
Differential Correlates to Self-Report and Parent-Report of Callous–Unemotional Traits in a Sample of Juvenile Sexual Offenders

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The association of callous–unemotional (CU) traits with violence and severe antisocial behavior has led to a recent focus on the association between CU traits and sexual offending behavior. When assessing juveniles with sexual offenses, practice standards recommend that multiple sources of data are considered. However, the differential correlates of parent-report versus self-report of CU traits in juvenile sex offenders have not been investigated. A sample of 94 detained male youth (mean age = 15.22, SD = 1.48) was administered both youth and parent versions of the Inventory of Callous–Unemotional Traits (ICU), a general delinquency risk assessment tool (YLS), and a sexual offending risk assessment tool (J-SOAP-II) to investigate concordance between self-report and parent-report of CU traits as well as association with general and sex-specific risk factors. Both parent-report and self-report of CU traits were significantly related to higher general delinquency risk scores, with parent-report showing stronger correlations than self-report. Both parent-report and self-report were related to sex-specific risk factors. However, only parent-report significantly predicted static sexual risk, while self-report significantly predicted dynamic sexual risk scores. Evidence supports the importance of including both parent- and self-report of CU traits in the comprehensive assessment of sexually offending youth. Copyright © 2009 John Wiley & Sons, Ltd.

INTRODUCTION

There is a general consensus in the professional literature that juveniles who are charged with sexual offenses vary on background factors, clinical characteristics, and antisocial behaviors (see Chaffin, 2008; Hiscox, Witt, & Haran, 2007; Robertiello & Terry, 2007; White, Kadlec, & Sechrist, 2006; Witt, Bosley, & Hiscox, 2002). Among legally identified youth with sexual offenses, differential rates of sexual and nonsexual recidivism have been identified. For example, Caldwell (2002) reviewed 12 studies and identified an 11% sexual reconviction rate versus 41% nonsexual reconviction rate among juvenile sex offenders. Studies documenting recidivism rates (see Worling & Curwen, 2000; Waite, Keller, McGarvey, Wieckowski, Pinkerton, & Brown, 2005) reflect that risk assessments within this subgroup of juvenile offenders must attend to

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the presence of a variety of nonsexual as well as sexual risk factors. As such, specialized risk assessment instruments such as the Juvenile Sex Offender Assessment Protocol—II (J-SOAP-II; Prentky & Righthand, 2003) and the Estimate of Risk of Adolescent Sexual Offense Recidivism (ERASOR; Worling & Curwen, 2001) reflect combinations of both static, dynamic, sexual, and nonsexual risk factors.

In a recent review, Seto and Lalumiere (2006) compared measures of antisocial tendencies among male juvenile sex offenders versus male nonsexual juvenile offenders. The overall findings were that juvenile sex offenders had significant histories of antisocial, conduct, and criminal problems but generally had lower rates relative to the nonsexual offending counterparts. Within sexual offending youth, a trend was noted toward youth who offended against children as having fewer conduct problems than youth with sexual offenses against peers and adults. This empirical trend has also been reflected in typologies of sexually offending youth. For example, Becker and Kaplan (1988) differentiated three pathways for juveniles with sexual offenses, with the third pathway (labeled delinquency pathway) being differentiated from the first two by the presence of a broad pattern of general antisocial behavior and continued engagement in nonsexual crimes. In addition, the recent juvenile sex offender typology research conducted by Hunter and colleagues (see Hunter, 2004; Hunter, Figueredo, Malamuth, & Becker, 2003) indicates that youth who sexually offend against prepubescent children engage in less physical violence and exhibit greater psychosocial deficits relative to youth who sexually offend against peers and adults. This latter group of youth who offended against adults and peers was found to have greater frequencies of prior arrests for a nonsexual assault and greater use of force (including use of a weapon) in the commission of the index sexual offense, and is more likely to be under the influence of substances at the time of the offense.

Therefore, investigating factors that signal the presence of severe antisocial tendencies has potential to further refine juvenile sex offender typologies, contribute to a greater understanding of broad patterns of risk, and further refine clinical assessments of risk with this population. Callous–unemotional (CU) traits are one such factor that is considered critical for understanding the development of severe antisocial behavior in youth (Frick & White, 2008). As such, the broad purpose of the current study is to investigate the clinical utility of a measure of CU traits, the Inventory of Callous–Unemotional Traits (ICU), by testing patterns of convergent validity across both self-report and parent-report versions of this instrument with two risk assessment measures commonly used to assess sexual and nonsexual risk factors among sexually offending youth.

Callous–Unemotional Traits

CU traits are prominent in most conceptualizations of psychopathy in adults (Cleckley, 1976; Hare, 1993), with the construct proven to designate a particular severe and violent group of antisocial adults (Hemphill, 2007; Porter & Woodworth, 2006). A variety of studies indicate that CU traits are also related to violence in youth (see Frick & Dickens, 2006, or Leistico, Salekin, DeCoster, & Rogers, 2008, for a review). In addition to CU traits, most definitions of psychopathy incorporate other dimensions including impulsivity/irresponsibility and narcissism/grandiosity (see Cooke, Michie, & Hart, 2006). While all three dimensions are related to antisocial behavior in both youth

and adults, there is evidence that CU traits are most important for designating a distinct subgroup within antisocial youth (Caputo, Frick, & Brodsky, 1999; Christian, Frick, Hill, Tyler, & Frazer, 1997; Frick & White, 2008). For example, in samples of youth, impulsivity and narcissism have been found to be higher in children with early onset severe behavior problems (Christian *et al.*, 1997) and serious juvenile offenders (Caputo *et al.*, 1999), but it is the presence of CU traits that seems to designate a distinct group within youth who show severe antisocial behavior.

