

Exploring Callous and Unemotional Traits in Youth via General Personality Traits: An Eye Toward *DSM-5*

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The current study aimed at better understanding callous-unemotional (CU) traits in youth within a traditional personality trait/temperament framework as well as in relation to current proposals for the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)*. Participants were 174 mothers and their sons age 11–16 years. Mothers and youth reported on youth CU traits and general personality trait/temperament dimensions. Overall, analyses revealed significant unique associations of personality trait/temperament dimensions with CU total and subscale scores. Personality trait/temperament dimensions explained 36% to 58% of the variance in CU subscales and total score. Furthermore, specific personality dimensions differentially and uniquely predicted various CU subscales, indicating marked specificity in association such that these traits should be considered separately rather than as a single unit. Taken together, these results confirm the importance of considering traditional personality trait models to understand “callous and unemotional” traits and risk for psychopathy more fully. Additionally, our findings bear implications for the conceptualization and operationalization of these traits in *DSM-5*.

Keywords: callous-unemotional traits, personality, *DSM-5*

Psychopathy historically has been conceptualized as an adult condition. Nevertheless, in recent years, it has been extended downward to youth, although this broadening of the construct’s reach remains controversial (Edens, Skeem, Cruise, & Cauffman, 2001). Central to the conceptualization of psychopathy is a callous and unemotional interpersonal style (Cleckley, 1976; Hare, 1993; McCord & McCord, 1964), which has been shown to be important for identifying the most virulent youth among those exhibiting antisocial behavior (see Frick & White’s 2008 review). Research indicates that callous-unemotional (CU) traits may prove fruitful in

the identification of youth most likely to persist in severe antisocial behavior (Frick & White, 2008). In fact, the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* Childhood and Adolescent Disorders Work Group found the extant literature so convincing that they proposed a “Callous-Unemotional Traits” specifier for the diagnosis of Conduct Disorder (CD) to characterize youth who meet full criteria for CD and show two or more of the following characteristics: lack of remorse or guilt; callous-lack of empathy; unconcerned about performance; shallow or deficient affect (American Psychiatric Association [APA], 2012a).

Although the literature clearly suggests that CU traits are important to consider in the diagnosis of CD, the architects of the CD revisions have yet to articulate how CU traits fit within the empirically well-established hierarchical model of normal and pathological personality traits/temperament dimensions proposed by the *DSM-5* Personality and Personality Disorders Work Group (P&PD WG) (APA, 2012b; Krueger et al., 2011, in press; Markon, Krueger, & Watson, 2005; Skodol et al., 2011). Indeed, the childhood literature on CU traits has rarely been informed by the substantial and well-replicated adult literature on broad-band personality dimensions, although there appear to be few, if any, reasons for this striking empirical and conceptual separation.

Consistent with the importance of integrating this large literature into the DSM revision, Krueger and several advisors to and members on the P&PD WG have noted that “overarching personality trait models are, de facto, a major focus of the *DSM-5* process” (Krueger, Eaton, Derringer, Markon, Watson, & Skodol,

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in press). Within this framework, the traits (Criterion B) of one of the proposed Personality Disorder Types, Antisocial (Dyssocial) Personality Disorder, include many features similar to those of the proposed CU specifier, such as callousness, manipulateness, irresponsibility, and restricted affectivity (see Table 1). It even is proposed that this personality disorder be placed, along with Conduct Disorder, in the *DSM-5* “Disruptive, Impulse Control and Conduct Disorders” chapter (APA, 2012c).

The current CD formulation allows the specifier to be applied if either callousness (lack of guilt, callousness) or unemotionality (unconcern about performance, shallow affect) is present, a potential problem we discuss subsequently. Given that *DSM-5* will ultimately be a single document, its internal coherence is important, so it is critical to avoid the “jingle-jangle” problem (Block, 1996; Kelley, 1927; Thorndike, 1904): different traits referred to by the same name (“jingle”) or the same trait referred to by different names (“jangle”).

As such, data are needed to elucidate associations between CU traits, as conceptualized by the architects of *DSM-5* CD, and the empirically well-established general trait model of temperament/personality, including the proposed *DSM-5* traits. Such data are important for at least two reasons. First, these data will further understanding of how CU traits are situated within this framework. Although large literatures link problematic outcomes to trait models of personality (e.g., Krueger, Markon, Patrick, Benning, & Kramer, 2007; Ruiz, Pincus, & Dickinson, 2003; Serin, Peters, & Barbaree, 1990) and to CU traits (e.g., see reviews by Frick & White, 2008; Salekin & Lynam, 2010), respectively, studies examining associations between CU traits and the general temperament/personality model are rare (for exceptions, see Essau, Sasagawa, & Frick, 2006; Decuyper, De Bolle, De Fruyt, & De Clercq, 2011; Roose, Bijttebier, Decoene, Claes, & Frick, 2010). Second, as discussed earlier, such data will be important for the authors of *DSM-5* to consider as they move forward to develop a coherent and integrated document. Specifically, although historically PDs (except for Antisocial PD) could be but, by convention, were not applied to children and adolescents, the current *DSM-5* P&PD WG recommendation is to eliminate the age restriction on PD. Therefore, in essence, *DSM-5* will have two “sets” of traits: one within the PDs and the other (albeit much smaller) in relation to CD. The

current study begins to address these needs by examining associations between CU traits and an exemplar of the established personality trait/temperament model—both at higher order and lower order levels—in a sample of community-dwelling male youth, as well as relating them to the proposed *DSM-5* trait model.

CU Traits

CU traits have been shown not only to be associated with aggressive, antisocial, and delinquent behaviors, but also to serve as indicators of problematic severity (Frick & Dickens, 2006; Frick & White, 2008; Salekin & Lynam, 2010). In a longitudinal study of youth followed annually over a 15-year period starting in early adolescence, McMahon et al. (2010) found that CU traits were highly predictive of five of six antisocial outcomes, including general delinquency, juvenile and adult arrests, and both adult antisocial personality disorder criterion count and diagnosis. Additionally, CU traits provided incremental value in the prediction of antisocial outcomes over CD criterion counts and diagnosis, suggesting that they are not merely a proxy for childhood antisocial behavior. Similarly, in a longitudinal group-based investigation of children over a 4-year period, Fontaine and colleagues (2011) found that children with high or increasing level of CU traits, in addition to high levels of conduct problems, displayed the most negative outcomes. Similarly, in a large, nationally representative sample of British children and adolescents, Rowe et al. (2010) found that youth with CD and CU traits evidenced more severe and persistent antisocial behavior than did CD youth without these traits. As noted in Frick and Moffitt’s (2010) *DSM-5* proposal, as well as by other investigators (e.g., McMahon et al., 2010; Rowe et al., 2010; Scheepers, Buitelaar, & Matthys, 2011; Pardini & Fite, 2010), there is broad empirical support for considering the inclusion of CU traits as a CD specifier. Nonetheless, as noted earlier, the question of how CU traits fit within the well-established trait model of temperament/personality, including that proposed the *DSM-5* has not yet been examined empirically.

Trait Temperament/Personality Models

One of the major contributions of recent personality psychology is the finding that traits are related to each other in an organized

Table 1
Comparison of the Proposed Callous-Unemotional Traits Specifier and Proposed *DSM-5* Personality Disorder Traits

Callous and Unemotional Traits	Personality Disorder Trait Facets (Domains)
<i>Lack of remorse or guilt:</i> Does not feel bad or guilty when he/she does something wrong (except if expressing remorse when caught and/or facing punishment).	<i>Callousness (Antagonism):</i> Lack of concern for feelings or problems of others; lack of guilt or remorse about the negative or harmful effects of one’s actions on others; aggression; sadism.
<i>Callous-lack of empathy:</i> Disregards and is unconcerned about the feelings of others.	<i>Irresponsibility (Disinhibition):</i> Disregard for—and failure to honor—financial and other obligations or commitments; lack of respect for—and lack of follow through on—agreements and promises.
<i>Unconcerned about performance:</i> Does not show concern about poor/problematic performance at school, work, or in other important activities.	<i>Restricted Affectivity (Detachment/Negative Affectivity [–]):</i> Little reaction to emotionally arousing situations; constricted emotional experience and expression; indifference or coldness.
<i>Shallow or deficient affect:</i> Does not express feelings or show emotions to others, except in ways that seem shallow or superficial (e.g., emotions are not consistent with actions; can turn emotions “on” or “off” quickly) or when they are used for gain (e.g., to manipulate or intimidate others).	<i>Manipulativeness (Antagonism):</i> Frequent use of subterfuge to influence or control others; use of seduction, charm, glibness, or ingratiation to achieve one’s ends.

