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Preventing Serious Conduct Problems in School-Age Youths: The Fast Track Program

Nancy M. Slough,
University of Washington and the Conduct Problems Prevention Research Group, Members of the Conduct Problems Prevention Research Group

Robert J. McMahon,
University of Washington and the Conduct Problems Prevention Research Group, Members of the Conduct Problems Prevention Research Group

Karen L. Bierman,
Department of Psychology, Pennsylvania State University

John D. Coie,
Department of Psychology, Duke University

Kenneth A. Dodge,
Center for Child and Family Policy, Duke University

E. Michael Foster,
School of Public Health, University of North Carolina-Chapel Hill

Mark T. Greenberg,
Department of Human Development and Family Studies, Pennsylvania State University

John E. Lochman,
Department of Psychology, University of Alabama

Robert J. McMahon, and
Department of Psychology, University of Washington

Ellen E. Pinderhughes
Department of Child Development, Tufts University

Abstract

Children with early-starting conduct Problems have a very poor prognosis and exact a high cost to society. The Fast Track project is a multisite, collaborative research project investigating the efficacy of a comprehensive, long-term, multicomponent intervention designed to prevent the development of serious conduct problems in high-risk children. In this article, we (a) provide an overview of the development model that serves as the conceptual foundation for the Fast Track intervention and describe its integration into the intervention model; (b) outline the research design and intervention model, with an emphasis on the elementary school phase of the intervention; and (c) summarize findings to dale concerning intervention outcomes. We then provide a case illustration, and conclude with a discussion of guidelines for practitioners who work with children with conduct problems.

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Address correspondence to Robert J. McMahon, Department of Psychology, University of Washington, Seattle, WA 98195-1525; mcmahon@u.washington.edu. For additional information concerning Fast Track, see http://www.fasttrackproject.org.

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Children with conduct problems comprise a majority of referrals to outpatient child mental health clinics, have a continuing disruptive impact on the school system, and have a poor prognosis for avoiding antisocial behavior in adolescence and adulthood (Hinshaw & Lee, 2003; McMahon, Wells, & Kotler, 2006). A distinction has been made between two different developmental pathways leading to adolescent delinquency and conduct problems, based on age-related patterns of antisocial behavior. “Early starters,” (also described as “life-course persistent”) begin their serious antisocial behavior early in childhood, as early as the preschool period, and then continue with antisocial behavior into adulthood (e.g., Moffitt, 1993; Patterson, Reid, & Dishion, 1992). Early starters represent approximately 6% of the population (Offord, Boyle, & Racine, 1991). They are likely to engage in a versatile, wide-ranging set of antisocial behaviors, including both overt and covert delinquency (e.g., Loeber et al., 1993). These youth have a poor prognosis in that they are at risk for a host of negative outcomes during adolescence and adulthood. Furthermore, they exact an extraordinary cost to society. Cohen (1998) estimated that, in the United States, a single youth who follows the early-starter pathway and who persists in a criminal career as an adult will cost society at least $1.3 million. In contrast, “late starters” (also described as “adolescence-limited”) do not begin to exhibit antisocial behavior until early adolescence, and often desist by late adolescence or early adulthood, as they begin to engage in normative roles in the workplace and become involved in stable, intimate romantic relationships (e.g., Moffitt, 1993; Patterson et al., 1992). Late starters are less likely to engage in violent crime than early starters. This distinction is consistent with the two sub-types of conduct disorder identified in the *DSM-IV* (American Psychiatric Association, 2000) — “childhood onset” and “adolescent onset.” Within this diagnostic system, oppositional defiant disorder evident in early childhood can evolve into childhood-onset conduct disorder, and then into antisocial personality disorder in adulthood. Because of their considerable influence on the rates of serious adolescent antisocial and criminal behavior and the high cost to society, prevention programs are particularly needed to target youth with early-starting conduct problems. These prevention programs need to be initiated early enough to affect the early stages of the developmental trajectory, and they need to be designed to influence the multiple causes and the chronic nature of this maladaptive process.

The Fast Track project is a multisite, collaborative research project investigating the efficacy of a comprehensive, multicomponent intervention designed to prevent the development of serious conduct problems in high-risk children. The Fast Track intervention was guided by a developmental theory positing the interaction of multiple influences on the development of antisocial behavior (Conduct Problems Prevention Research Group, 1992, 2000). In the following sections, we will first provide an overview of the developmental model that serves as the conceptual foundation for Fast Track. We then describe how the Fast Track developmental model was integrated into the corresponding intervention model. The research design and intervention model for the Fast Track study will be outlined, with an emphasis on the elementary school phase of the intervention (especially the transition into the first and second grades). We then summarize findings to date of the efficacy of the intervention, followed by a case illustration. We conclude with a discussion of some guidelines for practitioners who work with children with conduct problems.

Developmental Model of Early-Starting Conduct Problems

Preschool and Elementary School Years

Environmental and contextual factors during the early preschool and grade school years contribute to children’s long-term antisocial development. At the community level, living in poor, crime-ridden neighborhoods, having relatively few support services and community resources for parents, and having parents who are isolated and disconnected from helpful social supports contribute to children’s risk. These community-level factors contribute to parents' experience of high levels of stress. Other sources of parental stress (and risk factors for

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children's development) are parents' marginal employment, psychopathology, criminality, limited educational attainment, marital conflict, and single parenting (Dodge & pettit, 2003; McMahon et al., 2006).

