In this article, we compare the nature and function of self-parent informant discrepancies for adolescent personality pathology using two methods: standard difference scores (SDS) and polynomial regressions. In total, 489 11- to 18-year-old youth (54% female) and their parents reported on youth personality pathology traits and general psychopathology. Findings supported convergence and divergence in parent- and self-reports. Potential utility of informant discrepancies also emerged, such that discrepancies on trait disagreeableness and trait compulsivity predicted youth externalizing problems using the SDS approach and the polynomial regression approach; however, the polynomial regression approach yielded a more complex and nuanced characterization of informant discrepancies than did the SDS approach. Taken together, these results suggest that polynomial regressions may provide a more comprehensive picture regarding the meaning and utility of informant discrepancies.

Key words: adolescent personality pathology, assessment, externalizing problems, informant discrepancies, internalizing problems. [Clin Psychol Sci Prac 20: 378–392, 2013]

INTRODUCTION

The study of adolescent personality pathology has historically lagged behind theory and research on adult personality disorder (PD), although this underdeveloped area has recently seen a dramatic increase in empirical attention. In recent years, multiple special issues have been devoted to the early development of PD characteristics and symptoms (e.g., Biskin & Paris, 2013; Cicchetti & Crick, 2009; DeFife & Ritschel, 2013; Stepp, 2012; Tackett, 2010; Tackett & Sharp, in press). Such growing interest points to convergence in the field on the validity, ability to reliably measure, and consequent impact of youth PD. However, similar to research on normative personality traits in youth—which has also lagged behind adult personality theory and research—little existing research has addressed practical concerns in the field of adolescent PD traits, such as measurement and assessment (Tackett, 2010; Tackett, Balsis, Oltmanns, & Krueger, 2009).

Although severely underdeveloped, empirically based and clinically useful assessment of adolescent PDs is a necessary prerequisite for efficient advancement of research on etiology, course, manifestation, outcomes, treatment response, and treatment development. Furthermore, the assessment of PDs in adults has met numerous challenges and unanticipated findings (e.g., Oltmanns & Turkheimer, 2009). Empirical research on adolescent PDs that utilizes multiple informants or sources of assessment has also highlighted potential complications that emerge in multi-informant, multi-method approaches (e.g., Klonsky, Oltmanns, & Turkheimer, 2002; Sharp, Mosko, Chang, & Ha, 2010; Tackett, Herzhoff, Harden, Page-Gould, & Josephs, 2013). Thus, the goal of the present study is to examine more closely the assessment of adolescent PDs from
a multi-informant perspective with the intent of refining the assessment of adolescent PDs within research and clinical settings.

Assessment of Adolescent Personality Pathology

Primary forms of assessment of youth PD characteristics overlap with those used for adult populations, with questionnaires (typically self- or parent-report) and diagnostic interviews being used most frequently. Questionnaires fall into a number of different categories: omnibus measures derived from standard measures used with adults, omnibus measures empirically derived for youth, and measures designed to assess a specific PD domain (e.g., borderline: Crick, Murray-Close, & Woods, 2005; or narcissistic: Barry, Frick, & Killian, 2003; characteristics). Finally, other prominent measures also exist outside these categories, such as the Q-sort method utilized in the SWAP-200-A (Westen, Dutra, & Shedler, 2005). We focus our review here on existing omnibus questionnaire methods, which were used in this study.

Early measures of youth personality pathology have largely focused on adapting existing adult PD questionnaire assessment for younger age groups. A number of excellent examples of this approach exist, and certainly, these measures have allowed much quicker progress in our understanding of adolescent PD than sole reliance on developmentally bottom-up PD measures (i.e., measures that were empirically derived based on child and adolescent data) would have allowed. The most prominent examples of this include the adolescent version of the Minnesota Multiphasic Personality Inventory (MMPI-A; Butcher & Pope, 1992; Sellbom & Jarrett, 2013), the youth version of the Schedule for Nonadaptive and Adaptive Personality (SNAP-Y; Linde, Stringer, Sinns, & Clark, 2013), and the adolescent version of the Dimensional Assessment of Personality Pathology (DAPP-BQ-A; Tromp & Koot, 2008). These measures were largely based on their adult counterparts, although in all cases modifications were made based on developmental considerations, including readability of items and the developmental appropriateness of various behaviors. In addition to allowing more accelerated research into the early development of PD, these measures provide important opportunities to directly compare analogous constructs in adolescents and adults. Similarly, use of these measures leverages the vast existing literature on research and application with these measures in adult community and clinical populations. Nevertheless, items from such measures represent PD items developed for adult samples and therefore may not necessarily represent specific behaviors that are observable in youth (De Clercq, De Fruyt, & Widiger, 2009; Shiner, 2007; Widiger, De Clercq, & De Fruyt, 2009). As such, it is important for developmentally sensitive measures of adolescent PD to be generated independently of constraints imposed by expectations from adult PD research.

