

Borderline Personality Features and Basic Psychological Needs during Adolescence

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Abstract

Objectives: Anchored in self-determination theory, this study investigates the associations between borderline personality disorder (BPD) features and basic psychological need frustration (BPNF) in adolescents.

Methods: Participants ($N = 270$; M age = 15.3) assessed their own BPD features and BPNF through an online questionnaire.

Results: Regression analyses revealed that frustrations of relatedness, autonomy, and competence were jointly and uniquely associated with more BPD features in adolescents, controlling for their gender and parents' education.

Implications: These results suggest the importance of taking BPNF into account to better understand the early signs of BPD among adolescents.

Keywords: Borderline personality features, basic psychological needs, adolescence, self-determination theory, developmental psychopathology.

Introduction

Borderline personality disorder (BPD), characterized by instability in emotional regulation, impulse control, interpersonal relationships, and self-image, is a severe and pervasive mental disorder with a lifetime prevalence estimated between 1.6 and 5.9% in the general population (APA, 2013). The Diagnostic Statistical Manual (e.g., DSM-V; APA, 2013) defines BPD as a disorder emerging only in early adulthood, excluding diagnoses among patients under the age of 18. Indeed, many clinicians and researchers are reluctant to acknowledge and diagnose BPD among youth, as this condition is often considered to only affect adults, despite the consensus on the disorder taking its roots in early negative life experiences (Fonagy et al., 2015; Winsper et al., 2016). Consequently, most of the research examining the etiology of BPD has been conducted retrospectively, that is among diagnosed adult patients who reminisce on their adverse childhood experiences (e.g., Chanen et al., 2012; Lyons-Ruth et al., 2013). However, many authors have highlighted the importance of studying normative samples early in life, before the emergence of full-blown symptoms, to further our understanding of early risk factors and processes contributing to psychopathology (Belsky et al., 2012; Chanen et al., 2012). As for BPD, research does provide empirical and clinical support for the validity, reliability, and clinical relevance of studying early symptomatic features of the disorder in youth (Fonagy et al., 2015; Winsper et al., 2016). Indeed, such studies could ultimately help prevent the crystallization of psychopathology, reduce negative impacts, and ultimately inform treatments for children and adolescents (Chanen & McCutcheon, 2013).

Many critics of the traditional DSM-5 model for diagnosing personality disorders agree that there is a high degree of comorbidity between disorders. This has led to the development of new models emerging in DSM-5 Section III (AMPD) and the ICD-11 that provide a *dimensional* view of the classification of borderline personality disorder that differs from the traditional categorical approach (Zimmermann et al., 2019) and focuses on the degree of severity (Sharp et al., 2021). Though additional studies are needed to demonstrate that these models are appropriate for assessing emerging personality disorders in adolescence (Sharp et al., 2021), they concur with the developmental psychopathology perspective which considers that normality and psychopathology should be seen as both ends of a continuum (Hinshaw, 2013).

Self-determination theory (SDT; Deci & Ryan, 2000; Ryan & Deci, 2017), an empirically grounded theory of motivation and personality, provides an interesting framework to better understand early BPD features. SDT proposes that individual differences in psychological (mal)adjustment can be explained by the satisfaction and frustration of three basic psychological needs (BPN), namely autonomy, relatedness, and competence (Ryan, 2005; Ryan & Deci, 2000; Ryan et al., 2016). Autonomy refers to the sense that one's actions are fully endorsed, without any internal (i.e., obsession) or external (i.e., coercion) pressures and are congruent with one's values, needs, and emotions. When the need for autonomy is met, individuals feel at the origin of their actions (i.e., self-determined; Ryan et al., 2006). Relatedness is the experience of reciprocal, meaningful, caring, and deep connection with significant others, as well as feeling appreciated and important to others. Finally, competence refers to the sense of feeling capable and efficacious when interacting with one's environment and pursuing desired outcomes (Deci & Ryan, 2000; Ryan et al., 2006; Vansteenkiste & Ryan, 2013).

