ABSTRACT
While the degree of concordance between parent and adolescent self-report of internalizing and externalizing pathology is well studied, virtually nothing is known about concordance in borderline pathology and the implication of parent–adolescent discrepancies for outcomes. The present study aimed to (1) examine discrepancies between parents and adolescents on two interview-based measures of borderline personality disorder (BPD)—the Revised Diagnostic Interview for Borderlines (DIB-R) and the Childhood Interview for Borderline Personality Disorder (CI-BPD); and (2) investigate the implications of discrepancies for clinical outcomes. Diagnostic concordance on the DIB-R and CI-BPD showed rates of 82% and 94% respectively, with lower concordance demonstrated for dimensionally scored variables. Standardized difference scores between adolescent and parent reports on both borderline measures were significantly correlated with few interview-based axis I diagnoses as reported by parents, but not adolescents themselves. Implications regarding the use of each measure for the assessment and diagnosis of borderline personality disorder are discussed. Copyright © 2017 John Wiley & Sons, Ltd.
analyse discrepancies between parent and child reports of anxiety\textsuperscript{3–5} parent and teacher reports of ADHD\textsuperscript{6} and general symptomology.\textsuperscript{7} Dimensional approaches include studies examining informant discrepancies between reports of child psychopathology\textsuperscript{8–10} on the Child Behaviour Checklist\textsuperscript{11} and the Youth Self Report.\textsuperscript{11} Generally, researchers find low to moderate levels of agreement between parent and child reports,\textsuperscript{12,13} and concordance is often greater for externalizing problems than internalizing problems.\textsuperscript{13,14}

Despite the large literature base on parent–child discrepancies, few studies have focused on personality pathology or disorders. In the study of adolescent borderline personality disorder (BPD), Sharp et al.\textsuperscript{15} found modest concordance between parent and child reports on the Borderline Personality Features Scale; however, significant mean differences also emerged with children scoring higher in borderline traits than their parents. However, the authors did not further explore individual dyadic agreement or the implication for this finding as it relates to adolescent functioning. To our knowledge, only three studies have examined informant concordance on reports of child or adolescent personality pathology and the discrepancy’s relation to outcomes. Tromp and Koot\textsuperscript{16} found moderate agreement between parent and child reports on many dimensions of personality pathology, and discrepancies indicated greater internalizing reports by children and greater externalizing reports by parents. Severity also partially predicted informant discrepancy, with inpatient adolescents having lower informant agreement than outpatients. Tackett\textsuperscript{17} examined reporting discrepancies between parents on their child’s PD traits and found trait-specific patterns of high and low parental agreement. These discrepancies were found to be predictive of higher levels of internalizing problems in children. Tackett et al.\textsuperscript{18} found modest agreement between parent and adolescent reports of general personality pathology with adolescents reporting greater psychopathology in all areas. In addition, results revealed patterns of concordance between parent and child reports that suggest greater agreement for externalizing over internalizing PD traits. Utilizing difference scores and polynomial regression analysis, the authors found that personality trait-based informant discrepancies were predictive of higher levels of externalizing problems.

Limitations of prior work include an over-reliance on healthy adolescent populations, which limits the range of personality psychopathology and lacks diagnostic specificity. Prior work is also characterized by a reliance on self-report measures. In addition, literature regarding informant discrepancies and personality pathology consider mostly adult samples,\textsuperscript{19,20} and to our knowledge, interview-based assessment tools have not been evaluated for informant discrepancies in adolescents at all. The clinical interview provides an additional layer of complexity when considering informant discrepancies because presumably the interviewer is influenced by the source of report. This issue is of particular relevance against the background of findings that suggest informant concordance increases with subjects’ age and that informants report slightly more psychopathology than subjects.\textsuperscript{21} Finally, to our knowledge, only two studies have considered the clinical utility of parent–child discrepancy in personality pathology Tackett et al.\textsuperscript{18} and Tromp and Koot\textsuperscript{16}—that is, the implications of discrepancy for clinical outcomes.

