Evidence-Based Assessment of Conduct Disorder: Current Considerations and Preparation for DSM-5

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This article provides a review of research on the etiological and developmental factors involved in child conduct problems broadly and conduct disorder (CD) specifically. The implications of this research for evidence-based assessment of CD are discussed, and an update to previous discussions of evidence-based assessment in anticipation of the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) is provided. Assessments of persons with CD must be guided by research which points to the heterogeneity within those with the disorder in terms of the severity of their behavioral problems and potential causal factors. Assessments must also recognize the importance of developmental onset for the conceptualization and planning of interventions. The discussion also centers on the relative advantages and disadvantages of different informants and tools in the assessment process for children with conduct problems.

Keywords: conduct disorder, assessment, DSM-5

Despite a recent emphasis on developing models of evidence-based assessment for child and adolescent psychopathology (see Mash & Hunsley, 2005), many unresolved issues remain including what specific measures are necessary and/or sufficient for accurate assessments that inform treatment. The goal of having evidence-based models for clinical assessment of various presenting problems is well-founded, but a clear model remains elusive. Without such models, assessments are subject to the idiosyncrasies of the clinician and/or the setting in which they are being conducted. Although clinical judgment is a necessary component of psychological evaluations (Mash & Hunsley, 2005), children and their families are much better served by an approach that is grounded on empirical knowledge and the systematic gathering of evidence to answer a referral question (Frick, Barry, & Kamphaus, 2010). Prior work has discussed unique challenges in the assessment of child conduct problems (i.e., oppositional defiant disorder [ODD] and conduct disorder [CD]; McMahon & Frick, 2005). Foremost among these challenges is the need to evaluate the numerous forms that conduct problems may take and the need to align treatment recommendations to a child or adolescent’s specific presentation.

The current paper has two aims. First, the paper summarizes and synthesizes the extant evidence on the etiology, development, and phenomenology of CD with reference to the proposed criteria. The relative advantages and disadvantages of various assessment tools are also discussed in terms of their psychometric properties, ease of administration, and ability to inform diagnostic decisions and treatment recommendations.

It should be noted that this discussion is based primarily on those assessments conducted in outpatient settings when there is an initial referral question or a need for reevaluation based on a child’s behavioral or emotional functioning. Thus, for these types
of assessment, careful consideration of the child’s symptoms as they pertain to diagnostic criteria is a central focus. In more restrictive settings (e.g., residential, inpatient, juvenile justice), the presence of an emotional or behavioral disorder (including CD) may have already been documented. The central focus in these settings may instead be making an expeditious determination of the appropriate intervention strategies or level of care. Nevertheless, the important developmental and contextual factors discussed herein, as well as the relative advantages and disadvantages of the assessment tools used to evaluate important variables in the presentation of CD, are largely similar across settings. To most appropriately make intervention recommendations—regardless of the setting in which an assessment is conducted—the clinician must be able to translate the research on the phenomenology and causes of CD into assessment practice and treatment planning.

CD is characterized by a repetitive and persistent pattern of behavior in which the rights of others and age-appropriate cultural norms are violated (American Psychiatric Association, 2000). The behaviors that constitute CD are varied and include aggression toward people and animals (e.g., bullying and fighting others, physically harming pets), destruction of property (e.g., deliberate fire setting, vandalism), deceitfulness or theft (e.g., breaking and entering, lying for personal gain), and serious violation of rules (e.g., school truancy, running away; American Psychiatric Association, 2000). CD can lead to an enduring course of antisocial behavior, criminal activity, and other problems in adjustment across the life span, including mental health problems (e.g., substance abuse), educational problems (e.g., school dropout), social problems (e.g., poor peer relations), occupational problems (e.g., poor job performance), and physical health problems (see Odgers et al., 2007, 2008).

Thus, knowledge of the etiology and course of this disorder is important for understanding and preventing a host of problematic outcomes. Perhaps the major issue in advancing etiological research is in determining how to best capture the great heterogeneity of persons with CD. Specifically, youth with CD can differ greatly on the course of the disorder and in the potential causal processes leading to the disorder. As a result, there have been a number of proposed methods for classifying important subgroups of youth with CD, with the proposed DSM-5 criteria for CD being directly informed by existing research.