Developmentally sensitive assessment of personality and personality pathology must also include bottom-up approaches, which may allow new constructs to emerge that are less relevant for adult populations, but important when working with youth. The most prominent example of an empirically based omnibus measure of youth PD characteristics is the Dimensional Personality Symptom Item Pool (DIPSI; De Clercq, De Fruyt, Van Leeuwen, & Mervielde, 2006). The DIPSI was developed using a combination of rational and empirical approaches that drew from literature on adult and youth PDs, as well as literature on normal youth personality development. The resulting assessment tool reflects a four-factor higher-order PD model comprised of Disagreeableness, Emotional Instability, Introversion, and Compulsivity, which is largely analogous to those in prominent adult-based measures (e.g., the SNAP-Y and DAPP-BQ-A). A recent study demonstrated hierarchical connections between a developmentally top-down measure of adolescent PD (the SNAP-Y) and a developmentally bottom-up measure of adolescent PD (DIPSI), finding evidence for points of both convergence and divergence (Kushner, Tackett, & De Clercq, 2013). At present, more work is needed to understand better how these various approaches to the measurement of adolescent PD may be differentially assessing the constructs of interest.

Informant Discrepancies

The complicated nature of assessing psychological constructs in youth is not a new or novel issue. Within the area of clinical child psychology, researchers have historically promoted the use of multi-informant and
multi-method data, in part due to limitations of collecting self-report data at younger ages (Achenbach, McConaughy, & Howell, 1987). This more rigorous approach to assessment, however, presents a number of complications, including ongoing issues regarding how to integrate data from multiple informants and multiple sources (Achenbach, 2006, 2011; Achenbach et al., 1987; De Los Reyes, 2011; Van Dulmen & Egeland, 2011). These “complications” have resulted in exciting advances in combinatorial approaches for dealing with informant discrepancies (De Los Reyes & Kazdin, 2004; De Los Reyes, Thomas, Goodman, & Kundey, 2013; Kraemer et al., 2003). These approaches appear to yield incremental prediction of child psychopathology (Tackett, 2011), mother–child conflict (De Los Reyes & Kazdin, 2006), and risky outcomes (Ferdinand, van der Ende, & Verhulst, 2004). Furthermore, this work has generated novel hypotheses regarding the mechanisms underlying informant discrepancies that may shed new light on the assessment, etiology, and potential targets for intervention of youth psychopathology (De Los Reyes, Henry, Tolan, & Wakschlag, 2009).

Although less a focus of adult research, largely because self-report is more readily regarded as a “gold standard” in research and practice with adults, issues of informant discrepancy have also emerged in the literature on adult PDs. For example, consensus among acquainted peers rating a target’s PD traits is modest at best, as is self-other agreement with acquainted peers (Clifton, Turkheimer, & Oltmanns, 2004; Klonsky et al., 2002; Oltmanns & Turkheimer, 2009). Some evidence supports modest self-informant correlations for adolescent PDs as well (Sharp et al., 2010; Tackett et al., 2013). There is also evidence that personality pathology moderates self-other agreement in adolescents, such that those with PD traits are more difficult to judge (Furr, Doughtery, Marsh, & Mathias, 2007). Self- and informant-reports of PD traits in adults approaching later life show divergent development patterns, with self-reports suggesting decreases in PD traits and informant-reports suggesting increases in PD traits (Cooper, Balsis, & Oltmanns, in press). The previously noted findings have led researchers to conclude that adult self-reports of PDs provide limited information (Klonsky et al., 2002; Oltmanns & Turkheimer, 2009), and it is reasonable to think that similar limitations apply to adolescent self-reports of personality pathology. Furthermore, evidence from adult research has supported incremental validity of informant-reports for PDs in the prediction of outcomes such as social impairment (Klein, 2003) and early discharge from the military (Fiedler, Oltmanns, & Turkheimer, 2004). These findings in adult samples indicate a clear need to examine cross-informant issues in adolescent PD assessment.

Initial proposals by De Los Reyes and colleagues highlighted the use of standardized difference scores (SDS) as a method to quantify informant discrepancies while also controlling for absolute levels of the constructs of interest (De Los Reyes & Kazdin, 2004). The promotion of this method resulted in a line of important and provocative research, with researchers across multiple laboratories examining the utility and meaning of informant discrepancies across a wide variety of constructs (e.g., see recent special issue by De Los Reyes, 2011). More recently, Laird and De Los Reyes (2013) published a critique of the use of SDS, noting that unequal variability and bivariate associations in parent- and youth-reports often produce inaccurate conclusions. In this article, Laird and De Los Reyes highlighted a valuable alternative to the use of SDS—the examination of interaction terms in a polynomial regression framework—as a method of examining informant discrepancies that overcomes the limitations of SDS. However, direct comparisons of the utility and implications of these methods have not yet comprehensively emerged in the broader literature.

**The Present Study**

The primary goal of this study was to examine the role, utility, and function of informant discrepancies when assessing adolescent personality pathology. Specifically, we were interested in whether reports gathered from parents (mothers and fathers) and reports gathered from youth on the youth’s personality pathology characteristics revealed systematic differences in reporting, and whether such systematic differences in reporting represent an additionally valuable source of information in the clinical prediction of youth psychopathology. To examine these questions, we directly compare the more widely used approach of quantifying
informant discrepancies—the use of SDS—to the more recently proposed method of quantifying informant discrepancies—examination of interaction terms in polynomial regression analyses. We were interested in whether these methods would yield different findings regarding informant discrepancies for youth PDs, and whether such differences might lead to different conclusions regarding the implementation of informant discrepancies in research and practice.

