypervigilance. Parents with less education were also reported to use more detrimental parenting practices in general, as all three detrimental dimensions, both for mothers and fathers, were negatively correlated with this variable.

Principal Analyses

Using path analysis, adolescents' global BPD scores were regressed on parents' controlling, rejecting and chaotic practices. Adolescent gender and mean parental education, which were significantly correlated with adolescent global BPD, were also included in the model. Tested paths and standardized coefficients are presented in Fig. 1. These coefficients indicated that parents' controlling, rejecting and chaotic practices were significantly, and independently, associated with higher global BPD scores. Being a girl was also found to be a statistically significant predictor for global BPD scores, whereas the association with parental education was not significant when other predictors were included in

Table 1 Descriptive statistics of dimensional variables

	<i>n</i>	<i>M</i>	<i>SD</i>	Range		
				Theoretical	Actual	Skew
Age	270	15.30	0.97	–	14–19	0.33
Parental education						
Mothers	230	3.54	1.26	0–5	0.00–5.00	– 1.18
Fathers	230	3.58	1.37	0–5	0.00–5.00	– 1.07
Both parents (mean)	224	3.50	1.42	0–5	0.00–5.00	– 0.99
Controlling parenting						
Mothers	242	2.17	1.46	0–6	0.00–6.00	0.62
Fathers	207	1.98	1.41	0–6	0.00–6.00	0.61
Both parents (mean)	244	2.08	1.31	0–6	0.00–6.00	0.63
Rejecting parenting						
Mothers	242	0.79	0.72	0–3	0.00–3.00	0.39
Fathers	207	0.83	0.74	0–3	0.00–3.00	0.89
Both parents (mean)	244	0.80	0.65	0–3	0.00–3.00	0.80
Chaotic Parenting						
Mothers	242	1.17	0.90	0–3	0.00–3.00	0.42
Fathers	207	0.98	0.75	0–3	0.00–3.00	0.64
Both parents (mean)	244	1.08	0.74	0–3	0.00–3.00	0.41
Global BPD	269	1.30	0.42	0–3	0.39–2.37	0.15
BPD dimensions						
Emotional dysregulation	269	1.31	0.65	0–3	0.00–3.00	0.09
Impulsivity	269	0.94	0.56	0–3	0.00–2.50	0.54
Relational instability	269	1.16	0.56	0–3	0.00–3.00	0.48
Identity disturbances	269	1.58	0.63	0–3	0.17–3.00	0.00
Hypervigilance	269	1.52	0.48	0–3	0.38–2.88	0.20

the model. Because all possible paths are estimated, this model was just-identified and no model fit is provided. In total, this model explained 27.7% of the variance in global BPD ($p < 0.001$).

Supplemental Analyses

All five measured BPD dimensions (emotional dysregulation, impulsivity, relational instability, identity disturbances, hypervigilance) were regressed on mean scores of controlling, rejecting and chaotic parenting. Adolescents' gender and mean parental education were included in the tested model. Tested paths and standardized coefficients for this model are presented in Fig. 2. Results show that controlling parenting was linked with higher impulsivity and hypervigilance, whereas rejecting parenting was significantly associated with more relational instability, as well as marginally associated with more identity disturbances. Chaotic parenting was linked with higher emotional dysregulation and higher impulsivity. While parental education did not show any significant association with BPD scores, being a girl was associated with higher emotional dysregulation, relational instability and identity disturbances. Again, all possible paths were estimated such that no model fit could

be calculated. The model explained 19.5% of the variance for emotional dysregulation ($p < 0.001$), 20.8% for impulsivity ($p < 0.001$), 14.1% for relational instability ($p < 0.001$), 18.1% for identity disturbances ($p < 0.001$), and 8.6% for hypervigilance ($p < 0.01$).

