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Affective modulation of the startle reflex in teenagers with early- or adolescent-onset conduct disorder and controls

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Previous research has suggested that children and adolescents with conduct disorder (CD) exhibit reduced psychophysiological responses to emotional stimuli (Herpertz et al., 2005). A recent study from our group indicated that children aged between 8-12 years with a diagnosis of disruptive behavior disorder show an attenuation of the startle reflex during the viewing of emotional pictures, but exhibit a normal pattern of affective modulation such that there is a linear relationship between slide valence and startle magnitude (van Goozen et al., 2004). This is in contrast with findings from adult psychopaths, who demonstrate an aberrant pattern of affective modulation (Patrick et al., 1993).

The purpose of this study was to employ pictures taken from the International Affective Pictures System to examine affective modulation of the eyeblink startle reflex in teenagers with CD and matched controls. The participants were divided into the following groups: early-onset CD (EO-CD; onset prior to age 10), adolescent-onset CD (AO-CD; onset after age 10) or no history of serious antisocial behavior. All participants were male, aged between 14-18 years and recruited from the community. Preliminary findings from our sample of 90 control participants, 30 EO-CD cases and 20 AO-CD cases will be presented. The data demonstrate that there is a linear relationship between slide valence and startle magnitude in all three groups, although both conduct-disordered groups show an attenuation of the startle reflex relative to controls. These data suggest that the pattern of affective modulation of the startle reflex is similar in children and adolescents with disruptive behavior disorders, and that the neural circuit mediating the startle reflex (probably involving the amygdala) may be compromised in these individuals. The implications of our findings for Moffitt's (1993) developmental taxonomy of antisocial behavior will also be discussed.

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