CU Traits and Sexual Offending

Given CU traits' association with violence and severe antisocial behavior, it is not surprising that there has been interest in the association between CU traits and sexual offending behavior. Psychopathy has been proposed as a major etiological factor in the developmental of sexually aggressive behavior (Daversa & Knight, 2007; Knight & Sims-Knight, 2003). Knight and colleagues additionally proposed that it is specifically the CU trait dimension of psychopathy that seems to be important in predicting increased violence in sexual offending (Knight & Guay, 2006). It is important to note that Knight and colleagues do not propose that CU traits are necessary for sexualized aggression. Rather, for Knight and colleagues, CU traits are associated with a willingness to harm others, including sexual offending, while sex offending in those with low levels of CU traits is more related to maladaptive sexualization (Knight & Guay, 2006). Caputo *et al.* (1999) provided one of the first studies investigating CU traits in sexually offending youth. In this study, violent sexually offending youth had significantly higher rates of elevated CU traits compared with violent nonsexual and noncontact offenders. In a sample of 220 male sexually offending youth, Gretton, McBride, Hare, O'Shaughnessy, and Kumka (2001) found that scores on the Psychopathy Checklist—Youth Version (PCL:YV; Forth, Kosson, & Hare, 2003) were significant predictors of total violent and nonviolent general re-offending. Additionally, PCL:YV scores and physiologically measured sexual arousal were predictors of general recidivism, with the presence of both features leading to shorter times to post-release re-offense. However, PCL:YV scores did not predict sexual recidivism. Recently, McCrory, Hickey, Farmer, and Vizard (2008) identified that youth high on psychopathy had an earlier age of onset of problematic sexual behavior and engaged in a stable pattern of nonsexual delinquency relative to youth low on psychopathy. In summary, the extant research indicates that high levels of CU traits are common in samples of male sexually offending youth and that presence of such traits is associated with more severe antisocial histories and risk for future violent and nonviolent general recidivism.

Self-Report versus Parent-Report Assessments of CU Traits and Implications for Evaluations of Juvenile Sex Offenders

Comprehensive assessments of juvenile sex offenders are recommended to incorporate broad-based measures of internalizing and externalizing symptoms, family functioning, assessment of sexual attitudes and interests, sexual behavior history, and assessments of risk/need factors (see CSOM, 2007; Fanniff & Becker, 2006; Hunter & Cruise, 2009).

Practice standards indicate that such assessments should utilize multiple sources of data, avoid sole reliance on self-report measures, and involve collateral contacts with individuals (i.e., family members) who can provide confirming or divergent perspectives on clinical information obtained from youth (CSOM, 2007).

Assessment of psychopathy has historically been dominated by clinician ratings; however, self-report measures are often used (Lilienfeld & Fowler, 2006). Given the nature of CU traits, the only direct observer is the self. Clinicians may only infer the presence or absence of constructs such as empathy and guilt, while an individual can access these constructs more directly (Lilienfeld & Fowler, 2006). Most importantly, several different self-report rating scales of psychopathy have proven to be useful in identifying psychopathic traits, despite concerns that the manipulative nature of persons with psychopathic traits might render self-report of psychopathy unreliable or invalid (see, e.g., Lynam, Whiteside, & Jones, 1999; Munoz & Frick, 2007; Poythress, Edens, & Lilienfeld, 1998). Self-report of psychopathic traits has been found to be similar to clinician ratings scales in predicting relevant outcomes and correlates (Edens, Poythress, & Lilienfeld, 1999; Lilienfeld & Fowler, 2006) and several self-report measures have been found to have acceptable psychometric properties when used with children and adolescents, including the Inventory of Callous–Unemotional Traits (ICU; Kimonis et al., 2008), the Antisocial Process Screening Device (APSD; Munoz & Frick, 2007), the Youth Psychopathy Inventory (YPI; Andershed, Kerr, Stattin, & Levander, 2002), and the Childhood Psychopathy Scale (CPS; Lynam, 1996).

As previously mentioned, CU traits are largely an internal phenomenon. Therefore, it is consistent with other research on child self-report ratings scales that CU traits can be accessed and measured through self-report methods. For example, Kamphaus and Frick (2005) have indicated that internalizing disorders are better assessed by self-report, suggesting that youth are the most accurate reporters of internalized, subjective distress associated with anxiety and depression. However, CU traits are different than the traditional internalizing disorders in that the very internal characteristics being measured (i.e., lack of empathy, remorse) may impact self-appraisals when relying only on self-report. CU traits are also robustly associated with disruptive behavior problems, which are generally better assessed via parent-report (Kamphaus & Frick, 2005; Loeber, Green, & Lahey, 1990). Given the disruptive behavior problems associated with CU traits, and that parents and children have both been found to contribute independent information in reporting psychopathology (Kamphaus & Frick, 2005), some measures of CU traits have included parent-report in addition to self-report forms (Frick & Hare, 2001). However, as children become adolescents, the opportunity for parents and other adults to directly observe disruptive behavior declines, so researchers often rely on self-report data, as opposed to parent or official reports of delinquency (Hindelang, Hirschi, & Weis, 1981; Bartol, 2002). Correlations across informants generally range from .3 to .4 (Kamphaus & Frick, 2005). Again, measures of CU traits do not fit neatly into this conceptualization, as general behaviors and attitudes are queried as opposed to specific delinquent acts. Therefore, it is important for research to investigate convergence and potentially meaningful divergence across self-report and parent-report measures of CU traits among adolescents.

