Borderline personality organization and psychopathic traits in nonclinical adolescents: Relationships of identity diffusion, primitive defense mechanisms and reality testing with callousness and impulsivity traits

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Although psychotherapeutic observation and empirical data suggest a link between borderline and antisocial personality disorder or traits in adolescents, there is no study on the relationships of borderline personality organization (BPO) and psychopathic traits in adolescents. The aim of this study was to explore the relationship of structural criteria of (BPO) as assessed by the French version of the Borderline Personality Inventory (BPI), with psychopathic traits, as assessed by the French version of the Levenson Self–Report Psychopathy Scale (LSRP), in a nonclinical sample of 243 adolescents. Significant correlations were found between the BPI scales of identity diffusion, primitive defense mechanisms, impaired reality testing, and psychopathic traits of callousness and impulsivity, suggesting that BPO may contribute to psychopathic traits in nonforensic, nonclinical adolescents. (Bulletin of the Menninger Clinic, 70[2], 160-170)

According to Kernberg (1975, 1978), adult and adolescent patients with antisocial personality present an underlying borderline personality organization (BPO). Attachment theory also suggests an association between borderline personality disorder and antisocial behavior or even antisocial personality disorder (Fonagy, 1999, 2000; Fonagy et al., 1997). However, there is a lack of empirical studies relating the psychodynamic aspects of borderline personality disorder (BPD) and
antisocial features. Using the Borderline Personality Inventory (BPI; Leichsenring, 1999a) to assess a sample of incarcerated adults, Leichsenring, Kunst, and Hoyer (2003) found significant correlations between the structural criteria of BPO (identity diffusion, primitive defense mechanisms, and reality testing) and antisocial features as assessed with the Antisocial Personality Questionnaire (APQ; Blackburn & Fawcett, 1999).

To our knowledge, there is no empirical study of the relations between borderline personality symptoms or organization and psychopathic traits in clinical, forensic, or community samples of adolescents. However, borderline personality disorder or symptoms and antisocial personality or psychopathic traits are quite frequent in clinical and community samples of adolescents (e.g., Becker, Grilo, Edell, & McGlashan, 2000; Bernstein et al., 1993; Chabrol, Montovany, Chouicha, Callahan, & Mullet, 2001; Frick, Bodin, & Barry, 2000). Consistent with Kernberg’s assumption, Becker et al. (2000) found in hospitalized adolescents that 76% of adolescents with antisocial personality disorder had a comorbid BPD. However, the diagnostic criteria of DSM antisocial personality disorder are based only on antisocial behavior, to the exclusion of antisocial or psychopathic personality traits. Frances (1980) criticized that by application of the DSM criteria of the antisocial personality disorder, about 80% of all criminals would be classified as antisocial. Important clinical characteristics are lacking in DSM, such as the ability to be loyal toward others, to perceive guilt or signal anxiety, or to learn from past experiences. Criteria such as these are taken into account in Kernberg’s clinical description of antisocial personality.

The interest and validity of classic psychopathic traits (callousness, egocentricity, and manipulativeness) as described long ago by Cleckley (1941/1976) have been shown in recent studies conducted among forensic and nonforensic, nonclinical populations of adolescents. Antisocial youths with psychopathic traits have a greater number, variety, and severity of conduct problems in forensic, mental health, and community samples (e.g., Frick, Cornell, Barry, Bodin, & Dane, 2003; Lynam, 1997). The presence of psychopathic traits is predictive of the severity and stability of conduct problems in children (Frick, Stickle, Dandreaux, Farrell, & Kimonis, 2005). Consistent with research on adults, empirical studies have identified two moderately correlated dimensions in adolescent psychopathy, one dimension reflecting the core personality traits, the second dimension encompassing impulsivity and antisocial behavior (e.g., Lynam, 1997). The aim of this study is to assess the relationships between psychopathic traits and the structural criteria of BPO in a nonclinical sample of high-school students.
Method

Participants and recruitment
Data were obtained from students attending two randomly selected high schools in Toulouse, France. Nine classes were randomly drawn from these high schools. They constituted a sample of 243 participants (125 girls, 118 boys; mean age = 17 ± 1.8). Being free of charge, these public high schools were not selective on the basis of income and admitted adolescents with diverse socioeconomic status levels.

