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

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I. Proposed Criteria :

Recommendation: Include the following specifier "**With Significant Callous-Unemotional Traits"** to the diagnosis of Conduct Disorder that can be used in combination with the existing subtypes (Childhood-onset Type-312.81; Adolescent-onset Type 312.82; Uspecified Onset – 312.89) and with severity specifiers:

1. Meets full criteria for Conduct Disorder.

2. Shows 2 or more of the following characteristics persistently over at least 12 months and in more than one relationship or setting. The clinician should consider multiple sources of information to determine the presence of these traits, such as whether the person self-reports them as being characteristic of him or herself and if they are reported by others (e.g., parents, other family members, teachers, peers) who have known the person for significant periods of time.

- *Lack of Remorse or Guilt:* Does not feel bad or guilty when he/she does something wrong (except if expressing remorse when caught and/or facing punishment).

- *Callous-Lack of Empathy:* Disregards and is unconcerned about the feelings of others.

- *Unconcerned about Performance:* Does not show concern about poor/problematic performance at school, work, or in other important activities.

- *Shallow or Deficient Affect:* 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).

II. A Historical Perspective

The proposed specifier is based on two primary bodies of clinical research that spans several decades. First, it has long been recognized that youth who exhibit significant and impairing patterns of antisocial and aggressive behavior, and who would as a result be diagnosed under current definitions of Conduct Disorder (CD), reflect a very heterogeneous group in terms of the severity of the disorder, its life course, and its presumed etiology (Frick, 2006; Moffit et al., 2008). This issue is reflected in numerous attempts to subdivide youth with CD in recent revisions of the Diagnostic and Statistical Manual of Mental Disorder, as well as in research attempting to subdivide aggressive (Card & Little, 2006) and delinquent (Gorman-Smith & Loeber, 2005) children and adolescents into meaningful subgroups (e.g., proactive and reactive aggression; covert, overt, and authority conflict patterns of delinquency) that have both clinical and etiological significance.

Second, there is a long history of clinical research on adults documenting the importance of the presence of psychopathic traits for designating an important subgroup of antisocial individuals (Cleckley, 1976; Hare, 1993; Lykken, 1995). Psychopathic traits have historically not focused solely

on the antisocial behavior of the individual but have placed a great emphasis on the affective (e.g., lack of empathy; lack of guilt; shallow emotions) and interpersonal (e.g., egocentricity; callous use of others for own gain) style of the individual. Such traits were considered for inclusion in the DSM-III as part of the definition for Antisocial Personality Disorder but were not included due to concerns that these traits could not be assessed by clinicians reliably (Robins, 1978). However, a significant amount of clinical research has demonstrated that these traits can be assessed reliably using a number of different assessment formats, such as with clinician ratings (Hare & Neumann, 2006) or self-report scales (Lilienfeld & Fowler, 2006). Also, research has demonstrated that definitions that focus on these affective and interpersonal traits, compared to those that focus largely on the antisocial behavior of the individual, do not identify the same groups of individuals. Specifically, antisocial individuals who also show the affective and interpersonal facets of psychopathy show a much more severe, violent, and chronic pattern of antisocial behavior (Hare & Neumann, 2008) and they show very different affective, cognitive, and neurological characteristics (Blair, Mitchell, & Blair, 2005; Newman & Lorenz, 2003; Patrick, 2007). As a result of this research, one indicator of the affective component of psychopathy (i.e., lack of remorse) was included in the symptom list for the DSM-IV criteria for Antisocial Personality Disorder. However, this change provided very minimal coverage of these traits in the diagnostic criteria. Further, there was no way in the criteria to distinguish between those who met criteria for the disorder due to the personality traits associated with psychopathy and those who only showed chronic patterns of antisocial behavior without these traits.

In parallel to these efforts to integrate the construct of psychopathy into diagnostic definitions of antisocial personality disorder in adults in the DSM-III, there were a number of early attempts to use the affective and interpersonal traits of psychopathy to designate a distinct group of antisocial youths, with very promising results showing that these traits designated a group of antisocial children and adolescents that was particularly aggressive and difficult to treat (McCord & McCord, 1964; Quay, 1964). Based on this research, the 3rd edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III; American Psychiatric Association, 1980) made distinctions among children with CD based on whether or not they were “socialized” or “undersocialized”. The following quote from the DSM-III describes the characteristics of the undersocialized type and illustrates its link to the construct of psychopathy:

> "The *Undersocialized* types {of CD} are characterized by a failure to establish a normal degree of affection, empathy, or bond with others. Peer relationships are generally lacking, although the youngster may have superficial relationships with other youngsters. Characteristically, the child does not extend himself or herself for others unless there is an obvious immediate advantage. Egocentrism is shown by readiness to manipulate others for favors without any effort to reciprocate. There is generally a lack of concern for the feelings, wishes, and well-being of others, as shown by callous behavior. Appropriate feelings of remorse are generally absent. Such a child may readily inform on his or her companions and try to place blame on them" (p. 45; American Psychiatric Association, 1980).

In contrast, the socialized type of CD was primarily defined by an ability to form social attachments to others, often in the form of loyalty to a deviant peer group with whom the child would commit antisocial and aggressive acts. This distinction captured the phenomenon of delinquent gangs and youth whose antisocial behavior was part of a deviant sub-culture (Quay, 1987). In addition to the undersocialized-socialized distinction, the DSM-III also made distinctions based on the presence or absence of aggressive behavior. Therefore, CD was divided into four subtypes: an Undersocialized-Aggressive subtype, an Undersocialized-Nonaggressive subtype, a Socialized-Aggressive subtype, and a Socialized -Nonaggressive subtype.

These distinctions among children with CD made by the DSM-III prompted a great deal of research and this literature documented a number of differences among the subtypes that were quite important for both causal theory and clinical intervention, especially in the distinction between undersocialized-aggressive CD and the other subtypes. Specifically, youth who were classified as undersocialized-aggressive tended to have poorer adjustment in juvenile institutions and were more likely to continue show antisocial behavior into adulthood when compared to youth who exhibited other types of CD (Frick & Loney, 1999; Quay, 1987). Also, the undersocialized-aggressive group was more likely to show several neuropsychological correlates to their antisocial behavior, such as low serotonin levels and autonomic irregularities, both of which seemed to indicate a higher threshold of reactivity in the sympathetic arm of the autonomic nervous system (Lahey, Hart, Pliszka, Applegate, & McBurnett, 1993; Quay, 1993; Raine, 1993).

Despite the very promising findings for this method of subtyping children with CD, there was considerable confusion over the core features that should define and differentiate between the undersocialized and socialized subgroups. This confusion was a result of two main factors. First, in an attempt to avoid using the pejorative term “psychopathy”, the term “undersocialized” was used. Unfortunately, this term does not clearly describe the affective or interpersonal features of psychopathy and can lead to other connotations (e.g., the child is not well socialized by parents; the child lacks a peer group). Thus, it does not clearly describe the clinical construct that is being assessed. Second, the operational definition provided in the DSM-III included only one symptom specific to the affective and interpersonal dimensions of psychopathy (i.e., “apparently feels guilt or remorse when such a reaction is appropriate (not just when caught or in difficulty”). The other four symptoms focused on indicators of social attachment (e.g., “ has one or more peer group friendships that have lasted over six months”; “avoids blaming or informing on companions”) that have not proven to be reliable indicators of the affective and interpersonal features of psychopathy.

As a result of both these issues, there was great confusion over the appropriate methods for distinguishing between the socialized and undersocialized subtypes of CD and, as a result, this classification was not continued in later editions of the manual. Instead, the only distinction that has been included in the most recent versions of the manuscript include subtypes based on the well-validated distinction between children with CD who have a childhood-onset (i.e., onset of at least one symptom of CD before age 10) and those that have an adolescent-onset (i.e., absence of any symptom of CD before age 10) to their severe antisocial behaviors (Moffitt, 2006). However, in recent years, a significant body of clinical research has emerged refining how the key features associated with psychopathy may be expressed in children and adolescents and demonstrating the

clinical and etiological importance of using these features to designate a subgroup of antisocial youths. Thus, this proposed change in the diagnostic criteria for CD was developed to reflect this research which is summarized below.