### Subtypes Proposed by DSM-5 Conduct Disorder: Implications for Evidence-Based Assessment

In the DSM–IV, CD was divided into childhood-onset and adolescent-onset subtypes, based on whether the first CD symptom emerges before age 10 (American Psychiatric Association, 2000). Although questions remain about the utility of this specific age cut-off and the best method for assessing age of onset, there has been sufficient evidence to support retaining this distinction in the DSM-5 (Frick & Nigg, 2012), as a greater severity and persistence of problems have been tied to childhood-onset CD compared with adolescent-onset CD (see Moffitt & Caspi, 2001). The major change being proposed in the DSM-5 criteria for CD is the addition of a specifier to designate youths “With a callous-unemotional presentation” (American Psychiatric Association, 2012). To receive this specifier, the youth must meet criteria for CD and show two or more callous-unemotional (CU) characteristics, which include a lack of remorse or guilt, lack of empathy, unconcern over performance in important activities, and/or shallow affect, persistently for at least 12 months across multiple settings and relationships (American Psychiatric Association, 2012). The implications of these methods of subtyping youths with CD are discussed below.

### Subtypes: Childhood-Onset Versus Adolescent-Onset

Research indicates that age of onset is an important marker of different etiological factors involved in manifestation and prognosis of behavioral problems (Frick & Viding, 2009; Moffitt, 1993; Odgers et al., 2008). A summary of the correlates of each developmental trajectory is presented in Table 1. Each of the associated features listed in Table 1 can provide valuable insight to the clinician for case conceptualization and treatment planning.

Research suggests that childhood-onset CD has a poorer prognosis and is associated with greater risk of antisocial behavior, violence, and criminality in adulthood (Odgers et al., 2008). Thus,

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### Table 1: Associated Features of Early vs. Late Onset of Conduct Problems

<table>
<thead>
<tr>
<th>Early (childhood)</th>
<th>Late (adolescence)</th>
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<tbody>
<tr>
<td>Neuropsychological</td>
<td></td>
</tr>
<tr>
<td>Temperamental/Personality</td>
<td>Deficits in executive function, low intelligence</td>
</tr>
<tr>
<td>Contextual</td>
<td>CU traits, impulsivity, fearlessness, emotional overreactivity</td>
</tr>
<tr>
<td>Behavioral</td>
<td>Greater family dysfunction, poverty/low socioeconomic status</td>
</tr>
<tr>
<td>Developmental processes</td>
<td>Aggression, higher severity and persistence of conduct problems, higher likelihood of adult antisocial behavior</td>
</tr>
<tr>
<td>Gender</td>
<td>Transactional between difficult temperament and dysfunctional or inadequate rearing contexts leading to problems in emotional regulation, poor executive control of behavior, or problems in conscience development</td>
</tr>
</tbody>
</table>

A See Frick and Viding (2009) and Moffitt and Caspi (2001) for an extensive review of the research on this distinction.
age of onset is a crucial variable in the assessment of CD and in intervention planning. Age of onset also signals the need to explore other likely contributing factors to the child’s presentation. For example, a clinician should not only directly inquire about the age of onset but may also assess for the neurodevelopmental difficulties (e.g., executive dysfunction, problems in emotional regulation) that have been associated with an early onset of conduct problems. For youth with a later onset of conduct problems, the clinician should evaluate factors such as the degree and quality of parental supervision and the degree of deviant peer affiliations. For either trajectory, it is critical to also consider any stressors that may have influenced the emergence of the child’s conduct problems.

In addition to knowing the onset of conduct problems, it is also important for the clinician to understand that the development of CD tends to follow a progression from less to more severe problem behaviors, with a more rapid increase in this progression for childhood-onset CD (Frick & Viding, 2009). Furthermore, there are developmental differences in the manifestation of CD symptoms, such that the incidence of stealing and truancy increases with age as does the total number of CD symptoms, whereas the initiation of physical fights tends to decrease (Vera, Ezpeleta, Granero, & de la Osa, 2010).