In juvenile justice settings, myriad challenges exist in consistently obtaining both self-report and parent-report assessments due to the general lack of availability of parents to participate in assessments completed in secure settings. Only one study to date has examined the impact of parent-report on the measurement of CU traits. Using the ICU,

Roose, Bijttebier, Decoene, Claes, and Frick (in press) examined a community sample of 455 Belgian adolescents. As an initial step in testing concordance across self-report and parent-report, the authors examined the factor structures for each measure. A similar factor structure for both measures was found, namely a bifactor structure with a single CU factor accounting for covariance among all items and three subfactors (i.e., Uncaring, Callous, Unemotional) reflecting unique patterns of covariance among particular groups of items that are independent of the general CU factor. This study also sought to examine convergent and criterion validity of the parent and self-report measure. Consistent with past research, the self-report ICU was positively associated with other measures of psychopathy, punishment insensitivity, thrill-seeking, and Neuroticism, while being negatively associated with measures of empathy, reward responsiveness, Agreeableness, and Conscientiousness. Furthermore, self-report ICU scores were negatively correlated with prosocial behavior and positively associated with antisocial behavior. Roose and colleagues also examined parent and teacher ICU ratings. However, for the convergent and criterion validity analyses, the authors only reported results for a teacher/parent composite rating, utilizing the highest score on each item from these different raters. Results were similar to the self-report findings, though associations were less strong.

Roose *et al.* (in press) were the first to evaluate both the factor structure and validity estimates of the self- and parent/teacher-report ICU within the same sample. The results provide positive and consistent support for the bifactor structure of the ICU that has been found for the self-report scale in diverse samples, including detained youth in the United States (Kimonis *et al.*, 2008), German adolescents (Essau, Sasagawa, & Frick, 2006), and Greek Cypriot adolescents (Fanti, Frick, & Georgiou, 2009). The significant associations between the parent/teacher composite rating and criterion measures are a broad indicator of the validity of the parent/teacher ratings. However, among adolescent samples, the question remains to what extent the parent-report adds any unique contribution to indices of aggression and violence beyond what is accounted for by the youth self-report.

Current Study

Based on this background literature, there are two separate, but related, aims of the current study. The Roose *et al.* study provides preliminary evidence for the utility of parent-report when assessing CU traits in adolescents. However, there are no data available on the *unique* utility of parent-report of CU traits or its usefulness when combined with self-report. Therefore, the first aim is to investigate the concordance between self-report and parent-report of CU traits utilizing the ICU and to explore to what extent the parent-report adds to the statistical prediction of indices of aggression and violence. The second aim is more specific to the assessment of juveniles with sexual offenses. The inclusion of parent-report and other collateral data sources are considered a best practice standard in conducting psychosexual assessments. However, there is no empirical support for the validity of the parent-report ICU in sexually offending youth. Therefore, the current study tests convergent validity of the parent- and self-report ICU scores with two risk assessment measures commonly used in juvenile sex offender risk assessments.

METHOD

Participants

Participant information was obtained from archived intake assessment records of 172 boys detained in a secure custody facility in a southern U.S. state. The records represented a sample of consecutive admissions of boys who were court-ordered into secure custody following disposition for a sexual offense during a 41 month time period (December 2003 through June 2008). Any youth with missing item level data >20% from any measure subscale was excluded in a listwise fashion. As the overwhelming majority of youth with missing data was missing parent-report ICU scores ($n = 63$), pairwise deletion would have resulted in an increased likelihood of spurious findings, as relationships between self-report ICU total scores with YLS and J-SOAP-II scores would be drawn from a much larger sample. Seventy-eight cases from the original sample were excluded due to missing data. The final sample of 94 boys ranged in age from 12.0 to 18.0 years at the time of admission ($M = 15.22$, $SD = 1.48$) and consisted of approximately equal numbers of African-American (45.7%) and non-Hispanic White male youth (53.2%), with a very small number of Hispanic and biracial youth (1.1%).

Procedure

All youth with sexual offenses were required to participate in a comprehensive intake mental health assessment process that included a mental health screening conducted by master's level clinicians within the first four days of admission, a clinical interview by social work staff within the first week of admission, and a comprehensive mental health assessment by a psychologist. The mental health assessment protocol included a clinical interview, a review of collateral intake records provided by the referring juvenile court and juvenile probation office, and a specialized juvenile sex offender risk assessment. The comprehensive assessment protocol also required psychology staff to interview a parent/legal guardian via telephone and to contact the referring probation officer for additional collateral information regarding prior evaluations and the legal investigation reports, if this information was not included in the intake packet. All clinicians were thoroughly trained in the administration and scoring of all measures. Study data were obtained by extracting all test scores and variables from electronic sources, which were developed and maintained by facility staff to archive all assessment information following completion of the comprehensive assessment process. As data extraction involved accessing archival records only, parent consent and youth assent were waived. Research data were de-identified with all extraction procedures approved by the local institutional review board.

Measures

Inventory of Callous–Unemotional Traits (ICU; Frick, 2004)

The ICU is a 24-item scale designed to assess callous and unemotional traits in youth. The ICU was derived from the callous–unemotional (CU) scale of the Antisocial Process Screening Device (APSD; Frick & Hare, 2001). The APSD has parent-,

teacher-, and self-report versions that have been widely used in various samples of youth (see Frick & Dickens, 2006; Frick & White, 2008, for reviews). The CU component of the APSD has emerged as a distinct factor in both clinic and community samples (Frick, Bodin, & Barry, 2000). However, it has only six items rated on a three-point scale, which has led to problems in its reliability in some samples (see, e.g., Loney, Frick, Clements, Ellis, & Kerlin, 2003). Also, five of the six items are worded in the same direction, increasing the possibility of response bias.