Discussion

Parenting and Global BPD

The main objective of the present study was to better understand how various specific parenting practices relate to adolescents' BPD features by using an integrative and empirically-supported parenting framework. In our sample, the extent to which adolescents perceived their parents to be controlling, rejecting and chaotic was associated with global BPD, which is consistent with previous research findings on the associations between individual detrimental parenting practices and BPD [27]. Our study also adds to previous research by uncovering the unique and additive contribution of each of the three detrimental parenting dimensions, over and above the BPD variance explained by gender. In addition, our results suggest that none of the measured parenting

Table 2 Correlations between detrimental parenting practices, other putative risk factors and BPD features

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Adolescent gender ^a	-	.06	.06	-.12	-.17*	-.15*	-.10	-.10	-.11	-.02	.00	.00	.15*	.12*	-.08	.16*	.26*	.06
2. Age		-	-.12	-.06	-.02	-.04	-.07	-.01	-.07	.03	-.08	-.05	-.07	-.04	-.11	-.04	-.06	-.02
3. Parental education (P)			-	-.16*	-.20*	-.19*	-.27*	-.35*	-.34*	-.23*	-.24*	-.25*	-.15*	-.11	-.13*	-.08	-.13*	-.08
4. Controlling parenting (M)				-	.63*	.92*	.69*	.50*	.65*	.64*	.43*	.61*	.43*	.31*	.41*	.30*	.27*	.29*
5. Controlling parenting (F)					-	.90*	.51*	.66*	.66*	.46*	.61*	.60*	.33*	.23*	.35*	.21*	.22*	.21*
6. Controlling parenting (P)						-	.64*	.64*	.69*	.60*	.57*	.65*	.42*	.32*	.42*	.28*	.26*	.28*
7. Rejecting parenting (M)							-	.57*	.90*	.61*	.42*	.57*	.40*	.29*	.38*	.31*	.25*	.24*
8. Rejecting parenting (F)								-	.90*	.42*	.63*	.59*	.37*	.26*	.31*	.28*	.27*	.25*
9. Rejecting parenting (P)									-	.57*	.59*	.63*	.42*	.31*	.38*	.31*	.28*	.26*
10. Chaotic parenting (M)										-	.52*	.91*	.44*	.41*	.40*	.29*	.28*	.20*
11. Chaotic parenting (F)											-	.85*	.37*	.29*	.33*	.29*	.26*	.16*
12. Chaotic parenting (P)												-	.46*	.42*	.43*	.31*	.30*	.21*
13. BPD global score													-	.84*	.66*	.76*	.80*	.56*
14. Emotional dysregulation														-	.48*	.53*	.61*	.37*
15. Impulsivity															-	.33*	.37*	.19*
16. Relational instability																-	.57*	.33*
17. Identity disturbances																	-	.29*
18. Hypervigilance																		-

P mean of both parents' score, M mothers, F fathers

* $p < .05$

^a 0 = male, 1 = female

Fig. 1 Pathways between parents' detrimental parenting and adolescents' global BPD, controlling for gender and parental education. Numbers represent standardized path coefficients. The dash qualities of lines depict non-significant pathways. Detrimental parenting practices and parental education are mothers' and fathers' computed mean scores. * $p < .05$. a 0 = male; 1 = female