Against this background, the aims of the current study were twofold. First, to examine parent–adolescent concordance/discrepancy on borderline personality pathology from a diagnostic, categorical approach as well as dimensional, symptom-based approach using two validated, clinical interview tools—the Revised Diagnostic Interview for Borderlines (DIB-R\textsuperscript{22}) and the Childhood Interview for Borderline Personality Disorder (CI-BPD\textsuperscript{23}). Based on literature reviewed earlier, we expected moderate agreement between parent and adolescent report of symptoms on the DIB-R and CI-BPD and
higher means of reported borderline pathology by adolescents compared to parents. The second aim was to examine the clinical utility of expected discrepancies by evaluating the relation between parent–adolescent discrepancy and the severity of adolescent psychopathology.

Methods

Participants

The procedures of this study have been presented before in detail. All study procedures were approved by the institutional review boards at the participating institutions. Adolescents (aged 13–17) with presumptive BPD were recruited from four units at McLean Hospital and one unit at Mount Sinai Medical Center between the dates of August 2007 and September 2012. To participate in the study, parents provided consent, and adolescents provided assent. Adolescent participants, who were of average or better intelligence and did not meet criteria for a psychotic disorder or a physical disorder that could cause serious psychiatric symptoms, were then administered diagnostic assessments.

A total of 104 adolescents met full criteria for BPD on both the DIB-R and the CI-BPD. Of the 104 parent–adolescent dyads, complete data was available for 102. The mean age of the adolescent sample was 15.7 years (SD = 1.2) and was composed of 98 females and 6 males. Given the low number of males in the sample, we did not control for or investigate sex differences. We did, however, run all analyses excluding male participants to ensure that inclusion of males in the current study did not alter results. The results presented include both male and female participants.

Using the Structured Clinical Interview for DSM-IV Childhood Diagnoses (KID-SCID), the mean total number of diagnoses for which an adolescent met criteria was 3.98 (SD = 2.06; range: 0–11). Based on parental report, the mean total number of diagnoses for which an adolescent met criteria was 3.20 (SD = 1.59; range: 0–8).

Measures

Measures included the DIB-R, the Childhood Interview for DSM-IV Borderline Personality Disorder and the KID-SCID.

In addition to the adolescents themselves, parents and/or guardians of the participants were also administered the same three interviews and asked to report on the adolescents’ symptoms.

Revised Diagnostic Interview for Borderlines. The DIB-R is a semi-structured interview of 140 questions that was specifically developed to discriminate clinically diagnosed borderline patients from patients with other types of axis II diagnoses. It has a 2-year time frame and assesses 22 areas of borderline symptomatology categorically. It also provides five continuous measures of borderline psychopathology: four section scores and the total DIB-R score. The DIB-R has also been found to have good-excellent inter-rater, test–retest and longitudinal reliability.

Childhood Interview for DSM-IV Borderline Personality Disorder. The CI-BPD is a semi-structured interview developed for the assessment of BPD in children and adolescents. The CI-BPD has good internal consistency (α = .80); good convergent, concurrent and criterion validity, as well as excellent interrater reliability.

Structured Clinical Interview for DSM-IV Childhood Diagnoses. The Structured Clinical Interview for DSM-IV Childhood Diagnoses (KID-SCID) is a semi-structured interview designed specifically to assess axis I disorders in children and adolescents. It has been found to have good inter-rater and test–retest reliability.

Results

Diagnostic agreement

First, using chi-square testing, we compared adolescent and parent categorical scores on the
DIB-R and CI-BPD in order to gauge each dyads diagnostic agreement. On the DIB-R, 18 parents (18%) did not score their adolescent high enough to reach diagnostic criteria (score ≥ 8) for BPD. On the CI-BPD, six parents (6%) did not score their adolescent high enough (five out of nine criteria) to reach diagnostic criteria. Therefore, the percentage of dyads whose reports were not diagnostically concordant was three times higher on the DIB-R than the CI-BPD. However, most pairs were concordant on the DIB-R and CI-BPD at a rate of 82% and 94% respectively.