It has been suggested in SDT writings that frustration (rather than poor satisfaction) of BPN would be more strongly associated with psychopathology, while BPN satisfaction would relate more closely to positive outcomes, such as life satisfaction and vitality (Ryan et al., 2016; Vansteenkiste & Ryan, 2013), as well as healthier identity formation (Luyckx et al., 2009). Recent studies have assessed BPN satisfaction and frustration separately and supported this premise (Bradshaw et al., 2024; Chen et al., 2015; Costa et al., 2016). More specifically, thwarted BPN has been linked to various forms of psychological maladjustment, such as diminished life satisfaction and vitality (Cordeiro et al., 2015), low self-esteem (Noom et al., 1999), decreased well-being (Benita et al., 2020), and internalized symptoms (Chen et al., 2015; Cordeiro et al., 2015). BPN frustration (BPNF) has also been associated with a variety of externalized problems, such as suicidal ideation and risk (Britton et al., 2014), disrupted eating behaviors (Schüler & Kuster, 2011), and aggressive behaviors (Kuzucu & Şimşek, 2013).

SDT has recently been used to explore precursors and maintaining factors of borderline personality features and related psychopathologies. For example, a recent study revealed that the frustration of BPN could serve as a mediator in the association between emotional dysregulation and BPD features in early adulthood (van der Kaap-Deeder et al., 2021). Prominent figures in SDT have also proposed that BPD would result from chronic frustration of BPN, particularly thwarted autonomy and relatedness (Ryan, 2005; Ryan et al., 2016). The present study's goal was,

therefore, to investigate, within a non-clinical sample of adolescents, the associations between their BPD features and the frustration of each of their BPN.

Given the present study's sample, we adopted a dimensional conceptualization of BPD, as such assessments are considered more valid and reliable than categorical ones, in addition to allowing the detection of subthreshold symptoms among normative samples (Geiger & Crick, 2010; Zimmerman et al., 2013). Derived from a content analysis of all DSM-IV-TR criteria for each personality disorder, Geiger and Crick's dimensional conceptualization (2010) includes seven dimensions that, when combined, can be used to define and assess all personality disorders (see, Michonski, 2014; Morey, 2007; Trull et al., 2010, for other conceptualizations). In Geiger and Crick's model (2010), BPD is characterized by: (1) emotional dysregulation, (2) impulsivity, (3) relational instability, (4) identity disturbances, and (5) hypervigilant/hostile and paranoid worldview. We adopted this conceptualization, providing a parsimonious set of specific dimensions to assess BPD. These dimensions may be assessed by the Personality Assessment Inventory (PAI; Morey, 2007), a validated and well-established self-reported questionnaire used in research and clinical settings to assess mental disorders, such as BPD.

Method

Participants

The sample consists of 270 adolescents (158 girls, 110 boys, and 2 unspecified), aged between 14 and 19 years ($M = 15.3$, $SD = 0.97$). The majority of participants were born in Canada (67.7%) and lived with both of their parents (77.5%) or in shared custody (8.9%). Participants were well distributed across school levels (29.3% in grade 9; 36.3% in grade 10; and 34.1% in grade 11).

Recruitment and Procedure

Recruitment took place mainly at two private high schools in the greater Montreal area. The study was presented to students from Grade 9 to 11 either by email, in person at their school, or by word-of-mouth from previous participants (5.9% of the sample). The students interested in participating in the study received an email with a link to an online questionnaire which students completed after providing their informed consent. Participants received a \$10 (CND) iTunes gift card for their participation. All procedures performed in this study involving human participants were per the ethical standards of the institutional research committee.