* Restricted affectivity cross loads on Detachment (+) and Negative Affectivity (–).

hierarchy. Innate individual differences, which often have been referred to as temperament, form the basis for personality traits organized into robust, higher order personality dimensions, or “superfactors” (Clark, 2005; Digman, 1997; Markon, 2009; Markon et al., 2005; Rothbart & Ahadi, 1994). Consistent with this understanding, Clark (2005) asserted that adult personality traits emerge through differentiation from three (the Big Three) largely innate biobehavioral temperament dimensions. Two of these dimensions are affective, namely, Negative and Positive Affectivity, and the third dimension, Disinhibition (vs. Constraint), is a regulatory system that plays a role in the perception and interpretation of incoming stimuli (Tellegen, 1985). Recent structural work has revealed robust hierarchical associations between these three temperament dimensions and dimensions of the Big Five (Neuroticism, Extraversion, Openness, Agreeableness, Conscientiousness), the most widely used level of trait personality. In sum, the dimensions of the Big Five can be understood as lower order components of the Big Three (Markon et al., 2005). Specifically, Neuroticism, along with some components of Big-Five low Agreeableness combine to form Negative Affectivity (Emotionality) at the higher order level; Extraversion and Openness combine to form Positive Affectivity (Emotionality); and Big-Five Agreeableness and Conscientiousness combine to form Disinhibition.

Although these models initially were developed for adults, Rothbart and colleagues (Rothbart & Ahadi, 1994; Rothbart, 2011) have shown that a similar model—consisting of Surgency/Extraversion, Neuroticism/Negative Affectivity, and Effortful Control (vs. Disinhibition)—emerges as early as toddlerhood (Rothbart & Ahadi, 1994; Clark, 1993). These linkages provide clear evidence that a robust trait structure of temperament and personality persists throughout the life span and can be understood and measured through various assessment approaches (see also Roberts & DelVecchio, 2000; Roberts, Walton, & Viechtbauer, 2006).

Currently, the P&PD WG is proposing a hierarchical model of trait personality composed of five higher order domains oriented toward maladaptive variants of the Big Five, including Negative Affectivity, Detachment, Antagonism, Disinhibition (vs. Compulsivity), and Psychoticism. A set of lower order traits, called facets, collectively comprise the five dimensions (APA, 2012c; Krueger et al., in press). Although the 25 facets appear to be well represented within the five maladaptive variants of the Big Five, recent factor analytic research also supports the existence—at a higher order level of analysis—of a three-factor model closely resembling the Big Three model described earlier (Wright et al., in press). These findings underscore the robust hierarchical nature of temperament/personality mentioned earlier (Markon et al., 2005) and confirm the presence of the Big Three model of temperament within the *DSM-5* personality model. Given the longitudinal consistency of personality, both structurally and within individuals, it is important that traits proposed for inclusion in other areas of the *DSM* (e.g., CU traits) be consistent with this overarching trait model.

Relations Among Trait Temperament/Personality Models and CU Traits

Although studies have examined associations between personality trait/temperament scales and youth psychopathy (e.g., Lynam et al., 2005) including unidimensional CU traits within these

broader measures (e.g., Roose, Bijttebier, Claes, Lilienfeld, De Fruyt, & Decuyper, 2012; Salekin, Debus, & Barker, 2010), there have been few investigations of associations with multidimensional CU traits per se. This omission is surprising given the large literatures examining the relations of personality trait/temperament models and CU traits, respectively, with youth externalizing behaviors. We located only three investigations of these associations (Decuyper et al., 2011; Essau et al., 2006; Roose et al., 2010). In a large sample of community-dwelling adolescents, Essau et al. (2006) examined bivariate correlations between CU traits (as measured by the Inventory of Callous-Unemotional Traits [ICU]; Frick, 2003), Big Five personality, and a brief measure of sensation seeking (eight items divided into four scales). With the exception of the Unemotional subscale, CU traits were positively correlated with sensation seeking. The strongest correlations were between sensation seeking’s two-item Disinhibition subscale (e.g., “I like wild parties”) and the ICU Total score, as well as the Callousness and Uncaring subscales.¹ With regard to Big Five personality traits, the ICU total score was correlated negatively with Agreeableness and Conscientiousness. Furthermore, the three ICU subscales showed similar correlations with Big Five personality, with notable exceptions. Specifically, the Unemotional subscale was associated negatively with Emotional Instability (Neuroticism), and the Uncaring subscale was associated negatively with Openness.

More recently, in a sample of predominantly female adolescents, Decuyper et al. (2011) found that general and maladaptive trait measures of personality, as measured by the Hierarchical Personality Inventory for Children (HiPIC; Mervielde & De Fruyt, 1999) and the Dimensional Personality Symptom Item Pool (DIPSI; De Clercq, De Fruyt, & Mervielde, 2003), respectively, accounted for substantial portions of the variance in CU traits, as measured by the ICU. Consistent with Essau et al., when different HiPIC and DIPSI correlates of the ICU factors were examined, the three ICU factors showed differential associations with personality. Specifically, Callousness and Uncaring were primarily associated with low Agreeableness, low Conscientiousness, and low Neuroticism. In addition, the Uncaring factor was associated with low Extraversion. In contrast to Callousness and Uncaring, the most prominent predictor of Unemotional was low Extraversion. Unemotional was also associated with low Neuroticism and Conscientiousness.

Similarly, in a sample of adolescents and young adults, Roose et al. (2010) reported largely similar findings regarding associations between CU traits (measured by the ICU) and Big Five personality. ICU total scores were negatively associated with Agreeableness and Conscientiousness. When subscales were examined, these findings mainly characterized the Callousness and Uncaring subscales, whereas the Unemotional subscale was associated most strongly with low Extraversion. Taken together, these results indicate that investigations of associations between trait temperament/personality and CU traits are likely to be fruitful in enhanc-

¹ There is increasing evidence that Sensation Seeking per se is primarily a facet of Extraversion, and that it is associated with Disinhibition only when combined with impulsive recklessness (e.g., Cynders & Smith, 2007; Sharma, Markon, & Clark, 2011). Until the nature of this particular Sensation-Seeking scale has been clarified, therefore, caution is warranted in interpreting this finding.

ing our understanding of these traits. In particular, they suggest that the subcomponent CU traits may belong to distinct personality trait domains, a fact obscured when its subscales are combined into a single score.

Current Study

The current study provides data concerning associations between CU traits and temperament/personality dimensions, at both the higher and lower order levels, within a community sample of male youth. Using multiple informant data, the current study contributes to the literature by elucidating associations between CU traits, as conceptualized by the authors of *DSM-5* CD, and a standard trait model of temperament/ personality. Such data will provide a better understanding of how CU traits fit into the consensus temperamental framework and will be important for the authors of *DSM-5* as they move forward to develop a coherent, clinically useful document. Drawing in part on previous findings of associations among CU traits and Big Five personality (Decuyper et al., 2011; Essau et al., 2006; Roose et al., 2010), we advanced a number of a priori hypotheses.² As noted earlier, Big Five (reversed) Agreeableness and (reversed) Conscientiousness combine in higher order Disinhibition, Extraversion and Openness are lower order components of Positive Affectivity, and Neuroticism (along with elements of reversed Agreeableness) reflects Negative Affectivity at the higher order level. With the exception of the Unemotional subscale, we therefore expected CU traits to be related most strongly to scales comprising the Disinhibition and Negative Affectivity factors. Additionally, whereas Decuyper et al. and Essau et al. found negative associations between the Unemotional subscale and Negative Affectivity/Temperament and the Uncaring subscale and Positive Affectivity/Temperament, Roose et al. did not. Given these inconsistent findings, we did not advance any a priori hypotheses regarding these associations.