METHOD
Participants
Participants in this study were recruited as part of a larger investigation of child personality and psychopathology at the University of Toronto. Participants were 489 youth (54% female) between the ages of 11 and 18 years ($M_{age} = 14.33, SD = 1.83$) and their parents (304 mothers, 81 fathers). The inclusion criterion was fluency in English for both youth and parents. Exclusion criteria were history of psychotic disorders, mental retardation, or neurodevelopmental disorders in the youth. Informed assent/consent was obtained from all participants. Both informants contributed information on ethnicity, yielding the following breakdown: 47.9% European descent, 15.1% Asian Canadian, 12.5% other, 1.8% African/Caribbean Canadian, 1.4% Latin American, 0.2% Pacific Islander, and 21.1% of participants did not specify ethnicity.

Measures
Child Behavior Checklist (CBCL/6–18; Achenbach, 2001). The CBCL/6–18 is a 118-item parent-report questionnaire that measures the presence of problem behaviors in the past six months. Parents rated each item on a three-point scale ranging from 0 (not true as far as you know) to 2 (very true or often true). Items from the CBCL were scored to generate dimensional scores for internalizing problems, externalizing problems, and total problems, as well as specific syndrome scales, which have demonstrated good psychometric properties (Achenbach & Rescorla, 2001). In the present study, we examined the YSR Internalizing Problems (YSR INT) and YSR Externalizing Problems (YSR EXT) scales. The dimensional scores showed good internal consistency ($\alpha = .83$ for YSR INT and $\alpha = .82$ for YSR EXT). In this study, we aggregated information from the CBCL and YSR by summing their scores and then averaging them across reporters.

Dimensional Personality Symptom Item Pool (DIPSI; De Clercq et al., 2006; Tackett & De Clercq, 2009). The DIPSI is a 172-item multiple-informant (i.e., youth self-report and parent-report version) questionnaire measuring personality pathology in youth. The DIPSI was originally developed with Belgian youth aged 5–14 (De Clercq et al., 2006) and was translated into English with early validation data suggesting excellent psychometric properties (Tackett & De Clercq, 2009). Respondents rated each item on a five-point scale ranging from 1 (not characteristic) to 5 (highly characteristic). Items from the DIPSI were scored to generate scales for four higher-order dimensions of maladaptive personality: Disagreeableness, Emotional Instability, Introversion, and Compulsivity. These traits showed good internal consistency ($\alpha = .97$ for parent-reported and $\alpha = .97$ for youth-reported Disagreeableness, $\alpha = .96$ for parent-reported and $\alpha = .96$ for youth-reported Emotional Instability, $\alpha = .92$ for parent-reported and $\alpha = .90$ for youth-reported Introversion, and $\alpha = .88$ for parent-reported and $\alpha = .87$ for youth-reported Compulsivity). Also, 27 lower-order facets scales were computed: Hyperexpressive Traits, Hyperactive Traits, Dominance-Egocentrism, Impulsivity, Irritable-Aggressive Traits, Disorderliness, Distraction, Risk Taking, Narcissistic Traits, Affective Lability, Resistance, Lack of Empathy, Dependency, Anxious Traits, Lack of Self-Confidence, Insecure Attachment, Submissiveness, Ineffective Coping, Separation Anxiety, Depressive Traits, Inflexibility, Shyness, Paranoid Traits,

youth psychopathology in the past six months. Youth rated each item on a three-point scale ranging from 0 (not true) to 2 (very true or often true). Items from the YSR were scored to generate dimensional scores for internalizing problems, externalizing problems, and total problems, as well as specific syndrome scales, which have demonstrated good psychometric properties (Achenbach & Rescorla, 2001). In the present study, we examined the YSR Internalizing Problems (YSR INT) and YSR Externalizing Problems (YSR EXT) scales. The dimensional scores showed good internal consistency ($\alpha = .83$ for YSR INT and $\alpha = .82$ for YSR EXT). In this study, we aggregated information from the CBCL and YSR by summing their scores and then averaging them across reporters.

Youth Self-Report (YSR 11–18; Achenbach & Rescorla, 2001). The YSR is a 112-item youth self-report questionnaire that measures the presence of
drawn Traits, Perfectionism, Extreme Achievement Striving, and Extreme Order. The lower-order traits also showed adequate internal consistency overall, with alphas ranging from .65 (Insecure Attachment) to .90 (Irritable-Aggressive) with an average of .82 for parent-reported traits and alphas ranging from .54 (Insecure Attachment) to .88 (Ineffective Coping) with an average of .79 for youth-reported traits.