III. Research Basis

A systematic review of possibilities for changing the diagnostic criteria for CD in DSM-V was undertaken for the DSM-V Work Group on Disruptive Behavior Disorders. Among the eleven possible changes identified and reviewed, the addition of CU traits as a specifier was deemed to have the strongest evidence base of support (Moffitt et al. 2008). The extensive research base supporting this specifier has been summarized in several recent comprehensive reviews (Frick & Dickens, 2006; Frick & White, 2008). Thus, this section does not provide another comprehensive review of this research but instead highlights several key findings with specific relevance to diagnostic classification.

a. Assessment

There have been several attempts to assess the interpersonal, affective, and behavioral features of psychopathy , with appropriate developmental modifications, in samples of children and adolescents. From these assessments, three personality dimensions have emerged that are separable from antisocial behavior in factor analyses and that are similar to those traits identified in adult samples (Frick, Bodin, & Barry, 2000; Vitacco, Rogers, & Neumann, 2003). These personality dimensions have been labeled as callous-unemotional, narcissistic, and impulsive traits. Importantly, all three dimensions have been reliably assessed in several different formats, including parenting and teacher ratings scales (Frick et al., 2000; Lynam, 1997), self-reports scales (Andershed, Gustafson, Kerr, & Stattin, 2002; Munoz & Frick, 2007), parent and youth structured interviews (Lahey et al., 2008), and clinician ratings (Forth, Kosson, & Hare, 2004).

Although all three personality dimensions are often elevated in children and adolescents who show serious antisocial behavior or CD, CU traits seem to be most important for designating a specific subgroup within antisocial youth. Specifically, the CU dimension shows the least amount of overlap with DSM definitions of CD and other measures of conduct problems in samples of children and adolescents (Frick et al., 2000). Further, the CU dimension, but not the other dimensions of psychopathy, consistently designates an important subgroup *within* antisocial youth or youth with CD. For example, within a sample of adjudicated adolescents, non-violent offenders, violent offenders, and violent sex offenders exhibited equivalent elevations on narcissistic and impulsive traits. However, the violent sex offenders exhibited higher levels of CU traits compared to the other two groups (Caputo, Frick, & Brodsky, 1999). Similarly, a cluster analysis of the dimensions of psychopathy and conduct problems in a clinic-referred sample of children revealed two distinct clusters of children with childhood-onset conduct problems (Christian, Frick, Hill, Tyler & Frazer, 1997). Both groups were diagnostically similar in their rates of ADHD and conduct problem diagnoses. Also, the two conduct problem clusters did not differ on their level of impulsivity and narcissism. However, one cluster emerged showing higher levels of CU traits and this group showed more severe conduct problems and higher rates of police contact.

b. Stability of Callous-Unemotional Traits

There is now considerable data to suggest that the CU traits, which form the proposed specifier,

are relatively stable from late childhood to early adolescence (Frick, Kimonis, Dandreaux, & Farrell, 2003; Munoz & Frick, 2007; Obradovic, Pardini, Long, & Loeber, 2007). For example, Frick et al. (2003) reported a stability estimate of .71 using an intraclass correlation coefficient (ICC) across four years for parent ratings of CU traits in a sample of children with an average age of 10.65 at the initial assessment. This level of stability is much higher than is typically reported for parent ratings of others aspects of children's adjustment (Verhulst, Koot, & Berden, 1990). With respect to younger children, Dadds, Frazer, Frost and Hawes (2005) found moderate 1-year stability estimates for parent-reported CU traits (*r* = .55) in a community sample of Australian children who were 4 to 9 years of age. Several studies have compared the stability of these traits across different methods of assessment. For example, Obradovic et al. (2007) reported relatively high rates of stability for parent report of CU traits (r = .50) over a nine year period but lower (but still significant) levels of stability for teacher (r=.27) ratings in sample of boys who were age 8 at the initial assessment. Munoz and Frick (2007) compared the 3-year stability of parent and youth self-report ratings of CU traits in a non-referred sample of young adolescents (average age of 13.38 at the initial assessments) and found very high stability for parent ratings (r=.71) and moderate but still significant stability for self-report ratings (r=.48).

These traits have also proven to be moderately stable from adolescence to adulthood (Blonigen , Hicks, Kruger, Patrick, & Iacono, 2006; Loney , Taylor, Butler, & Iacono, 2007). Blonigen et al. (2006) reported that self-report CU traits were relatively stable (*r* = .60) from late adolescence (age 17) into early adulthood (age 24). Further, Loney et al. (2007) reported that self-report of CU traits in adolescence (ages 16-18) were moderately stable (ICC =.40) over a 6-year follow-up period. Further, two studies have shown that measures of CU traits assessed in childhood are significantly associated with measures of psychopathy in adulthood, even controlling for childhood conduct problems and other risk factors for antisocial behavior (Burke, Loeber, & Lahey, 2007; Lynam , Caspi, Moffitt, Loeber, & Stouthamer-Loeber, 2007).

c. Clinical Significance of Callous-Unemotional Traits

Frick and Dickens (2006) reported on a qualitative review of 24 published studies using 22 independent samples. Ten of these studies showed a concurrent association between CU traits (including those used in the proposed specifier) and measures of aggressive, antisocial, or delinquent behavior, and 14 studies showed a predictive relationship with follow-up intervals ranging from 6 months to 10 years. These authors further reported on 5 studies showing that CU traits were associated with poorer treatment outcomes in samples of antisocial youths. Finally, Frick and White (2008) reviewed eight additional concurrent studies published after the previous review and three additional longitudinal studies showing an association between CU traits and the severity of antisocial behavior. To summarize several findings that are particularly relevant to the proposed specifier:

- These studies included community (n=6), clinic-referred (n=4) and forensic (n=13) samples.
- They included samples ranging in age from 4 to 20.
- Although much of the research reviewed used samples in North America, CU traits have been associated with severity of antisocial behavior in several different countries and cultures such as Australia (Dadds et al., 2005), the United Kingdom (Viding, Simmonds,

Petrides, & Federickson, 2009), Germany (Essau, Sasagawa, & Frick, 2006), Greek Cyprus (Fanti, Frick, & Georgiou, in press) and Israel (Somech & Elizur, in press).

- Children and adolescents with CU traits not only show a more severe and pervasive pattern of aggressive behavior but they also tend to show aggression that is more premeditated and instrumental (i.e., for gain) in nature (Frick, Cornell, Barry, Bodin,& Dane, 2003; Kruh, Frick, & Clements 2005).

- There are now several studies demonstrating that children and adolescents with CU traits show a different response to treatment than other children with conduct problems.

    - For example, Hawes and Dadds (2005) reported that clinic-referred boys (ages 4 to 9) with conduct problems and CU traits were less responsive to a parenting intervention than boys with conduct problems but who were low on CU traits. However, this differential effectiveness was not consistently found across all phases of the treatment. That is, children with and without CU traits seemed to respond equally well to the first part of the intervention that focused on teaching parents methods of using positive reinforcement to encourage prosocial behavior. In contrast, only the group without CU traits showed added improvement with the second part of the intervention that focused on teaching parents more effective discipline strategies.

