Axis I and II Comorbidity and Psychosocial Functioning in Female Adolescents with Borderline Personality Disorder

Michael Kaess\*\d, Ina-Alexandra von Ceumern-Lindenstjerna\*\c, Peter Parzer\*  
Andrew Chanen\d, Christoph Mundt\b, Franz Resch\*  
Romuald Brunner\*  
\*Section for Disorders of Personality Development, Department of Child and Adolescent Psychiatry, and  
\bDepartment of General Psychiatry, Center of Psychosocial Medicine, University of Heidelberg, Heidelberg,  
\cCentral Institute of Mental Health, University of Heidelberg, Mannheim, Germany;  
dOrygen Youth Health, Melbourne, Vic., Australia

Key Words  
Borderline personality disorder · Axis I · Axis II ·  
Comorbidity · Psychosocial functioning · Adolescents

Abstract  
Background: Borderline personality disorder (BPD) is known to be associated with high rates of comorbidity and severe impairment of psychosocial functioning in adults. The aim of this study was to investigate Axis I and Axis II disorders, as well as psychosocial functioning, in a clinical sample of adolescents with BPD and to compare these with participants with mixed psychiatric diagnoses. Methods: Female adolescent patients were consecutively recruited from the child and adolescent psychiatry department of a university hospital. Axis I and Axis II diagnoses were assessed by experienced clinicians using well-established semistructured interviews, along with psychosocial functioning. Results: The final sample (87 participants) comprised 31 participants with a diagnosis of BPD and 56 participants with mixed psychiatric diagnoses. The most common comorbid disorders in the adolescent BPD sample were mood, eating, dissociative, and substance use disorders in Axis I, and cluster C personality disorders in Axis II. The BPD group showed a significantly higher average number of comorbid Axis I and Axis II diagnoses and significantly lower psychosocial functioning compared with the clinical control group. Regression analyses revealed that psychosocial functioning was predicted by socioeconomic status and comorbid disorders, as well as the unique influence of BPD itself. Conclusion: Adolescent BPD in females is accompanied by high rates of psychiatric comorbidity and poor psychosocial functioning. This underscores the need for diagnosis of BPD at its early stages, in order to facilitate appropriate interventions.

Introduction  
Borderline personality disorder (BPD) is characterized by a pervasive pattern of instability in affect regulation, impulse control, interpersonal relationships, and self-image [1]. BPD affects up to 2.7% of the general adult population [2], up to 22.5% of psychiatric outpatients, and in some settings over 40% of inpatients [3, 4]. Most adults with BPD present with Axis I and Axis II comorbidity, with reported rates of 84.5% having at least one additional Axis I diagnosis, and 73.9% having another Axis II disorder [5, 6]. While the most common comorbidities in adult BPD are mood, anxiety, and substance

Dr. Michael Kaess  
Department of Child and Adolescent Psychiatry, Center of Psychosocial Medicine  
University of Heidelberg, Blumenstrasse 8  
DE-69115 Heidelberg (Germany)  
Tel. +49 622 156 6918, E-Mail Michael.Kaess@med.uni-heidelberg.de

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use disorders, posttraumatic stress disorder and eating disorders are also common [6, 7].

In epidemiological studies, individuals with one or more personality disorders have been found to be significantly more likely than those without a personality disorder to report high levels of impairment in basic functioning (self-care, mobility, and cognition), as well as in instrumental functioning (days out of role, quality of productive role performance, and quality of social role performance) [5, 8]. BPD stands out as having particularly high impairment in social role functioning, homelessness, problems with friends, financial crisis, and violence [5, 9], and this has also been found in clinical settings [10]. Recent longitudinal studies of clinical samples show that the outcome for BPD in adulthood is now reliably characterized by severe and continuing functional disability across a broad range of domains that is comparable to or greater than that associated with many other mental state disorders [11, 12]. However, it is possible that these functional deficits, along with seeking treatment, are mediated through the relationship between personality disorder and co-occurring Axis I disorders. When co-occurring Axis I disorders are controlled for, the above epidemiological findings are substantially reduced or no longer statistically significant [5, 8, 9].