Method

Participants

Participants were 174 mothers and their sons, aged 11 to 16 years (mean age = 13.64, *SD* = 1.35), who participated in the Iowa Youth Development Project (I-YDP), a larger study of developmental factors associated with social behaviors among male youth. On average, the families were non-Hispanic White (87.4%) and relatively high in socioeconomic status based on education and income. Most mothers had completed college or postgraduate education (71.9%), and one third (34.1%) had an annual family income above \$100,000 (ranging from under \$15,000). Mothers ranged in age from 30 to 59 years (mean age = 44.20, *SD* = 5.33) and most were married (86.2%; 81% to their son's father, average age = 44.2 years, *SD* = 5.33).

Procedure

The University of Iowa's Institutional Review Board approved all study procedures. The IYDP used a broad-based sampling strategy to accrue a sample of urban and rural male youth representative of the Midwestern area in which participants lived. Participants were recruited from a child participant pool main-

tained at the University, by fliers in the community, and by advertisements placed in the daily newsletter of the local university hospital. Exclusion criteria were mental retardation, autism spectrum disorder, neurological disorder, past head injury requiring hospitalization, life-threatening medical illness, a history of having been held back a grade, and diagnosis of a reading disorder, all assessed by maternal report. Participants provided informed consent/assent before beginning the study procedures. All study measures were computer-administered in a single session. Mothers and their sons each were compensated monetarily for their time. Three youth did not complete all of the measures, resulting in final sample of 171 participants with complete data.

Measures

Inventory of Callous-Unemotional Traits, Self-Report Version (ICU). Youth were administered the ICU, Self-Report Version (Frick, 2003), a 24-item instrument designed to assess CU traits. This measure is was developed based on the six-item CU scale of the Antisocial Process Screening Device (APSD; Frick & Hare, 2001) to more fully capture the CU dimension. The response format is a four-point Likert-type scale ranging from *Not at all true* to *Definitely true*. In addition to providing a Total score, the instrument contains three factor analytically derived scales: Callousness, Uncaring, and Unemotional. The ICU demonstrates adequate internal consistencies for the Total score and for the Uncaring and Unemotional subscales (Essau et al., 2006), and its construct validity has been supported in large community (Essau et al., 2006; Roose et al., 2010) and clinical (Kimonis et al., 2008) studies of adolescents, as evidenced by expected associations with such constructs as aggression, delinquency, and conduct disorder. In the current sample, internal consistencies (Cronbach's alphas) across the three subscales were .50, .75, and .81 for Callousness, Unemotional, and Uncaring, respectively; the alpha for the total score was .81. Given the limitations of Cronbach's alpha as an index of scale homogeneity (Sijtsma, 2009), we also computed average interitem correlations. Average interitem correlations across the three subscales were .08, .27, and .46 for Callousness, Unemotional, and Uncaring, respectively; the average interitem correlation for the total score was .15. The low alpha value for Callousness is consistent with previous findings (see Essau et al., 2006). Further, subscale scores evidenced substantial variance in the current sample, with scores ranging between 0 and 23 for Callousness ($M = 6.18$, $SD = 2.84$), 0 and 19 for Uncaring ($M = 8.49$, $SD = 4.17$), 0 and 15 for Unemotional ($M = 7.40$, $SD = 2.65$), and 8 and 55 for the total score ($M = 22.07$, $SD = 7.49$).

Inventory of Callous-Unemotional Traits, Parent-Report Version (ICU). Mothers completed the parent-report version of the ICU (Frick, 2003), which parallels the self-report version. As such, mothers responded to the same 24-items with regard to their sons, resulting in the same scores (three subscales and a total). Consistent with the self-report version, recent factor analytic work using a large community sample has confirmed the existence of

² As noted earlier, increasing evidence suggests that sensation seeking is primarily a facet of Extraversion, and that it may link to temperamental Disinhibition only when combined with impulsive recklessness. As such, we chose not to make a priori hypotheses based on the Essau et al. sensation-seeking findings.

these same three subscales. Moreover, these subscales demonstrate adequate internal consistencies (Roose et al., 2010). In the current sample, internal consistencies (Cronbach's alphas) across the three subscales were .73, .83, and .88 for Callousness, Unemotional and Uncaring, respectively; the alpha for the total score was .89. Average interitem correlations across the three subscales were .20, .38, and .60 for Callousness, Unemotional, and Uncaring, respectively; the average interitem correlation for the total score was .25. Further, subscale scores evidenced substantial variance in the current sample, with scores ranging between 0 and 25 for Callousness ($M = 5.03$, $SD = 3.58$), 0 and 24 for Uncaring ($M = 11.38$, $SD = 5.00$), 0 and 15 for Unemotional ($M = 5.87$, $SD = 2.98$), and 3 and 63 for the total score ($M = 22.28$, $SD = 9.30$).

Schedule for Nonadaptive and Adaptive Personality—Youth (SNAP-Y). Youth were administered the SNAP-Y (Clark et al., in press), a 390-item, true–false format, factor analytically derived, self-report instrument that assesses 15 trait dimensions of personality from the normal to the pathological range. The instrument consists of three temperament scales—Negative Temperament, Positive Temperament, and Disinhibition (vs. Constraint)—that measure the core of their respective higher order “Big Three” dimensions (Negative Affectivity, Positive Affectivity, and Disinhibition vs. Constraint), and 12 lower order, more specific trait scales associated with the higher order dimensions (see Table 3 for a complete list of scales). The specific trait scales share no item overlap with temperament scales, except for Disinhibition. Therefore, the nonoverlapping version of Disinhibition was used for all multivariate analyses. Recently, SNAP traits have been shown to map well onto the *DSM-5* proposed trait set (Clark et al., 2012). In fact, close conceptual matches exist for 21 of the 25 proposed *DSM-5* facets, and existing SNAP scales share similar content with three others. The SNAP-Y scales—which completely parallel those of the adult instrument (Linde, Stringer, Simms, & Clark, 2011)—are internally consistent: Median alpha reliability = .83 in a sample of 366 adolescents aged 12 to 18 years. The scales also demonstrate good convergent and discriminant validity with other self- and parental reports of personality (Linde, 2001; Linde et al., 2011). In the current sample, internal consistency reliabilities (Cronbach's alphas) ranged from .90 (Negative Temperament) to .54 (Propriety) with a mean value of .67. Further, average interitem correlations ranged from .24 (Negative Temperament) to .05 (Propriety), with a mean value of .11.

Schedule for Nonadaptive and Adaptive Personality—Other Report Form (SNAP-ORF). Mothers were administered the SNAP-ORF (Harlan & Clark, 1999), an alternate-format version of the SNAP consisting of 33 items, each composed of two brief paragraphs describing the high and low ends of a SNAP scale subcomponent. Each SNAP scale is represented by two or three items on the SNAP-ORF, except for Eccentric Perceptions, which comprises a single item. SNAP scale-level content and factor analyses were used to construct the subscales. Respondents rate targets' usual personality, that is, what targets are like most of the time, using a six-point Likert-type scale, ranging from “Very Much Like” the low end of the trait to “Very Much Like” the high end of the trait. The SNAP-ORF scales have shown acceptable to high internal consistency (Cronbach's alpha) for these very brief scales, as well as high interrater reliability in the initial sample of parents rating their undergraduate-student offspring ($Mdn \alpha = .69$ for mothers, and .65 for fathers; interparent agreement $Mdn r =$

.52, Harlan & Clark, 1999), as well as in samples of parents rating their middle- and high-schoolchildren ($Mdn \alpha = .65$; interparent agreement $Mdn r = .47$; Linde, 2001), and patient-nominated informants ($Mdn \alpha = .73$; Ready & Clark, 2002). Further, self-other agreement is comparable with that typically found for personality traits, with median values ranging from .22 to .34 (Harlan & Clark, 1999; Linde, 2001; Ready & Clark, 2002). Average interitem correlations ranged from .16 (Dependency) to .60 (Manipulativeness), with a mean value of .47.