Subtypes: With a Callous-Unemotional Presentation

Recent research on CD has suggested that a minority of youth with CD show traits similar to adult psychopathy (Kahn, Frick, Youngstrom, Findling, & Youngstrom, 2012). These characteristics (i.e., CU traits) include a lack of guilt and empathy as well as deficient emotional expression and are more likely to be displayed by youth within the childhood-onset pathway to CD (Dandreaux & Frick, 2009). Importantly, it is a group who show a number of distinct characteristics (Frick & White, 2008). For example, youth with CU traits are more likely to display fearlessness and a reward-dominant response style, and they are less likely to become emotionally aroused by others’ distress (Barry et al., 2000; Frick & White, 2008).

Furthermore, research suggests that the presence of significant levels of CU traits has important treatment implications. Several studies have shown that children and adolescents with CU traits are more difficult to treat and often do not respond to typical treatments in mental health or juvenile justice settings (Falkenbach, Poythress, & Heide, 2003; Stellwagen & Kerig, 2010a; Stellwagen & Kerig, 2010b). For example, in a study of children (ages 7 to 12) with conduct problems who participated in an outpatient summer treatment program, CU traits were negatively associated with 9 of 14 outcome measures (Haas et al., 2011).

Importantly, recent research has suggested that, while difficult to treat, youth with CU traits are not “untreatable” and that they can improve with intensive interventions that focus on strategies such as use of positive parenting strategies (Hawes & Dadds, 2005) and improving interpersonal problem-solving skills (Kolkol et al., 2009). 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 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 pro-social behavior. In contrast, only the group without CU traits showed added improvement with the second part of the intervention that focused on teaching parents to use more effective discipline strategies. This outcome would be consistent with the reward-oriented response style that appears to be characteristic of children with CU traits. Fortunately, methods for assessing the presence of CU traits via parent, teacher, and child self-reports have been developed and provide an efficient approach to determine whether a child would meet criteria for the proposed DSM-5 CU trait subtype. These instruments are discussed below.

Assessment Methods and Informants

An evidence-based assessment of conduct problems requires combining knowledge of this research and causal theories on the etiology, development, and phenomenology of CD with the selection of assessment methods that have evidence supporting their reliability, validity, and utility. There are at least four key practical implications from research and theory on CD.

● First, given that CD encompasses a broad range of conduct problems which vary greatly in type and severity, tools must, in turn, assess a wide range of conduct problems and provide some norm-referenced indication of their level of severity.

● Second, given the frequency of multiple comorbidities which influence the development and course of CD (Loeber & Keenan, 1994), assessments must screen for a wide range of problems. These include ADHD, mood difficulties, and substance use (Nock, Kazdin, Hiripi, & Kessler, 2006). Aside from the mere presence of comorbid difficulties, the temporal relation between conduct problems and other co-occurring emotional, behavioral, or academic problems must be evaluated to most accurately determine the primary focus of planned interventions.

● Third, assessments for CD must address risk and protective factors which can play a role in the development and course of CD and which are likely important treatment targets. Briefly, the clinician should be prepared to evaluate the presence of risk or protective factors that, although not directly part of the CD diagnostic criteria, likely influence the manifestation of a child’s conduct problems. Typically, this assessment will include ascertaining contextual (e.g., problematic parent–child interactions, association with deviant peers) and intrapersonal (e.g., cognitive functioning) influences on the child’s behavior, any history of previous interventions and the outcome of those interventions, the presence of social support, any significant sources of stress for the child or family (e.g., financial, divorce), and the child’s typical response to stress (e.g., aggression, feelings of hostility, substance use).

● Fourth, assessment for CD must assess key constructs (e.g., age of onset, presence of CU traits) which could differentiate distinct developmental pathways to CD (including childhood vs. adolescent-onset CD; with and without a callous-unemotional presentation) and which could help guide treatments toward the unique needs of youths in the different pathways.