There is general and longstanding agreement that BPD becomes clinically apparent in adolescence [13]. Until recently, however, diagnosing personality disorders prior to 18 years of age has been controversial [14]. This is no longer justified and BPD is increasingly seen as a lifespan developmental disorder [15] that is just as reliable and valid in adolescence as it is in adulthood [16, 17]. In teenagers, BPD is found to occur in approximately 3% of community-dwellers [18], approximately 11% of outpatients [19, 20], and up to 50% of inpatients [21].

To date, only one study has investigated Axis I comorbidity in a clinical sample of adolescent individuals with BPD compared with patients presenting with other personality disorders and patients with only Axis I disorders [22]. This study found significantly higher rates of comorbid Axis I disorders in adolescent patients with BPD compared with other clinical groups. The most common comorbid disorders in the BPD sample were found to be disruptive behavior disorders (69.6%), mood disorders (58.7%), and anxiety disorders (45.7%). This study also found significantly decreased adaptive functioning in adolescents with BPD compared with patients with other personality disorders or Axis I disorders alone [22]. Remarkably, these differences were independent of co-occurring Axis I disorders. Epidemiological data also indicates that adolescent BPD is prospectively associated with severe and diverse functional and psychopathological outcomes, including a future diagnosis of BPD, increased risk for Axis I disorders (especially substance use disorders and mood disorders), interpersonal problems, distress, and reduced quality of life [16]. Critically, these problems have been shown to persist for decades and are independent of adolescent Axis I disorders [23].

The cross-sectional findings of Chanen et al. [22] have not been replicated and to our knowledge there has been no study that reported and took into account individual Axis II comorbidity of adolescent BPD. Therefore, the aim of the study was to investigate Axis I and Axis II comorbidity as well as psychosocial functioning in a clinical sample of adolescent patients with BPD compared with a clinical control group with mixed psychiatric diagnoses.

Method

Participants
The study was conducted at the Department of Child and Adolescent Psychiatry of the University of Heidelberg and was approved by the Ethics Committee of the Faculty of Medicine. During a 2-year period, female inpatients and outpatients were consecutively screened to determine inclusion and exclusion criteria: participants were between the ages of 13–18 years; had no history or current psychotic disorder, pervasive developmental disorder, or significant neurological disease; and had a full-scale IQ above 85 measured by the German version [24] of the Wechsler Abbreviated Scale of Intelligence [25]. After sufficient information about the study procedures was provided to both patients and their caregivers, adolescent participants provided written assent and their legal guardians provided written informed consent.

Procedure
Diagnostic interviews were administered to all participants by a trained psychiatrist or clinical psychologist. BPD and other Axis II diagnosis were assessed by using the German version [26] of the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II) [27]. The SCID-II BPD module was used to divide the study sample into a BPD group and a non-BPD group (with mixed psychiatric diagnoses). Interrater reliability of BPD diagnoses with the SCID-II interviews was tested in a subgroup of participants. The audiotapes of ten randomly selected adolescents in each group were rated by an independent clinician who was trained in this interview and was blind to prior diagnoses. The two raters’ agreement on this diagnosis was excellent (Cohen’s kappa of 1.00). Axis I diagnoses in both groups were assessed with the German version [28] of the Schedule for Affective Disorders and Schizophrenia for School-Age Children – Present and Lifetime Version (K-SADS-PL) [29, 30]. Dissociative diagnoses were assessed by using the Heidelberg Dissociation Inventory [31], a semistructured interview that assesses DSM-IV diagnostic criteria for dissociative disorders [32]. Participants’ overall psychosocial functioning was measured with the German version [33] of...
the Children’s Global Assessment Scale (C-GAS) [34]. The C-GAS has been extensively used in order to assess psychosocial functioning [35] and the German version of the C-GAS has shown a very good interrater reliability of 0.93 [36].