Procedures
Participating families were either recruited by undergraduate psychology students for course credit (38%) or solicited using a community-based participant pool database and posted flyers (62%). All participants were recruited from an urban community in southern Ontario, Canada. Ethics approval was obtained from the Office of Research Ethics. Once recruited, participants were mailed packages including informed consent documentation and questionnaires. Participants recruited by undergraduate students were given packages including informed consent documentation and questionnaires that were completed and returned by the student. Families recruited from the community received 10 Canadian dollars for completing the full protocol. As part of a planned missing data design, 373 participating caregivers completed the CBCL, whereas only 229 parents completed the DIPSI. Assignment to the DIPSI and five other questionnaires not included in the present study was determined by coin toss. The YSR was completed by 276 youth, and the DIPSI was completed by 277 youth. Missing data were imputed using the expectation–maximization (EM) algorithm in SPSS 20.

RESULTS
Three sets of analyses were conducted to shed light on the relevance of informant discrepancies for the assessment of adolescent personality pathology. Specifically, first, we analyzed the congruence between parent- and youth-reports of personality pathology. Second, we analyzed the utility of SDS as a measure of informant discrepancy in predicting youth internalizing and externalizing problems. Third, we analyzed the utility of polynomial regressions as a measure of informant discrepancy in predicting youth internalizing and externalizing problems.

Congruence Between Parent- and Youth-Reports of Personality Pathology
A series of t-tests was conducted to examine mean-level differences in parent- and youth-reports for DIPSI higher- and lower-order traits. As shown in Table 1, youth consistently reported higher levels on all personality pathology traits than did parents. Congruence was further assessed by examining inter-rater correlations for all DIPSI higher- and lower-order traits. Parent- and youth-reports of all personality pathology traits were positively correlated at \( p < .05 \) (see Table 1). Specifically, the average correlation for higher-order traits was \( r = .26 \) and ranged from \( r = .12 \) (Compulsivity) to \( r = .40 \) (Disagreeableness), whereas the average correlation for lower-order traits was \( r = .25 \) and ranged from \( r = .09 \) (Extreme Achievement Striving) to \( r = .40 \) (Distraction).

SDS as a Measure of Informant Discrepancy
Consistent with Laird and De Los Reyes (2013), standard difference scores of DIPSI traits were calculated in three ways: (a) a directional difference score \((D)\), represented by subtracting parent scores from youth scores; (b) a directional difference score of standardized reports \((DZ)\), represented by subtracting standardized parent scores from standardized youth scores; and (c) a squared difference score \((D^2)\), represented by squaring the directional difference score.

We analyzed bivariate correlations of youth internalizing and externalizing problems with parent- and youth-reports on all personality pathology traits as well as the three difference scores and tested the difference between these correlations using Steiger’s Z-statistic. Both parent- and youth-reports of personality pathology were associated with more youth internalizing and externalizing problems, and these correlations did not differ significantly from one another (see Table 2). The only exception to this pattern was for parent-reported Compulsivity, which was not significantly correlated with externalizing problems and which differed significantly from the correlation between youth-reported Compulsivity and externalizing problems. \( D \) and \( DZ \) for Compulsivity were significantly associated with externalizing problems, and \( D^2 \) for all personality pathology traits was significantly associated with both internalizing and externalizing problems.
We used the traditional version of SDS, represented by DZ values, and followed analyses as reported in Tackett (2011) to investigate the utility of SDS as an informant discrepancy measure of adolescent internalizing and externalizing problems. Multiple regression analyses were conducted with each aggregated behavior...
problem score (internalizing and externalizing problems) entered as the dependent variable, gender and age entered as independent variables to account for gender and age effects on the outcomes, and all four SDS for the DIPSI higher-order traits also entered simultaneously as independent variables. DIPSI standard difference scores were significant predictors for externalizing problems, but not for internalizing problems (see Table 3). Parent-youth disagreement for Disagreeableness ($\beta = -0.17, \ p = .017$) and Compulsivity ($\beta = 0.16, \ p = .004$) were unique predictors of externalizing problems.

**Polynomial Regressions as a Measure of Informant Discrepancy**

We followed the approach outlined in Laird and De Los Reyes (2013) to investigate the utility of polynomial regressions as an informant discrepancy measure of adolescent internalizing and externalizing problems. All independent variables were standardized. Next, internalizing and externalizing problems were regressed on parent- and youth-reports of personality pathology such that each personality pathology trait was paired with each outcome, resulting in eight regression analyses. For each model, we first entered the effect of youth gender and age (Step 1), followed by main effects for each informant report (i.e., adolescent and parent), quadratic main effects for each informant report (i.e., Adolescent$^2$ and parent$^2$), and the linear interaction term (i.e., Adolescent $\times$ Parent; Step 2). Four additional higher-order terms were entered if model fit was significantly improved, and at least one of the additional interaction terms was significant: the cubic main effects for each informant report (i.e., adolescent$^3$ and parent$^3$) and the quadratic interaction terms (i.e., Parent $\times$ Adolescent$^2$ and Adolescent $\times$ Parent$^2$; Step 3). Significant interactions were probed by plotting and calculating simple slopes using Hayes’s (2013) PROCESS modeling approach and moderator values ± 1 standard deviation from the mean.