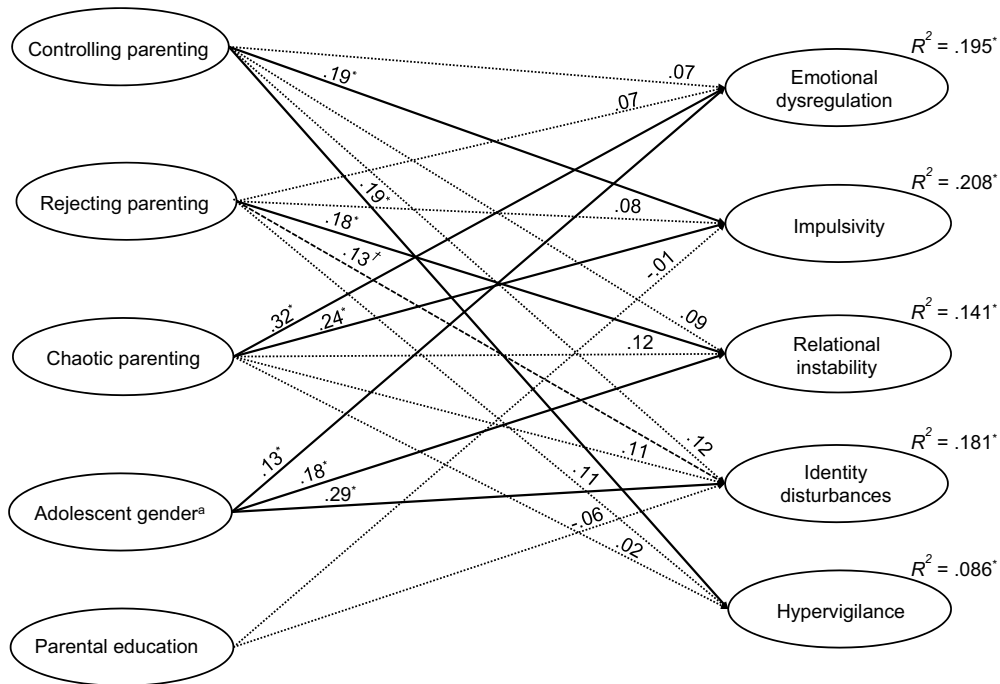
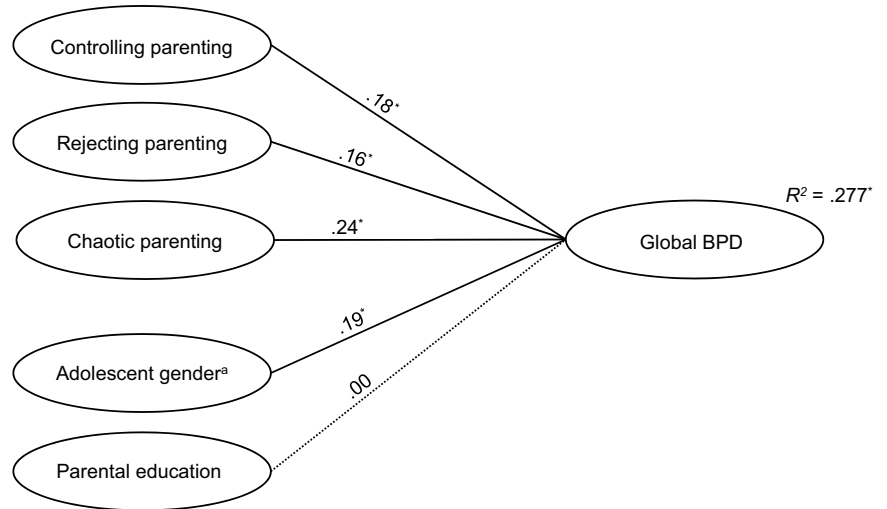


Fig. 2 Pathways between parents' detrimental parenting and adolescents' BPD features, controlling for gender and parental education. Numbers represent standardized path coefficients. The dash qualities

of lines depict non-significant pathways. Detrimental parenting practices and parental education are mothers' and fathers' computed mean scores. † $p < .10$; * $p < .05$. a 0 = male; 1 = female

practices are less important than the others, as the magnitude of all path coefficients was similar (i.e. ranging from 0.16 to 0.24).

Parenting and BPD Dimensions

Our supplemental goal was to explore how the three components of detrimental parenting were associated with specific BPD features in adolescents. After finding all three parenting dimensions to be significantly related to the global BPD

measure, we found that each seems to contribute to different BPD features.