The ICU was developed to overcome these limitations. It was constructed using the four items that showed the highest loadings on the original CU scale. These four items (“is concerned about the feelings of others,” “feels bad or guilty,” “is concerned about schoolwork,” and “does not show emotions”) were each restructured into three positively and three negatively worded items (for a total of 24 items) and placed on a four-point scale (0 = “not at all true,” 1 = “somewhat true,” 2 = “very true,” and 3 = “definitely true”). As noted in the introduction, the validity of the parent- and self-report versions of the ICU has been supported in a community sample of 455 Belgian adolescents (Roose *et al.*, in press). The validity of the self-report version of the ICU has been further supported in a mixed gender community sample of German adolescents, in which the ICU was significantly correlated with measures of severity of antisocial behavior, functional impairment, and sensation-seeking (Essau *et al.*, 2006). Additional support for the validity of the ICU was obtained in a mixed gender sample of 248 detained or incarcerated juveniles, where it was significantly correlated with measures of aggression and delinquency (Kimonis *et al.*, 2008). ICU parent-report ratings were completed via telephone; youth ratings were self-administered. In this sample, the ICU had adequate Cronbach alphas for both parent-report ($\alpha = .881$) and self-report ($\alpha = .871$). An alpha of .70 or greater is generally considered adequate (Cortina, 1993).

Youth Level of Service Case Management Inventory (YLS; Hoge & Andrews, 2002)

The YLS is a standardized checklist of criminogenic risk and need factors designed for use with juvenile offenders. Part I of the YLS includes 42 items organized into eight risk and need factors that can be summed to reflect a total risk need score. Strong estimates of internal consistency and inter-rater reliability for the total risk need score have been reported (see Hoge, 2005) and the YLS total risk/need score has been correlated with risk factors to sexual offending (Righthand, Prentky, Hecker, Carpenter, & Nagle, 2000). Additionally, the total risk/need score has been shown to be a significant predictor of general recidivism (Jung & Rawana, 1999) and institutional adjustment problems among juvenile offenders (Holsinger, Lowenkamp, & Latessa, 2006). In the current sample, all YLS items were rated by master’s level clinicians or social workers during the first week of admission. As the research data were de-identified, the exact number of clinicians involved in rating the YLS is not known but is estimated at seven, as this was the number of masters-level clinicians working in the admission unit during the study time period. The internal consistency of the YLS total score in this sample was acceptable ($\alpha = .8890$; however, the subscale Cronbach alphas ranged from .516 to .759. The Attitudes, Family, and Offenses subscales all had alphas below .6 ($\alpha = .516$, .568, and .558 respectively), while the Education and Personality subscales had alphas

of .626 and .615 respectively. The remaining subscales had levels of internal consistency greater than .70.

Juvenile Sex Offender Assessment Protocol—II (J-SOAP-II)

The J-SOAP-II (Prentky & Righthand, 2003) is a structured checklist of 28 risk factors that include a combination of sexual and nonsexual risk factors and is recommended for use in the clinical assessment of boys age 12 to 18 who have been adjudicated for a sexual offense. The 28 items form two static (Sexual Drive Preoccupation, SDP; Impulsive Antisocial Behavior, IAB) and two dynamic (Intervention, INT; Community Stability and Adjustment, CSA) scales. The four scales can be summed to form static (SDP+IAB) and dynamic (INT+CSA) subtotals as well as an overall total risk score. All items are scored on a 0–2 scale. Prentky, Harris, Frizzell, and Righthand (2000) reported high item-level inter-rater reliability for an earlier version of the instrument (ranging from .75 to .91), with scale level internal consistency ranging from .68 to .85. In addition, Righthand et al. (2005) reported factor analytic support for the four scale factor structure of the original J-SOAP and concurrent validity with offense variables and the YLS total score. Similar reliability scores have been reported by independent investigators (see Martinez, Flores, & Rosenfeld, 2007; Viljoen et al., 2008). Martinez et al. (2007) reported that the J-SOAP-II total score correlated positively with any re-offense (.34) and sexual re-offense (.31), and negatively with treatment compliance (–.39). Additionally, via receiver operating characteristic analyses, the J-SOAP-II total score evidenced a moderate level of accuracy in predicting general (area under the curve, AUC = .76) and sexual re-offending (AUC = .78). Prediction of sexual re-offense slightly improved when predicted by the Dynamic Summary scale (AUC = .86). Viljoen et al. (2008) reported lower predictive accuracy for the J-SOAP-II total score for sexual aggression during treatment (AUC = .61) and post-discharge (AUCs = .62 for 12–15 year olds and .67 for 16–18 year olds). The J-SOAP-II total score was a significant predictor of post-discharge serious nonsexual offense for 16–18 year olds (AUC = .71). In a prospective study, Caldwell, Ziemke, and Vitacco (2008) did not find support for J-SOAP-II total scores in predicting sexual recidivism, but they did find that the INT subscale significantly predicted new felony sexual offense charges. In the current sample, all J-SOAP-II items were rated by one of four doctoral-level clinical psychologists, who conducted the comprehensive mental health assessment. The total J-SOAP-II score had good internal consistency, with a Cronbach alpha of .847. Estimates of internal consistency for the J-SOAP-II subscales were as follows: S/DP, $\alpha = .560$; I/AB, $\alpha = .796$; INT, $\alpha = .799$; and CSA, $\alpha = .560$.