In total, nine interaction terms were significant across the eight polynomial regression models (see Tables 4 and 5). Figure 1 illustrates the significant linear interaction effects wherein youth-reported DIPSI traits moderate the association between parent-reported DIPSI traits and youth internalizing and externalizing problems. The interaction between parent- and youth-reported Disagreeableness predicted internalizing problems. Parent-reported Disagreeableness was more strongly associated with internalizing problems at low ($b = 1.86, \ SE = 0.32, \ p = .000$) than at high levels of youth-reported Disagreeableness ($b = 0.73, \ SE = 0.35, \ p = .036$), indicating that the agreement between youth and parents on low Disagreeableness is associated with the fewest internalizing

<table>
<thead>
<tr>
<th></th>
<th>$D$ [95% CI]</th>
<th>$D$</th>
<th>$DZ$ [95% CI]</th>
<th>$D$</th>
<th>$D^2$ [95% CI]</th>
<th>$D$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagreeableness</td>
<td>$-0.76 [-2.06, 0.54]$</td>
<td>$-0.08$</td>
<td>$-0.12 [-0.76, 0.53]$</td>
<td>$-0.03$</td>
<td>$-0.70 [-1.59, 0.20]$</td>
<td>$-0.08$</td>
</tr>
<tr>
<td>Emotional Instability</td>
<td>$0.91 [-0.46, 2.28]$</td>
<td>$0.11$</td>
<td>$0.52 [-0.17, 1.22]$</td>
<td>$0.13$</td>
<td>$1.84 [1.04, 2.63]$</td>
<td>$0.26^{***}$</td>
</tr>
<tr>
<td>Introversion</td>
<td>$0.37 [-0.82, 1.55]$</td>
<td>$0.04$</td>
<td>$-0.14 [-0.71, 0.44]$</td>
<td>$-0.03$</td>
<td>$1.55 [0.81, 2.28]$</td>
<td>$0.22^{***}$</td>
</tr>
<tr>
<td>Compulsivity</td>
<td>$-0.24 [-0.98, 0.50]$</td>
<td>$-0.04$</td>
<td>$-0.17 [-0.58, 0.24]$</td>
<td>$-0.05$</td>
<td>$0.09 [-0.32, 0.49]$</td>
<td>$0.02$</td>
</tr>
<tr>
<td></td>
<td>$R^2 = 0.01$</td>
<td></td>
<td></td>
<td></td>
<td>$R^2 = 0.15^{***}$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internalizing problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagreeableness</td>
<td>$-2.28 [-3.63, -0.93]$</td>
<td>$-0.23^{**}$</td>
<td>$-0.81 [-1.48, -0.14]$</td>
<td>$-0.17^*$</td>
<td>$1.66 [0.70, 2.62]$</td>
<td>$0.18^{**}$</td>
</tr>
<tr>
<td>Emotional Instability</td>
<td>$1.10 [-0.33, 2.52]$</td>
<td>$0.13$</td>
<td>$0.52 [-0.21, 1.24]$</td>
<td>$0.12$</td>
<td>$-0.43 [-1.28, 0.42]$</td>
<td>$-0.06$</td>
</tr>
<tr>
<td>Introversion</td>
<td>$-0.13 [-1.36, 1.10]$</td>
<td>$-0.02$</td>
<td>$-0.29 [-0.88, 0.31]$</td>
<td>$-0.07$</td>
<td>$1.07 [0.28, 1.86]$</td>
<td>$0.14^{**}$</td>
</tr>
<tr>
<td>Compulsivity</td>
<td>$1.19 [0.43, 1.96]$</td>
<td>$0.17^{**}$</td>
<td>$0.63 [0.21, 1.06]$</td>
<td>$0.16^{**}$</td>
<td>$0.71 [0.28, 1.15]$</td>
<td>$0.15^{**}$</td>
</tr>
<tr>
<td></td>
<td>$R^2 = 0.07^{***}$</td>
<td></td>
<td>$R^2 = 0.07^{***}$</td>
<td></td>
<td>$R^2 = 0.15^{***}$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Externalizing problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Hierarchical regression analyses were conducted entering all higher-order DIPSI traits to examine the prediction of youth internalizing and externalizing problems following three methods for calculating standard difference scores (SDS) of adolescent- and parent-reported personality pathology traits. For all models, youth sex and age were entered in Step 1, but were omitted from the table for clarity. $D$ = directional difference score; $DZ$ = directional difference score of standardized reports; $D^2$ = squared difference score; $B$ = unstandardized regression coefficient; $\beta$ = standardized regression coefficient. Values in square brackets denote 95% confidence intervals for unstandardized regression coefficients. *$p < .05$, **$p < .01$, ***$p < .001$.  