Analyses

The multiple imputation program in SAS Version 9.1 was used to impute missing items³ for all participants, as none had more than 10% of items missing. This approach uses maximum likelihood estimates for missing data and includes a random error component to prevent artificial inflation of item intercorrelations. The current *DSM-5* proposal states that clinicians should consider multiple information sources to infer the presence of pathological traits, and mother-son cross-convergent correlations showed a clear convergent-discriminant pattern. Therefore, we standardized (i.e., computed *z*-scores) and aggregated mother and youth reports for all analyses. Initially, we examined zero-order correlations among the CU scales, as well as the bivariate associations between youth personality and CU traits. Given the large number of correlations examined, to guard against Type I error, a *p* value of < .01 was used as a cut-off for statistical significance. Then, to examine which personality traits uniquely explained CU traits, we performed a series of four multiple regressions predicting each of the CU trait scales and the overall ICU score. In addition to the personality traits that displayed the three highest zero-order correlations with the dependent variables⁴, only those demographic variables significantly associated with the dependent variables were included as covariates when appropriate.

Results

Cross-Informant (Mother–Son) Convergent Correlations

Convergent correlations across SNAP trait scales ranged from .18 for Eccentric Perceptions to .57 for Detachment ($Mdn = .35$; see Appendix for the full correlation matrix). In general, convergent correlations for the three temperament trait scales were higher than for the specific scales, with correlations ranging from .35 for NT and PT to .44 for Disinhibition, with the exception of Self-Harm, Exhibitionism, Detachment, and Impulsivity ($r_s = .46$, .38, .57, and .38, respectively), which also were moderately strong. As noted earlier, mother–son cross-convergent correlations showed a clear convergent–discriminant pattern. Specifically, for the three temperament trait scales, as well as most lower order primary trait scales, the convergent correlations were higher than discriminant correlations. Among the high discriminant correlations, most were among scales in the same higher order domain (e.g., Mistrust and

³ Only missing items—and not also scale scores—were imputed.

⁴ Because the choice of the top three correlations is somewhat arbitrary, we also tried using a bivariate correlation cutoff of $r > .50$ to determine inclusion in the regression models, and the results did not differ.

Aggression are both primary trait scales in the Negative Temperament domain).

Cross-informant convergent correlations for the ICU subscales ranged from .32 for Unemotional to .46 for Uncaring ($Mdn = .36$) and .49 for the Total score. Convergent correlations for all scales were higher than any discriminant correlations. Therefore, we again aggregated across informants for subsequent analyses. Further, CU traits were not associated with youth age ($Mdn r = 1.10I$, all $ps > .10$), maternal age ($Mdn r = 1.06I$, all $ps > .28$), or household income ($Mdn r = 1.06I$, all $ps > .38$). As such, these demographic variables were not included as covariates in subsequent multivariate analyses.

Associations of CU Traits With Youth Temperament/Personality Scales

As shown in Table 2, all ICU subscales were moderately (Unemotional with the other two subscales) to strongly (Callous with Uncaring) correlated. The Callousness and Uncaring subscales correlated significantly stronger with each other than either did with the Unemotional subscale (tests of dependent rs : $ts = 4.10, 3.58, df = 168, ps < .001$ for difference between the Callousness-Uncaring correlation and those of either with the Unemotional subscale, respectively).

Table 3 presents correlations between CU traits and the SNAP-Y personality dimensions. Largely consistent with our hypotheses that CU traits would be related strongly to scales comprising the Negative Affectivity factor, all CU traits were significantly ($p < .01$) and positively associated with Mistrust, Manipulativeness, and Self-Harm. Negative Temperament and Aggression were positively associated with all CU traits except the Unemotional scale, and Eccentric Perceptions was associated with Callousness and ICU total score. Also consistent with our hypotheses, SNAP-Y Disinhibition was strongly positively associated with all CU traits ($Mdn r = .67$), although this association was significantly weaker with the Unemotional scale ($r = .28$) (tests of dependent rs : $ts = -8.19, -9.34, df = 168, ps < .001$ for difference between Disinhibition-Unemotional correlation and those between Disinhibition and Callousness and Uncaring, respectively). Further, Impulsivity, Propriety (negatively), and Workaholism (negatively) were all associated with CU traits except, again, the Unemotional subscale.

Dimensions of the Positive Affectivity factor also were associated with CU traits. Specifically, Positive Temperament correlated negatively and Detachment positively with all three subscales and ICU total score. Further, Exhibitionism was negatively associated with the Unemotional subscale. Thus, the three CU traits showed

a differential pattern with more general personality traits, with the Callous and Uncaring traits correlating more strongly with traits in the Negative Affectivity and Disinhibition factors, whereas the Unemotional scale correlated more strongly (negatively) with traits in the Positive Affectivity factor.

Predicting Callous-Unemotional Traits From Trait Temperament/Personality

To examine the unique associations between general personality and CU traits, a series of linear regressions were performed predicting each of the CU traits and the ICU total score from SNAP-Y scale scores (see Table 4). As noted earlier, personality traits representing the three strongest bivariate predictors were entered into these regression models. SNAP-Y personality traits explained between 36% (Unemotional) and 58% (ICU Total) of the variance in CU traits. Regarding traits in the Negative Affectivity domain, when examined simultaneously, Manipulativeness was uniquely positively associated with the Callousness and Uncaring subscales as well as the ICU Total score. Mistrust evidenced a significant and positive relation with the ICU Total score. Within the Positive Affectivity dimension, Detachment uniquely positively predicted the Unemotional subscale. None of the traits in this dimension was associated significantly with either of the other CU traits or the ICU Total score. Finally, temperamental Disinhibition emerged as a significant and positive unique predictor of the ICU traits with the notable exception of the Unemotional subscale.

Discussion

The current investigation is among the first to examine associations between general personality trait/temperament dimensions and CU traits among community youth. By examining these traits within a rich, empirically grounded trait literature, our results bear significant implications for the scientific study of CU traits and for the conceptualization and potential inclusion of CU traits in *DSM-5*. A strength of our design is the use of composite mother-son scores: Not only does aggregating even modestly correlated variables tend to increase reliability and validity, but this approach is consistent with the recommended clinical practice of integrating multisource data (e.g., Achenbach, 2006).

Overall, analyses revealed significant unique associations between SNAP-Y personality trait/temperament dimensions and CU traits, both ICU Total and subscale scores. The SNAP-Y scales explained from 36% to 58% of the variance in the statistical prediction of the ICU subscales and total score. Further, specific SNAP-Y traits differentially and uniquely predicted various CU subscales, suggesting relational specificity.

As assessed within a three-factor model, significant unique associations emerged between personality dimensions and CU traits. SNAP-Y-assessed personality explained 46–58% of the variance for the Callousness and Uncaring subscales and the Total score, and the least amount of variance for the Unemotional subscale (36%), indicating that standard personality scales relate differentially to the various CU traits. In general, consistent with expectations, traits in the Negative Temperament/Affectivity and Disinhibition domains were associated most consistently with CU traits. Callousness and Uncaring were uniquely explained by traits from these two temperament dimensions, whereas only Detach-

Table 2
Correlations Among Callous-Unemotional Traits

	Callousness	Uncaring	Unemotional
Callousness			
Uncaring	.64		
Unemotional	.37	.40	
ICU Total	.83	.90	.67

Note. $n = 171$. All correlations significant at $p < .001$. ICU = Inventory of Callous-Unemotional Traits.

Table 3
Correlations of General Maladaptive Personality Traits With Callous-Unemotional Traits

SNAP Scale	ICU scale			
	Callousness	Uncaring	Unemotional	ICU total
Negative-Temperament-factor scales				
Negative Temperament	.21	.31*	.09	.27
Mistrust	.43	.46	.34	.51*
Manipulativeness ^a	.64	.68	.29	.69*
Aggression ^a	.46	.51*	.19	.50
Self-harm	.45	.42	.25	.47*
Eccentric perceptions	.22	.18	.13	.22*
Dependency	-.14	-.02	-.16	-.11
Positive-Temperament-factor scales				
Positive Temperament	-.33	-.42	-.45	-.49*
Exhibitionism	.05	.08	-.32*	-.05
Entitlement	.14	.11	.01	.11
Detachment	.34	.29	.59*†	.47
Disinhibition-(vs. Constraint)-factor scales				
Disinhibition	.64†	.70*†	.28	.70*†
Impulsivity	.52	.54*	.04	.50
Propriety	-.46	-.53*	-.18	-.51
Workaholism	-.35	-.48*	-.14	-.44

Note. $n = 171$. Correlations > 1.20 I are shown in **boldface**. Correlations of > 1.151 are significant, $p < .05$; > 1.201 , $p < .01$; > 1.251 , $p < .001$. SNAP = Schedule for Nonadaptive and Adaptive Personality; ICU = Inventory of Callous-Unemotional Traits.

