Trajectories of Peer-Nominated Aggression: Risk Status, Predictors and Outcomes

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Developmental trajectories of peer-nominated aggression, risk factors at baseline, and outcomes were studied. Peer nominations of aggression were obtained annually from grades 1 to 3. Three developmental trajectories were identified: an early-onset/increasers trajectory with high levels of peer-nominated aggression at elementary school entry and increasing levels throughout follow-up; a moderate-persistent trajectory of aggression in which children were characterized by moderate levels of physical aggression at baseline; and a third trajectory with stable low levels of aggression. Children following the early-onset/increasers trajectory showed physical forms of aggression at baseline. Male gender and comorbid attention deficit/hyperactivity problems, oppositional defiant problems and poor prosocial behavior plus negative life events predicted which children would follow the early-onset/increasers trajectory of aggression. The outcomes associated with the early-onset/increaser children suggest high risk for chronically high levels of aggressive behavior.

KEY WORDS: developmental trajectories; conduct problems; peer nominations of aggression; risk factors.

Childhood aggressive behavior is a strong predictor of serious negative health and psychosocial outcomes. These outcomes include depression, conduct disorder, antisocial behavior, substance abuse, peer rejection, poor school performance, school dropout, and poor job performance (Caspí, Moffitt, Newman, & Silva, 1998; Deater-Deckard, 2001; Loeber, Green, Keenan, & Lahey, 1995; Moffitt, Caspi, Dickson, Silva, & Stanton, 1996; Moffitt, Caspi, Harrington, & Milne, 2002; Nagin & Tremblay, 1999). Despite the high stability of aggressive behavior from childhood into adolescence and young adulthood, many aggressive children will not persist in this behavior. Tremblay et al. (1999) reported for instance that 80% of all 17-month-old toddlers showed physically aggressive behavior, whereas in a cross-national study on the development of aggressive behavior, 4–11% of all children were found to follow a chronic physically aggressive trajectory through adolescence (Broidy et al., 2003). The aim of this study is to expand on the recently published studies on developmental trajectories of aggression by examining trajectories of peer-nominated aggression in childhood, the predictors of following a particular trajectory, and the outcomes associated with a high-risk trajectory. To examine this question, information was required on (1) the various expressions of conduct problems in early elementary school, (2) the risk factors in childhood associated with a particular developmental trajectory, (3) the subsequent developmental trajectories of aggression, and (4) the developmental outcomes of these trajectories.

Several developmental theories have proposed distinct developmental trajectories toward the above mentioned poor outcomes (Loeber & Stouthamer Loeber, 1998; Moffitt, 1993; Patterson, DeBaryshe, & Ramsey, 1989). These theories propose two mutually exclusive subgroups of antisocial children: children who show antisocial behavior early in life and who will follow a life course persistent antisocial trajectory vs. children who will engage in antisocial behavior only during adolescence. Loeber and Stouthamer Loeber (1998) proposed a subclassification of the early-onset/life-course type children: a preschool-onset type and a childhood-adolescent-onset type...
type. There is empirical evidence to support the distinction between life-course persistent and adolescent-onset antisocial behavior (Fergusson & Horwood, 2002; Moffitt et al., 1996, 2002). However, results from some studies challenge the validity of the distinction, or at least the validity of generalizing the theory to more specific forms of antisocial behavior, for instance aggression. Several recently published studies identified trajectories of aggression from childhood into adolescence and, in accordance with the early-onset theory, identified a chronically high trajectory. However, a second early-onset trajectory with decreasing levels of aggression into adolescence (high-desistance trajectory) was also identified (Nagin & Tremblay, 1999), whereas no adolescent-limited trajectory for aggression was found in a cross-national study (Broidy et al., 2003). In a critical comment, Silverthorn and Frick (1999) suggested that the distinction in age of onset in the development of antisocial behavior may apply for males, but may not accurately describe the development of antisocial behavior in females. Many risk factors associated with an early onset of antisocial behavior in boys are also found in the childhoods of girls who will develop antisocial behavior, but unlike boys, girls follow a ‘delayed-onset’ trajectory in which the development of antisocial behavior is delayed until adolescence. Fergusson and Horwood (2002) found only partial support for this theory and argued that most females who engaged in antisocial behavior are likely to follow an adolescent-onset trajectory, whereas only a small minority of these females will follow an early-onset trajectory.

In addition to studying the developmental course of aggression, research has focused on factors that explain why children follow particular developmental patterns of aggression. Both factors within the child, such as co-occurring problem behaviors, and factors within the family context, such as parenting or major life events, have been associated with specific developmental trajectories. For instance, Loeber and Stouthamer Loeber (1998) argue that it is the presence or absence of comorbid ADHD that distinguishes between the preschool-onset type and a childhood-adolescent-onset type of antisocial behavior. According to the authors, ADHD is linked to a preschool onset type through its association with poor cognitive and academic capabilities, its involvement in the maintenance of oppositional behavior, and its activation of early and accelerated development of aggressive behaviors and conduct problems. Rutter, Giller, and Hagell (1998) suggested that both genetic and environmental components are involved with an early-onset path. In line with this, Moffitt and Caspi (2001) found that the early-onset trajectory is associated with neurocognitive problems, resulting in low IQ and poor school functioning, early behavioral problems, and temperamental problems. In addition to factors within the child, factors within the familial or contextual domain have also been related to an early-onset trajectory. Nagin and Tremblay (2001) reported that apart from co-occurring problem behaviors, the offspring of poorly educated, teenage mothers or who experienced a family breakup to be at risk for following a chronically high-physical-aggression trajectory from childhood into adolescence. The authors speculated that ‘adolescent mothers with low-educational attainment tend to lack the skills needed to create a context in which children learn to regulate physical aggression’ (p. 393), thus suggesting that factors within the family context may also explain why these children follow a chronically high-aggression trajectory. In line with this, Moffitt and Caspi (2001) found that inadequate parenting predicted that children would follow the life-course persistent trajectory and Shaw, Gilliom, Ingoldsby, and Nagin (2003) reported that rejecting parenting and maternal depression increased the risk that children would follow a chronically high overt antisocial trajectory from age 2 to 8. A late onset or adolescent-limited path appears to be associated with environmental factors, largely through affiliation with deviant peers (Patterson & Yoerger, 1997).

Aggressive children display various forms of aggressive behavior. The criteria for DSM-IV Conduct Disorder (American Psychiatric Association, 1994), for instance, include behaviors reflecting physical aggression, destructive aggression, deceitfulness or theft, and serious violations of rules. Loeber et al. (1993) argue for a distinction between overt (physical aggression) and covert aggression (covert antisocial acts, truancy) and authority conflict (stubborn behavior, deviance). Nagin and Tremblay (1999) examined developmental trajectories of disruptive behavior and found that physical aggression best predicted serious delinquency in adolescence and Loeber et al. (1995) reported that physical aggression in young children best predicted Conduct Disorder in adolescence. To further our understanding of the development of aggressive behavior across childhood and to provide a firm base for prevention, we examined, in addition to predictor variables, what the characteristic forms of conduct problems are, among children following different developmental trajectories of aggression.

Despite the advances from studies that have employed trajectory analyses, some comments are noteworthy. The first regards the informants used. Studies on developmental trajectories of aggression that started in childhood have generally used teacher, parent, or self reports (Broidy et al., 2003; Fergusson & Horwood, 2002; Nagin & Tremblay, 1999; Schaeffer, Petras, Ialongo, Poduska, & Kellam, 2003). Trajectories based on peer nominations of