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Characterizing aggressive behavior with the Impulsive/Premeditated Aggression Scale among adolescents with conduct disorder ☆

Charles W. Mathias [a,*], Matthew S. Stanford [b], Dawn M. Marsh [a], Paul J. Frick [c], F. Gerard Moeller [d], Alan C. Swann [d], Donald M. Dougherty [a]

[a] *Neurobehavioral Research Laboratory and Clinic, Department of Psychiatry and Behavioral Medicine, Wake Forest University Health Sciences, Medical Center Boulevard, Winston-Salem, NC 27157, United States*
[b] *Department of Psychology and Neuroscience, Baylor University, Houston, TX, United States*
[c] *Department of Psychology, University of New Orleans, New Orleans, LA, United States*
[d] *Department of Psychiatry and Behavioral Sciences, University of Texas Health Science Center at Houston, Houston, TX, United States*

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Abstract

This study extends the use of the Impulsive/Premeditated Aggression Scale for subtyping aggressive behavior among adolescents with Conduct Disorder. Of the Conduct Disorder symptoms, aggression has the strongest prognostic and treatment implications. While aggression is a complex construct, convergent evidence supports a dichotomy of impulsive and premeditated aggressive subtypes that are qualitatively different from one another in terms of phenomenology and neurobiology. Previous attempts at measuring subtypes of aggression in children and adults are not clearly generalizable to adolescents. Sixty-six adolescents completed a questionnaire for characterizing aggression (Impulsive/Premeditated Aggression Scale), along with standard measures of personality and general functioning. Principal components analysis demonstrated two stable factors of aggression with good internal consistency and construct validity. Compared to the premeditated aggression factor, the impulsive aggression factor was associated with a broader range of personality, thought, emotional, and social problems. As in the adult and child literature, characterization of aggressive behavior into two subtypes appears to be relevant to understanding individual differences among adolescents with Conduct Disorder.

Keywords: Adolescence; Aggression; Impulsiveness; Personality; Conduct disorder

1. Introduction

Despite the importance of aggression to the prognosis of Conduct Disorder, psychiatrists do not have self-report instruments to characterize this behavior in adolescents. Aggressive behavior is a primary symptom of Conduct Disorder (CD), which is a disturbance emerging during childhood or adolescence that is defined as a pervasive pattern of behavior involving violation of others' basic rights and/or major age-appropriate societal norms (American Psychiatric Association, 2000). Within the CD diagnosis there are four types of characteristic behaviors: serious violation of rules, deceitfulness or theft, destruction of property, and aggression toward people or animals. While multiple factors appear

☆ Performance Site: Department of Psychiatry and Behavioral Medicine University of Texas Health Science Center at Houston 1300 Moursund Street Houston, Texas 77030.

* Corresponding author. Tel.: +1 336 713 3807; fax: +1 336 713 3830.
E-mail address: cmathias@wfubmc.edu (C.W. Mathias).

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to contribute to the expression of conduct problems and aggressive behaviors (e.g., cognitive ability, parent characteristics, peer relationships, early environmental stress, and demographics), there is little consensus as to what factor, or combination of factors, function as predictors or mediators of treatment outcome (Conduct Problems Prevention Research Group, 2002; for reviews, see Yoshikawa, 1994 and Hinshaw, 2002).

On the other hand, it is the expression of the aggressive behavior itself that has been shown to be an important predictor of behavioral health outcomes among those with CD. For example, aggressive behavior (along with Oppositional Defiant Disorder) is a significant predictor for development of CD (Patterson, 1993; Loeber et al., 1998), of treatment outcome (Loeber et al., 1992, 1993), and of impaired functioning (Loeber et al., 2000) and antisocial behaviors (Lynam, 1996; Huesmann et al., 2002) extending into adulthood. In fact, findings from a 22-year longitudinal study revealed that, while many childhood variables (e.g., low IQ, poor housing, lower parent education) were individually related to criminality in adulthood, these variables "did not add to predicting criminality once early aggression was considered" (Huesmann et al., 2002, p.204). Collectively, these studies indicate that when antisocial behaviors (e.g., destruction of property, physical fighting, and physical cruelty) are present in childhood there is an increased risk for continued psychosocial problems well into adulthood (for reviews, see Olweus, 1979; Yoshikawa, 1994; Frick and Loney, 1999).