^a Cross-loads on the Disinhibition factor.

* Highest correlation in row. † Highest correlation in column.

ment, a primary trait within the Positive Temperament/Affectivity domain, emerged as a significant predictor of the Unemotional subscale. Specifically, both the Callousness and Uncaring scales were uniquely associated with Manipulativeness and Disinhibition, whereas only Detachment emerged as a significant unique predictor of the Unemotional scale. Taken together, these results suggest that the traits of Callousness and Uncaring represent two aspects of a single dimension, confirmed by the strong association between these two scales ($r = .64$). In contrast, Unemotional appears to be a substantially separate trait, largely reflecting the low end of Positive Affectivity.

These results suggest that in addition to being under- (vs. over-) controlled, individuals high on Callousness and Uncaring tend to exhibit a willingness to use and manipulate people for personal gain with little regard for others' rights or feelings. This finding is largely consistent with both theoretical and empirical descriptions of the psychopathy construct (Cleckley, 1976; Hare, 1993; McCord & McCord, 1964). Individuals with high scores on Unemo-

tional, however, appear to be characterized by an emotional and interpersonal distance from others. Although this trait overlaps to some extent with the traits of Callousness and Uncaring ($r_s = .37$ and $.40$, respectively), these differential relations raise questions about the appropriateness of combining all three scales into a single score or conceptualizing "Callous and Unemotional" traits as a four-criteria construct that can serve as a single specifier of CD as currently proposed in *DSM-5*.

The current study provides important information regarding the construct validity of CU traits and their placement within the factor space of general personality trait/temperament models. Although the various nodes of the CU nomological network have yet to be fully articulated, the current findings raise a number of questions regarding the construct validity of the ICU, the only published multidimensional measure of these traits. For example, whereas most conceptualizations of CU traits include deficits in emotional arousal and distress (Frick & White, 2008) consistent with the label of "unemotional," we found significant and substantial *pos-*

Table 4
Predicting Callous-Unemotional Traits From Youth Personality

Predictors	Callousness		Uncaring		Unemotional		Total	
	β	t	β	t	β	t	β	t
R^2	.46		.53		.36		.58	
Mistrust	-.08	-.11	-.08	-.11	.08	1.10	.22	3.50**
Manipulativeness	.36	3.76**	.36	3.81**	-.08	-.11	.29	3.09*
Positive Temperament	-.08	-.11	-.08	-.11	-.13	-1.76	-.08	-.11
Detachment	-.08	-.11	-.08	-.11	.43	5.64**	-.08	-.11
Disinhibition	.32	3.07*	.45	4.39**	-.08	-.11	.42	5.05**
Impulsivity	.06	.60	.08	.03	-.08	-.11	-.08	-.11

Note. $n = 171$. Significant unique effects shown in **boldface**. Top three bivariate predictors were entered into regression models as described in the text. * $p < .01$. ** $p < .001$.

itive associations between indicators of negative emotionality (e.g., Self-Harm) and both the Callousness and Unemotional subscales. In general, callous youth are prone to anger outbursts, indicating they are not devoid of all emotionally expressive behaviors (Kimonis, Frick, & Barry, 2004). Nonetheless, they may exhibit blunted affect in terms of emotions such as fear and sadness, partially consistent with the idea of unemotionality. Greater clarity as to what is meant by “unemotional” is needed to refine this construct.

Although our results are discrepant with Essau et al.’s (2006) finding of a negative association between the Unemotional subscale and Emotional Instability (Neuroticism), the Big Five measure used in that study was developed in Italian (Barbaranelli, Caprara, Rabasca, & Pastorelli, 2003) and used in a German translation by Essau et al. Although the measure also has been translated and used in Dutch (e.g., Muris, Meesters, & Diederer, 2005) and Spanish (e.g., del Barrio, Carrasco, & Holgado, 2006) translations, we could not locate any study validating the measure against a reliable and valid translation of a standard measure of the Big Five. Nor could we find any studies that provide details regarding the translation process, so the construct validity of the scale remains unclear.

Thus, the current findings suggest that youth higher in CU traits are not globally immune to negative emotions. This finding is contrary to common findings with regard to psychopathy in adults, which generally find low levels of most emotions for individuals with elevated scores on psychopathy measures (Hare, 1993; see also Cleckley, 1976), suggesting that the constructs should be negatively correlated. They also appear initially to be partially inconsistent with recent meta-analytic findings on the Psychopathic Personality Inventory Coldheartedness scale (PPI; Lilienfeld & Andrews, 1996), which assesses a conceptually comparable construct of callousness in adults. The meta-analytic findings reveal significant negative associations between Coldheartedness and indices of both Positive (pooled $r = -.22$) and Negative Affectivity (pooled $r = -.19$; Marcus, Fulton, & Edens, 2012). However, the PPI Coldheartedness subscale appears to assess, in large part, low sentimentality rather than Callousness per se.

Nonetheless, consistent with Lilienfeld and Andrews’ (1996) findings of a negative association between Coldheartedness and Positive Emotionality, we found that Positive Temperament was negatively associated with all CU traits. Future research is needed to elucidate further where youth CU traits fall within the nomological network of general personality traits, and to ascertain whether the apparent differences in the correlates of these traits in youth versus adults (especially with regard to Negative Affectivity) reflects a developmental difference, differences in the constructs measured, or both.

In addition to providing data that help to locate CU traits more fully within the broader, well-established personality literature, the current study provides data that may inform *DSM-5* efforts. As noted earlier, the current *DSM-5* proposal includes not only a hierarchical model of pathological personality traits for use in diagnosing personality pathology and describing patients’ personality traits relevant to treatment planning regardless of diagnosis, but also—in a separate section—a trait description of CU traits for use as a CD diagnostic specifier. In the end, *DSM-5* will be a single document, so consistency across sections is critical. Thus, data from the current study can be used to help conceptualize CU traits

within the overarching model of personality pathology currently proposed by the P&PD WG. In particular, each of the SNAP-Y traits that associated uniquely with CU traits can be mapped onto the proposed *DSM-5* facet traits. Recent findings have corroborated this theoretical assertion. Specifically, Clark, Stasik, Ro, and Watson (unpublished raw data) examined associations between SNAP traits and the proposed *DSM-5* trait domains and facets in a mixed sample of community adults and outpatients who completed both the SNAP and a short form of the Personality Inventory for *DSM-5* (PID-5; Krueger et al., in press), as well as a subsample of the outpatients who completed the full PID-5. Table 5 presents correlations from the Clark et al. study between SNAP traits associated with CU traits and PID-5 traits. Taken together, these findings corroborate the assertion that, consistent with Table 1, CU traits can be understood as reflecting a mixture of proposed facets within four of the five domains proposed for *DSM-5*. In contrast, from the scale labels alone, one might predict that the proposed CU traits should relate primarily to the P&PD WG’s proposed Antagonism domain, which itself contains a Callousness facet.

A more precise picture emerges by focusing on the ICU subscales. As noted earlier, the Callousness and Uncaring facets of the ICU would be predicted to relate to the *DSM-5* Antagonism and Detachment domains and Unemotional would be predicted to relate to the *DSM-5* Negative Affectivity, Detachment, and (negatively) Antagonism domains. Given that the profile of traits related to Callousness and Uncaring seem more tied to Externalizing, whereas Unemotional seems more tied to Internalizing, combining these into a single overall score obscures this distinction. Although previous factor analytic studies have provided support for a general CU dimension (e.g., Kimonis et al., 2008), the inclusion of more or fewer items/scales in the analysis results in the emergence of either more or fewer factors. Therefore, it is possible that a unitary CU factor may emerge based more on what else is included in the analysis than as a true, higher order unitary dimension. Therefore, our results, along with other findings (e.g., Berg, Lilienfeld, Reddy, Latzman, Roose, & Craighead, 2012), question the appropriateness of conceptualizing these traits within a single dimension as implied by the “callous-unemotional” label. Rather, it appears more appropriate to label these traits as “callous and unemotional (C&U).” Further, although Callous-Unemotional is the label of the proposed *DSM-5* Conduct Disorder specifier, its proposed operationalization is as a single construct: Applying the specifier requires two of four criteria: “Lack of Remorse or Guilt,” “Callous-Lack of Empathy,” “Unconcerned about Performance,” and “Shallow or Deficient Affect,” thus allowing for an individual to meet criteria for the specifier by having only callousness or unemotionality, but not both.