RESULTS

Preliminary analyses

Prior to conducting the main study analyses, total scores for all study measures were compared by race and age at admission. As only one youth did not endorse his race as either European-American or African-American, an independent sample *t*-test was run to test for effects of race on the study variables eliminating this one youth. No significant differences between European- and African-American youth were found for self-report

ICU total scores ($t(91) = -1.576, p = .118$), parent-report ICU total scores ($t(91) = .041, p = .967$), YLS total scores ($t(91) = 1.475, p = .144$), or J-SOAP-II total scores ($t(91) = .728, p = .468$). Age in this sample was coded as a simple integer (e.g. 15.68 years was coded as 15) ranging from 12 to 18. Due to the unequal age distribution of the sample, youth were grouped as 14 and younger ($n = 30$), 15 ($n = 17$), 16 ($n = 25$), and 17 and older ($n = 18$), and an analysis of variance was conducted. There were no significant differences based on age at admission for self-report ICU ($F(93) = .533, p = .661$), parent-report ICU ($F(93) = .724, p = .540$), YLS ($F(93) = 1.657, p = .182$), or J-SOAP-II total scores ($F(93) = .426, p = .735$). Additionally, the means of parent-report and self-report ICU total scores were compared. The parent-report ICU total score had a mean of 27.19, which was significantly higher than the self-report ICU total score mean of 21.67 ($t(93) = 3.816, p < .001$).

Main analyses

Self-report and parent-report ICU total scores were significantly correlated with each other ($r = .292, p = .004$). Zero-order correlations between ICU and YLS scores are reported in Table 1. Both self-report and parent-report ICU total scores were significantly correlated with the YLS total score ($r = .288$ and $r = .410$ respectively). The self-report ICU total score was significantly associated with three of eight YLS subscales (Leisure, Education, and Personality and Behavior), with correlations ranging from .226 to .285. The parent-report ICU total score was significantly associated with seven of eight YLS subscales (Family, Leisure, Education, Personality and Behavior, Attitudes and Orientation, Offenses, and Peers), with correlations ranging from .260 to .403. Neither self-report nor parent-report ICU total scores were correlated with the YLS Substance Abuse subscale. Zero-order correlations between ICU and J-SOAP-II scores are reported in Table 2. Both self-report and parent-report ICU total scores were significantly correlated with the J-SOAP-II total score and all four J-SOAP-II subscales (r ranging from .222 to .377 for self-report and .343 to .426 for parent-report), with the exception of the parent-report ICU total score and the J-SOAP-II intervention scale. There were, however, no significant differences in magnitude between parent-report and self-report ICU total score correlations with J-SOAP-II and YLS total and subscale scores.

Table 1. YLS zero-order correlations with ICU self-report and parent-report total scores

	Self-report ICU	Parent-report ICU
YLS total score	.288*	.410*
Family	.183	.333*
Leisure	.226*	.322*
Education	.273*	.298*
Personality & Behavior	.285*	.403*
Attitudes & Orientation	.179	.327*
Offenses	.154	.260*
Peers	.192	.277*
Substance abuse	.101	.092

* $p < .05$.

YLS = Youth Level of Service-Case Management Inventory.

Table 2. J-SOAP-II zero-order correlations with ICU self-report and parent-report total scores

	Self-report ICU	Parent-report ICU
J-SOAP-II total score	.458*	.462*
SD/P	.222*	.343*
I/AB	.375*	.412*
Intervention	.377*	.179
CS/A	.327*	.426*

* $p < .05$.

J-SOAP-II = Juvenile Sex Offender Protocol-II; SD/P = Sexual Drive/Preoccupation; I/AB = Impulsive/Anti-social Behavior; CS/A = Community Stability/Adjustment.

In order to investigate the incremental validity of parent-report and self-report ICU total scores in predicting both YLS and J-SOAP-II scores, and to obtain an estimate of effect size for their relative contributions, a series of hierarchical regressions was performed. Table 3 reports the results of regressions using self-report and parent-report ICU scores to predict YLS scores. Overall, ICU scores predicted a small amount of the variance in YLS scores (R^2 ranging from .074 to .199). The parent-report ICU total

Table 3. Regression analyses to estimate the size of the independent contribution of parent- versus self-report ICU total scores on the YLS

Dependent variable	β	p	Incremental R^2	Model R^2
YLS total score				
Self-report ICU	.183	.065	.031	
Parent-report ICU	.357	.000	.116*	.199*
YLS Education				
Self-report ICU	.203	.050	.038*	
Parent-report ICU	.239	.022	.052*	.127*
YLS Personality & Behavior				
Self-report ICU	.183	.066	.031	
Parent-report ICU	.349	.001	.111*	.193*
YLS Family				
Self-report ICU	.093	.368	.008	
Parent-report ICU	.306	.004	.186*	.119*
YLS Offenses				
Self-report ICU	.085	.423	.007	
Parent-report ICU	.236	.028	.051*	.074*
YLS Peers				
Self-report ICU	.121	.250	.013	
Parent-report ICU	.242	.023	.054*	.090*
YLS Leisure				
Self-report ICU	.145	.162	.019	
Parent-report ICU	.279	.008	.071*	.123*
YLS Attitudes & Orientation				
Self-report ICU	.091	.378	.008	
Parent-report ICU	.300	.005	.082*	.114*

* $p < .05$.