    - Waschbusch, Carrey, Willoughby, King, and Andrade (2007) reported that children (ages 7 to 12) with conduct problems and CU traits responded less well to behavior therapy alone than children with conduct problems without CU traits. However, these differences largely disappeared when stimulant medication was added to the behavior therapy, although the children with CU traits were still less likely to score in the normative range than those without these traits.

d. The Importance of Callous-Unemotional Traits for Causal Theories of Antisocial Behavior

Frick and White (2008) reviewed a significant body of research demonstrating several differences in the social, cognitive, emotional, and personality characteristics of antisocial youths with and without CU traits. First, they reviewed four studies showing that the conduct problems of children or adolescents with CU traits are more strongly related to dysfunctional parenting practices. Second, they reviewed 10 studies showing differences in how antisocial youths with and without CU traits process emotional stimuli, with youths high on CU traits showing deficits in the processing of negative emotional stimuli and, even more specifically, showing deficits to signs of fear and distress in others. Third, they reviewed another 10 studies showing several distinct cognitive characteristics of antisocial youths with CU traits, such as being less sensitive to punishment cues (especially when a reward oriented response set is primed), showing more positive outcome expectancies in aggressive situations with peers, and being less likely to exhibit verbal deficits than other antisocial youths. Fourth, they reviewed seven studies showing that antisocial children and adolescents with CU traits have unique personality characteristics, such as showing more fearless or thrill seeking behaviors and less trait anxiety or neuroticism, compared to antisocial youths without these traits.

Other research has demonstrated important differences in the genetic contribution to conduct problems for children with and without CU traits. For example, in a large sample of 7-year old twins, conduct problems in children with CU traits were found to be under strong genetic influence (heritability of .81) with little influence of shared environment (Viding, Blair, Moffitt, & Plomin, 2005). In contrast, antisocial behavior in children without elevated levels of CU traits showed a more modest genetic influence (heritability of .30) and substantial environmental influence (shared environmental influence = .34 and non-shared environmental influence = .26). Importantly, the differences in heritability could not be attributed to differences in the severity of conduct problems in this sample. Finally, these findings were replicated when the children were 9 years old, and this latter study also demonstrated that the difference in heritability remained even after impulsivity-hyperactivity scores were controlled (Viding, Jones, Frick, Moffitt, & Plomin, 2008).

Unfortunately, these studies do not indicate what biological mechanisms may account for the genetic risk in children with CU traits. However, one contemporary theory that accounts for both the higher genetic risk and for some of the emotional characteristics of youth with CU traits (e.g., the deficit in response to others' distress) suggests that children and adolescents with CU traits may show deficits in the functioning of the amygdala (Blair et al., 2005). In support of this possibility, two studies used a measure that included CU traits and explicitly tested the hypothesis that children with these traits and conduct problems would show amygdala hyporeactivity to others' distress (Jones, Laurens, Herba, Barker, & Viding 2009; March et al., 2008). Both studies employed an implicit emotion processing task (gender recognition) and found amygdala hyporeactivity to fearful faces in antisocial youths with CU traits. Thus, although much more work on the neurological correlates of CU traits is needed, these initial findings from brain imaging studies are promising in uncovering possible neurological bases to some of the cognitive and affective deficits found in this subgroup of antisocial youths.

IV. Development and Initial Tests of Criteria in Secondary Data Analyses

Based on this research, the presence of CU traits seems to designate an important subgroup of antisocial youths or children and adolescents with CD. Thus, the next step was to develop operational diagnostic criteria from the measures of these traits that have been used in research and to test their use in classifying children and adolescents with CD into distinct subgroups. A comprehensive description of this process of developing the specifier criteria from secondary data analyses is provided in Appendix A. This is a report that was provided to the DSM-V ADHD and the Disruptive Behavior Disorders Workgroup. The following is a summary of some of the key results from these secondary data analyses.

- Two potential criteria lists used to operationalize CU traits were derived from factor analyses in community and forensic samples in four countries; the two symptom lists varied on number of items (i.e., 4 or 9).

- Both symptom lists showed similar associations with important external criteria (e.g., aggression, delinquency, bullying); thus, the shorter 4 item list was chosen for further analyses.

- Results suggested that youth with 2 or more symptoms of CU traits showed significant impairment on these various external criteria.

- These operational criteria were further tested in a non-referred community sample of school children (grades 3 -7) in the United States; CU traits were measured by either parent (n=875) or teacher (n=1061) report, using the diagnostic threshold of 2 symptoms. In this sample, of the 136 children who met a research definition of CD by parent or teacher report, 40 (29%) were designated as high on CU traits.

- The prevalence of the individual CU traits in the community sample ranged from 7% to 11% in the entire sample and from 12% to 33% within those who met the research definition of CD.

- The CU traits formed a unique factor from the CD symptoms in a principal components analysis using an oblique (Promax) rotation method.

- Children with conduct problems who also had the CU specifier had higher rates of self-reported delinquency, especially violent delinquency, and higher rates of police contact over a 4-year follow-up period compared to children with conduct problems without the specifier.

Once this operational definition of the CU specifier was reported to the ADHD and the Disruptive Behavior Disorders work group, several changes were made to enhance the clinical utility of the criteria based on the recommendation of work group members Specifically, changes were made in the definition of the required level of persistence and level of cross-situational pervasiveness that was needed for a symptom to be present. Also, wording of some symptoms were changed and expanded to clarify the meaning and overarching descriptions of the constructs assessed by each symptom, based on the available clinical research, was provided.

V. Potential Concerns about the Proposed Specifier

Thus, the proposed specifier is based on a rather substantial research literature supporting the importance of these traits for designating an important subgroup of antisocial youths or youths with CD. Further, initial tests of the proposed criteria in secondary data analyses are promising. Also, it is important to note that in the proposed definition, only persons already diagnosed with CD could meet criteria for the proposed specifier. Thus, the proposed change would not increase the rate of diagnosed children or adolescents. However, several concerns about this proposed specifier deserve note.

a. Potential Harmful Labeling Effects

One important concern about the specifier relates to the pejorative connotations associated with the term “callous-unemotional traits”. Similar concerns have been raised about the term “psychopathy” which connotes a stable and untreatable dispositional tendency (Hart, Watt, & Vincent, 2002). The appropriateness of this assumption is questionable, even in adults (Salekin, 2002), but it is especially questionable in children, for whom there is clear evidence that these features can change across development (Frick et al., 2003; Lynam, et al., 2007).

Several issues are important in considering this concern. First, although there is no research directly testing the effects of the label "callous-unemotional traits", there is an empirical literature studying the negative effects of the use of the term "psychopathy" when applied to children and adolescents. That is, several studies have tested how this label influences clinicians' estimation of treatability of the child and the effects of the label on decisions made in the legal system (see Murrie, Boccaccini, McCoy, & Cornell, 2007 for a review). In most of these studies, clinicians (or judges, juries, etc.) read case descriptions with similar histories but which vary in a) whether the youth is labeled as with psychopathic traits or with CD or b) whether the presence of psychopathic traits or the presence of CD symptoms are included in the case descriptions. Then, decisions made based on the hypothetical cases are compared across these conditions. To summarize across studies, the findings indicate that the term "psychopathy" does affect decision-making by professionals but it does not have any more negative effects than using the term "conduct disorder" . Further, descriptions of CD symptoms had the greatest influence on decisions. Thus, these studies suggest that the label of psychopathy is not any more sygmatizing than the label Conduct Disorder. In fact, these results highlight one potential problem in not recognizing that only a small percentage of antisocial youths or children and adolescents with CD show characteristics associated with psychopathy; specifically, these terms can become viewed as being interchangeable.

Second, as noted above, previous attempts to capture CU traits in the DSM attempted to change the name in an effort to reduce the potential stigmatizing effect of the label. That is, the term "undersocialized" was used in diagnostic classifications but the lack of clarity in this term led to great variability in how the construct was conceptualized and assessed by researchers and clinicians. Similarly, terms that only focus on part of the definition (e.g., unempathetic) could lead to other dimensions (e.g., lack of guilt and remorse) that research has indicated as being important being ignored in clinical assessments. Thus, it is important that the term used for the specifier be very clear and descriptive of the construct that is being assessed in the diagnostic criteria.