Procedure
The study procedures were approved by the principals of the selected high schools. Students were informed that participation was voluntary and signed a consent form. The questionnaires were administered in the classroom during classtime by a master’s level psychology student who presented the study as a research on personality and collected the questionnaires put in an envelope by the participant. No members of the school staff were present during the presentation of the study and the administration of the questionnaires. The questionnaires were anonymous and therefore students were assured that their responses were confidential. No compensation was offered. In these conditions, no students refused to participate in the study and all questionnaires were usable.

Measures
The dimensions of BPO were assessed using the French version of the BPI (Chabrol et al., 2004; Leichsenring, 1999a). The French version of the BPI had been developed using a translation/back translation procedure. The BPI is a 53–item self–report questionnaire based on Kernberg’s concept of borderline personality organization (Kernberg, 1981). It explores a broad range of phenomenological manifestations of borderline symptomatology, such as affectivity and identity disturbances, fear of closeness, interpersonal instability, self–mutilative/suicidal behavior, impulsive behavior, dissociative symptoms and psychotic symptoms. Applying a modification of the original true–false (yes/no) rating of the items (Leichsenring, 1999a), items were scored on a Likert scale with four levels of agreement ranging from “disagree strongly” to “agree strongly.” The BPI contains scales for assessing identity diffusion (e.g., “Sometimes I feel a sense of not being real”), primitive defense mechanisms (e.g., splitting, paranoid projection; “I often have the feeling that others laugh or talk about me”), and reality testing (e.g., “I have heard voices talking about me, when nobody was really there”).

The construction of the scales is based on factor analysis. Several studies have demonstrated the validity and the reliability of the scales.
Construct validity is pointed out by significant correlations between BPI scales and both indicators of primitive defense mechanisms (Leichsenring, 1999b, 1999c) and affects in borderline patients (Leichsenring & Sachsse, 2002). The reliability of the French version of the BPI in adolescents has been shown (Chabrol et al., 2004). The validation of the French version is under way: Currently, concurrent and discriminant validity have been suggested by a much higher correlation (Pearson $r = .88$) of the BPI total score with the scale measuring BPD symptoms drawn from the Personality Diagnostic Questionnaire (PDQ–4; Hyler, 1994) than with the PDQ–4 scale measuring narcissistic personality symptoms disorder ($r = .56$) or measures of depressive ($r = .51$) or anxious ($r = .39$) symptomatology (Center for Epidemiological Studies–Depression scale, Radloff, 1977; state version of the State–Trait Anxiety Inventory; Spielberger, Gorsuch, Lushene, 1970; Chabrol, 2006).

Psychopathic traits were assessed using the French translation of the Levenson Self–Report Psychopathy Scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995). The French version of the LSRP had been developed using a translation/back translation procedure. This study is part of the validation process of the LSRP in French samples. This 26–item self–report scale explores both dimensions of psychopathy, callousness (a callous, selfish, and manipulative use of others; e.g., “Looking out for myself is my top priority” and “I enjoy manipulating other people’s feelings”), and impulsivity and poor behavioral control (e.g., “I have been in a lot of shouting matches with other people” and “When I get frustrated, I often ‘let off steam’ by blowing my top”). Items are scored on a Likert scale with four levels of agreement ranging from “disagree strongly” to “agree strongly.” The scale was validated in samples of university students (Levenson et al., 1995; Lynam, Whiteside, & Jones, 1999). Exploratory and confirmatory factorial analyses found the hypothesized 2–factor structure. Predicted relations were observed between the two factors, antisocial behavior, trait anxiety, and the Big Five dimensions of personality. Lynam et al. (1999) considered the LSRP as a reliable and valid means of assessing psychopathy in noninstitutionalized populations.

**Statistical analyses**

Internal consistency of scales was determined by the Cronbach $\alpha$ coefficient and interitem correlation analyses. Coefficient $\alpha$ reflects the intercorrelation between items in a set. It varies between 0 and 1, increasing as the mean interitem correlation increases. But $\alpha$ also increases with the number of items in the scale. To facilitate comparison between item lists of different length, we also determined the mean
interitem correlation (MIC), which does not depend on the number of items. For a satisfactory level of homogeneity, coefficient $\alpha$ should be .70 or above (Cronbach, 1951) or MIC should be .20 or above (Briggs & Cheek, 1986).