Data Analysis

Descriptive statistics were calculated for both groups. Dimensional group characteristics were compared by independent sample t tests, categorical variables were compared by χ² tests. To analyze frequency of Axis I and Axis II diagnoses, the diagnoses of the participants were first summarized into seven diagnostic clusters for Axis I (mood disorders, substance use disorders, anxiety disorders, adjustment disorders, dissociative and somatoform disorders, eating disorders, and behavioral and emotional disorders with onset usually occurring in childhood and adolescence) and three diagnostic clusters for Axis II (cluster A, cluster B other than BPD, and cluster C). This yielded a sufficient number of Axis I and Axis II diagnoses in the two study groups to enable a comparison of their frequency using χ² tests. Results were Bonferroni-corrected for multiple comparisons. Odds ratios were calculated as effect sizes. Psychosocial functioning was compared between both groups using a t test. To evaluate the effect of BPD, sociodemographic variables, and comorbid diagnoses on global psychosocial functioning, regression analyses were performed using the C-GAS score as the dependent variable and sociodemographic variables and diagnoses as explanatory variables. A subsequent stepwise reduction of the regression model was conducted in order to minimize the Bayes information criterion (BIC). Thus, variables with a lower independent effect on the dependent variable were gradually taken out of the model. The BIC allows for a comparison of models according to their estimated ability to predict new data [37]; the model with the lowest BIC best predicts future data. All calculations were performed using STATA 11 statistical software.

Results

Sample Characteristics

Eighty-seven female adolescents were recruited from the inpatient and outpatient units at the clinic for child and adolescent psychiatry and participated in the study. Thirty-one of these participants met the DSM-IV criteria for BPD and 56 female adolescents did not. The non-BPD participants met the DSM-IV criteria for at least one Axis I disorder and were included as the clinical comparison group.

In our sample, the mean age of the female adolescents with BPD was 16.23 ± 1.54 years and the mean IQ was 109.68 ± 8.98. Female adolescents with other psychiatric diagnoses significantly differed to adolescents with BPD regarding age (15.45 ± 1.35; t(85) = −2.45; p = 0.016), but not IQ (108.14 ± 8.34; t(85) = −0.80; p = 0.426). However, BPD participants and clinical controls differed significantly regarding school type with a far higher proportion of non-BPD participants enrolled in higher-level schools (‘Realschule’ and ‘Gymnasium’; χ²(2) = 6.75; p = 0.034).

The outpatient group comprised 15 (48.4%) BPD participants and 24 (42.9%) with other psychiatric diagnoses. The inpatient group comprised 15 (48.4%) BPD participants and 26 (46.4%) with other psychiatric diagnoses. One (3.2%) participant with BPD and 6 (10.7%) with other psychiatric diagnoses attended a day clinic. The two study groups did not differ regarding the treatment setting [χ²(2) = 1.54; p = 0.462].

In the BPD group, 13 (41.9%) participants met five DSM-IV BPD criteria and 15 (48.4%) met six DSM-IV BPD criteria. Only 3 (9.7%) BPD participants met seven or more criteria. BPD participants mainly satisfied the behavioral and affective DSM-IV criteria, such as self-injury, impulsivity, and affective instability (>80%). In contrast, interpersonal instability and fear of abandonment were relatively rare (<40%). Thirty-one (55.4%) participants with other psychiatric diagnoses did not meet any BPD criteria, 9 (16.1%) met one BPD criterion, 7 (12.5%) met two BPD criteria, 7 (12.5%) met three BPD criteria, and 2 (3.6%) met four BPD criteria.