YLS = Youth Level of Service-Case Management Inventory.

score contributed beyond the self-report ICU total score in the prediction of the YLS total score and each of the seven YLS subscales tested. As the YLS Substance Abuse score was not correlated with either ICU total score, it was not tested in the regression analyses. Self-report ICU total scores did not account for a significant amount of the variance beyond the parent-report ICU total score in predicting the YLS total score, or in predicting six of the seven YLS subscale scores that were tested. However, self-report ICU total score did predict variance in the YLS Education subscale score beyond the parent-report ICU total score ($\Delta R^2 = .038$, $p < .05$).

Table 4 reports the results of regressions using self-report and parent-report ICU total scores to predict J-SOAP-II total and scale scores. Overall, ICU total scores predicted a larger amount of variance in J-SOAP-II scores (R^2 ranging from .147 to .328) relative to the YLS scores. The parent-report ICU total score contributed beyond the self-report ICU total score in the prediction of the J-SOAP-II total score and the J-SOAP-II subscales of Sexual Drive/Preoccupation, Impulsive/Antisocial Behavior, and Community Support/Adjustment. Similarly, the self-report ICU total score contributed beyond the parent-report of ICU total score in the prediction of the J-SOAP-II total score and the J-SOAP-II subscales of Intervention, Impulsive/Antisocial Behavior, and Community Support/Adjustment. Specifically, in relation to the J-SOAP-II scales measuring sexual risk factors, an interesting pattern emerged across the two ICU measures. Parent-report ICU total scores were the sole significant predictor of the static Sexual Drive/Preoccupation scale. Conversely, the self-report ICU total score was the sole significantly predictor of the dynamic Intervention scale.

A combination of self- and parent-report ICU scores was also examined. As is common clinical practice (Kamphaus & Frick, 2005), the highest score between self- and parent-report score on each item was selected, and a total score was calculated from

Table 4. Regression analyses to estimate the size of the independent contribution of parent- versus self-report ICU total scores on the J-SOAP-II

Dependent variable	β	p	Incremental R^2	Model R^2
J-SOAP-II total score				
Self-report ICU	.353	.000	.114*	
Parent-report ICU	.359	.000	.118*	.328*
J-SOAP-II SD/P				
Self-report ICU	.133	.194	.016	
Parent-report ICU	.304	.004	.085*	.134*
J-SOAP-II I/AB				
Self-report ICU	.278	.004	.071*	
Parent-report ICU	.331	.001	.100*	.241*
J-SOAP-II INT				
Self-report ICU	.355	.001	.115*	
Parent-report ICU	.076	.457	.005	.147*
J-SOAP-II CS/A				
Self-report ICU	.222	.024	.045*	
Parent-report ICU	.361	.000	.119*	.226*

* $p < .05$.

J-SOAP-II = Juvenile Sex Offender Protocol-II; SD/P = Sexual Drive/Preoccupation; I/AB = Impulsive/Antisocial Behavior; CS/A = Community Stability/Adjustment.

Table 5. Correlations between the combination ICU total score and the YLS and the J-SOAP-II

Combination ICU total score	
YLS	
YLS total score	.451*
YLS Education	.381*
YLS Peers	.297*
YLS Substance Abuse	.104
YLS Leisure	.377*
YLS Personality and Behavior	.428*
YLS Attitudes and Orientation	.310*
YLS Offenses	.300*
YLS Family	.336*
J-SOAP-II	
J-SOAP-II total score	.582*
Sexual Drive/Preoccupation	.331*
Impulsive/Antisocial Behavior	.511*
Intervention	.336*
Community Stability/Support	.508*

* $p < .05$.

YLS = Youth Level of Service-Case Management Inventory.

these highest item-level scores. Correlations between this combination ICU total score and the J-SOAP-II and the YLS are presented in Table 5. The combination score resulted in significant correlations with the J-SOAP-II total score, all of the J-SOAP-II subscale scores, the YLS total score, and all of the YLS subscale score, with the exception of the Substance Abuse subscale. The combined ICU total score resulted in stronger correlations with the YLS (r ranging from .10 to .45) and J-SOAP-II (r ranging from .33 to .58), relative to either self-report or parent-report individually.

DISCUSSION

The use of risk assessment instruments has become an accepted practice in the comprehensive assessment of juveniles with sexual offenses (Prentky & Righthand, 2003; Worling & Curwen, 2001). Recidivism rates among juveniles with sex offenses indicate that such assessments must incorporate a focus on both sexual and nonsexual risk factors (see Caldwell, 2002, for a review). Recognizing the heterogeneity among juveniles charged with sexual offenses, researchers have stressed that characteristics of serious antisocial behavior are present in a subset of youth and may account for differential levels of risk for sexual and nonsexual offenses (see Becker & Kaplan, 1988; Hunter et al., 2003; Seto & Lalumiere, 2006). Consistent with research on nonsexual offenders, research indicates that CU traits are associated with more severe antisocial histories and risk for future violent and nonviolent general recidivism in sex offending youth as well (see Gretton et al., 2001; McCrory et al., 2008). In previous research, CU traits have generally been measured by either clinician rating or self-report measures in samples of adolescent offenders with little empirical focus on parent-report of CU traits.