Measures

BPD Features. BPD features were measured with subscales of the French version of the PAI (Morey, 2007; Routhier et al., 2014). The PAI is a self-report questionnaire used in research and clinical settings to assess mental disorders, including BPD, among adults. The original version has been used in studies assessing BPD and was found to have good psychometric properties for this construct (Jacobo et al., 2007). Four 6-item subscales were used: emotional dysregulation (e.g., "My mood can shift quite suddenly"); impulsivity (e.g., "I sometimes do things so impulsively that I get into trouble"); relational instability (e.g., "My relationships have been stormy"); and identity disturbances (e.g., "My attitude about myself changes a lot"). Given that Geiger and Crick's model (2010) includes a fifth dimension of BPD, we also used the PAI's hypervigilance subscale (8 items; e.g., "Most of the people I know can be trusted"; reversed), tapping hostile and paranoid world views within interpersonal relationships. All items were scored on a four-point Likert-type scale ranging from 0 (false, not true at all) to 3 (very true). Each subscale score was computed by averaging the mean of its items and a global BPD score was computed by averaging the mean of these five PAI subscale scores ($\alpha = .86$).

Basic Psychological Need Frustration (BPNF). The frustration of adolescents' BPN was measured with the frustration subscales of the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS; Chen et al., 2015). This questionnaire has been shown to have good psychometric properties when assessing the satisfaction and frustration of BPN in older adolescents and young adults of diverse ethnic backgrounds (Chen et al., 2015). The French version was obtained by reversed parallel translation (Vallerand, 1989) and was found to have good psychometric properties among our sample of adolescents for all subscales (4 items each), namely frustration of autonomy ($\alpha = .85$; e.g., "I feel forced to do many things I wouldn't choose to do"), frustration of relatedness ($\alpha = .86$; e.g., "I feel that people who are important to me are cold and distant towards me"), and frustration of competence ($\alpha = .85$; e.g., "I feel disappointed with many of my performances").

Covariates. Some individual and sociodemographic characteristics have been identified as possible risk factors for BPD (Arens et al., 2013; Silberschmidt et al., 2015). Therefore, adolescents were asked to provide information about themselves (i.e., gender and age) and their parents (i.e., the highest level of education completed by their mother and father, averaged to compute a proxy of familial socioeconomic status; SES).

Results

Preliminary Analyses

Means, standard deviations, theoretical, and actual ranges of each variable are presented in Table 1 and bivariate correlations between all variables can be found in Table 2. The frustration of all three BPN were positively and significantly correlated to all BPD features as well as the global BPD score. Regarding potential covariates, no significant correlation was found between participants' age and any of the variables of interest. In contrast, identifying as a girl was associated with higher global BPD features whereas parental education was negatively correlated with it. Therefore, parental education and participants' gender were included as covariates in subsequent analyses.

Table 1. Descriptive Statistics

Variables	n	M	SD	Intervals	
				Theoretical	Observed
Age	270	15.3	0.97	-	14-19
Autonomy frustration	241	1.77	1.09	0-4	0.0-4.0
Competence frustration	240	1.63	1.10	0-4	0.0-4.0
Relatedness frustration	240	1.08	1.03	0-4	0.0-4.0
Emotional dysregulation	264	1.30	0.65	0-3	0.0-3.0
Identity disturbances	269	1.58	0.63	0-3	0.0-1.7
Impulsivity	269	0.94	0.56	0-3	0.0-2.5
Relational instability	269	1.16	0.56	0-3	0.0-3.0
Paranoia	269	1.52	0.47	0-3	0.4-2.9
Total BPD features	269	1.30	0.42	0-3	0.4-2.4
Parental education	224	3.54	1.26	0-5	0.0-5.0
	<i>n</i>	<i>%</i>			
Gender					
Male	110	40.7			
Female	158	58.5			

Note. BPD = borderline personality disorder.

Table 2. Bivariate Correlations

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender	—											
2. Age	0.06	—										
3. Parental education	0.07	-0.11	—									
4. Autonomy frustration	-0.01	-0.04	-0.17**	—								
5. Competence frustration	0.01	0.07	-0.28**	0.41**	—							
6. Relatedness frustration	0.06	-0.06	-0.19**	0.33*	0.43**	—						
7. Emotional dysregulation	0.12*	-0.04	-0.13	0.33**	0.42**	0.33**	—					
8. Identity disturbances	0.26**	-0.06	-0.17*	0.45**	0.55**	0.37**	0.61**	—				
9. Impulsivity	-0.08	-0.11	-0.15*	0.36**	0.31**	0.27**	0.48**	0.37**	—			
10. Relational instability	0.16*	-0.04	-0.11	0.30**	0.42**	0.49**	0.53**	0.57**	0.33**	—		
11. Paranoia	0.06	-0.02	-0.08	0.19**	0.22**	0.28**	0.37**	0.29**	0.19**	0.33**	—	
12. Total BPD features	0.15*	-0.07	-0.17**	0.45**	0.54**	0.47**	0.84**	0.80**	0.66**	0.76**	0.56**	—

Note. n = 222-268. Gender: 0 = male 1 = female. BPD = borderline personality disorder. *p < .05, ** p < .001.