Comorbid Axis I Disorders

Five (16.1%) BPD participants had only one comorbid Axis I diagnosis and 26 (83.9%) had two or more additional Axis I diagnoses. In contrast, 27 (48.2%) participants with other psychiatric diagnoses had only one Axis I diagnosis and 29 (51.8%) had two or more diagnoses. The groups differed significantly in the frequency of comorbid Axis I diagnoses [χ²(1) = 8.83; p = 0.003]. The mean number of Axis I diagnoses was 2.68 for BPD participants (SD = 1.22, range: 1–6) and 1.70 (SD = 0.78, range: 1–4) for the comparison group. Table 1 shows the comorbid Axis I disorders for the BPD and comparison groups.

Comorbid Axis II Disorders

In the BPD group, 12 (38.7%) participants had one or more comorbid Axis II diagnoses, while only 10 (17.9%) participants in the clinical comparison group met the criteria for a comorbid Axis II diagnosis. As for Axis I disorders, the groups differed significantly in terms of the number of comorbid Axis II disorders [χ²(1) = 4.59, p = 0.032]. The mean number of comorbid Axis II diagnoses was 0.58 (SD = 0.85, range: 0–3) in the BPD group and 0.21 (SD = 0.49, range: 0–2) in the clinical comparison group. The frequency of comorbid Axis II clusters and respective group differences are presented in table 1.
Table 1. Current Axis I and II disorders experienced by 31 female adolescents with BPD and 56 female adolescents with mixed psychiatric diagnoses

<table>
<thead>
<tr>
<th>Axis I disorder</th>
<th>Patients with BPD (n = 31), n (%)</th>
<th>Patients with mixed psychiatric diagnoses (n = 56), n (%)</th>
<th>Analysis of difference</th>
<th>χ² (df = 1)</th>
<th>p value</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mood disorders</td>
<td>22 (71.00)</td>
<td>32 (57.14)</td>
<td>1.62</td>
<td>0.203</td>
<td>1.83</td>
<td>0.71–4.76</td>
<td></td>
</tr>
<tr>
<td>Substance use disorders</td>
<td>10 (32.26)</td>
<td>3 (5.36)</td>
<td>11.36</td>
<td>0.001b</td>
<td>8.41</td>
<td>1.89–37.50</td>
<td></td>
</tr>
<tr>
<td>Anxiety disorders</td>
<td>5 (16.13)</td>
<td>8 (14.29)</td>
<td>0.05</td>
<td>0.817</td>
<td>1.15</td>
<td>0.34–3.92</td>
<td></td>
</tr>
<tr>
<td>Adjustment disorders</td>
<td>5 (16.13)</td>
<td>3 (5.36)</td>
<td>2.77</td>
<td>0.096</td>
<td>3.40</td>
<td>0.73–15.84</td>
<td></td>
</tr>
<tr>
<td>Dissociative/somatoform disorders</td>
<td>13 (41.94)</td>
<td>15 (26.79)</td>
<td>2.10</td>
<td>0.147</td>
<td>1.97</td>
<td>0.77–5.07</td>
<td></td>
</tr>
<tr>
<td>Eating disorders</td>
<td>16 (51.61)</td>
<td>21 (37.50)</td>
<td>1.61</td>
<td>0.202</td>
<td>1.78</td>
<td>0.72–4.38</td>
<td></td>
</tr>
<tr>
<td>Behavioral and emotional disorders with onset in childhood and adolescence</td>
<td>4 (12.90)</td>
<td>9 (16.07)</td>
<td>0.16</td>
<td>0.691</td>
<td>0.77</td>
<td>0.22–2.78</td>
<td></td>
</tr>
</tbody>
</table>

Axis II disorder

| Cluster A                                           | 5 (16.13)                         | 2 (3.57)                                                 | 4.25                   | 0.039a      | 5.19    | 0.89–30.14 |
| Cluster C                                           | 9 (29.03)                         | 9 (16.07)                                                | 2.04                   | 0.153       | 2.14    | 0.73–6.24 |

Multiple diagnoses per subject were possible.

a Statistically significant difference without correction for multiple testing.
b Statistically significant difference (p < 0.0056, Bonferroni-corrected for multiple comparisons).