Chaotic Parenting Practices

Chaotic parenting was associated with higher emotional dysregulation and higher impulsivity. These associations are somewhat surprising, since most previous research on parenting and BPD has mainly focused on the role of rejecting and/or controlling practices [30, 39]. However, our findings

are consistent with other research outside the field of BPD. For instance, chaotic parenting has previously been associated with greater emotional dysregulation [50, 51]. Considering that the parent–child relationship is the first context in which children learn to regulate their emotions, chaotic parental behavior may contribute to dysregulation in a number of ways. For instance, when parents behave in a chaotic manner, they may tend to evoke children’s frustration, confusion or sadness, thereby increasing the level of negative emotions children experience, making it more difficult to develop healthy emotional regulation skills. It may also be that more chaotic parents don’t consider their children’s need for regulation and thus rarely put them in a context where they can develop these skills, or that such parents are unable to adequately support their child in this learning process. On the contrary, when parents label emotions, discuss their importance, as well as model adequate emotional expression and regulation, it fosters the development of efficient emotional regulation skills [52, 53].

Regarding impulsivity, there is a plethora of studies out of the BPD field linking chaotic parenting practices to impulsivity-related disorders, such as deliberate self-harm [54], substance use [55], inattention and hyperactivity [56], externalizing problems [57], disruptive behavior [58] and conduct disorder symptoms [59]. Since children learn to regulate their behaviors according to the responses of important people in their lives, children have no way of knowing whether they are behaving appropriately or not if their parents’ feedback and responses are unpredictable or non-contingent [60]. Moreover, aggressive or non-compliant behavior could also be an attempt to attract an uninvolved or unpredictable parent’s attention [61].

In sum, whereas chaotic parenting has rarely been investigated as a precursor of BPD, our study suggests that it is linked to two regulatory (emotional and behavioral) dimensions of BPD. These results are particularly important since emotional dysregulation and impulsivity are often seen as two of the most central dimensions of the disorder [21]. Although these findings do need to be replicated, ideally in a longitudinal design, we recommend integrating a chaotic parenting measure in future studies, since it seems to play a more important role in BPD’s etiology than what has been previously suggested.

Controlling Parenting Practices

Controlling parenting practices were also found to be significant predictors of two BPD features, namely impulsivity and hypervigilance. Although previous research findings revealed associations between different forms of controlling parenting and global BPD [15], none of them had investigated the association with specific BPD features. Once

again, our results are in line with research pertaining to other forms of psychopathology.

Regarding impulsivity, numerous studies have found controlling parenting practices to be linked with externalizing behaviors in general [62], as well as with other more specific impulsivity-related behaviors such as physical aggression [63], conduct problems [64], delinquency [65] and antisocial behavior [66]. Our study also suggests that controlling parenting is significantly associated with a hypervigilant, hostile and paranoid view of interpersonal relationships. Although the influence of parent–child relationships on the quality of subsequent relationships is commonly accepted and at the core of many theories, such as attachment theory [67], there is only scarce empirical evidence regarding the role of controlling parenting as an antecedent of hypervigilance or lower social trust. Only one study has, to our knowledge, found a form of controlling parenting (i.e., overprotection) to be linked with diminished social trust [68]. Our findings therefore contribute to support a largely accepted theoretical idea, underlining the role of controlling parenting as a risk factor for the development of relational trust.

Rejecting Parenting Practices

In contrast, the commonly accepted association between warm and accepting parenting and subsequent relationship satisfaction has been well documented [69]. Thus, our findings linking rejecting parenting practices and the BPD dimension of relational instability are consistent with this line of research. Adolescents who perceive their parents as rejecting may tend to recreate previously learned interactional patterns and find themselves in similarly disappointing and unstable relationships [70].

Though marginal, a positive link between parental rejection and identity disturbances was found in our study. This result is consistent with previous research reporting positive association between warm and supportive parenting and positive identity development during adolescence [71]. Connectedness and security feelings within the parent–child relationship are thought to set the ground for the exploration and experimentation of identity options that promote identity development [72].