Table 3. Standard difference scores for parent-youth disagreement on child personality as predictors of child internalizing and externalizing problems.
problems. The interaction between parent- and youth-reported Introversion predicted internalizing problems. Parent-reported Introversion was more strongly associated with internalizing problems at low ($b = 2.44, SE = 0.23, p = .000$) than at high levels of youth-reported Introversion ($b = 1.70, SE = 0.25, p = .000$), indicating that the agreement between youth and parents on low Disagreeableness is associated with the fewest internalizing problems. The interaction between parent- and youth-reported Disagreeableness predicted externalizing problems. Parent-reported Disagreeableness was associated with externalizing problems at low ($b = 2.44, SE = 0.23, p = .000$) than at high levels of youth-reported Disagreeableness ($b = 1.70, SE = 0.25, p = .000$), indicating that the agreement between youth and parents on low Disagreeableness is associated with the fewest externalizing problems. The interaction between parent- and youth-reported Compulsivity predicted externalizing problems. Parent-reported Compulsivity was associated with externalizing problems only at high ($b = 0.47, SE = 0.36, p = .192$), indicating that the agreement between

### Table 4. Parent- and adolescent-reports as predictors of internalizing problems (polynomial regression)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Disagreeableness</th>
<th>Emotional Instability</th>
<th>Introversion</th>
<th>Compulsivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$SE$</td>
<td>$p$</td>
<td>$B$</td>
</tr>
<tr>
<td>Adolescent</td>
<td>1.63</td>
<td>0.22</td>
<td>.000</td>
<td>3.28</td>
</tr>
<tr>
<td>Parent</td>
<td>1.30</td>
<td>0.26</td>
<td>.000</td>
<td>1.28</td>
</tr>
<tr>
<td>Adolescent $^2$</td>
<td>0.05</td>
<td>0.14</td>
<td>.745</td>
<td>0.24</td>
</tr>
<tr>
<td>Adolescent $\times$ Parent</td>
<td>-0.57</td>
<td>0.22</td>
<td>.009</td>
<td>-0.41</td>
</tr>
<tr>
<td>Parent $^2$</td>
<td>0.16</td>
<td>0.14</td>
<td>.258</td>
<td>0.08</td>
</tr>
<tr>
<td>Adolescent $\times$ Parent $^2$</td>
<td>0.03</td>
<td>0.13</td>
<td>.825</td>
<td>0.25</td>
</tr>
<tr>
<td>Model $R^2$</td>
<td>0.25***</td>
<td>0.62***</td>
<td></td>
<td>0.44***</td>
</tr>
</tbody>
</table>

Note. Separate moderated hierarchical regression analyses were conducted for each higher-order DIPSI trait to examine the linear, quadratic, cubic, and interaction terms between adolescent- and parent-reported personality pathology traits for predicting youth internalizing problems. For all models, youth sex and age were entered in Step 1, but were omitted from the table for clarity. Model estimates are displayed for new variables added at each subsequent step (omitted estimates available upon request). $B$ = unstandardized regression coefficient; $SE$ = standard error of unstandardized regression coefficient.

### Table 5. Parent- and adolescent-reports as predictors of externalizing problems (polynomial regression)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Disagreeableness</th>
<th>Emotional Instability</th>
<th>Introversion</th>
<th>Compulsivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>$SE$</td>
<td>$p$</td>
<td>$B$</td>
</tr>
<tr>
<td>Adolescent</td>
<td>2.29</td>
<td>0.16</td>
<td>.000</td>
<td>2.00</td>
</tr>
<tr>
<td>Parent</td>
<td>2.07</td>
<td>0.19</td>
<td>.000</td>
<td>1.66</td>
</tr>
<tr>
<td>Adolescent $^2$</td>
<td>0.31</td>
<td>0.10</td>
<td>.003</td>
<td>0.44</td>
</tr>
<tr>
<td>Adolescent $\times$ Parent</td>
<td>-0.37</td>
<td>0.16</td>
<td>.019</td>
<td>-0.18</td>
</tr>
<tr>
<td>Parent $^2$</td>
<td>0.52</td>
<td>0.10</td>
<td>.000</td>
<td>0.12</td>
</tr>
<tr>
<td>Adolescent $\times$ Parent $^2$</td>
<td>-0.08</td>
<td>0.11</td>
<td>.460</td>
<td>0.12</td>
</tr>
<tr>
<td>Parent $\times$ Adolescent $^2$</td>
<td>0.44</td>
<td>0.18</td>
<td>.016</td>
<td>0.33</td>
</tr>
<tr>
<td>Parent $\times$ Adolescent $\times$ Parent $^2$</td>
<td>-0.47</td>
<td>0.16</td>
<td>.004</td>
<td>-0.47</td>
</tr>
<tr>
<td>Parent $^3$</td>
<td>-0.06</td>
<td>0.09</td>
<td>.592</td>
<td>0.08</td>
</tr>
<tr>
<td>Model $R^2$</td>
<td>0.65***</td>
<td>0.30***</td>
<td></td>
<td>0.24***</td>
</tr>
</tbody>
</table>

Note. Separate moderated hierarchical regression analyses were conducted for each higher-order DIPSI trait to examine the linear, quadratic, cubic, and interaction terms between adolescent- and parent-reported personality pathology traits for predicting youth externalizing problems. For all models, youth sex and age were entered in Step 1, but were omitted from the table for clarity. Model estimates are displayed for new variables added at each subsequent step (omitted estimates available upon request). $B$ = unstandardized regression coefficient; $SE$ = standard error of unstandardized regression coefficient.
youth and parents on low Compulsivity is associated with the fewest externalizing problems.