This study is not without limitations. The sample was relatively homogeneous (e.g., all male, mostly White, relatively high household income), and some exclusion criteria (e.g., youth never held back a grade) may have restricted sample variability. Although this design may result in fewer potential confounding variables, the relatively high-functioning nature of the sample may limit the generalizability of the results. As previous research has found differential associations between C&U traits and other outcomes of interest, such as problematic behaviors and anxiety (e.g., Essau et al., 2006), the consistency of our findings across genders needs to be tested. Furthermore, future research is needed within clinical and juvenile justice populations to

Table 5

SNAP Traits Uniquely Associated With CU Traits and Corresponding Proposed DSM-5 Trait Domains and Facets

SNAP trait dimension	CU trait	Domain	DSM-5 trait dimensions							
			T1 r^a	T2 r^b	Facet	T1 r^a	T2 r^b			
Disinhibition (DIS)	Callousness, Uncaring	DIS	.65	.67	Impul	.60	.58			
					RskTkng	.53	.54			
					Irresp	.55	.52			
		ANT	.61	.59	Deceit	.54	.61			
					Manip	.54	.47			
					Callous	.47	.50			
Manipulativeness (NA/DIS)	Callousness, Uncaring	ANT	.63	.65	Hostility	.51	.44			
					Manip	.58	.52			
					Deceit	.59	.66			
		DIS	.53	.53	Callous	.44	.54			
					Hostility	.47	.41			
					Impul	.52	.49			
Impulsivity (DIS)	Callousness, Uncaring	DIS	.66	.68	Irresp	.49	.49			
					RskTkng	.46	.44			
					Impul	.67	.66			
		ANT	.47	.49	Deceit	.41	.54			
					Manip	.43	.42			
					Hostility	.48	.42			
low Positive Temperament (PA)	Unemotional	PSY	.46	.40	Eccentric	.48	.48			
					DET	.46	.48	Anhedon	.53	.64
								Deprsv	.53	.48
		Wthdrwl	.46	.43						
		low Exhibitionism (PA)	Unemotional	DET	.38	.46	AttnSeek	-.52	-.64	
							Wthdrwl	.40	.47	
Detachment (PA)	Unemotional	DET	.73	.75	Wthdrwl	.77	.78			
					Anhedon	.59	.61			
					Deprsv	.60	.56			
		NA	.61	.54	RstrcAff	.47	.42			
					Hostility	.52	.45			
					Susplic	.45	.45			

Note. Reprinted with permission (Clark, Staski, Ro, & Watson, unpublished raw data).

^a $n = 402$; both SNAP-2 and PID-5 short form completed at Time 1. ^b $n = 202$; SNAP-2 completed at Time 1, PID-5 full instrument completed at Time 2. $r_s > .60$ in **boldface**. PID-5 = Personality Inventory for *DSM-5* (Krueger et al., in press); DIS = Disinhibition; Impul = Impulsivity; RskTkng = Risk Taking; Irresp = Irresponsibility; ANT = Antagonism; Deceit = Deceitfulness; Manip = Manipulativeness; Callous = Callousness; NA = Negative Affectivity; Distractb = Distractibility; Eccentric = Eccentric Perceptions; PA = Positive Affectivity; DET = Detachment; Anhedon = Anhedonia; Deprsv = Depressivity; Wthdrwl = Withdrawal; AttnSeek = Attention Seeking; RstrcAff = Restricted Affectivity. All correlations that replicated from Time 1 to Time 2 at $r > .40$ are included.

examine these associations among youth who fall on the more extreme ends of many of these traits.

Furthermore, the cross-sectional nature of the current study does not allow causal or temporal inferences. Prospective longitudinal studies are needed to examine the stability and temporality of associations between general personality and C&U traits. Although not unique to the current sample, the low internal consistency of youth-reported Callousness is also of concern. Additionally, although aggregating youth- and mother-report tends to increase reliability and validity and is consistent with recommended clinical practice, this approach obscures potential divergent and unique perspectives from each data source. Future research is needed to examine whether associations between C&U traits and broader maladaptive personality are similar for self- and informant-reports.

Finally, the ICU (Frick, 2003) is the only instrument of which we are aware that is designed specifically for comprehensively assessing C&U traits among youth. As such, the convergent and discriminant validity of the assessment of these traits for this age group are not well

understood, and it will be imperative for future work to confirm that our findings, and, importantly, those of the broader literature, are not instrument-specific. Our results, as well as previous findings (e.g., Essau et al., 2006; Roose et al., 2010), suggest that the various C&U traits belong to distinct personality trait domains, an important fact that is obscured when they are combined into a single score as in the ICU or treated as equivalent indicators of a single construct, as in the *DSM-5* proposal. This issue is important not only in service of advancing our understanding of the nomological network of C&U traits, but also because the current *DSM-5* proposal's specifier criteria are based on the conceptualization of CU traits as a single construct (Frick & Moffitt, 2010).

Conclusions

These limitations notwithstanding, our results are a first step toward understanding C&U traits within the current consensual, broad, hierarchical personality traditional trait framework that

includes the proposed *DSM-5* framework. The cross-fertilization between the general personality and C&U literatures promises to result in advances for both. Our results suggest that general trait models explain at least half of the variance in C&U traits, except for the Unemotional subscale, which was not as well explained. Such findings confirm our contention that traditional trait models are needed to understand C&U traits more fully, and that the longstanding gap in this regard between the child and adult literatures in their consideration of broad-band personality dimensions should be bridged. The frequent neglect of such dimensions in the childhood literature may result in a failure to recognize that scales bearing a single label are in fact composed of distinct traits that in turn have distinct correlates. Additionally, our findings suggest that such a consideration is possible, and strongly encouraged, for the architects of *DSM-5* CD.