Third, there is a danger if terms that seem to connote a less severe disturbance (e.g., uncaring) are used for the specifier in an effort to decrease the potential harmful effects of stigmatization. Specifically, such definitions could actually be more harmful by resulting in children and adolescents with less severe disturbances being diagnosed by clinicians. The prognostic research does suggest that children with CU traits are at risk for more problematic outcomes and that they often are more resistant to currently available modes of treatment. Thus, the specifier should reflect this research. However, as noted above, there are some interventions that have led to improvements in the behavior of children with CU traits. Further, the difficulty in treating children with CU traits does not suggest that they will always be resistant to every treatment in the future. By promoting the scrutiny of these heretofore overlooked children in randomized clinical trials, the DSM-V will encourage identification of treatments that could be effective with children and adolescents who show CU traits. Moreover, treatment resistance should not be a rationale for omitting diagnostic criteria from the DSM, as such a philosophy would result in eliminating a number of other childhood disorders on the basis of treatment difficulty.

b. Does the Specifier Advance Other Subtypes or Severity Criteria?

An important issue to consider is the incremental clinical utility of the proposed specifier. That is, it is important to consider how much the specifier would add to other elements of the

diagnostic criteria for CD . Most importantly, the current criteria, and the criteria that is being proposed for the DSM-V, specify subtypes of CD based on whether the child or adolescent had a childhood-onset or an adolescent-onset to their severe antisocial behaviors. This distinction has a large body of research supporting its validity, especially along several dimensions that are also related to the CU specifier. Specifically, the childhood-onset group consistently shows a more aggressive and stable pattern of antisocial behavior and this group shows more severe temperamental and neuropsychological risk factors (Moffitt, 2006). Further, children in the childhood-onset group show higher rates of CU traits than those in the adolescent-onset group (Dandridge & Frick, 2009; Silverthorn, Frick, & Reynolds, 2001). Thus, an important question is whether or not the CU traits specifier would add significantly to the childhood/adolescent onset distinction. There are no definitive data to address this question but there are a number of findings from research to suggest that it would add significantly and a few of these findings are summarized below:

- Within clinic-referred children ages 6-13, CU traits designated a more severely disturbed group within children who were diagnostically similar in their rates of CD (Christian et al., 1997).

- Within a community sample of young children (ages 4-9), all of whom would be childhood-onset, CU traits formed a separate factor from conduct problems and predicted more severe antisocial behavior one year later controlling for the initial level of conduct problems (Dadds et al., 2005).

- In a sample of high risk boys followed into adulthood, CU traits predicted a higher likelihood of being a violent offender, even controlling for an onset of delinquency by age 10 (Loeber et al., 2005).

- Within a community sample of 7-year old twins, CU traits designated a distinct group within those with elevated conduct problems, again all of whom would likely fall into the childhood-onset category. Specifically, the childhood-onset group with CU traits had higher genetic risk to their problem behavior than the group without high levels of these traits (Viding et al, 2005).

- Across multiple studies, the cognitive, emotional, and personality characteristics that have been associated with childhood-onset CD have differed between conduct problem youth with and without CU traits (Frick & White, 2008).

The diagnostic criteria for CD also currently include three levels of severity (e.g., mild, moderate, severe) based largely on the number of conduct problems present. A similar dimensional measure of severity is also being considered for the DSM-V. There are a number of studies indicating that CU traits predict poorer outcomes even after controlling for number of conduct problems or antisocial behaviors (Dadds et al., 2005; Pardini, Lochman, & Powell, 2007). Of particular note, Burke et al (2007) reported on a sample of 177 clinic referred boys that were assessed annually from ages 7 to 12 through age 19. They reported that teacher rated CU traits in childhood predicted scores on a measure of impulsive and antisocial behaviors in adulthood, even after controlling for number of CD symptoms assessed in childhood.

Another way that the CU traits specifier should show incremental clinical utility is over the information provided by co-morbid conditions. Of particular note, there have been a number of reviews of research indicating that children with CD and co-occurring Attention Deficit Hyperactivity Disorder (ADHD) show a more severe and aggressive pattern of antisocial behavior than children with CD alone (Lilienfeld & Waldmen, 1990; Waschbusch, 2002). In addition, children with ADHD and CD have poorer outcomes, such as showing higher rates of delinquency in adolescence and higher rates of arrests in adulthood (Babinski, Hartsough, & Lambert, 1999; Loeber, Brinthaupt, & Green, 1990). Further, youth with co-occurring ADHD and CD show deficits on laboratory tasks assessing response modulation and delay of gratification, which have been associated with psychopathic traits in adults (Lynam, 1996).

However, there is also some limitations in using the co-mobidity with ADHD for subtyping antisocial youths. First, a substantial number of children with childhood-onset conduct problems show co-occurring ADHD; in fact, in many clinical samples it is the vast majority of children with childhood-onset CD who show this co-morbidity (Abikoff & Klein, 1992). As a result, this method of subtyping often does not designate a group that is very distinct from the broader group defined by an early age of onset. Second, this method places a primary emphasis on impulsive and antisocial behaviors, which have not proven to be specific to adults with psychopathy (Cooke, Michie & Hart, 2006). That is, impulsive-antisocial tendencies appear to be elevated in most adults with significant criminal histories and/or a diagnosis of Antisocial Personality Disorder. In contrast, what has been critical to adult definitions of psychopathy are the affective and interpersonal characteristics that may accompany this impulsive and antisocial lifestyle in some individuals. Third, within youths with both CD and ADHD, it seems to be the CU traits that are associated with the most severe behavior problems (Christian et al., 1997) and the most stable patterns of antisocial behavior (Frick, Stickle, Dandreaux, Farrell, & Kimonis, 2005). Fourth, only those youths who are impulsive, antisocial, *and* who show CU traits are more likely to show many of the emotional (e.g., deficit in reactivity to certain types of emotional stimuli), cognitive (e.g., reward dominance) and personality (e.g., fearlessness) characteristics that are similar to adults with psychopathy (Barry, Frick, Grooms, McCoy, Elli, & Loney, 2000; Loney, Frick, Clements, Ellis, & Kerlin, 2003). Finally, as noted previously, the greater genetic contribution to conduct problems in children with CU traits remained when controlling for ADHD symptoms (Viding et al., 2008).

c. Assessment of Traits in Clinical Contexts

Although there has been significant research on these traits, an important issue is whether they can be assessed reliably and validly in various clinical situations. As noted previously, Frick and Dickens (2006) reviewed studies assessing CU traits in community (n=6), clinic-referred (n=4) and forensic (n=13) samples of children and adolescents. Across these samples, self-report was used in 12 samples, ratings of other informants were used in 8 samples, and assessment by a trained clinician was used in 12 samples (some samples included multiple methods). Importantly, in many of these studies, the traits were assessed as part of a standard clinical assessment. Three examples are provided below in different settings and using different assessment formats.

- Christian et al. (1997) assessed CU traits using parent and teacher ratings in 120 consecutive referrals (ages 6 to 13) to a mental health clinic as part of their typical

clinical services. Within children who had a disruptive behavior disorder, CU traits were associated with more severe conduct problems and more severe levels of impairment (e.g., school suspensions, police contacts).

- Stafford and Cornell (2003) used a measure that included CU traits that was assessed using trained clinician ratings in 72 adolescents between the ages of 12 and 17 who were consecutive referrals to a state psychiatric hospital. These clinician ratings were associated with a variety of measures of aggression prior to and during the hospitalization (r's ranging from .16 to .60; mn=.38).

- Salekin, Ziegler, Larrea, Anthony, and Bennett (2003) assessed CU traits using self-report in 55 young offenders (average age 14.36) referred to a court-ordered mental health evaluation unit. These traits predicted general recidivism (r=.44), violent recidivism (r=.46), and number of reoffenses (r=.32) (all $p < .05$) two years later.