These key implications borne from research on CD must be considered along with research on the assessment techniques used to accomplish these goals. Of critical importance is the fact that no instrument is wholly valid across situations or uses, so the clinician must recognize how methods contribute to the assessment process, as
well as their shortcomings. The following discussion is an overview of issues involved in using interviews, observations, rating scales, self-report inventories, and performance-based measures in the assessment of CD. The strengths, weaknesses, and utility of each of these tools are summarized in Table 2. It should be noted that Table 2 and the discussion here do not provide an exhaustive review of the available measures for clinical assessments of CD. Instead, they are meant to provide familiarization with practical issues involved in the use of different assessment tools. In addition, clinicians should be aware that some of the measures discussed below and in Table 2 (e.g., BASC-2, DISC) are commercially available and, as a result, must be purchased at a cost. This factor must be considered in many mental health settings.

**Interviews**

Structured diagnostic interviews (e.g., Diagnostic Interview Schedule for Children; DISC; Shaffer et al., 2000) assess the

<table>
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<th>Table 2</th>
<th>Overview of the Use of Common Assessment Tools for the Assessment of Conduct Problems</th>
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<tr>
<td><strong>Pros</strong></td>
<td><strong>Cons</strong></td>
</tr>
<tr>
<td>Unstructured clinical interviews</td>
<td>Can provide a wealth of information about the child’s behavior, development, and parent-child interactions</td>
</tr>
<tr>
<td>Structured diagnostic interviews (e.g., DISC)</td>
<td>Structured manner to assess the severity and extent of impairment of symptoms</td>
</tr>
<tr>
<td>Broad-band rating scales (e.g., BASC-2, ASEBA)</td>
<td>Assess multiple areas of functioning/comorbidity</td>
</tr>
<tr>
<td>Behavioral observations</td>
<td>Provide contextual information for presence of conduct problems in various settings</td>
</tr>
<tr>
<td>Performance-based measures</td>
<td>Assess behaviors/tendencies related to conduct problems</td>
</tr>
<tr>
<td>Narrow-band rating scales of CU traits (e.g., ICU, APSD)</td>
<td>Efficient research to clinical practice</td>
</tr>
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</table>

*Note.* BASC-2 = Behavior Assessment System for Children, 2nd Edition (Reynolds & Kamphaus, 2004); ASEBA = Achenbach System of Empirically-Based Assessment (Achenbach & Rescorla, 2001); ICU = Inventory of Callous-Unemotional Traits (Frick, 2004); APSD = Antisocial Process Screening Device (APSD; Frick & Hare, 2001).
presence or absence of symptoms based on the report of some informant. The DISC, for example, has undergone several revisions to stay consistent with current diagnostic criteria. In the case of CD, the questions focus on whether the child/adolescent has ever engaged in the behaviors of interest. Despite their high degree of reliability and content validity vis-à-vis diagnostic criteria, these interviews typically lack the contextual information (e.g., how parents respond to a child’s problem behavior) important for understanding the etiology, onset, course, maintenance, and possible amelioration of the child’s conduct problems. However, questions revolved around CD symptoms allow the clinician to determine the severity, frequency, and variety of behaviors in which the child has engaged, which is valuable for treatment planning even if the child does not meet criteria for a diagnosis of CD. Despite this useful information, the clinician must still consider whether the information yielded will justify the large amount of time required to administer the structured interview.

The clinician likely will have to rely, to some extent, on an unstructured clinical interview to gain client-specific information that is vital for case conceptualization and treatment planning. Such interviews should include clear descriptions of the child’s behavior, peer relationships, and social skills, as well as of the child’s home, classroom, and neighborhood (Powell, Lochman, Jackson, Young, & Yaros, 2009). If well-executed, unstructured interviews can provide a breadth of information that is unavailable through other methods. However, the trade-off for structured versus unstructured interviews is clear: to gain the reliability of a structured diagnostic interview, the clinician sacrifices the flexibility to gain client-specific information regarding the child’s conduct problems. Fortunately, semistructured interviews provide a balance between covering specific content consistent with a structured diagnostic interview while allowing the clinician to ask follow-up questions to obtain client-specific developmental and contextual information. For example, the Schedule for Affective Disorders and Schizophrenia for School-age Children (K-SADS; Ambrosini, 2000) evaluates symptoms across many diagnostic categories including CD, but it allows the clinician some flexibility in terms of selecting questions. As with structured interviews, the clinician may select the specific domain(s) on which to focus the semistructured interview for purposes of efficiency.