**Group differences on dimensional scores**

Next, we conducted paired sample t-tests to compare means between parent and adolescent scores on DIB-R and CI-BPD total and symptom level scores. Adolescents had a mean DIB-R score of 9.24 (SD = 0.1; range: 8–10) and a mean CI-BPD continuous score of 15.5 (SD = 2.1; range: 10–18). Parents had a mean DIB-R score of 8.6 (SD = 1.7; range: 1–10) and a mean CI-BPD continuous score of 14.7 (SD = 2.7; range: 2–18). Paired sample t-tests revealed significant differences between adolescent and parent means on both DIB-R (t = 3.48; df = 101; p < .001; r = .33) and CI-BPD (t = 2.79; df = 101; p < .006; r = .27) total scores.

Significant symptom level differences also emerged with a general pattern of higher mean scores reported by adolescents compared to parents. Significant mean differences on the DIB-R (Table 1) were found between parents and adolescents on transient paranoia symptoms, substance abuse, sexual deviance (mostly promiscuity), suicidal behaviour, loneliness/emptiness, avoidance of being alone, fearing abandonment, counter-dependency, devaluation/manipulation/sadism and demandingness symptoms. Significant CI-BPD symptom level differences (Table 2) were observed between parent and adolescent means on paranoia, avoiding abandonment and general impulsivity.

**Agreement of dimensional scores**

Positive correlations emerged between adolescents’ CI-BPD and DIB-R total scores (r = .536, p < .01); parents’ CI-BPD and DIB-R total scores (r = .615, p < .01); and adolescents’ and parents’ CI-BPD total scores (r = .244, p < .05). However, adolescent and parent DIB-R total scores were not significantly correlated.

**Standardized difference scores (DZ) and correlations with clinical outcomes**

Similarly, to Tackett et al., continuous total scores for adolescents and parents on both the DIB-R and CI-BPD were standardized as z-scores. For each measure, parent z-scores were subtracted from adolescent z-scores to compute directional standardized difference scores for each dyad. These directional standardized difference scores were then transformed into absolute values, removing directionality and allowing correlations observed to reflect significance related to magnitude of informant divergence.

Bivariate correlations between absolute standardized difference scores (DZ) and parent report of adolescents’ individual Axis 1 diagnoses are presented in Table 3. Significant positive correlations emerged between DIB-R and CI-BPD DZs and parental KID-SCID report of adolescent bipolar disorder. Significant negative correlations also emerged between CI-BPD DZ and parental KID-SCID report of adolescent major depressive disorder (MDD) and panic disorder.

Table 4 summarizes correlations between DIB-R and CI-BPD DZs and adolescent-reported KID-SCID diagnoses, which were all non-significant.

**Discussion**

The aims of the current study were (1) to examine parent-adolescent concordance on borderline personality pathology from a diagnostic, categorical approach as well as dimensional,
symptom-based approach using two validated, clinical interview tools—the DIB-R and the Childhood Interview for Borderline Personality Disorder and (2) investigate the implications of discrepancies for clinical outcomes. Results showed that few parents (18% on the DIB-R and 6% on the CI-BPD) disagreed with their adolescents on a positive diagnosis of BPD. Put differently, a concordance rate of 82% and 94% was shown respectively for BPD diagnosis. Results furthermore showed significant mean differences between parents and their adolescent children on continuous DIB-R and CI-BPD total, and symptom scores, although these were not clinically meaningful. Generally, adolescent reports revealed higher means across most aspects of borderline pathology. Parent–adolescent dimensional scores were moderately correlated for the CI-BPD but uncorrelated for the DIB-R.