An average of 12.5% (Range: 10.7 - 17.0%) of the data were missing, for the three measures of BPNF and parental education. It should be noted that 63% of participants who did not report on their parents' level of education also did not report on their level of BPNF. This is not uncommon in research involving teenagers, as they may show varying levels of engagement leading to incomplete responses. According to Ballard et al. (2022), youth are more likely to skip items, compared to other age groups. A Missing Completely at Random (MCAR) test was computed and indicated that the data could be missing completely at random, $\chi^2(4) = 1.87$ $p = 0.76$. Following recommendations for best practices regarding missing data, multiple imputation was used using an expectation maximization (EM)

algorithm, with 20 iterations (Enders, 2010). Multiple imputation provides stable and reliable estimates even when as much as 50% of the data are missing (Graham, 2009).

Primary Analyses

A multiple linear regression model was conducted using the imputed dataset to determine the extent to which the frustration of each BPN was related to adolescents' global BPD score, after controlling for adolescents' gender and their parents' education. All premises necessary for this analysis were met. Results suggest that together, the five variables included in the model explain 36.4% of the variance in adolescents' global BPD features ($R = .63$, $F(5, 216) = 28.70$, $p < 0.001$; $R^2 = .364$). Frustration of the need for autonomy proved to be positively and significantly related to the global BPD score ($\beta = .212$, $p < 0.001$), as did the frustration of the need for competence ($\beta = .322$, $p < 0.001$) and relatedness ($\beta = .212$, $p < 0.001$), while controlling for gender ($\beta = .098$, $p = 0.078$) and parental education ($\beta = .007$, $p = 0.899$). Identifying as a girl was only marginally associated with more BPD features in this model, uniquely explaining only 0.9% of BPD variance. In contrast, above and beyond the 21% of the shared variance, competence frustration uniquely explained 7.3% of the variance in BPD features, and the frustration of the needs for relatedness and autonomy each uniquely explained an additional 3.6% of its variance.

Discussion

The objective of the present study was to examine the associations between adolescents' BPD features and the frustration of their need for autonomy, competence, and relatedness. To date, although several studies have reported associations between lower satisfaction of basic psychological needs (BPN) and many signs of ill-being, little research has been conducted on the frustration of these BPN and adolescents' psychological functioning. In the few studies that examined these links, the vast majority used a global BPNF score (Cordeiro et al., 2015; van der Kaap-Deeder et al., 2021), conflating the contribution of each need.

The present study allowed us to examine the unique contribution of each frustrated need, empirically testing one of SDT's postulates, linking BPD features with the frustration of all three psychological needs (Ryan & Deci, 2017; Ryan et al., 2006). In our sample, the frustration of autonomy, competence, and relatedness were all related to higher global BPD scores, even after controlling for parental education and gender. Our findings thus support the proposition that thwarted autonomy and relatedness could be risk factors (Ryan, 2005), but also suggest that the role of competence might have been previously underestimated. Indeed, the present results suggest that feeling unable to deal efficiently with the demands of one's environment should also be considered a potentially important risk factor for BPD, along with feeling disconnected from others and controlled (Soenens et al., 2017).

We focused on the frustration of BPN because our dependent variable was a maladaptive outcome, but also including the extent to which BPN are satisfied would be valuable in future studies with enough statistical power. Although SDT's dual process model in parenting highlights that need-thwarting contexts are more strongly related to maladaptive outcomes than need-supportive ones, both types of contexts are significantly associated with problems (see meta-analysis; Bradshaw et al., 2024).