**Behavioral Observations**

Behavioral observations can provide clear, objective indicators of child conduct problems, particularly noncompliance and aggression. Such observations can be conducted in the classroom, the home, or in analogue settings developed by the clinician. Three main issues must be addressed in the use of observations within an assessment of CD: (1) Many behaviors that constitute a diagnosis of CD are unlikely to be observed in the settings just described; (2) Observations in some settings may not be feasible; thus, they may not be cost-effective in terms of the information they yield versus the difficulty in setting up an observation; (3) In the case of analogue observations, modifications can be made in an attempt to mimic the situations that a child might usually encounter, but ensuring the social validity of these situations remains a challenge (Frick et al., 2010; Rhule, McMahon, & Vando, 2009).

**Performance-Based Measures**

Laboratory or performance-based measures have been used in numerous studies of child behavioral problems. These tasks fall into two main categories: tasks that are meant to evoke conduct problems (e.g., aggression, noncompliance) and tasks that assess mechanisms presumed to be important in the development and maintenance of conduct problems (e.g., hostile attributions, reward dominance; Frick & Loney, 2000). For example, the clinician may use tests of compliance, wherein the parent is instructed to provide certain commands, and the incidence of compliance versus non-compliance is coded (see Roberts, 2001). Other examples involve computer games that evaluate the child/adolescent’s tendency to attend to reward versus punishment contingencies (O’Brien & Frick, 1996) or reaction to affect-laden versus neutral stimuli (Kimonis, Frick, Muñoz, & Aucoin, 2007). These tasks are designed to provide a connection between research on the risk factors
and phenomenology of conduct problems and practice (Frick & Loney, 2000); however, there is not yet enough evidence to conclude that they provide incremental information in the assessment of CD to warrant their widespread use in clinical settings.

**Narrow-Band Measures of CU Traits**

With the potential inclusion of a specifier for CD involving CU traits, rating scales that have been used in research may be a useful component for clinical assessments. As with other key constructs related to CD, it is ideal for clinicians to consider information from multiple sources (e.g., parents, teachers, self-report) when assessing these traits. In research, CU traits have been assessed using several different formats, including parent and teacher ratings scales (Frick, Bodin, & Barry, 2000), self-report scales (Arendshoed, Gustafson, Kerr, & Statin, 2002), parent and youth structured interviews (Lahey et al., 2008), and clinician ratings (Forth, Kosson, & Hare, 2003). The most widely used measure to date has been the Antisocial Process Screening Device (APSD; Frick & Hare, 2001). This 20-item rating scale has parent, teacher, and youth self-report formats available and includes a six-item CU traits scale (Frick, Bodin, & Barry, 2000). The CU scale of the APSD has differentiated among children with CD in terms of the variety and severity of behavioral problems (e.g., Christian et al., 1997; Frick et al., 2000). However, this scale has a limited number of items and has also suffered from relatively low reliability in some studies (Falkenbach et al., 2003).

An extended assessment of CU traits using 24 items, the Inventario of Callous Unemotional Traits (ICU; Frick, 2004), has demonstrated a similar factor structure, good internal consistency, and consistent associations with several measures of antisocial and aggressive behavior across four samples and four languages (see Essau, Sasagawa, & Frick, 2006; Fantl, Frick, & Georgiou, 2009; Kimonis et al., 2008; Roose, Bijtjthier, Decoene, Claes, & Frick, 2010). This research suggests that this extended measure of CU traits may overcome some of the limitations of past measures with more limited item content. To adequately assess the proposed DSM-5 criteria for CD, a narrow-band measure of CU traits is recommended.