Endorsement rates on the LRSP and BPI were compared using Fisher’s exact test. The correlations between scales were calculated using Pearson $r$ coefficient. The strength of the underlying relationships was measured with effect sizes. Effect size is a measure of clinical significance. The way the effect size is assessed depends on the type of statistical methods used in the study. This is reviewed by Cohen (1992), who presents standards for each type of statistical test. In correlational studies, a Pearson correlation coefficient of .10 is considered to reflect a small effect size, .30 a medium effect, and .50 a large effect (Cohen, 1992).

Results

Internal consistency

The $\alpha$ coefficients of the identity diffusion, primitive defense mechanisms, and reality testing scales were .83, .80, and .79, respectively, and the mean interitem correlations (MIC) were .31, .37, and .42, respectively, indicating a high internal consistency.

The Cronbach $\alpha$ coefficient and the MIC of the callousness dimension were .78 and .31, respectively, indicating a high internal consistency. The .54 $\alpha$ and the .18 MIC for impulsivity/poor behavioral control suggested marginal reliability. An item analysis was conducted. Three poorly fitting items were detected: “Before I do anything, I carefully consider the possible consequences”; “I don’t plan anything very far in advance”; and “I find that I am able to pursue one goal for a long time.” They all explored failure to plan ahead. These items were dropped because their deletion did not alter the assessment of poor behavioral control, which is the core feature of the second dimension of psychopathic traits. The coefficient $\alpha$ and MIC were recalculated: $\alpha$
was .62 and may be considered as acceptable for an 8–item scale; the MIC was .22, indicating acceptable internal consistency.

**Endorsement rates on the Borderline Personality Inventory (BPI) and the Levenson Self–Report Psychopathy Scale (LSRP)**

Endorsement rates on the BPI were relatively high: On the identity diffusion dimension, the percentages of participants responding agree strongly ranged from 9% (“Sometimes I feel that people and things around me are not real”) to 23% (“I often don’t know what I really want”). On the primitive defense mechanisms dimension, they ranged from 11% (“People often appear to me to be hostile”) to 17% (“My feelings towards other people quickly change into opposite extremes [e.g., from love and admiration to hate and disappointment]”). On the impaired reality testing dimension, they ranged from 5% (“I have the feeling that other people have injected their thoughts into my mind”) to 14% (“I have had the feeling that my thoughts were audible”). The mean endorsement rate (agree strongly) across all items was 13%.

Endorsement rates on the LSRP were also relatively high. On the callousness scale, the percentages of participants responding agree strongly ranged from 8% (“I tell other people what they want to hear so that they will do what I want them to do”) to 19% (“For me, what’s right is whatever I can get away with”). On the impulsivity/conduct problems scale, they ranged from 7% (“I quickly lose interest in the tasks I start”) to 43% (“I have been in a lot of shouting matches with other people”). The mean endorsement rate (agree strongly) across all items was 16%. This rate did not differed significantly from the mean endorsement rate of the BPI ($p = .34$).

Endorsement on the BPI and LSRP was sufficient to assume adequate representation of borderline and psychopathic attributes and to permit analyses and interpretation of the results.
Correlations between LSRP scores and BPI scales

Correlations were calculated separately for boys and girls. There were no significant differences in correlation coefficients between boys and girls. So correlations were calculated on the whole sample.

Callousness dimension and impulsivity/conduct problems dimension were moderately correlated \( r = .23, p < .01 \).

The correlation matrix for BPI scales is presented in Table 1. All BPI scales were positively and significantly related. According to Cohen (1992), the strength of the relationships was high.

The correlations between callousness and impulsivity/conduct problems dimensions and BPI scales are presented in Table 2. All correlations were positive and significant. According to Cohen, all the relations of the Callousness dimension with BPI scales were weak, whereas all the relations between the Impulsivity/conduct problems dimension ranged from moderate to high.

Discussion

This study was designed to explore the relationship of structural criteria of borderline personality organization (BPO), as assessed by the BPI, with psychopathic traits, as assessed by the LRSP, in a nonclinical sample of adolescents.