That the DIB-R did not correlate may be best explained by the complexity of the measure. Of the 10-symptoms on the DIB-R where there was a significant difference between adolescent and parent ratings, three were internal states (chronic

<table>
<thead>
<tr>
<th></th>
<th>Mean difference1</th>
<th>Std. error mean</th>
<th>95% confidence interval of the difference</th>
<th>t (df = 101)</th>
<th>Sig. (two-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective symptoms</td>
<td></td>
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</tr>
<tr>
<td>1. Chronic depression or major depressive episodes</td>
<td>.088</td>
<td>.052</td>
<td>−.016 − .192</td>
<td>1.686</td>
<td>.095</td>
</tr>
<tr>
<td>2. Sustained helplessness, hopelessness</td>
<td>.078</td>
<td>.066</td>
<td>−.053 − .210</td>
<td>1.182</td>
<td>.240</td>
</tr>
<tr>
<td>3. Chronic anger/frequent angry acts</td>
<td>.000</td>
<td>.067</td>
<td>−.133 − .133</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>4. Chronic anxiety</td>
<td>.000</td>
<td>.074</td>
<td>−.146 − .146</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>5. Chronic loneliness/emptiness</td>
<td>.137</td>
<td>.059</td>
<td>.020 − .255</td>
<td>2.319</td>
<td>.022</td>
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<tr>
<td>Cognitive symptoms</td>
<td></td>
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<tr>
<td>6. Odd thinking or unusual perceptual experiences</td>
<td>.108</td>
<td>.085</td>
<td>−.060 − .276</td>
<td>1.274</td>
<td>.206</td>
</tr>
<tr>
<td>7. Transient, non-delusional paranoid experiences</td>
<td>.255</td>
<td>.086</td>
<td>.085 − .425</td>
<td>2.980</td>
<td>.004</td>
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<tr>
<td>8. 'Quasi' delusions or hallucinations</td>
<td>.108</td>
<td>.065</td>
<td>−.022 − .237</td>
<td>1.654</td>
<td>.101</td>
</tr>
<tr>
<td>Impulsive symptoms</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>9. Serious substance abuse</td>
<td>.353</td>
<td>.065</td>
<td>.224 − .482</td>
<td>5.444</td>
<td>.000</td>
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<td>11. Physical self-mutilation</td>
<td>−.020</td>
<td>.037</td>
<td>−.093 − .053</td>
<td>−.533</td>
<td>.595</td>
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<td>12. Suicidal threats, gestures or attempts</td>
<td>.176</td>
<td>.072</td>
<td>.034 − .319</td>
<td>2.464</td>
<td>.015</td>
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<tr>
<td>13. Another pattern of impulsive behaviour</td>
<td>.000</td>
<td>.067</td>
<td>−.133 − .133</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Interpersonal symptoms</td>
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<td></td>
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<tr>
<td>14. Avoidance of being alone or dysphoric when alone</td>
<td>.176</td>
<td>.078</td>
<td>.022 − .331</td>
<td>2.260</td>
<td>.026</td>
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<tr>
<td>15. Fear of abandonment, engulfment or annihilation</td>
<td>.314</td>
<td>.090</td>
<td>.135 − .493</td>
<td>3.475</td>
<td>.001</td>
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<tr>
<td>16. Counter-dependent or conflicted over care</td>
<td>.255</td>
<td>.075</td>
<td>.107 − .403</td>
<td>3.416</td>
<td>.001</td>
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<tr>
<td>17. Intense, unstable close relationships</td>
<td>.108</td>
<td>.092</td>
<td>−.075 − .291</td>
<td>1.168</td>
<td>.246</td>
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<tr>
<td>18. Dependency or masochism in close relationships</td>
<td>.176</td>
<td>.076</td>
<td>−.037 − .390</td>
<td>1.643</td>
<td>.103</td>
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<tr>
<td>19. Devaluation, manipulation or sadism</td>
<td>−.353</td>
<td>.113</td>
<td>−.577 − −.129</td>
<td>−3.126</td>
<td>.002</td>
</tr>
<tr>
<td>20. Demandingness or entitlement</td>
<td>−.422</td>
<td>.115</td>
<td>−.650 − −.193</td>
<td>−3.657</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>22. Countertransference reactions by professionals or 'special relationships'</td>
<td>.078</td>
<td>.068</td>
<td>−.056 − .213</td>
<td>1.157</td>
<td>.250</td>
</tr>
</tbody>
</table>