Strengths, Limitations, and Future Directions

One of the salient strengths of this study is the use of integrative, theoretically and empirically grounded frameworks for all of its constructs (parenting and BPD), which fostered breadth and nuances in its measures. Regarding parenting, information was provided about all three components, both mothers and fathers, which has led us to uncover the unique importance of all three parenting practices in relation to BPD during adolescence. In regards to BPD, measuring all

of its different components with Geiger and Crick's model [12] and using the more valid, dimensional approach [17, 73] also proved to be useful. Measuring these dimensions separately has permitted us to examine associations between specific parenting behaviors and specific BPD features, which can be useful for screening and for crafting prevention or intervention programs for families. Moreover, since the dimensions relative to BPD in Geiger and Crick's conceptualization [12] are sometimes part of other PDs (e.g. narcissistic, antisocial), our findings could also contribute to research in these fields.

Our study also has a number of limitations that need to be considered when interpreting results. First, all measures were provided by adolescents, which increases the risk of observing illusory correlations which might emerge when using self-report measures from the same respondent for both the predictor and criterion variables (i.e., common method variance) [74]. The use of parental questionnaires would have limited the possible impact of adolescents' bias while reporting on their parent's practices. Unfortunately, we failed to recruit enough of our participants' parents to examine the proposed models using a multiple informant approach, which might be particularly important to implement in future studies in the field, for adolescents with BPD features may be more likely to have distorted negative perceptions of significant others, such as their parental figures [75]. Observations of parenting behaviors rated by independent coders would constitute a more objective measure of parenting practices.

Another main methodological limit of our study is its cross-sectional design. Our findings should be replicated in prospective, longitudinal studies. Such research designs could not only examine whether detrimental parenting represent potential risk factors for BPD, but also test bidirectional effects between parenting and adolescent difficult personality, such as those observed by Stepp and colleagues [76]. Furthermore, as it wouldn't have been ethical to collect data about trauma through an anonymous questionnaire, this important putative risk factor for BPD wasn't taken into account in our model but should be included in future studies using a different research method.

Altogether, such investigations of BPD during adolescence are essential to better identify at-risk families and to guide the elaboration of prevention and early intervention programs, in hopes of preventing the development of this severe disorder in early adulthood and/or treating it in childhood before symptoms are entrenched. Our results suggest that all three parenting dimensions examined in this study are related to the presence of BPD features in adolescence and should therefore be taken into account when helping families of young ones at risk for BPD, as well as for other disorders who share common dimensions with BPD. The links found between parental practices and specific BPD

dimensions could also inform interventions, that is considering these results can be replicated prospectively in other studies. Although a number of resources and support programs are available for the loved ones of adult BPD probands (e.g. The Family Connections Program; [77]), little is known about the way parents can support an adolescent suffering from BPD. Even if the direction of the association between parenting and BPD remains unclear and should be investigated in future studies, it seems important to support parents and teach them helpful parental practices, as well as accompany especially those whose adolescents show early signs of BPD, to help them develop both personal and parental skills likely to attenuate their offspring's difficulties.

Summary

There has been a recent increase in research investigating the role of early environment on the emergence of symptomatic features of borderline personality disorders (BPD) in childhood and adolescence. The goal of the present study was to investigate the association between detrimental parenting practices (i.e., controlling, rejecting and chaotic practices) and the presence of BPD features within a non-clinical sample of adolescents. Participants assessed their own BPD features and both of their parents' parenting practices. The present findings suggest that the extent to which adolescents perceived their parents to be controlling, rejecting and chaotic was associated with a measure of global BPD features. Supplemental analyses revealed that all three parenting dimensions were related to the presence of specific BPD features. Chaotic parenting was associated with emotional dysregulation and impulsivity; rejecting parenting with relational instability and marginally with identity disturbances; and controlling parenting with impulsivity and hypervigilance. Even if these findings should be replicated in prospective, longitudinal studies, they further our understanding of the association between parenting practices and BPD features in adolescence and could serve to inform prevention and intervention programs.

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Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in this study involving human participants were in accordance with the ethical standards of

the institutional research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained for all the adolescents who participated in the study.

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