

Loeber, R., Farrington, D. P., Stouthamer-Loeber, M., Moffitt, T. E., Caspi, A., & Lynam, D. (2002). Male mental health problems, psychopathy, and personality traits: Key findings from the first 14 years of the Pittsburgh Youth Study. *Clinical Child and Family Psychology Review*, 4(4), 273-297.

Frick, P. J., (2001). Effective interventions for children and adolescents with conduct disorder. *Canadian Journal of Psychiatry*, 46, 597-608.

Research shows that youth with conduct problems (i.e., Attention-Deficit Hyperactivity Disorder, ADHD; Conduct Disorders, CD; Oppositional Defiant Disorder, ODD; and physical aggression) are at increased risk of delinquent behavior and problems with the legal system, as well as later life problems. In an attempt to understand the relationship between mental health problems and delinquent behavior, the first of these two articles focuses on the developmental trajectories that conduct problems can take in boys. In the second article, Frick discusses the strengths and limitations of four interventions for conduct disorders thought to be effective in controlled outcome studies, and presents additional principles for intervention strategies that acknowledge the multi-determined nature of CD. For the purpose of this summary, these articles work together to: (a) highlight the prevalence of ADHD and CD in children and adolescents, and (b) outline intervention strategies for the treatment of CD in children and adolescents.

[T]he presence of ADHD may contribute indirectly to the development of conduct problems through its effect on children's interactions with peers and significant others or through its effect on the parent's ability to use effective socialization strategies, or through its effect on a child's ability to perform academically. Therefore, reducing ADHD symptoms is an important treatment goal for many children and adolescents with CD. (Frick, p. 599)

Loeber et al. present key findings of the Pittsburgh Youth Study on six mental health conditions (ADHD, CD, ODD, externalizing behavior, physical aggression, depressed mood, shy/withdrawn behavior, and delinquency), child and family characteristics, comorbidity, personality traits, and service delivery. Participants were inner-city boys attending either the first ($n = 503$), fourth ($n = 508$), or seventh grade ($n = 506$) in Pittsburgh public schools. This longitudinal study began in 1987; data generated from the project have been used for numerous studies over the years, and this article provides an overview of findings from some of those studies.

Findings indicate that across all three samples, 15-16% of boys had at least one disruptive behavioral disorder, and 20-25% of those boys had multiple mental health problems. The prevalence of CD increased dramatically between the ages of 10-13, and the prevalence of physical aggression increased between the ages of 7-9. However, whereas the prevalence of CD continued to increase through adolescence, physical aggression began to decrease around the age of 15.

The prevalence of ADHD also decreased as boys entered adolescence. Over half of high risk boys in all samples had ADHD problems, and the risk for developing ADHD increased with the number of risk factors. Boys with ADHD were very likely to develop co-occurring, externalizing disorders (i.e., conduct problems, physical aggression). Thus, a relationship was suggested between the presence of ADHD in children and the development of conduct disorders in adolescents. Consistent with Loeber et al., Frick suggests that there may be a developmental progression from ADHD to CD. He writes, "The impulsivity associated with ADHD may lead directly to some of the aggressive and other poorly regulated behaviors of children with CD" (p. 599; see text box).

The article by Frick begins with a discussion of the strengths and limitations of four treatment modalities that have been researched in controlled outcome studies and are thought to be effective for children and adolescents with CD: Contingency Management Programs (CMP), Parent Management Training (PMT), Cognitive Behavioral Skills Training (CBST), and Stimulant Medication. On the one hand, Frick argues that these modalities do not go far enough to treat each child according to his or her individual needs and

Continued...

abilities. He notes that a “significant proportion” of children and adolescents with CD do not respond well to the above four treatments, or if they do, their behavior is rarely reduced to a normative level. Furthermore, improvements brought about through these treatments do not often carry over to other areas of the child’s social context, such as schools. On the other hand, Frick notes that children under the age of eight tend to demonstrate the greatest degree of improvement when treated by one or more of the above modalities. While this finding is encouraging with regard to young children, Frick notes that it also highlights the need for more effective interventions for adolescents.

While Frick finds some aspects of the above treatment modalities to be fairly encouraging, he argues that these treatments have overlooked two important elements in the treatment of CD: 1) that the disorder is multi-determined, i.e., that it is the “end result of a complex interaction among many different types of causal mechanisms” (p. 600); and 2) that the children and youth who have CD are not a homogeneous group. Rather, children and adolescents develop CD along individual, developmental pathways. As a result, no single intervention is likely to treat successfully all youth with CD. Frick provides additional insight into this claim by discussing developmental differences between adolescent-onset and childhood-onset CD. Adolescent-onset CD is characterized by a sudden onset of symptoms, and appears to be “an exaggeration of the normative developmental process of identity formation that takes place in adolescence” (p. 602). In comparison to children, these teens are more likely to value social relationships, and are less likely to have difficulties with impulsivity or cognition.

Unlike adolescent-onset CD, which appears to take one form only, childhood-onset CD can present with two different sets of traits, defined here as: 1) callous and unemotional, and 2) impulsive and emotional. Children with CD who display *callous, unemotional* traits tend to have few behavioral inhibitions, and are “less sensitive to punishment cues than reward cues.” These children are also less likely to respond to “negative emotional stimuli” (p. 602). Yet children with CD who display *impulsive* and *emotional* characteristics are quite different from their counterparts. Children in this latter group tend to have difficulty regulating their behaviors and their emotions. These children are highly impulsive and emotionally reactive, and this combination of characteristics can lead to impulsive and aggressive acts for which the child may later feel remorse.

Frick suggests that future treatments must incorporate a few basic principles if they are to treat children and adolescents with CD successfully: 1) interventions must be tailored to the individual needs of the child; 2) interventions must be founded upon an understanding of the causal processes by which CD develops in that particular child; 3) there must be a “clear, comprehensive, and individualized case conceptualization to guide the design of a focused and integrated treatment approach” (p. 603); and 4) interventions must involve the input of multiple professionals and community agencies and have strong case coordination. According to Frick, two programs that are flexible enough to incorporate these principles are the FAST Track Program, developed by the Conduct Problems Research Group, and Multisystemic Therapy (MST).

In conclusion, Loeber and colleagues highlight the importance of interventions with boys who have conduct problems. They note that a high percentage of boys with conduct problems do not receive mental health services prior to their first serious offense. They found that by the eighth grade, delinquent boys had been exhibiting problem behaviors for about six years before they appeared in court, and according to the authors, this six year period provides a “wide opportunity for intervention” (p. 292). This point, coupled with Frick’s finding that children under the age of eight respond fairly well to current treatment modalities, is somewhat encouraging. Together, both articles lend support to the daunting possibility that if left untreated, children with ADHD may develop CD in adolescence.

Finally, systems of care (SOC) are specifically designed to provide comprehensive and individualized interventions for children with serious emotional problems, including delinquency. Although Frick does not discuss SOC directly, his overall position on the treatment of CD is compatible with SOC principles. For example, he argues that “treatment must be comprehensive, taking into account the myriad factors within the child and his or her social context that can cause and maintain CD symptoms” (605). Individuals concerned, especially, with the design of new treatment modalities for children and adolescents with conduct disorders (including ADHD and CD) are encouraged to review these timely and accessible articles.