- Gretton, Hare, and Catchpole (2004) used a measure that included CU traits in a sample of adolescent boys (ages 12 to 18) who were court-ordered to undergo psychiatric evaluations on an inpatient evaluation unit. This measure using trained clinician ratings predicted risk for violent reoffending over a 10-year follow-up period even after controlling for a conduct disorder diagnosis, age at first offense, and history of violent and non-violent offending.

d. Clinical Usefulness of the Criteria

As noted throughout this paper, there is a substantial research base supporting the clinical and etiological importance of the construct of CU traits. Further, these traits have been the focus of clinical assessments for several decades and they have been reliably assessed in samples of children and adolescents of various age ranges and using many different assessment formats. Finally, the proposed criteria were based on secondary data analyses of existing data sets in several countries. However, the primary weakness of these criteria are that there have been no tests of how well the exact criteria specified in this proposal can be used by clinicians without specialized training or structured assessment tools. Thus, such a test of the clinical utility of these traits would be an important focus of field trials in preparation of DSM-V.

VI. Outside Reviewers Comments on the Proposed Callous-Unemotional Specifier for the Diagnosis of Conduct Disorder

After this proposal had been reviewed by the ADHD and the Disruptive Behavior Disorders work group, it was then sent out for further review from leading experts on conduct disorder, antisocial behavior, and psychopathy. On 9/18/2009, e-mails were sent to 24 clinical researchers across North American and Europe nominated by the ADHD and the Disruptive Behavior Disorders work group requesting their comments on the specifier proposal. This e-mail requested a) two ratings on the level of research support for and the potential clinical utility of the proposal, b) open-ended comments on the proposal, and c) a response by 10/15/2009. A complete summary of the responses from reviewers is provided in Appendix B. However, to summarize the main results:

- 11 of the 24 (46%) reviewers provided a response to the proposal.

- In response to a question, "How well supported is this proposal by existing research?", nine reviewers responded on a four point scale (0 = Not at all supported, 1 = Somewhat supported, 2 = Moderately supported, 3 = Very well supported) with their ratings (M = 2.72, SD = 0.44) indicating the proposal was viewed as having a very high level of research support.

- In response to a question, "What will be the likely clinical utility of this change?", nine reviewers responded on a similar four point scale (0 = None, 1 = A little, 2 = Some, 3 = A great deal) with their ratings (M = 2.72, SD = 0.44) indicating that the proposed specifier was viewed as potentially having a great deal of clinical utility.

- Reviewers also responded to three open ended questions (or provided narrative comments) highlighting perceived strengths of the proposal, highlighting perceived weaknesses of the proposal, and making suggestions for changes in the proposal.

- Overall the responses generally suggested very positive support for the specifier (see Appendix B) with very few consistent concerns noted across reviewers.

- One consistent concern expressed by the reviewers involved the *Shallow or Deficient Affect* symptom included in the specifier; as a result of these concerns, attempts were made to improve the clarity of this item in the final symptom list.

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VIII. Appendix A: Preliminary Report to the ADHD and Disruptive Behavior Disorders Workgroup on the Development of a Callous-Unemotional Specifier for the Diagnosis of Conduct Disorder

Report to the DSM-V Workgroup on ADHD and the Disruptive Behavior Disorders

(DRAFT – REVISED 4/24/09)

Recommendation: Include the following specifier/subtype for the diagnosis of Conduct Disorder:

With Significant Callous-Unemotional Traits. This specifier/subtype should be used for someone who meets full criteria for Conduct Disorder and who shows 2 or more of the following 4 characteristics persistently over at least 12 months and in more than one relationship or setting:

- *Lack of Remorse or Guilt:* Does not feel bad or guilty when he/she does something wrong.
- *Callous-Lack of Empathy:* Is unconcerned about the feelings of others.
- *Unconcerned about Performance:* Does not care about how well he/she does at school, work, or in other important activities.
- *Shallow or Deficient Affect:* Does not express feelings or show emotions to others.

1. **Research Justification for Specifier:**

Frick and White (2008) reviewed 32 published studies showing that CU traits designated a distinct group of antisocial youth with more severe conduct problems, more severe and varied aggression, and with poorer response to typical treatments. These samples ranged in age from 3 to 21 and they included community, clinic-referred, and forensic sample. This review also documented 27 additional published studies showing that antisocial youth with CU traits had distinct emotional (e.g., less responsiveness to distress cues in others), cognitive (e.g., abnormalities in the processing of reward and punishment cues), personality (e.g., higher levels of thrill and adventure seeking and lower levels of anxiety), and social (e.g., conduct problems less strongly associated with ineffective parenting) characteristics.

1. Development of Specific Criteria:

a. Development of Draft Criteria from Factor Analyses

The first step was to develop possible operational definitions of behaviors to describe CU traits. Two potential lists were developed. Draft criteria 1 consisted of 4 items from the Antisocial Process Screening Device (APSD: Frick & Hare, 2001) that consistenty loaded on a callous-unemotional dimension in community (n= 1136) and clinical-referred (n=160)samples of children and adolescents (Frick, Bodin, & Barry, 2001) and formed the basis for the development of a more extended assessment of these traits on the Inventory for Callous-Unemotional Traits (ICU; Kimonis et al., 2008).

The second list of traits were developed from confirmatory factor analyses of the ICU in the four samples described in Table 2. In all four samples, factor analyses supported a bifactor model with three subfactors (callous, uncaring, unemotional) all sharing loadings on a general callous-unemotional dimension. The items for criteria 2 were selected because they a) showed factor loadings on the general callous-unemotional dimension of greater than .40 in two or more samples and/or b) they were the two highest loading factors on a least one subfactor in two or more samples.

From these factor analyses, two new items from the ICU were superior to the original items in terms of item loadings from the factor analyses. That is, “I express feelings openly” (inversely scored) loaded more consistently on the unemotional factor than “I do not show emotions to others”. Also, “I always try my best” showed higher loadings on the general callous-unemotional factor than the original “I care about how well I do at school or work” , both inversely scored. Thus, these wordings were incorporated into the draft criteria for the callous-unemotional specifier.

Table 1. Draft Criteria for a Callous-unemotional Traits Specifier

Draft Criteria 1:	Draft Criteria 2:
3. I care about how well I do at school or work (I)	1. I express my feelings openly (I)
5. I feel bad or guilty when I do something wrong (I)	3. I care about how well I do at school or work (I)
6. I do not show my emotions to others.	5. I feel bad or guilty when I do something wrong (I)
8. I am concerned about the feelings of others (I)	8. I am concerned about the feelings of others (I)
	13. I easily admit to being wrong (I)
	15. I always try my best (I)
	16. I apologize to persons I hurt (I)
	17. I try not to hurt others' feelings (I)
	24. I do things to make others feel good (I).

Note. Item numbers are corresponding item numbers from the Inventory of Callous-Unemotional Traits reported in Kimonis et al. (2008). Items with (I) are inversely scored prior to determining symptom presence.

Table 2. Samples Included in Factor Analyses of Callous-Unemotional Traits

Citation	Country	Sample Size	% Male	Age	Sample Type	Reporter Method
Roose, Bittjebier ,Deceone, Claes, & Frick, 2008	Belgium	457	56%	14-22	School	Self, teacher, parent
Essau, Sasagawa, & Frick, 2006	Germany	1443	54%	13-18	School	Self
Kimonis et al., 2008	USA	248	76%	12-20	Offender	Self
Kostas, Frick, & Georgiou, in press	Cyprus	347	51%	12-18	School	Self

B. Scoring of Items

For all of the following analyses, a symptom score was created for each item on the ICU that is 0 (not at all true or somewhat true) or 1 (very true or definitely true).