References

- Achenbach, T. M. (2006). As others see us: Clinical and research implications of cross-informant correlations for psychopathology. *Current Directions in Psychological Science, 15*, 94–98. doi:10.1111/j.0963-7214.2006.00414.x
- American Psychiatric Association. (2012a). *Callous and unemotional specifier for conduct disorder*. Retrieved from <http://www.dsm5.org/ProposedRevision/Pages/proposedrevision.aspx?rid=424>
- American Psychiatric Association. (2012b). *Disruptive, impulse control and conduct disorders*. Retrieved from <http://www.dsm5.org/ProposedRevision/Pages/Disruptive,ImpulseControl,andConductDisorders.aspx>
- American Psychiatric Association. (2012c). *Personality disorders*. Retrieved from <http://www.dsm5.org/proposedrevision/Pages/Personality-Disorders.aspx>
- Barbaranelli, C., Caprara, G. V., Rabasca, A., & Pastorelli, C. (2003). A questionnaire for measuring the Big Five in late childhood. *Personality and Individual Differences, 34*, 645–664. doi:10.1016/S0191-8869(02)00051-X
- Berg, J., Lilienfeld, S. O., Reddy, S., Latzman, R. D., Roose, A., & Craighead, L. W. (under review, 2012). *The Inventory of Callous and Unemotional Traits: A construct-validation analysis in an at-risk sample*. Manuscript under review.
- Block, J. (1996). Some jangly remarks on Baumeister and Heatherton. *Psychological Inquiry, 7*, 28–32. doi:10.1207/s15327965pli0701_5
- Clark, L. A., Simms, L. J., Wu, K. D., & Casillas, A. (in press). *Schedule for nonadaptive and adaptive personality: Manual for administration, scoring, and interpretation* (2nd ed.). Minneapolis, MN: University of Minnesota Press.
- Clark, L. A., Stasik, S., Ro, E., & Watson, D. (2012). *Relations between the Personality Inventory for DSM-5 and the schedule for nonadaptive and adaptive personality*. Unpublished raw data.
- Clark, L. A. (1993). *Schedule for nonadaptive and adaptive personality (SNAP)*. Minneapolis, MN: University of Minnesota Press.
- Clark, L. A. (2005). Temperament as a unifying basis for personality and psychopathology. *Journal of Abnormal Psychology, 114*, 505–521. doi:10.1037/0021-843X.114.4.505
- Cleckley, H. (1976). *The mask of sanity*. St. Louis, MO: Mosby.
- Cynders, M. A., & Smith, G. T. (2007). Mood-based rash action and its components: Positive and negative urgency. *Personality and Individual Differences, 43*, 839–850. doi:10.1016/j.paid.2007.02.008
- De Clercq, B., De Fruyt, F., & Mervielde, I. (2003). *Construction of the dimensional personality symptom item pool in children (DIPSI)*. Ghent University, Belgium.
- Decuyper, M., De Bolle, M., De Fruyt, F., & De Clercq, B. (2011). General and maladaptive personality dimensions and the assessment of callous-unemotional traits in adolescence. *Journal of Personality Disorders, 25*, 681–701. doi:10.1521/pedi.2011.25.5.681
- del Barrio, V., Carrasco, M. A., & Holgado, F. P. (2006). Factor structure invariance in the Children's Big Five Questionnaire. *European Journal of Psychological Assessment, 22*, 158–167. doi:10.1027/1015-5759.22.3.158
- Digman, J. M. (1997). Higher-order factors of the Big Five. *Journal of Personality and Social Psychology, 73*(6), 1246–1256. doi:10.1037/0022-3514.73.6.1246
- Edens, J., Skeem, J., Cruise, K., & Cauffman, B. (2001). The assessment of "juvenile psychopathy" and its association with violence: A critical review. *Behavioral Sciences and the Law, 19*, 53–80. doi:10.1002/bsl.425
- Essau, C. A., Sasagawa, S., & Frick, P. J. (2006). Callous-unemotional traits in a community sample of adolescents. *Assessment, 13*, 454–469. doi:10.1177/1073191106287354
- Fontaine, N. M. G., McCrory, E. J. P., Boivin, M., Moffitt, T. E., & Viding, E. (2011). Predictors and outcomes of joint trajectories of callous-unemotional traits and conduct problems in childhood. *Journal of Abnormal Psychology, 120*, 730–742. doi:10.1037/a0022620
- Frick, P. J., & Dickens, C. (2006). Current perspectives on conduct disorder. *Current Psychiatry Reports, 8*, 59–72. doi:10.1007/s11920-006-0082-3
- Frick, P. J., & Hare, R. D. (2001). *The Antisocial Process Screening Device (APSD)*. Toronto, Canada: Multi-Health Systems.
- Frick, P. J., & Moffitt, T. E. (2010). *A proposal to the DSM-V Childhood Disorders and the ADHD and Disruptive Behavior Disorders Work Groups to include a specifier to the diagnosis of conduct disorder based on the presence of callous-unemotional traits*. American Psychiatric Association, USA, 1–36.
- Frick, P. J., & White, S. F. (2008). Research review: The importance of callous-unemotional traits for developmental models of aggressive and antisocial behavior. *Journal of Child Psychology and Psychiatry, 49*, 359–375. doi:10.1111/j.1469-7610.2007.01862.x
- Frick, P. J. (2003). *The inventory of callous-unemotional traits*. Unpublished rating scale, The University of New Orleans.
- Hare, R. D. (1993). *Without conscience: The disturbing world of the psychopaths among us*. New York, NY: Simon & Schuster.
- Harlan, E., & Clark, L. A. (1999). Short forms of the schedule for nonadaptive and adaptive personality (SNAP) for self- and collateral ratings: Development, reliability, and validity. *Assessment, 6*, 131–145. doi:10.1177/107319119900600203
- Kelly, E. L. (1927). *Interpretation of educational measurements*. Yonkers, NY: World Book Co.
- Kimonis, E. R., Frick, P. J., Skeem, J. L., Marsee, M. A., Cruise, K., Munoz, L. C., . . . Morris, A. S. (2008). Assessing callous-unemotional traits in adolescent offenders: Validation of the inventory of callous-unemotional traits. *International Journal of Law and Psychiatry, 31*, 241–252. doi:10.1016/j.ijlp.2008.04.002
- Kimonis, E. R., Frick, P. J., & Barry, C. T. (2004). Callous-unemotional traits and delinquent peer affiliation. *Journal of Consulting and Clinical Psychology, 72*, 956–966. doi:10.1037/0022-006X.72.6.956
- Krueger, R. F., Eaton, N. R., Clark, L. A., Watson, D., Markon, K. E., Derringer, J., . . . Livesley, W. J. (2011). Deriving an empirical structure of personality pathology for DSM-5. *Journal of Personality Disorders, 25*, 170–191. doi:10.1521/pedi.2011.25.2.170
- Krueger, R. F., Eaton, N. R., Derringer, J., Markon, K. E., Watson, D., & Skodol, A. E. (in press). Personality in DSM-5: Helping delineate personality disorder content and framing the meta-structure. *Psychological Medicine*.
- Krueger, R. F., Markon, K. E., Patrick, C. J., Benning, S. D., & Kramer, M. D. (2007). Linking antisocial behavior, substance use, and personality: An integrative quantitative model of the adult externalizing spec-