Summary of Key Findings

The results of the current study support the importance of using parent-report of CU traits in a juvenile sex offending sample. Specifically, we compared the correlations of

self-report and parent-report ICU total scores with scores from two well validated risk measures, the J-SOAP-II and YLS, that are commonly used with juvenile sex offenders. Bivariate correlations indicate that both self-report and parent-report ICU total scores were significantly related to J-SOAP-II and YLS total scores. In considering their unique associations in regression analyses, the parent-report ICU total score was found to predict both the YLS and the J-SOAP-II total scores, beyond the self-report ICU total score; however, the self-report ICU total score was only found to significantly predict the J-SOAP-II total score beyond the parent-report ICU total, not the YLS total score. The relationship between the self-report ICU total score and the YLS total score approached significance ($p = .065$) but it accounted for only a very small amount of variance ($\Delta R^2 = .031$). In contrast, effect sizes for relationships between the parent-report ICU score and the YLS total score, and between both ICU total scores and the J-SOAP-II total scores, were substantially larger, though still modest (between $\Delta R^2 = .114$ and $\Delta R^2 = .118$). These findings are consistent with past research linking CU traits and increased risk of general offending (Frick & Dickens, 2006). However, the current findings advance this research in suggesting that parent-report of these traits may be especially important in evaluating the association between CU traits and risk factors among sexually offending youth.

When reviewing results using the risk assessment subscales, an interesting pattern of differential correlations between the parent-report and self-report of CU traits emerged. The self-report ICU total score was significantly related to only three of the YLS subscales (Leisure, Education, and Personality and Behavior). Further, in regression analyses, self-report ICU total scores predicted only one of these subscales (Education) beyond parent-report ICU total scores. In contrast, the parent-report ICU total score predicted variance beyond self-report ICU total scores for all but one YLS subscale score, perhaps indicating that parents and the master's level clinicians rating the youth on YLS criteria are rating these youth based on similar types of observation. Given the YLS's association with future offending (Holsinger *et al.*, 2006; Onifade *et al.*, 2008; Thompson & Pope, 2005), this suggests that higher parent-report ICU total scores may signal the presence of a broader range of criminogenic risk factors as measured by the YLS and could serve as an additional indicator of elevated general delinquency risk within this population.

A different pattern of findings results from the correlations with the J-SOAP-II subscales, which include a combination of general delinquent and sex-specific risk factors. The self-report ICU total score was correlated with all four of the J-SOAP-II subscales. The self-report ICU total score significantly predicted all but one subscale (Sexual Drive/Preoccupation) beyond parent ratings. The Sexual Drive/Preoccupation subscale primarily addresses sexual specific behaviors that are associated with sexual offending risk, such as prior sex offense charges, male child victim, and sexual victimization history. Though psychopathy and CU traits have been associated with sexual offending, this relationship is proposed to largely be through an increased propensity towards violence (Knight & Sims-Knight, 2003), which is not the overall focus of this subscale. The other three subscales, however, assess static general delinquency risk factors such as previous antisocial/offending behavior (Impulsive, Antisocial Behavior subscale), dynamic general delinquency risk factors, such as community factors related to general offending, such as anger management, home stability, school stability and support systems (Community Stability/Adjustment subscale), and dynamic internal characteristics implicated in sexually offending

behavior (Intervention subscale). These behaviors and characteristics are very similar to those to which CU traits have been found to be related in past research in samples of both sexual offenders and general offenders (see Patrick, 2006; Lynam & Salekin, *in press*).

Parent-report of CU traits was also found to be related to J-SOAP-II dynamic and static factors, which assess risk factors for general offending (Community Stability/Adjustment and Impulsive/Antisocial Behavior respectively), and to static sexual risk factors (Sexual Drive/Preoccupation). However, the parent-report ICU total score was not related to the Intervention subscale. Importantly, parent-report of CU traits predicted variance beyond self-report ICU total scores on the S/DP scale, which reflects a variety of different sexual offense specific items, including items related to sexual offense history, sexual victimization history, duration of sexual offending, and sexual drive/preoccupation. That these associations have generally not been found with self-report suggests that, at the very least, further investigation of parent-report of CU is warranted with juvenile sex offenders. Taken together, the current data indicate that both self-report and parent-report can contribute to the understanding of the relationship between CU traits and specific static and dynamic sexual offending risk factors measured by the J-SOAP-II.

Clinical Applications

The current findings combined with the results reported by Roose et al. (*in press*) support the validity of the parent-report of CU traits in samples of adolescents. In particular, the association of parent-report of CU traits with general as well as specific sexual risk factors indicates that inclusion of parent-report data will help the field gain a better understanding of the association between CU traits and sexually offending risk factors. This study also illustrates the need for a better understanding of the differential operation of parent- versus self-report of CU traits. Both self-report and parent-report ICU total scores are related to the J-SOAP-II subscales associated with general delinquency risk and to broad criminogenic risk as indicated by the YLS, though the parent-report ICU total score showed a more robust relationship to the YLS. However, when focusing on static sexual risk factors, the parent-report ICU total score has the strongest association and provides the greater predictive validity of this scale score when compared with self-report of CU traits. In contrast, parent-report is not associated with dynamic sexual risk as measured by the Intervention subscale. This seems to suggest that parents have an awareness of their child's general and sexual offending histories and the community risk factors to which their youth may be exposed. However, the internal processes accessed by the J-SOAP-II Intervention subscale, which incorporates dynamic sexual offending risk factors, are internal processes and may only be accessible to the youth directly.

These findings also support the recommendations for risk assessments of juvenile sexual offenders, which indicate that multiple sources of information are vital for comprehensive assessments of this population (see CSOM, 2007). Parents have the opportunity to observe a large number of behaviors that include both nonsexual and sexual behaviors. As a reflection of this opportunity, parent-report of CU traits is associated with both types of behavior, which reinforces the importance of obtaining parent-report of CU traits. Reliance on self-report only may result in an incomplete or

marginal assessment of the relative importance of CU traits to the overall pattern of factors rated as risk assessment instruments.