1Comparison of adolescent and parental informant: adolescent score−parent score.
loneliness/emptiness, non-delusional paranoia, fear of abandonment), two were forms of behaviour that adolescents may have hidden from their parents (substance abuse and promiscuity), and two were interpersonal patterns that parents rated more highly than adolescents (devaluation/manipulation/sadism and demandingness/entitlement). The other three were a more complicated version of suicidality (including threats as well as attempts), a more complicated version of frantic efforts to avoid abandonment (which included being dysphoric when alone) and counterdependency (which may not have manifested itself at home).

The high concordance demonstrated for diagnosis is consistent with literature.
Table 4: DIB-R and CI-BPD absolute standardized difference scores (DZ) and diagnostic correlations (adolescent report)

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<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<tbody>
<tr>
<td>DIB-R DZ</td>
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<tr>
<td>Pearson correlation</td>
<td>-0.074</td>
<td>-0.035</td>
<td>-0.045</td>
<td>-0.129</td>
<td>-0.150</td>
<td>0.012</td>
<td>-0.093</td>
<td>0.120</td>
<td>0.037</td>
<td>0.051</td>
<td>-0.041</td>
<td>0.017</td>
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<tr>
<td>CI-BPD DZ</td>
<td></td>
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<tr>
<td>Pearson correlation</td>
<td>-0.021</td>
<td>0.065</td>
<td>-0.087</td>
<td>-0.101</td>
<td>-0.173</td>
<td>0.055</td>
<td>-0.009</td>
<td>-0.048</td>
<td>0.022</td>
<td>0.068</td>
<td>-0.036</td>
<td>-0.002</td>
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<tr>
<td>N</td>
<td>102</td>
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*DZ’s calculated: 1 adolescents’ z-score = parent z-score 1.
1—major depressive disorder; 2—bipolar 1 or 2; 3—alcohol abuse; 4—substance abuse; 5—panic disorder; 6—social anxiety; 7—obsessive compulsive disorder; 8—post-traumatic stress disorder; 9—generalized anxiety disorder; 10—attention deficit hyperactivity disorder; 11—oppositional defiant disorder; 12—conduct disorder.

It is true that when dimensional scores were used in the current study, lower parent–adolescent concordance was observed (i.e. significant mean differences existed between parent and adolescent total scores and there was a relatively low correlation on the CI-BPD and no correlation on the DIB-R total scores). However, these reflect published correlations between most dimensional psychopathology measures. For example, Tackett et al.18 found only modest correlations between parents and adolescents on Dimensional Personality Symptom Item Pool (DIPSI) traits (ranging from \( r = .09 \) to \( r = .40 \)). Sharp et al.15 also found only a modest correlation (\( r = .24 \)) between parent and adolescent scores on the Borderline Personality Features Scale. These lower rates of concordance previously published for adolescent personality pathology utilized community samples and dimensional scores on self-report measures. Therefore, the current study is the first to suggest that when diagnosis is considered, especially of severe psychopathology like BPD, higher concordance is observed.

Numerous studies have utilized parent and child diagnostic interviews to analyse discrepancies between informant reports of anxiety,3–5 ADHD6 and general diagnoses.31,32 An important contribution of the current study to the literature on parent–adolescent concordance is that this is one of very few evaluations of personality pathology agreement. It is the first to combine the use of an inpatient adolescent sample with interview-based clinical tools. The current study is also a significant contribution to PD literature more generally, which has historically relied upon self-report and questionnaire-based assessment when studying variance in informant report.