C. Internal Consistency (coefficient alpha) of Symptom Lists

Table 3. Internal Consistency of Symptom Lists from Two Draft Criteria

	Draft Criteria 1	Draft Criteria 2
Roose et al. 2008- Self report	.35	.56
Parent	.03	.66
Teacher	.22	.64
Essau et al. 2006	.31	.53
Kimonis et al., 2008	.34	.66
Kostas et al., in press	.41	.77

Summary. The second draft criterion clearly provided greater internal consistency, which is expected due to greater number of items. Also, the variability in items for the parent and teacher report in the Bittjebier samples was quite low, leading to the very low alpha.

D. Comparing the Validity of the Two Draft Symptom Lists

Table 4. Validity of Draft Criteria 1

Roose et al. 2008- Self report						
Outcome	0 sx (n= 366)	1 sx (n=75)	2 sxs (n=9)	3/4 sxs (n=5)	Test statistic	Effect size (Eta $^{2)}$
Antisocial behavior	7.21 (7.77)	12.84 (12.70)	14.22 (8.64)	23.00 (16.14)	F(3,454) = 14.22 , p<.001	0.09
Roose et al. 2008 – combined parent and teacher						
Outcome	0 sx (n= 82)	1 sx (n=31)	2-4 sxs (n=7)		Test statistic	Effect size (Eta $^{2)}$
Antisocial behavior	8.34 (9.44)	10.42 (12.84)	8.71 (7.38)		F(2,119) = .46, p=.65	.01
Essau et al., 2006						
Outcome	0 sx	1 sx	2 sxs	3-4 sxs [1]	Test statistic	Effect size (eta ^{2})
Externalizing	14.62 (7.44) (n=537)	15.72 (8.43) (n=500)	17.25 (8.68) (n=187)	17.18 (7.60) (n=65)	F(4, 1284)= 7.82, p < .001	.024
Conduct problems	3.31 (2.89) (n=574)	4.54 (3.64) (n=535)	5.83 (4.97) (n=179)	7.19 (5.10) (n=79)	F(4, 1362)= 32.45, p < .001	.087
Aggression and antisocial	6.05 (6.82)	8.88 (9.54)	13.88 (11.66)	13.61 (12.69)	F(4, 1322)= 35.33, p< .001	.097

behavior	(n=549)	(n=520)	(n=183)	(n=75)		
[1] Two columns collapsed due to small number (n=4) with 4 symptoms.						
Kimonis et al., 2008						
Outcome	0 sx (n= 33)	1 sx (n= 58)	2 sxs (n=40)	3 sxs (n=17)	4sxs (n=10)	Test statistic	Effect size (eta ^{2})
Proactive Aggression	3.33 (5.56)	7.03 (8.71)	7.50 (7.28)	6.65 (4.84)	7.70 (4.90)	F(4,153) = 1.92, p=.11	.048
Total Delinquency	9.97a (5.66)	12.91ab (6.20)	16.00b (7.18)	16.35b (8.25)	16.60ab (6.36)	F(4,153) = 5.21, p < .01	.120
Property Delinquency	3.24a (2.25)	4.35abc (2.50)	5.65bc (2.81)	5.47bc (3.04)	5.50abc (2.37)	F (4,153) =4.83, p < .01	.112
Violent Delinquency	2.24a (1.43)	2.71ab (1.59)	3.20ab (1.83)	3.77b (2.02)	2.40ab (1.84)	F (4,153) = 3.023, p < .05	.073
Sex Offenders Only	0 sx (n=31)	1 sxs (n=40)	2 sxs (n=14)	3-4sxs (n=5)			
Delinquency Risk Index	10.77a (7.76)	14.10 ab (7.73)	17.64b (7.59)	21.20b (6.68)		F (3,86) = 4.34 , p < .01	.132
Means with different subscripts are significantly different at p< .05 using Tukey's procedure for pairwise comparisons							
Kostas et al., in press							
Outcome	0 sx (n=133)	1 sx (n=119)	2 sxs (n=65)	3 sxs (n=27)	4sxs (n=3)	Test statistic	Effect size
Proactive aggression	2.25 (2.65)	2.72 (3.15)	3.53 (3.75)	4.50 (5.19)	7.79 (6.91)	*F*(4, 343) = 5.13, *p* < .001	.06
Bullying	5.61 (7.63)	6.50 (8.31)	7.85 (9.61)	8.76 (10.27)	8.93 (4.16)	*F*(4, 343) = 1.30, *p* = .27	.02

Table 5. Validity of Draft Criteria 2

Roose et al. 2008- Self report					
Outcome	0 sx (n=315)	1-3 sxs (n=134)	4-9 sxs (n=6)	Test statistic	Effect size (eta^2)
Antisocial behavior	6.85 (7.28)	11.55 (11.52)	23.17 (16.14)	F(2,454)=21.58, p<.001	.09
Roose et al. 2008 – combined parent and teacher					
Outcome	0 sx (n=56)	1-3 sxs (n=53)	4-6/7-9 (n=11)	Test statistic	Effect size (eta^2)
Antisocial behavior	8.29 (10.28)	9.62 (10.09)	8.55 (11.93)	F(2,119)=0.23, P=.79	.00
Essau et al., 2006					

Outcome	0 sx	1-3 sxs	4-6 sxs	7-9 sxs	Test statistic	Effect size (eta^2)

Externalizing	14.04 (7.78) (n=118)	15.03 (7.83) (n=809)	16.84 (8.39) (n=316)	18.93 (7.47) (n=42)	F(3, 1281)= 7.843, p<.001	.018
Conduct problems	3.16 (3.07) (n=118)	3.94 (3.49) (n=867)	5.45 (4.33) (n=324)	7.22 (4.72) (n=46)	F(3, 1351)= 26.05, p<.001	.055
Aggression and antisocial behavior	5.62 (6.98) (n=114)	7.62 (8.17) (n=855)	11.10 (10.69) (n=308)	21.21 (16.63) (n=42)	F(3, 1315)= 41.99, p< .001	.087
Kimonis et al., 2008						
Outcome	0 sx (n=10)	1-3 sxs (n=63)	4-6 sxs (n=60)	7-9 sxs (n=25)	Test statistic	Effect size (eta^2)
Proactive Aggression	4.20ab (8.24)	3.64a (5.85)	8.45b (8.07)	9.20b (5.84)	F (3, 154) = 6.79, p < .001	.117
Total Delinquency	9.90ab (6.57)	11.68a (6.12)	15.05bc (7.32)	16.96c 6.24)	F (3, 154) = 5.85, p<.001	.102
Property Delinquency	2.90a (2.77)	4.08a (2.41)	4.93ab (2.84)	6.04b (2.44)	F (3,154) = 5.10, p < 01	.090
Violent Delinquency	1.90 (1.85)	2.48 (1.50)	3.10 (1.79)	3.44 (1.83)	F(3,154) = 3.52, p < .05	.060
Sex Offenders only	n=12	N=44	N=28	N=6		
Delinquency Risk Index	10.67a (7.64)	11.00a 7.92)	18.82b (6.36)	18.67ab (4.23)	F(3,86) = 8.30, p < .001	.225
Means with different subscripts are significantly different at p< .05 using Tukey's procedure for pairwise comparisons						
Kostas et al., in press						
Outcome	0 sx (n=59)	1-3 sxs (n=200)	4-6 sxs (n=66)	7-9 sxs (n=22)	Test statistic	Effect size
Proactive aggression	2.24 (3.05)	2.37 (2.80)	4.01 (3.81)	5.73 (5.50)	*F*(3, 344) = 10.52, *p* < .001	.09
Bullying	4.39 (6.07)	6.27 (8.57)	8.58 (8.77)	9.53 (10.64)	*F*(3, 344) = 3.79, *p* < .01	.04

Summary: The effect sizes for the two symptom lists were comparable for criteria 1 (.01-.13; Mn = .073) and criteria 2 (.00 - .23; Mn = .081). Thus, the shorter and more parsimonious criteria 1 was retained for additional analyses.