Focusing on BPD features does not inform us about associations with other psychological problems or with the likelihood of developing a BPD. However, these findings are consistent with previous studies that simultaneously entered all three individual needs in the same model. Indeed, Verstuyf et al. (2013) found that all three BPNF were associated with daily binge eating symptoms in women, and Emery et al. (2016) revealed that the poor satisfaction of the need for competence was most strongly associated with non-suicidal self-injury, out of the three BPN. Focusing on BPD features among adolescents was innovative, as they are relatively still understudied yet meaningful. Indeed, these features are conceptually related to meaningful developmental processes, as they pertain to self-concept, emotional regulation, and interpersonal issues. Future research with larger and more representative samples could examine differential links between BPN and each of the BPD features' components. Including a broader range of psychological characteristics would also be valuable, to assess whether the present effects are specific to BPD or applicable across other psychological problems.

The present study has some limitations that must be considered when interpreting its results. First, because of its cross-sectional design, the direction of its observed associations cannot be determined. Based on SDT, we examined BPNF as independent variables and we can interpret the results as suggesting that BPD features in adolescence can partially be due to impaired social relationships (e.g., feeling rejected by friends), feeling controlled or

coerced (either externally or internally), as well as feeling ineffective when interacting with one's environment and unable to reach one's goals. Some studies portray BPD symptoms, such as emotional dysregulation and impulsivity, as ways for adolescents to compensate for their frustrated BPN (Ryan et al., 2016; Vansteenkiste & Ryan, 2013) or as resulting from depleted energy due to BPNF (Moller et al., 2006).

Alternatively, BPNF could result from BPD features. For instance, it has been argued that emotional dysregulation could make adolescents more vulnerable to maintaining chaotic relationships and feeling isolated, resulting in the frustration of the needs for relatedness, competence, and autonomy (Brenning et al., 2022). The likely bidirectionality of these associations should be investigated in future prospective, longitudinal studies.

Another significant limitation is that all measures were collected from single informants, which increases the risk of observing illusory correlations that might emerge when using self-report measures from the same respondent for both the predictor and criterion variables (i.e., common method variance; Podsakoff et al., 2003).

Recruited adolescents' parents were generally well-educated, which limits our findings' generalizability. However, BPN frustration has been associated with maladaptive outcomes in diverse samples, across varied SES contexts. For instance, BPN frustration was uniquely related to psychological maladjustment in a sample of Spanish adolescents, across SES groups (Rodríguez-Meirinhos, 2020). Furthermore, increased psychological distress was associated with greater BPN frustration in a sample of homeless young adults (Krabbenborg et al., 2017). Interestingly, a recent large-scale study conducted in 70 countries ($N > 500\,000$ students) showed that a need-supportive teaching style is positively associated with students' well-being and that this link is held across various political and economic contexts (King et al., 2024).

In conclusion, the present study provides new information within the emerging literature on BPNF and BPD features in showing associations between the frustration of all three SDT needs and BPD features in adolescence. Our findings thus supported the prior writings about the potential significance of relatedness and autonomy frustration in the development of BPD and uncovered the equally important need for competence when it comes to understanding BPD features in adolescence. Future research will determine if these associations hold using long-term longitudinal designs.

Implications

In this sample of adolescents, the frustration of each of their basic psychological needs was linked to higher BPD features, over and above gender. Though future longitudinal research will determine the direction of effects, integrating adolescents' needs for competence, relatedness, and autonomy could prove useful in prevention and intervention efforts. Transferring this knowledge to stakeholders could ultimately help prevent BPD features in adolescents, by recommending programs targeting BPN support to parents (e.g., the Parent Check-in; Grolnick et al., 2021; the How-to Parenting Program; Mageau et al., 2022), as well as offering BPN-informed training to teachers (e.g., Reeve et al., 2022). Indeed, fostering a communication style that supports rather than thwarts BPN during adolescence can serve as a protective resilience factor during this challenging developmental period.

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Conflict of interest

The authors have no conflict of interest to disclose.

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