Table 2. Regression analysis with the C-GAS score as the dependent variable and sociodemographic variables, Axis I disorders, and Axis II disorders as explanatory variables

<table>
<thead>
<tr>
<th>Sociodemographic variable</th>
<th>Coefficient</th>
<th>95% CI</th>
<th>t score</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>−0.61</td>
<td>−2.46 to 1.24</td>
<td>−0.66</td>
<td>0.513</td>
</tr>
<tr>
<td>IQ</td>
<td>−0.22</td>
<td>−0.57 to 0.13</td>
<td>−1.24</td>
<td>0.217</td>
</tr>
<tr>
<td>Realschule</td>
<td>5.98</td>
<td>−2.49 to 14.45</td>
<td>1.41</td>
<td>0.163</td>
</tr>
<tr>
<td>Gymnasium</td>
<td>10.87</td>
<td>2.13 to 19.61</td>
<td>2.48</td>
<td>0.015</td>
</tr>
</tbody>
</table>

Axis I disorder

| Mood disorders                                      | 2.36        | −3.35 to 8.08   | 0.82    | 0.413   |
| Substance use disorders                            | −5.03       | −12.67 to 2.62  | −1.31   | 0.194   |
| Anxiety disorders                                  | −0.21       | −7.82 to 7.40   | −0.05   | 0.957   |
| Adjustment disorders                               | 5.21        | −4.05 to 14.47  | 1.12    | 0.266   |
| Dissociative/somatoform disorders                  | −3.12       | −8.65 to 2.41   | −1.13   | 0.264   |
| Eating disorders                                   | −5.11       | −11.15 to 0.92  | −1.69   | 0.095   |
| Behavioral and emotional disorders with onset in childhood and adolescence | −2.80       | −11.82 to 6.22  | −0.62   | 0.538   |

Axis II disorder

| BPD                                                | −4.68       | −10.78 to 1.42  | −1.53   | 0.131   |
| Cluster A                                          | 0.58        | −8.92 to 10.08  | 0.12    | 0.903   |
| Cluster C                                          | −4.10       | −10.38 to 2.17  | −1.30   | 0.196   |

The coefficients and their respective confidence intervals represent the incline of the straight line (dimensional variables) or the difference of the means (categorical variables).
**Psychosocial Functioning**

BPD participants had a significantly lower mean score on the C-GAS (M = 38.71, SD = 6.05) than the clinical comparison group (M = 48.39, SD = 13.28; t(85) = 3.84; p ≤ 0.001). Table 2 shows the results of the regression model for the influence of the group characteristics, as well as Axis I and Axis II diagnoses on the C-GAS score. Although the regression model was highly significant (p < 0.001), none of the highly intercorrelating variables reached independent statistical significance except being enrolled in the ‘Gymnasium’. After stepwise regression, however, the model with diagnosis of BPD alone had the lowest BIC and therefore appeared to be the best predicting model of low psychosocial functioning for a future sample (mean difference = –9.68, CI: –14.70 to –4.67; p ≤ 0.001).

**Discussion**

This study aimed to systematically investigate Axis I and Axis II comorbidity and psychosocial functioning in a representative clinical sample of female adolescents with BPD in comparison to a mixed clinical group. It also aimed to investigate the incremental validity of BPD in predicting current psychosocial functioning over and above comorbid Axis I and II disorders.

There were two main findings. First, the adolescent BPD sample had significantly higher rates of both Axis I and Axis II comorbidity compared to a mixed clinical sample with diagnoses other than BPD. Second, the BPD diagnosis in adolescence provides incremental validity relative to other psychiatric diagnoses for current psychosocial functioning at the cross-sectional level.