There are several limitations to our study. Antisocial behavior can be multidetermined in ways not addressed by this study at all. First, with the prominence of cultural variables resulting in violent and destructive behavior, a more specific description of cultural demographics of the student population being studied would have been more appropriate. Principals of high schools did not approve study procedures asking participants to give information on race, religion, or socioeconomic status. These areas were perceived as too sensitive. However, this contributed to the acceptability of the study. Second, there was no measure of other psychosocial risk factors for antisocial behavior, such as substance use.

Endorsement rates on both the BPI and the LRSP were relatively high. This result is consistent with previous studies showing high endorsement rates of borderline and psychopathic symptoms or traits in nonclinical samples of adolescents or young adults (e.g., Chabrol et al., 2004; Levenson et al., 1995; Lynam et al., 1999). The endorsement rate on the LRSP is compatible with the hypothesis that psychopathy is a dimension of personality (Levenson, 1992). The relatively high rate of endorsement on the BPI may be linked to the frequency of borderline personality disorder in adolescence (Bernstein et al., 1993; Chabrol et al., 2001). It may also reflect adolescent turmoil and the emergence of...
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Borderline symptoms, traits, or functioning in nonborderline adolescents. For Kernberg (1978), nonborderline neurotic conflicts in adolescents may activate primitive defense mechanisms. For Masterson (1972), borderline disorder lies in a developmental failure of separation-individuation (Mahler, Pine, & Bergman, 1975), and adolescence is a key period for the resurgence of conflicts around separation-individuation.

The intercorrelations of the BPI scales correspond to large effect sizes. This may reflect the contribution of primitive defense mechanisms to identity diffusion, which expresses splitting and impaired reality testing, which may reflect delusional projection. The intercorrelation of LSRP scales was weak, suggesting that the callousness and impulsivity dimensions were quite independent. This is in agreement with previous studies (e.g., Levenson et al., 1995).

The structural criteria of BPO showed significant correlations with psychopathic traits. These results support both Kernberg’s (1978, 1981) theory of personality organization, especially with regard to the overlap between BPO and antisocial features, and Fonagy’s (1999) assumption that “fractionation” (splitting) of mental representations (mentalization) is associated with antisocial behavior. According to Fonagy and collaborators, mentalization, defined as the capacity to understand others’ subjective experience, is rooted in secure attachment. Both borderline personality disorder and antisocial behavior are characterized by impaired mentalization and the adult and adolescent forms of insecure attachment (Allen, Stein, Fonagy, Fultz, & Target, 2005). Lack of mentalization and the failure to establish a sense of the other as a psychological entity is manifested in the psychopathic trait of callousness (Fonagy, 2003). Identity diffusion, impaired reality testing, and the use of primitive defense mechanisms, causing major distortion or misattribution of the image of self and others as assessed by the BPI, may be viewed as expressions of this lack of mentalization and appeared to be linked to callousness in this study, in agreement with Fonagy’s conceptualization.

The results are consistent with the study by Leichsenring et al. (2003), who found significant correlations between the BPI scales and antisocial features, as assessed by the APQ in incarcerated adult offenders. In the present study, the correlations of BPI scales were higher with impulsivity/behavioral problems than with callousness. This may reflect the lack of impulse control that is characteristic of BPO. The significant positive correlations between identity diffusion, primitive defense mechanisms, impaired reality testing, and callousness support Kernberg’s (1975, 1978, 1981) theory on the link between antisocial personality disorder and BPO. This result extends Kernberg’s assump-
tion to psychopathic traits, conceptualized as a dimension of personality.

Further studies should address the relation between BPO and psychopathic traits in adolescents in clinical and forensic samples. This study suggests the relevance of BPO in the understanding of antisocial features in nonforensic, nonclinical adolescents. Psychopathic traits (callousness, egocentricity, and manipulativeness) appeared to be linked to BPO, suggesting that they are not due to present social influences or experiences but express developmental issues. There is an intersection of normal adolescent development, borderline personality disorder, psychopathic traits, and antisocial behavior that is of interest both in making correct diagnoses and in structuring systems (other than the criminal justice system) to deal with antisocial behavior in adolescent populations.

References


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