- trum. *Journal of Abnormal Psychology*, 116, 645–666. doi:10.1037/0021-843X.116.4.645
- Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self report measure of psychopathic personality traits in noncriminal populations. *Journal of Personality Assessment*, 66, 488–524. doi:10.1207/s15327752jpa6603_3
- Linde, J. A., Stringer, D., Simms, L. J., & Clark, L. A. (submitted, 2011). *The schedule for nonadaptive and adaptive personality–youth version (SNAP-Y): Psychometric properties and initial validation*.
- Linde, J. A. (2001). *Validation of the schedule for nonadaptive and adaptive personality–youth version (SNAP-Y): Self and parent ratings of adolescent personality*. Unpublished doctoral dissertation, University of Iowa, IA.
- Lynam, D. R., Caspi, A., Moffitt, T. E., Raine, A., Loeber, R., & Stouthamer-Loeber, M. (2005). Adolescent psychopathy and the Big Five: Results from two samples. *Journal of Abnormal Child Psychology*, 33, 431–443. doi:10.1007/s10648-005-5724-0
- Marcus, D. D., Fulton, J. J., & Edens, J. F. (2012). The two-factor model of psychopathic personality: Evidence from the Psychopathic Personality Inventory. *Personality Disorders: Theory, Treatment, and Research*, 3, 140–154. doi:10.1037/a0025282
- Markon, K. E., Krueger, R. F., & Watson, D. (2005). Delineating the structure of normal and abnormal personality: An integrative hierarchical approach. *Journal of Personality and Social Psychology*, 88, 139–157. doi:10.1037/0022-3514.88.1.139
- Markon, K. E. (2009). Hierarchies in the structure of personality traits. *Social and Personality Psychology Compass*, 3(5), 812–826. doi:10.1111/j.1751-9004.2009.00213.x
- McCord, W., & McCord, J. (1964). *The psychopath: An essay on the criminal mind*. Princeton, NJ: Van Nostrand.
- McMahon, R. J., Witkiewitz, K., Kotler, J. S., & The Conduct Problems Prevention Research Group (2010). Predictive validity of callous-unemotional traits measured in early adolescence with respect to multiple antisocial outcomes. *Journal of Abnormal Psychology*, 119, 752–763. doi:10.1037/a0020796
- Mervielde, I., & De Fruyt, F. (1999). Construction of the hierarchical personality inventory for children (HiPIC). In I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (Eds.), *Personality psychology in Europe. Proceedings of the Eighth European Conference on Personality Psychology* (pp.107–127). Tilburg, The Netherlands: Tilburg University Press.
- Muris, P., Meesters, C., & Dideren, R. (2005). Psychometric properties of the Big Five Questionnaire for Children (BFQ-C) in a Dutch sample of young adolescents. *Personality and Individual Differences*, 38, 1757–1769. doi:10.1016/j.paid.2004.11.018
- Pardini, D. A., & Fite, P. J. (2010). Symptoms of conduct disorder, oppositional defiant disorder, attention-deficit/hyperactivity disorder, and callous-unemotional traits as unique predictors of psychosocial maladjustment in boys: Advancing an evidence base for DSM-V. *Journal of the American Academy of Child and Adolescent Psychiatry*, 49, 1134–1144.
- Ready, R. E., & Clark, L. A. (2002). Correspondence of psychiatric patient and informant ratings of personality traits, temperament, and interpersonal problems. *Psychological Assessment*, 14, 39–49. doi:10.1037/1040-3590.14.1.39
- Roberts, B. W., & DelVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin* 126, 3–25. doi:10.1037/0033-2909.126.1.3
- Roberts, B. W., Walton, K. E., & Viechtbauer, W. (2006). Patterns of mean-level change in personality traits across the life course: A meta-analysis of longitudinal studies. *Psychological Bulletin*, 132, 1–25. doi:10.1037/0033-2909.132.1.1
- Roose, A., Bijttebier, P., Claes, L., Lilienfeld, S. O., De Fruyt, F., & Decuyper, M. (2012). Psychopathic traits in adolescence and the five factor model of personality. *Journal of Psychopathology and Behavioral Assessment*, 34, 84–93. doi:10.1007/s10862-011-9243-8
- Roose, A., Bijttebier, P., Decoene, S., Claes, L., & Frick, P. J. (2010). Assessing the affective features of psychopathy in adolescence: A further validation of the inventory of callous and unemotional traits. *Assessment*, 17, 44–57. doi:10.1177/1073191109344153
- Rothbart, M. K., & Ahadi, S. A. (1994). Temperament and the development of personality. *Journal of Abnormal Psychology*, 103, 55–66. doi:10.1037/0021-843X.103.1.55
- Rothbart, M. K. (2011). *Becoming who we are: Temperament and personality in development*. New York, NY: The Guilford Press.
- Rowe, R., Maughan, B., Moran, P., Ford, T., Briskman, J., & Goodman, R. (2010). The role of callous and unemotional traits in the diagnosis of conduct disorder. *Journal of Child Psychology and Psychiatry*, 51(6), 688–695. doi:10.1111/j.1469-7610.2009.02199.x
- Ruiz, M. A., Pincus, A. L., & Dickinson, K. A. (2003). NEO PI-R predictors of alcohol use and alcohol-related problems. *Journal of Personality Assessment*, 81, 226–236. doi:10.1207/S15327752JPA8103_05
- Salekin, R. T., Debus, S. A., & Barker, E. D. (2010). Adolescent psychopathy and the five factor model: Domain and facet analysis. *Journal of Psychopathology and Behavioral Assessment*, 32(4), 501–514. doi:10.1007/s10862-010-9192-7
- Salekin, R. T., & Lynam, D. R. (Eds.). (2010). *Handbook of child and adolescent psychopathy*. New York, NY: Guilford Press.
- Scheepers, F. E., Buitelaar, J. K., & Matthys, W. (2011). Conduct disorder and the specifier callous and unemotional traits in the DSM-5. *European Child & Adolescent Psychiatry*, 20(2), 89–93. doi:10.1007/s00787-010-0149-x
- Serin, R. C., Peters, R. D., & Barbaree, H. E. (1990). Predictors of psychopathy and release outcome in a criminal population. *Psychological Assessment*, 2, 419–422. doi:10.1037/1040-3590.2.4.419
- Sharma, L., Markon, K. E., & Clark, L. A. (under review). *Towards a theory of distinct types of “impulsive” behaviors: A meta-analysis of self-report and behavioral measures*.
- Sijtsma, K. (2009). On the use, the misuse, and the very limited usefulness of Cronbach’s alpha. *Psychometrika*, 74, 107–120. doi:10.1007/s11336-008-9101-0
- Skodol, A. E., Clark, L., Bender, D. S., Krueger, R. F., Morey, L. C., Verheul, R., . . . Oldham, J. M. (2011). Proposed changes in personality and personality disorder assessment and diagnosis for DSM-5 Part I: Description and rationale. *Personality Disorders: Theory, Research, and Treatment*, 2(1), 4–22. doi:10.1037/a0021891
- Tellegen, A. (1985). Structures of mood and personality and their relevance to assessing anxiety, with an emphasis on self-report. In A. H. Tuma & J. D. Maser (Eds.), *Anxiety and the anxiety disorders* (pp. 681–706). Hillsdale, NJ: Erlbaum.
- Thorndike, E. L. (1904). *An introduction to the theory of mental and social measurements*. New York, NY: Teachers College, Columbia University.
- Watson, D., Clark, L. A., & Chmielewski, M. (2008). Structures of personality and their relevance to psychopathology: II. Further articulation of a comprehensive unified trait structure. *Journal of Personality*, 76, 1485–1522. doi:10.1111/j.1467-6494.2008.00531.x
- Wright, A. G. C., Thomas, K. M., Hopwood, C. J., Markon, K. E., Pincus, A. L., & Krueger, R. F. (in press). The Hierarchical Structure of DSM-5 Pathological Personality Traits. *Journal of Abnormal Psychology*. Advance online publication. doi:10.1037/a0027669

(Appendix follows)

Appendix

Cross-Informant Correlation Matrix of SNAP Scales

Table A1

Correlations Between SNAP-Y and SNAP-ORF Scales

SNAP-Y	SNAP-ORF														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Negative Temperament	.35^{*†}	.31*	.13	.26	.29	.06	.11	-.12	.03	-.01	.08	.14	.14	-.07	-.09
2. Mistrust	.29	.30	.26	.42 ^{*†}	.25	.03	-.05	-.17	.01	.09	.12	.30	.20	-.22	-.21
3. Manipulativeness	.15	.15	.25	.24	.24	.06	-.01	-.19	.16	.15	-.02	.29	.23	-.25 [†]	-.22
4. Aggression	.31	.16	.25	.35[†]	.20	-.04	-.03	-.16	.07	.12	.09	.30	.19	-.26	-.23
5. Self-harm	.20	.29	.23	.26	.46^{*†}	.15	.01	-.26	.07	.07	.20	.24	.25	-.21	-.17
6. Eccentric perceptions	.17	.17	.20	.22	.23	.18^{†*}	-.01	-.11	.08	.01	.11	.21	.11	-.13	-.15
7. Dependency	.09	.04	-.07	.07	.07	.01	.19^{*†}	.01	.11	-.03	-.16	-.02	.09	-.01	-.07
8. Positive Temperament	-.13	-.30	-.15	-.15	-.20	-.08	-.06	.35^{*†}	.13	.06	-.36	-.16	-.11	.08	.21
9. Exhibitionism	-.17	-.15	.03	-.14	-.14	-.05	-.07	.13	.38^{*†}	.16	-.36	-.02	.02	-.04	-.02
10. Entitlement	-.08	-.01	-.01	-.14	-.15	-.09	-.05	.10	.10	.20^{*†}	.00	-.09	-.05	-.05	.13
11. Detachment	.24	.41*	.22	.29	.27	.11	-.01	-.39	-.30	-.02	.57^{*†}	.24	.13	-.15	-.15
12. Disinhibition	.11	.10	.37 [*]	.25	.20	.03	-.14	-.24	.19	.15	-.02	.44^{*†}	.38	-.41*	-.41*
13. Impulsivity	.02	.03	.26	.22	.21	-.07	-.11	-.03	.29	.10	-.13	.39 [†]	.38[*]	-.36	-.33
14. Propriety	-.06	-.09	-.21	-.16	-.23	-.06	.17	.09	-.17	-.10	.01	-.29 [†]	-.22	.22	.22
15. Workaholism	-.01	-.11	-.21	-.06	-.10	-.00	-.01	.14	-.07	-.04	.00	-.23	-.13	.15	.29[†]

Note. $n = 171$; Convergent correlations are shown in **boldface**. Correlations of $> |.15|$ are significant, $p < .05$; $> |.20|$, $p < .01$; $> |.25|$, $p < .01$; $> |.30|$, $p < .001$. SNAP-Y = Schedule for Nonadaptive and Adaptive Personality–Youth Version. SNAP-ORF = Schedule for Nonadaptive and Adaptive Personality–Other Report Form.

* Highest correlation in column. † Highest correlation in row.