Our study results are in line with high rates of comorbidity reported in adult samples [5, 6], and some findings indicate even higher rates of comorbidity than those reported in adult samples. In the current study, 100% of BPD participants presented with additional Axis I comorbidity, and most participants had multiple diagnoses. Compared with the only previous study conducted in adolescent patients, the mean number of comorbid Axis I diagnoses was slightly lower (2.68 vs. 3.30), but still demonstrated the particularly high rate of comorbid psychopathology in this group of patients. Chanen et al. [22] previously argued that such a finding might occur because patients presenting to psychiatric care with a diagnosis of BPD at this age might represent a group with more severe BPD.

The most frequent comorbid disorders in the BPD group were mood disorders followed by eating disorders, dissociative disorders, and substance use disorders. Again, the rates of Axis I comorbidity are comparable to those reported in adults, where more than 50% meet the criteria for a mood disorder, dissociative disorder, or eating disorder [6, 38, 39]. Compared with the non-BPD group, BPD participants presented with significantly more substance use disorders and also a trend toward a higher rate of adjustment disorders. However, the latter did not reach statistical significance, probably due to the relatively small cell sizes arising from dividing the sample into seven groups of Axis I disorders. Increased rates of substance use disorders have previously been found to be common in adult patients [39–41] and adolescents with BPD [22]. This strong association between BPD and adolescent substance abuse might be particularly important as there is evidence that substance use disorders during adolescence, particularly alcohol use disorders, specifically predict young adult BPD [42, 43], and that substance use disorders are a risk factor for deferred remission and poor prognosis in adolescent BPD [44]. The trend toward higher rates of adjustment disorders might represent the generally higher exposure to trauma and life-events [45].

The BPD group also showed a significantly higher rate of comorbid Axis II disorders. The most common were cluster C personality disorders (avoidant, dependent, and obsessive-compulsive), followed by cluster A personality disorders (paranoid). The current findings in relation to cluster C are in accord with those of adults, where the most common comorbid Axis II disorders are dependent and avoidant personality disorder [5, 46]. However, the BPD group did not show higher cluster C comorbidity compared to the mixed diagnoses group. None of the adolescent participants were diagnosed with any cluster B personality disorder other than BPD. This finding differs from adult samples in which particularly high rates of comorbid antisocial personality disorders are usually found [46]. This difference can be explained by the fact that antisocial personality disorder may not be diagnosed until the age of 18 according to DSM-IV [32]. However, taking into account conduct disorders as a precursor sign of antisocial personality disorder in both the BPD group (n = 4; 12.9%) and the clinical control group (n = 5; 8.9%), no significant group differences could be observed [χ² (1) = 0.34, p = 0.560]. Although showing relatively low prevalence in general, significantly more cluster A disorders were found in the BPD group than in the clinical comparison group. Here, the majority (n = 4; 80%) of the BPD group presented with paranoid personality disorder, which has also been described as a common comorbidity.
in adult samples [46]. These are, to our knowledge, the first data on comorbid personality pathology in a clinical sample of adolescent patients with BPD. They indicate that the rates of comorbid personality disorder are similar to those in adults, with the exception of antisocial personality disorder. However, these data should be interpreted with caution due to the small sample size, despite aggregating the Axis II disorders into clusters.

Psychosocial functioning was significantly impaired in participants in the current study with BPD compared with participants in the clinical comparison group. These results are in line with previous findings from adolescent community-based studies [18, 47] and clinical studies [22]. Taken together, these findings show the high level of psychosocial impairment that is associated with the diagnosis of BPD, even early in the course of this disorder. The regression model showed a high intercorrelation of sociodemographic variables, comorbid Axis I and Axis II diagnoses, and the diagnosis of BPD itself contributing to this impairment of psychosocial functioning. The regression model significantly predicted psychosocial functioning. However, the lack of statistical significance for single factors might be a consequence of both the intercorrelation of factors and the relatively small sample size compared with the number of factors in the regression model.