Ideally, interview-based assessment tools enable individual informant biases to be mitigated by an expert who makes clinically informed judgements. However, it is possible for an interviewers’ judgement to be biased as well, for any number of reasons, and this could colour the clinicians’ impression of a patient, leading them to an unfit or influenced conclusion. This consideration of interview vs. self-report assessment has long been investigated with regards to eating disorders,33 depression,34 OCD35 and personality disorders.36 It has been found that there are limits to self-report measures, especially for personality pathology. Oltmanns and Turkheimer37 state that ‘people with personality disorders are frequently unable to view themselves realistically’, and therefore, a reliance on self-report in personality
research and diagnosis can be problematic. Additionally, self-report measures of personality disorders often exemplify significant differences in what they measure and their rates of diagnosis, despite being thought of as interchangeable. With regard to BPD specifically, Hopwood et al. suggest that combining self-report and interview assessment methods is ideal. Here, we demonstrated higher concordance rates than self-report studies, suggesting an important role for interview-based measures in addition to the use of self-report.

Our second aim was to examine the clinical utility of discrepancy by evaluating correlations between standardized difference scores and clinical outcomes. Only two previous studies have considered the relation between parent–adolescent reporting discrepancy on measures of adolescent PD and external measures of severity. Significant negative correlations emerged between CI-BPD DZ and parental KID-SCID report of MDD and panic disorder. As DZ increased (the gap between parent and adolescent report widened), parents were less likely to endorse their adolescents as meeting criteria for these internalizing disorders. Therefore, we tentatively conclude that parent–adolescent discrepancy for BPD is related to lower severity of internalizing problems—potentially indicating that parents who are discrepant are less in tune with the internal worlds of their adolescents. In contrast, significant positive correlations emerged between DIB-R and CI-BPD DZ and parental KID-SCID report of bipolar disorder. Thus, as DZ increased (the gap between parent and adolescent report widened), parents are more likely to endorse their adolescent as having a bipolar disorder. Here, discrepancy may be interpreted as indicating severity or parents having been told that their child is bipolar instead of BPD or in addition to BPD. No significant correlations emerged between DIB-R or CI-BPD standardized difference scores and KID-SCID diagnoses as reported by adolescents themselves (Table 4). This means that the association between reporting discrepancies observed on the DIB-R and CI-BPD with clinical outcomes matters most where parent report of clinical outcomes is concerned. That discrepancy in borderline pathology is not predictive of clinical outcomes as reported by adolescents themselves is difficult to interpret given that interviewer biases may have been present when administering the KID-SCID to adolescents. More research that makes use of multiple assessment modalities is necessary to truly understand the clinical utility of discrepancies in child and adolescent psychopathology.

Limitations

Despite the current study's contribution to existing literature, it has some limitations—the first being its inclusion only of adolescents who met criteria for BPD on both the DIB-R and the CI-BPD. Therefore, we were unable to analyse the data of adolescents who were subthreshold for BPD on either measure but who may have had elevated scores. For example, it is possible that adolescents who scored a 6 or 7 on the DIB-R or a 4 on the CI-BPD, and were subsequently excluded from the study, had unique informant discrepancy patterns from those participants meeting criteria. Another limitation of the current study is the use of only an inpatient sample. Therefore, the discrepancy patterns and concordance rates observed may not be generalizable to all parent–adolescent dyads reporting on borderline psychopathology. However, these limitations do address a constraint of prior work in the field which included predominantly healthy and community samples and clinical samples without diagnostic specificity. A final limitation is the use of DZ to measure informant discrepancy and its predictive clinical utility. However, as this is one of very few studies to look specifically at personality pathology informant agreement in adolescents, only the third to look at related outcomes and, to our knowledge, the first to include borderline diagnostic specificity, our findings can still inform future investigation of
the topic using more sophisticated data analytic techniques.

Notwithstanding the given limitations, the current study contributes to the evolving literature on parent–adolescent concordance on measures of personality pathology as well as the predictive utility of concordance, with an inpatient sample of adolescents and utilizing diagnostic interviews.

References


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