**Recommendations and Conclusions**

Despite the ever-growing empirical evidence regarding the strengths and limitations of these tools, practical considerations remain central to the assessments that clinicians perform. There is a clear advantage, for example, of obtaining information from multiple informants and through multiple sources. However, resource constraints (e.g., time, availability of instruments, availability of staff) may preclude routinely conducting comprehensive assessments of CD. Nevertheless, in light of the seriousness of a CD diagnosis, clinicians must carefully obtain the evidence necessary to document that the child meets diagnostic criteria and to also collect information that will guide treatment. The child/adolescent’s developmental level provides some guidance about the relative utility of different informants (i.e., teachers become less useful, and self-informants become more useful for older child clients) and methods (e.g., classroom observations are likely more useful for younger children). What, then, is a parsimonious battery for the assessment of CD? In short, coverage of treatment-relevant diagnostic information on the specific child’s conduct problems is needed along with assessment of potentially co-occurring emotional or behavioral difficulties. Each aspect of the battery must have incremental validity in that it provides something that the other tools do not. Therefore, at present, clinicians should make every effort to gather specific information about the child’s behavioral problems, their onset, and the presence of CD diagnostic symptoms through an interview with a parent, or similar, informant. Interviews are well-suited to this purpose and render additional checklists or inventories on the domains covered in an interview potentially redundant. In addition, norm-referenced information such as through a broad-band rating scale (e.g., ASEBA, BASC-2) provides data about the severity of the child’s presentation relative to same-aged peers, as well as the presence of important comorbid problems. Furthermore, a narrow-band measure of CU traits such as the ICU provides a quick, yet comprehensive, assessment of this important risk factor. Lastly, some direct assessment of the child, through observation and/or through an interview, should be conducted before a diagnosis of any kind is made. Without this information, the child’s specific behavioral problems and their implications for treatment cannot be discerned with any confidence.

To date, the literature on evidence-based assessment in clinical child psychology and allied fields clearly highlights the need for (1) practitioners to be familiar with, and guided by, the research literature on the myriad of difficulties with which children might present for an assessment; and (2) further development of empirically based models to inform an appropriate, cost-effective approach to assessment. Furthermore, knowledge about the many risk factors (e.g., fearlessness, parenting, peer affiliations) and developmental pathways (e.g., early vs. late onset; with a significant CU presentation) to CD is critical in executing appropriate assessments (McMahon & Frick, 2005). It should also be noted that assessment of CD is not limited to the initial evaluation process. Instead, case conceptualization and progress monitoring are ongoing processes that involve continued assessment of symptoms and other targets of intervention such as parenting practices and peer affiliations. Fortunately, great strides have been made in linking research and practice in diagnostic and treatment endeavors. Continued work in this area has the chance to further inform approaches for the assessment of meaningful factors that influence case conceptualization for youth with CD, and more importantly, prevention and intervention efforts devoted to children and adolescents with behavioral problems.

**References**


Call for Papers: Special Issue
Ethical, Regulatory, and Practical Issues in Telepractice

Professional Psychology: Research and Practice will publish a special issue on recent ethical, regulatory and practical issues related to telepractice. In its broadest definition the term telepractice refers to any contact with a client/patient other than face-to-face in person contact. Thus, telepractice may refer to contact on a single event or instance such as via the telephone or by means of electronic mail, social media (e.g., Facebook) or through the use of various forms of distance visual technology. We would especially welcome manuscripts ranging from the empirical examination of the broad topic related to telepractice to those manuscripts that focus on a particular subset of issues associated with telepractice. Although manuscripts that place an emphasis on empirical research are especially encouraged, we also would welcome articles on these topics that place an emphasis on theoretical approaches as well as an examination of the extant literature in the field. Finally, descriptions of innovative approaches are also welcome. Regardless of the type of article, all articles for the special issue will be expected to have practice implications to the clinical setting. Manuscripts may be sent electronically to the journal at http://www.apa.org/pubs/journals/pro/index.aspx to the attention of Associate Editor, Janet R. Matthews, Ph.D.