While identifying and targeting specific antecedents to antisocial behaviors is undoubtedly important to treatment outcomes, defining and characterizing subtypes of aggressive behavior has a clear influence on research outcomes (Barratt et al., 2000) and implications for determining etiology of, and treatment strategies for, aggressive disorders (Coccaro et al., 1991; Yoshikawa, 1994; Crick and Dodge, 1996; Barratt et al., 1997a; Brown and Partsons, 1998; Vitaro et al., 2002). For these reasons, identifying a valid method for classification of aggression has important clinical as well as research relevance, particularly in light of the growing movement to target pharmacological and non-pharmacological interventions for aggressive behaviors (e.g., Steiner et al., 2003; National Institutes of Health, 2004). The current study was designed to validate the Impulsive/Premeditated Aggression Scale (Stanford et al., 2003a) for characterization of aggressive subtypes among adolescents with Conduct Disorder.

Aggressive behavior is a widely heterogeneous construct, which is one barrier to understanding adolescent aggression. Within the animal literature, at least seven subtypes of aggression have been identified and the behavior among humans is dimensional as well (Vitiello and Stoff, 1997). Important distinctions among aggressive subtypes include: level of planning, appreciation for consequences, and affective intensity associated with the aggressive acts. Based on these distinctions, researchers investigating aggressive subtypes in human adults and young children have commonly concluded that there is a dichotomy of aggressive subtypes that have variously been described as: [a] impulsive, reactive, affective, or non-planned; and [b] premeditated, proactive, instrumental, predatory, or controlled (e.g., Heilbrun et al., 1978; Coccaro, 1989; Atkins et al., 1993; Barratt et al., 1997a; Vitaro et al., 2002; McEllistrem, 2004). For the purpose of this investigation, the terms impulsive aggression and premeditated aggression are used to facilitate comparison to similar adult literature (Stanford et al., 2003a; Kockler et al., 2006). We use the term impulsive aggression to refer to spontaneous aggressive outbursts that are out of proportion to the provoking event, while premeditated aggression describes aggressive behaviors that are planned, controlled, and/or goal-oriented (Barratt et al., 2000).

Individuals classified as expressing either impulsive or premeditated aggressive behaviors differ from one another across a variety of domains, including: social adjustment, emotional function, cognitive ability, biological function, physiological reactivity, and treatment response. For instance, impulsive aggressive adults have diminished language ability (Barratt et al., 1997b) and lower cerebrospinal fluid 5-hydroxyindoleacetic acid concentrations (Linnoila et al., 1983), relative to premeditated aggressors. Compared to non-aggressive adults, impulsive aggressors have reduced executive functioning (Villemarette-Pittman et al., 2002) and decreased cortical activation (Mathias and Stanford, 1999; Houston and Stanford, 2001), as well as central serotonergic dysregulation (Coccaro, 1989; Coccaro, et al., 1991; Coccaro and Kavoussi, 1997). Further, impulsive aggression is associated with self-reported impulsivity, neuroticism, physical aggression, and anger (Stanford et al., 2003a). While the adult literature has largely focused on cognitive and biological mechanisms involved in impulsive aggression, the research on childhood aggression tends to focus on social information processing, peer relations, and emotional dysregulation (Dodge et al., 1997; Waschbusch et al., 1998). Specifically, impulsive aggression in children is associated with high levels of hostile behaviors (Atkins and Stoff, 1993; Atkins et al., 1993) and hostile attribution bias (Schwartz et al., 1998). Compared to children with premeditated forms of aggression, impulsive aggressive