Additionally, the pattern of correlations found for the combined ICU total score indicates that using self-report and parent-report of CU traits in tandem may further enhance the assessment of sex offenders across the full array of nonsexual and sexual risk factors. That is, across all the scales, the combination of self- and parent-report showed significant correlations with all but one of the risk scores (see Table 5). It is important to note that this method of combining scores took the higher of either score and supports the rationale provided in past research for this approach (e.g., Frick, Stickle, Dandreaux, Farrell, & Kimonis, 2005; Piacentini, Cohen, & Cohen, 1992). In general, the rationale for the combined score is based on several considerations. First, the report of any single informant who may not see a child's behavior from multiple viewpoints will be limited, and therefore use of ratings of each informant individually would not provide the most accurate assessment of these traits. Second, there can be substantial motivation for persons to under-report a child's level of CU traits, which are generally not socially desirable, but motivation for over-reporting is less likely. Therefore, considering a trait as present only when multiple informants report it as present does not seem justifiable. Third, a child who is scored high by multiple raters may not be more extreme on these traits than a child who is scored high by only one rater. Discrepancies may be due to the fact that the situation in which one rater sees the child is not as likely to elicit these traits as another situation, or it may be due to the fact that the child is able to mask such behaviors in certain situations. As a result, a simple summative or averaging approach to combining information across informants is not justifiable. Specific to the current sample, the results are consistent with this rationale and reinforce that information from a parent adds a unique perspective to the assessment of nonsexual and sexual risk factors. When applicable, the basic results supportive of the combined approach suggest that use of additional collateral raters (i.e., additional family member/guardian, juvenile justice personnel, treatment providers) may provide additional clinical information via the combined approach beyond the ratings of CU traits provided only by the youth.

Limitations and Future Directions

There are a number of limitations to the current study that warrant attention in future studies. Foremost is the issue of sampling bias. Of the original 172 youth in the sample, 78 were excluded due to missing data, including 63 youth excluded for a lack of parent-report ICU. This large number of missing data for the parent-report ICU is a reflection of the practical limitations of consistently obtaining parent-report information in a juvenile correction context. During the assessment process, clinicians were unable to make contact and/or obtain parent-report ICU scores in 36% of the completed assessments. For those assessments in which parents were accessible, it is entirely possible that these parents were more willing to label their children as callous/unemotional or antisocial, or were parents who were more involved with their child and thus the more accurate reporters of the child's behavior. The absence of response style measures for both parent-report and youth-report is a limitation that should be addressed in future research. For example, Rogers *et al.* (2002) found that scores across both interview and self-report psychopathy measures were impacted by social

desirability and social nonconformity response styles. Even though self-report and parent-report ICU total scores were correlated, the available parent-report ICU scores may be biased as parent-report ICU total scores were significantly higher than self-report ICU total scores. Additionally, due to practical constraints, all parent-report ICUs were administered via telephone, while self-report ICUs were administered in person. The impact of phone as opposed to in-person administration cannot be determined with the current data and the lack of published data on parent-report ICUs leaves some question as to the validity of this approach.

Future studies can address these limitations in a number of ways. First, the differential association between parent and report and self-report measures of CU traits should be evaluated against other youth psychopathy measures to further investigate concurrent and criterion validity. While more challenging to address, future studies should also incorporate in person versus telephonic administrations to determine whether patterns of convergent validity vary as a function of this administration method. Future studies would also benefit from inclusion of specific measurement of social desirability, with response style indicators being compared to both youth and parent self-report scores in an attempt to investigate the impact of response biases on self-report measures of CU traits. Finally, given the practical barrier of parents often being unavailable in a juvenile correction context, future studies should address whether other collateral reporters (i.e., teachers, juvenile probation officers, treatment providers) can also serve as valid collateral reporters of CU traits individually or via the combined scoring approach.

A second limitation is the absence of inter-rater reliability data for the J-SOAP-II and YLS in the current sample. The data were archival and based on actual clinical assessments of sexually offending youth, which did not include specific case-base estimates of inter-rater reliability. Prior research with each risk assessment measure has indicated acceptable levels of inter-rater reliability, and clinicians were trained following training guidelines recommended for each measure. Acceptable estimates of internal consistency were found for each measure. Attempts at estimating inter-rater reliability in the current sample would have been restricted to comparing clinician ratings at the time of assessment with research assistant ratings based on post-assessment file review, which could result in inaccurate inter-rater reliability estimates. Without adequately establishing appropriate reliability, validity, by definition, remains in question (Kazdin, 1992). As such, the results found in the current study would benefit from replication in similar samples where specific field-based ratings of inter-rater reliability can be implemented at the time of assessment. A third limitation is the absence of additional aggression and violence indicators beyond the J-SOAP-II and YLS/CMI. Both assessment instruments have been utilized in prior risk assessment research with sexually offending youth and therefore represent appropriate external indicators of nonsexual and sexual risk factors. However, additional indicators of sexual risk factors (i.e., other independent assessment measures) and absence of prospective data reflecting institutional adjustment, treatment response, or future recidivism were not available. Examining the relative contribution of self-report and parent-report ICU scores in predicting across multiple measures of sexual nonsexual risk is clearly warranted. More specific to the current findings, if the relationship between parent-report of CU traits and sexual offending specific variables is replicated in future studies, this may give researchers a new perspective on sexual offending and suggest refinements in clinical assessment practice standards. Additionally, efforts should be made to

incorporate these findings into the existing CU traits/psychopathy literature not only with sexual offending behavior but also with nonsexual offenders. Even with these limitations, the current results indicate that the interplay between self-report and parent-report of CU traits with sexual offending and general offending may help to clarify the role that CU traits play in the development and maintenance of a broad array of youth antisocial behavior.

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