2. Further Analyses Using Criteria 1.

The reliability and validity of Criteria 1 was tested in a sample of school children in grades 3-7 (Mn age =10.65; SD = 1.60; 53% girls) with parent (n=875), teacher (n=1061) or both (n=810) ratings (Frick et al., 2000) using the following method to create symptom counts:

---Four items forming Criteria 1

---Items rated "definitely true" on a 3 point scale (i.e., "not at all true", "sometimes true", "definitely true") by either parent or teacher were considered as showing symptom presence

---A symptom score of 2 or more was used to designate "With Significant Callous-Unemotional Traits" to operationalize draft criteria

A. Reliability and Prevalence

1. The coefficient alpha for the symptom list was .56.

2. Using parent and teacher ratings of Conduct Disorder (CD) symptoms on the Child Symptom Index-IV with no impairment or duration criteria required, 136 (17%) children in the sample met criteria for CD. Of those who met this operational definition of CD, 40 (29%) were designated With Significant Callous-Unemotional Traits.

3. The prevalence of the individual symptoms that form the specifier is provided in Table 6. This prevalence is provided for both the full sample and within those who met the operational definition of CD by parent or teacher report. Also, both types of prevalence rates are reported for the combined parent and teacher rating of the callous-unemotional symptoms and for parent and teacher ratings separately.

Table 6.

Prevalence of Individual Callous-Unemotional Symptoms in a Large Community Sample

	Parent or Teacher		Parent only (n=875)		Teacher only	
Symptom	Full Sample (n=810)	CD (n=136)	Full Sample (n=875)	CD (n=145)	Full Sample (n=1063)	CD (n=176)
12. Does not feel bad or guilty when he/she does something wrong	97 (12%)	42 (31%)	29 (3%)	14 (10%)	116 (11%)	52 (30%)
18. Is unconcerned about the feelings of others	91 (11%)	35 (26%)	33 (4%)	14 (10%)	105 (10%)	44 (25%)
3. Is not concerned about how well he/she does at school/work	106 (13%)	45 (33%)	45 (5%)	21 (14%)	114 (11%)	44 (25%)
19. Does not show feelings or emotions	56 (7%)	16 (12%)	28 (3%)	8 (6%)	47 (4%)	12 (7%)

B. Factor Analyses

A exploratory factor analysis (principal components) was conducted with the CD symptoms and the four symptoms for the proposed criteria for the CU specifier, using the combined parent and teacher report for all symptoms. The results of the three factor solution, using an oblique (promax) rotation, are provided in Table 7. As evident from this table, the CU symptoms did show loadings on a distinct factor from the CD symptoms.

Table 7.

Results of Principal Components Analysis of Symptoms of Conduct Disorder and Symptoms of the Specifier for Callous-Unemotional Features

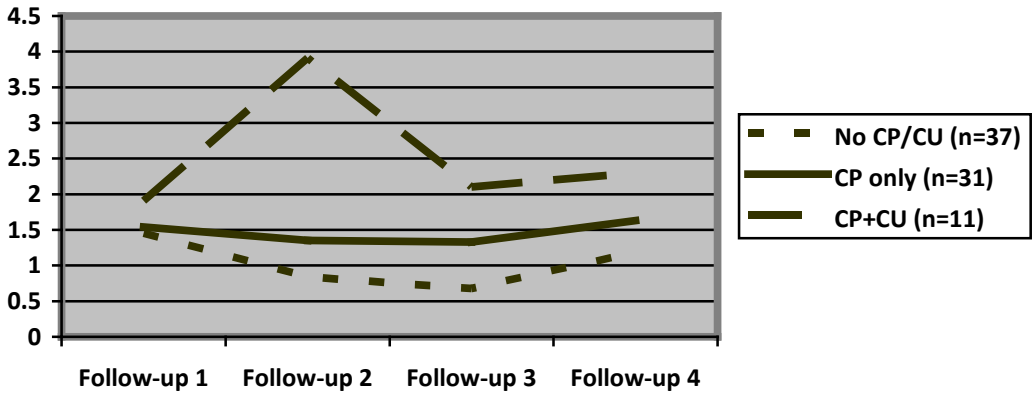
	3 Factor Solution		
Symptom	Factor 1	Factor 2	Factor 3
CD. Stolen with confrontation	**.75**	-.18	.02
CD. Cruel to animals	**.74**	.08	-.05
CD. Breaking into house	**.69**	-.02	.11
CD. Cruel to people	**.62**	.16	.01
CD. Used weapon in fight	**.56**	-.07	.19
CD. Runs away from home overnight	**.45**	.02	-.04
CD. Started fires	**.44**	.33	-.17
CD. Stays out late	**.30**	.20	-.15
CD. Bullies	-.05	**.77**	.09
CD. Lies or cons	-.14	**.73**	.04
CD. Starts fights	.03	**.67**	.14
CD. Steals without confrontation	.04	**.65**	-.01
CD. Destroys property	.23	**.49**	.02
CD. Truant	.10	**.39**	-.14
CU. Unconcerned about the feelings of others	.11	-.02	**.67**
CU. Does not feel guilty	-.03	.13	**.65**
CU. Does not show emotions	-.02	-.13	**.63**
CU. Unconcerned about school/work	-.02	.11	**.57**
Eigenvalue	4.13	2.04	1.30

Note. Values are rotated factor loadings using an oblique (promax) rotation method.

C. Predictive Validity

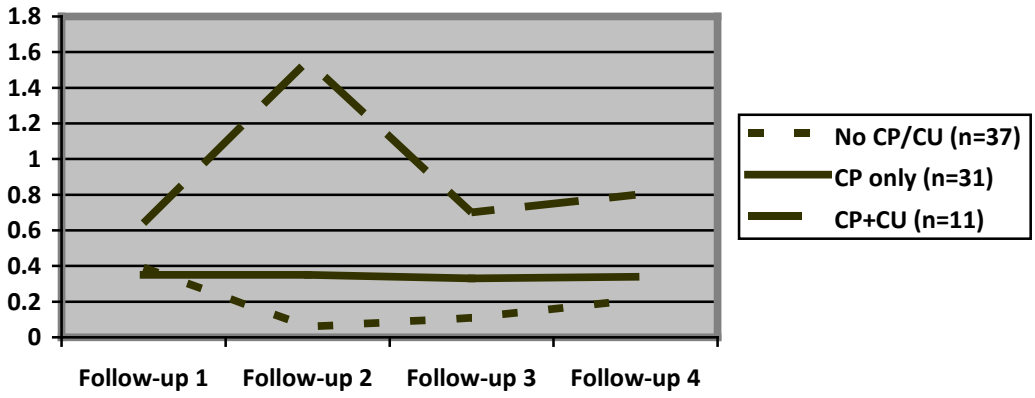
From this large community sample, a follow-up sample (n=100) was reassessed at 4 yearly intervals. The sample was selected to be equally divided (n=25) into those low on both conduct problems and CU traits, high on CU traits but low on conduct problems, high on conduct problems but low on CU traits, high on both conduct problems and CU traits. Conduct problems were a combination of Oppositional Defiant Disorder or Conduct Disorder symptoms. Parent and teacher ratings were used for group formation and all groups were stratified on gender, ethnicity, and socioeconomic status to ensure that each cell of the follow-up sample matched the same group from the full sample on the stratification variables. These are reanalyses of data reported by Frick, Stickle, Dandreaux, Farrell, and Kimonis (2005) using the operational definition of With Significant Callous-Unemotional Traits.