Participants’ school type, in particular attending the ‘Gymnasium’, was associated with better psychosocial functioning in this sample. After 4 years of elementary school, the German school system branches into three types of secondary schools: the ‘Hauptschule’ for vocational training, the ‘Realschule’ for general secondary education, and the ‘Gymnasium’ for pre-university qualification (table 2). Association with a particular school type is already known to be strongly related to several psychosocial factors, such as socioeconomic status of families, or students’ mental health rather than intelligence. To a large extent, the German school type might be an indicator of the general socioeconomic performance of adolescents. The current findings clearly show that the BPD group and the clinical comparison group did not differ in terms of IQ, but did differ significantly in terms of school type, which consequently seems to have a strong association with overall psychosocial functioning. Therefore, BPD might influence the socioeconomic development of adolescents, which in turn might contribute to their poor psychosocial outcome in adulthood [48, 49]. Considering BPD as a lifespan developmental disorder [15], symptoms of BPD might already be present during elementary school and play an important role in determining these children’s pathways through the school system.

After stepwise regression, in order to minimize the number of factors in the regression model, BPD had unique predictive value for poor psychosocial functioning. This finding clearly shows the unique influence of BPD on poor psychosocial functioning, which has been previously reported by Chanen et al. [22]. However, BPD also seems to influence psychosocial functioning via various nonindependent factors, such as poor socioeconomic performance and comorbid Axis I and Axis II disorders. Finally, there are likely to be additional factors contributing to negative psychosocial performance that were not assessed in the current study, such as an adverse family environment or peer victimization, which have also been reported to be common in BPD [50, 51].

An additional finding was that some interpersonal BPD criteria (unstable relationships and fear of abandonment) were relatively infrequent in this sample of adolescents with BPD, suggesting a different profile of BPD criteria when compared with adults with BPD [52]. In a large clinical sample of adult patients with BPD, the most frequent diagnostic criteria were reported to be affective instability, anger, impulsivity, and unstable relationships, with identity disturbance, abandonment fears, and self-injury being the least frequent [53]. In comparison with the present study, key differences are the greater prominence of unstable relationships and lesser prominence of self-injury in adults with BPD. These findings support the view that some core features of BPD (e.g. unstable affect) are more stable, while others (e.g. self-injury) are more likely to decline or change their mode of expression over time. However, these findings could also indicate that the DSM-IV and SCID-II lack suitable, developmentally appropriate illustrations of some BPD criteria [20], such as unstable relationships and fear of abandonment, making diagnosis of these criteria more difficult in adolescents.

The strengths of this study include the consecutive recruitment of a sample of female adolescent patients who were in the early stages of their illness. This makes it highly likely that the sample is typical for patients treated in a child and adolescent psychiatric hospital setting. Another strength of the study is the assessment of both Axis I and Axis II diagnoses by using well-established semistructured interviews, which increases the likelihood of having reliable and valid diagnoses.

There are also some limitations to the study, which may affect the interpretation and generalizability of the present findings. First, only females were included in this study and the findings cannot be generalized to male patients. Second, the validity of the diagnosis of BPD for
adolescents has been the subject of controversial discussion. Recent studies, however, have shown that BPD can be reliably diagnosed in adolescent inpatients and that the diagnosis has good concurrent validity [54, 55] and shows similar stability in comparison to adult BPD [20]. Finally, the relatively small sample size limited the reliable detection of statistically significant differences, i.e. caution should be used in interpreting the findings.

In conclusion, the current findings clearly demonstrate that BPD is common among adolescents in tertiary child and adolescent psychiatric settings. Adolescents diagnosed with BPD represent a group of patients with particularly high rates of Axis I and Axis II comorbidity and severe psychosocial impairment. The poor psychosocial functioning of the BPD group likely reflects many intercorrelating factors, such as socioeconomic status and comorbid disorders, but is also uniquely predicted by BPD itself. Therefore, adolescents who present with multiple diagnoses and poor psychosocial functioning should be assessed for BPD, as this might be a common underlying feature of such presentations. When detected, BPD requires specific intervention, which has been shown to be effective in young people [56].

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Disclosure Statement

The authors declare no commercial or financial conflicts of interest in regard to the submitted article.

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