Figure 2 illustrates the significant quadratic interaction effects wherein youth-reported DIPSI traits moderate the prediction of youth internalizing and externalizing problems by parent-reported DIPSI traits. The interaction between the quadratic effect of parent-reported Emotional Instability and youth-reported Emotional Instability predicted internalizing problems. The quadratic effect of parent-reported Emotional Instability was weakly associated with internalizing problems only at low ($b = 0.33$, $SE = 0.19$, $p = .081$) but not at high ($b = -0.18$, $SE = 0.23$, $p = .441$) levels of youth-reported Emotional Instability, indicating that the agreement between youth and parents on low Emotional Instability is associated with the fewest internalizing problems. Parent-reported Emotional Instability showed a nonlinear increase in prediction of youth internalizing problems at low levels of youth-reported Emotional Instability. The interaction between the quadratic effect of parent-reported Emotional Instability and youth-reported Emotional Instability predicted externalizing problems. The quadratic effect of parent-reported Emotional Instability was associated with externalizing problems only at low ($b = 0.58$, $SE = 0.27$, $p = .034$) but not at high ($b = -0.35$, $SE = 0.33$, $p = .283$) levels of youth-reported Emotional Instability, indicating that the agreement between youth and parents on low Emotional Instability is associated with the fewest externalizing problems. In addition, the interaction between the quadratic effect of youth-reported Emotional Instability and parent-reported Emotional Instability also predicted

![Graphs showing linear interactions between parent and adolescent DIPSI trait ratings in predicting youth internalizing and externalizing problems. All simple slopes are significant (all $p < .05$), with the exception of low youth Compulsivity.](image-url)

Figure 1. Linear interactions between parent and adolescent DIPSI trait ratings in predicting youth internalizing and externalizing problems. All simple slopes are significant (all $p < .05$), with the exception of low youth Compulsivity.
externalizing problems. The quadratic effect of youth-reported Emotional Instability was associated with externalizing problems only at high ($b = 0.88$, SE = 0.29, $p = .003$) but not at low ($b = 0.00$, SE = 0.21, $p = .996$) levels of parent-reported Emotional Instability, again indicating that the agreement between youth and parents on low Emotional Instability is associated with the fewest externalizing problems. Finally, the interaction between the quadratic effect of parent-reported Introversion and youth-reported Introversion predicted externalizing problems. The quadratic effect of parent-reported Introversion was only marginally associated with externalizing problems at high ($b = -0.69$, SE = 0.42, $p = .105$) but not at low

Figure 2. Quadratic interaction between parent and youth Dimensional Personality Symptom Item Pool personality pathology trait ratings in predicting youth internalizing and externalizing problems.
The present study investigated congruence and discrepancy in parent and adolescent self-reports of higher- and lower-order youth personality pathology traits. This aim was achieved through three primary analytic strategies: (a) examination of informant agreement and mean-level differences, (b) the utility of standard difference scores conceptualizing parent–youth discrepancy to predict youth internalizing and externalizing problems, and (c) the utility of polynomial regressions conceptualizing parent–youth discrepancy to predict youth internalizing and externalizing problems.

Regarding the first goal, the present findings supported evidence for modest parent–youth agreement for all four DIPSI higher-order domains, similar to other multi-informant research on adult PDs (e.g., Olmanns & Turkheimer, 2009). Systematic mean-level differences emerged as well, with youth self-reporting higher levels on all PD trait domains compared with parent-report. Differences in inter-rater agreement also emerged across trait domains, with highest agreement found for DIPSI Disagreeableness and lowest agreement for DIPSI Compulsivity. This pattern of findings is largely consistent with research indicating higher informant agreement for externalizing problems than for internalizing problems in youth (Achenbach et al., 1987) and extends this pattern to the assessment of adolescent personality pathology.

The second goal used the recently popularized approach to capturing informant discrepancies—standard difference scores—to estimate differences in parent- and youth-reports of youth personality pathology while controlling for absolute levels of PD traits (De Los Reyes & Kazdin, 2004; Tackett, 2011). These analyses revealed some evidence for parent–youth discrepancies on Disagreeableness and Compulsivity in predicting youth externalizing problems. Such findings suggest that parent and youth disagreement on these traits incrementally predicts youth externalizing problems, independent of linear prediction of externalizing problems by these traits. These findings are interesting for two reasons. First, Tackett (2011) found mother–father discrepancies on normal-range child personality traits to predict internalizing, not externalizing, problems. These findings suggest a different pattern of results for personality pathology discrepancies (although, of course, with different informants compared). Second, the two trait discrepancies reflect the PD trait that showed the highest agreement (Disagreeableness) and the lowest agreement (Compulsivity). This suggests that the level of inter-rater agreement does not necessarily indicate whether informant discrepancies will provide predictive validity for a given outcome.