Figure 1. Rate of Self-report of Total Delinquency



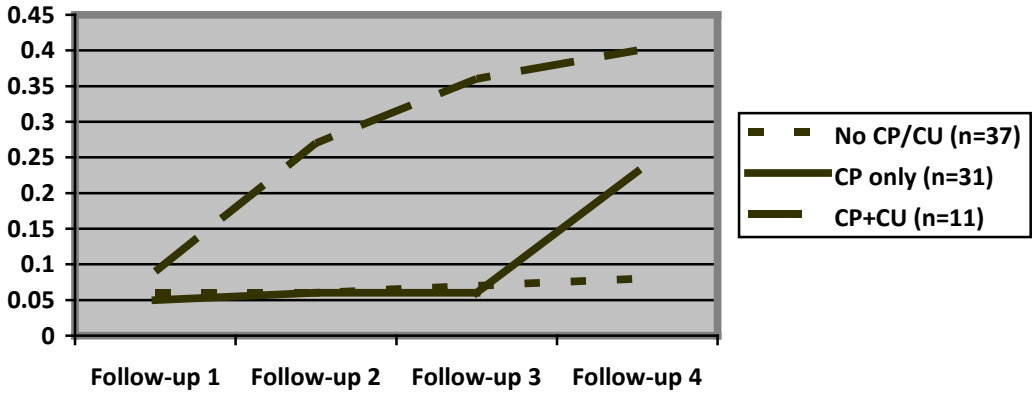
Note: Groups differ significantly at follow-up 2 only, with the CP+CU group differing significantly from the other two groups.

Figure 2. Rate of Self-Report of Violent Delinquency



Note: Groups differed significantly ($p < .05$) at follow-ups 2, 3 and 4. At all three of these latter time points, the CP+CU group differed from the No CP/CU group. Also, at follow-ups 2 and 4, the CP+CU group also differed significantly from the CP only group. The CP only group did not differ from the no CP/CU group at any point.

Figure 3. Cumulative Rate of Parent-Reported Police Contact



Note: Groups differed significantly ($p < .05$) at follow-up 3 and approached significance ($p = .07$) at follow-ups 2 and 4.

Summary: Criteria designated about 29% of school children with a research diagnosis of Conduct Disorder and was associated with more self-report of violent delinquency and higher rate of police contact over 4 years.

3. Acknowledgements

I wish to thank Eva Kimonis, Cecilia Essau, and Keith Cruise for providing data for secondary analyses and Kostas Fanti, Satoko Sasagawa, Patricia Bijttebier, and Stef Decoene for conducting secondary data analyses used in the current report.

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IX. Appendix B: Summary of Outside Reviewers Comments on the Proposed Callous-Unemotional Specifier for the Diagnosis of Conduct Disorder

DSM-V Proposal for Callous-Unemotional Specifier:

Summary of Reviewer Comments

Method

Evaluations of the proposal to add a specifier to the diagnosis of Conduct Disorder that designates those with Significant Callous-Unemotional Traits were obtained from leading experts on conduct disorder, antisocial behavior, and psychopathy. On 9/18/2009, e-mails were sent to 24 scholars across North American and Europe nominated by the ADHD and Disruptive Behavior Disorders Workgroup requesting their comments on the specifier proposal. This e-mail requested a) two ratings on the level of research support for and the potential clinical utility of the proposal, b) open-ended comments on the proposal, and c) a requested response deadline of 10/15/2009.

Total Reviewer Responses (as of 11/3/2009)

- N = 11

Responses to Rating Items (N=9)

- Item 1: "How well supported is this proposal by existing research?"
    - 0 = Not at all supported, 1 = Somewhat supported, 2 = Moderately supported, 3 = Very well supported
    - Response: M = 2.72, SD = 0.44
- Item 2: "What will be the likely clinical utility of this change?"
    - 0 = None, 1 = A little, 2 = Some, 3 = A great deal
    - Response: M = 2.72, SD = 0.44

Major Strengths

Overall, the e-mail reviews received were quite positive, even among the reviewers who pointed out what they perceived to be weakness of the proposal. A summary of these positive comments include:

- the strong empirical background to support the addition of this Callous Unemotional (CU) specifier (n= 6),
- the need for researchers and clinicians to understand the heterogeneity within Conduct Disorder (n= 2),
- the potential important clinical utility of the specifier, including treatment implications (n= 3),

- the substantial predictive validity of callous-unemotional traits in research (although more research would obviously be helpful) (n= 2),

- the potential risks are clearly considered in the proposal (n= 3),

- the specifier would help to foster a richer understanding of some of the personality features related to antisocial behavior (n= 1),

- the range of methodologies (e.g., genetic, neurologic, behavioral) that have been used to study correlates to callous-unemotional traits and how they moderate the correlates and outcomes of youths with Conduct Disorder (n = 1),

- the proposal is accurate and shows the importance of the CU construct being incorporated into Conduct Disorder (n = 1) and fills a significant void in the DSM addressing the development of psychopathy (n = 1),

- the research on the heritability of callous-unemotional traits in Conduct Disorder is particularly impressive (n= 1),

- it utilizes important research on the Undersocialized Subtype of Conduct Disorder that has not been included in recent versions of the DSM (n= 2).

Major Weaknesses

There were several comments related to perceived weakness of the proposal, although few were consistently endorsed across respondents, and these include:

- the low reliability of the four items and concerns over whether this was a sufficient number of items to assess these traits (n= 1),

- the 'shallow or deficient affect' symptom and whether this symptom was clearly described in the specifier (n= 2); whether it was too stringent in that someone who is usually shallow or superficial but sometimes genuine would fail to meet this criterion, thus not identifying those youth that can have the appearance of normal emotions in order to manipulate or charm others (n= 1); whether it added significantly to the other symptoms (n = 1); whether it should be considered 'Manipulation and Deceit' (n= 1); and whether it consistently loads in factor analyses with the other symptoms (n= 1),

- the 'Unconcerned about Performance' symptom and its "face validity" as an indicator of callous-unemotional features relative to the other indicators (n= 3),

- the 'Lack of Remorse or Guilt' symptom was somewhat ambiguous and should incorporate an exception for remorse expressed only when the youth is facing punishment or consequences (n = 1),

- the appropriateness of making the specifier contingent on Conduct Disorder, rather than maintaining some independence between callous-unemotional traits and antisocial behavior

(n= 1) and not reflecting that these traits are found in non-antisocial individuals (n=1) and in children with other diagnoses like Oppositional Defiant Disorder (n= 1),

- limited assessment tools to assess the presence of the symptoms of the specifier (n = 1),
- failure to address how the proposed change will impact the administration of diagnostic interviews related to Conduct Disorder (n =1) and ability of clinicians to assess these characteristics in a non-research context (n = 1),
- concern about potential reliance on self-report to assess these traits (n= 2),
- limited immediate practical implications for clinicians because of the few studies addressing how to treat Conduct Disorder youths with callous-unemotional traits (n= 2),
- failure to account for a psychiatrists perspective in the discussion of the proposal in favor of a psychological research orientation and potential resistance from psychiatrists due to the extra work and difficulties in assessment (n = 1),
- evidence of CU as a trait is not sufficiently strong (in terms of stability estimates) and "with significant callous-unemotional behavior" might apply better (n =1),
- potential misuse of the criteria if Conduct Disorder symptoms (e.g., cruelty to animals) are used to diagnose the specifier (n= 1),
- the use of a 'personality' variable as a specifier for an Axis I disorder (n= 1),
- the unclear link between the specifier and the current subtypes of Conduct Disorder (childhood-onset and adolescent-onset) (n= 1).

Suggestions for Improvements

There were a few suggestions for improvement in the proposal including:

- the need to have a substantially revised Associated Features and Disorders section of Conduct Disorder to distinguish all of the differences between youth with Conduct Disorder with and without the specifier (n= 1),
- the importance of having a similar change in the adult definition of antisocial personality disorder to designate those with significant psychopathic traits (n= 2),
- need to engage clinicians and their reaction to the proposed specifier (n = 1),
- this change and other changes for the DSM-V criteria should be made in coordination with the ICD-11 (n= 1),

- the need for more research on the cross-cultural equivalence of the CU specifier (n= 1),
- consider labeling the specifier as “Callous Type” and removing ‘Unemotional’ (n= 1),
- shorten proposal title (n= 1).