The third goal was to use a recently published alternative to SDS—polynomial regression—to capture differences between parent- and youth-reports (Laird & De Los Reyes, 2013). Closely following the analyses laid out by Laird and De Los Reyes, the use of polynomial regressions revealed a much more complicated and nuanced picture regarding parent–youth discrepancies in PD traits in the prediction of youth internalizing and externalizing problems. Both linear and quadratic interaction terms were significant in predicting both internalizing and externalizing problems. Linear interaction terms capturing parent–youth discrepancy showed the same pattern for the prediction of internalizing problems (for discrepancies on Disagreeableness and Introversion) and externalizing problems (for discrepancies on Disagreeableness). Specifically, in these three cases, parent ratings of the PD trait showed better prediction of psychopathology when youth ratings on the PD trait were low. Discrepancies on Compulsivity showed another pattern in the prediction of externalizing problems, such that parent ratings on Compulsivity predicted externalizing problems only when youth ratings on Compulsivity were high.
Quadratic effects for parent–youth discrepancy also emerged for three PD–psychopathology combinations. Quadratic effects emerged for parent–youth discrepancy on Emotional Instability predicting internalizing problems. Specifically, parent-report on the youth’s Emotional Instability showed a nonlinear increase in predicting youth internalizing problems when youth-report on Emotional Instability was low. The other quadratic effects for PD trait discrepancies (Emotional Instability and Introversion) predicting externalizing problems showed the same pattern. In both cases, youth self-reports of the PD trait showed greatest variance in the prediction of externalizing problems at intermediate levels of parent ratings on the PD trait, whereas parent-reports of the PD trait showed greatest variance in the prediction of externalizing problems at the extreme ends of youth ratings on the PD trait (i.e., at low PD trait levels and at high PD trait levels).

One point of interest in the present study was a comparison of SDS and polynomial regression approaches to capturing potential utility in informant discrepancies. Such comparisons are particularly important given that most previous work on informant discrepancies has used the SDS approach (De Los Reyes & Kazdin, 2004). These findings support convergence between the two approaches, such that discrepancies on trait Disagreeableness and trait Compulsivity predicted youth externalizing problems using both the SDS approach and the polynomial regression approach (in the case of linear interaction effects). However, more findings were revealed using the polynomial regression analyses, including more complicated and nuanced results predicting internalizing problems and findings for quadratic effects for informant discrepancies as well. Taken together, we think that these results support the use of polynomial regressions in providing a more comprehensive and nuanced picture regarding the meaning and utility of informant discrepancies (Laird & De Los Reyes, 2013), without necessarily invalidating previous findings using SDS.

Limitations of the Current Findings

Of course, the present study is not without limitations. One limitation is that the results presented here are specific to parent and youth informant discrepancies for personality pathology and may not generalize to other informants. One of the primary reasons why informant discrepancies likely hold such utility is because each informant possesses unique information about the target based on his or her relationship to the target, his or her motivations to report on the target, and the target’s behaviors that are exposed and available to him or her as an informant (De Los Reyes & Kazdin, 2005; Tackett, 2011). Thus, it would be unsurprising if different combinations of informants (e.g., parent–teacher, self–clinician) highlighted different PD trait discrepancies as potentially relevant for the prediction of criterion variables.

Another primary limitation of the present study is that criterion variables free from shared method variance (i.e., provided by a source other than parent or youth) were unavailable for the present study. The present study used aggregate estimates of youth internalizing and externalizing problems as criterion variables to examine the psychopathology constructs in a simple and straightforward way. Of course, this avoids the issue we raise as central to this article, which is that simple aggregates are likely missing important aspects of predictive variance that are captured in informant discrepancies. Nonetheless, trying to examine informant discrepancies in both independent and dependent variables was beyond the scope of the present study. It is important for future research to think closely about how to deal with multi-informant dependent variables (which are common in clinical and research settings focusing on youth populations) and to aim for inclusion of criterion variables that are free from shared method variance with the predictors.

Implications of the Current Findings for Research and Practice

Further research on informant discrepancies has great potential to result in more refined algorithms for combining information across informants in a way that will be maximally useful to clinicians and educators (Achenbach, 2011). Similarly, they are crucial in our ability to develop informant-based norms to facilitate scores of individual children based on who is offering the information (Achenbach, 2011). Depending on the suitability of the clients, informant discrepancies may also be amenable to a therapeutic assessment approach (Finn & Tonsager, 1997), whereby a clinician can use...
discrepancies between clinician and parents, or parents and teachers, to demonstrate potential issues contributing to the presenting complaint, such as the impactful role of individual perceptions on children’s behavior or the relevance of person by situation processes in differentially producing behavioral problems across contexts.

Specific implications from these findings support the use of multiple informants in the study of adolescent personality pathology (Klonsky et al., 2002) and further emphasize the need to think beyond basic aggregates when data from multiple informants are available. Trait- and disorder-specific findings need to be replicated in future research, but these results do show robust evidence for predictive variance in informant discrepancies across all higher-order personality pathology traits in youth (Disagreeableness, Introversion, Compulsivity, and Emotional Instability). The replicated linear effects for Disagreeableness–internalizing, Introversion–internalizing, and Disagreeableness–externalizing offer one specific example of how these findings might be applied in clinical and research settings. Specifically, these findings suggest that parent-report of these PD traits becomes more relevant for predicting psychopathology when youth-report of each PD trait is low. Such patterns can be integrated into combinatorial algorithms with application across applied and research settings, ultimately leading to maximal prediction of psychopathology and other relevant youth outcomes.

NOTE
1. Due to ethical considerations, one item assessing suicidal ideation that loads on the INT scale was omitted from mail-in questionnaire packages. As such, the INT scale was computed without this item.

REFERENCES


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