These contextual difficulties in the child's family and community, often in combination with a child's unusually high level of impulsivity and irritability (Frick & Sheffield Morris, 2004), set the stage for potentially negative parent-child relations characterized by increasingly coercive interactions between a parent and child. Parents resort to harsh, but often inconsistent, discipline in response to children's oppositional behaviors, and this variability in parental response contributes to the parents' inadvertent reinforcement of their children's increasing noncompliance (Snyder & Patterson, 1995). In this coercive cycle, both the parents and the child may then increase their rates of aversive behaviors towards each other. Sometimes the child's whining and noncompliance are reinforced when a parent finally gives in; sometimes the parent's escalating harsh, abusive behavior stops the child's behavior, and thus is reinforced (Patterson, 1982). The parents' behavior during these coercive struggles also models the use of aggressive, violent behaviors to dominate others, and the result of these modeling and reinforcement effects is the child's growing reliance on aversive behavior to get what he or she wants.

Coercive parent-child interactions are often accompanied by low rates of positive parental interaction with the child, and inadequate parental stimulation and support of the child's developing cognitive skills, social skills, and adaptive emotional regulation capabilities (Cook, Greenberg, & Kusche, 1994; Greenberg, Kusche, & Speltz, 1991). Thus, in addition to relying on highly aversive behaviors to control others, the high-risk child may also enter school poorly prepared for its cognitive, social, emotional, and academic demands. The deficits that evolve in children's language abilities because of an impoverished, nonstimulating environment can contribute both to poor reading readiness and to delays in the children's ability to use their cognitive processes to regulate their emotional and behavioral reactions (Greenberg et al., 1991). The combination of parents' harsh discipline and uninvolved parent-child interactions, in turn, may impede the development of children's adaptive social-cognitive skills. Children can become hypervigilant to hostile cues and intentions from others, and can adopt problem-solving styles that are overly action-oriented and that lack verbally assertive and cooperative strategies (e.g., Dodge, 2003).

During the elementary school years, the negative influence of the contextual risk factors (e.g., poor quality neighborhoods, poor parenting practices, family pathology, and parental isolation) continues to fuel child aggressive and disruptive behaviors (e.g., Greenberg, Lengua, Coie, Pinderhughes, & Conduct Problems Prevention Research Group, 1999). In many cases, the school context becomes an exacerbating rather than a corrective influence. Many high-risk children attend schools with a high density of other unprepared children like themselves (Rutter, Maughan, Mortimore, Ouston, & Smith, 1979), making effective teaching and school-based preventive interventions difficult (e.g., Kellam, Ling, Merisca, Brown, & Ialongo, 1998). As a result, teachers, like the parents in earlier years, can inadvertently begin to use inconsistent discipline and be verbally harsh and coercive. Finally, the parents of high-risk children often have their own history of school problems, and their discomfort in educational settings may lead to a lack of synchrony between home and school. This discord may be reflected in ineffective and acrimonious communications between parents and teachers, which undermine the child's chance for success (Comer, 1980).

Aggressive and disruptive children over time often become rejected by peers (Ladd, Price, & Hart, 1990) and, in turn, become more distrustful of peers (Dodge & Coie, 1987). Their peers begin to stigmatize them and react to them in unusually aggressive ways (e.g., Dodge & Coie, 1987). The problematic children's social difficulties are often exacerbated by difficult

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relationships with their teachers. Teachers provide less support to these children, in comparison to their classmates, rather than the increased support they need (e.g., Dodge, Coie, & Brakke, 1982). By preadolescence, parental rejection of their problematic children can become more pronounced because of increasingly aversive parent-child interactions and unpleasant confrontations with teachers and other school personnel as a result of the children's school difficulties (e.g., Patterson & Bank, 1989). As a result, high-risk children, who have had histories of poor school performance and poor peer relations in elementary school, get ready for their transition to middle school alienated from their most important sources of support and social bonding—family and school (Hawkins & Weis, 1985).

Middle School and High School Years

Adolescence is marked both by changes in youth characteristics and in the contextual influences affecting adjustment. Contextually, youth move from self-contained, single-teacher elementary classrooms to large, fluid middle or junior high schools (e.g., Eccles & Midgley, 1990), which lead to reductions in parent and teacher support and monitoring. Consequently, youth spend more time with and are more influenced by their peers. Four core domains are critical for their successful adaptation: (a) peer affiliation and peer influence, (b) academic achievement and academic orientation, (c) social cognition and identity development, and (d) parent and family relations.

With respect to peer affiliation and influence, alienation from conventional sources of social support from parents, teachers, and nondeviant peers can lead high-risk youth to join with other adolescents like themselves (e.g., Cairns, Cairns, Neckerman, Gest, & Gariepy, 1988). Adolescents who associate with deviant peers have a substantially increased risk for adolescent problem behaviors. Keenan, Loeber, Zhang, Stouthamer-Loeber, and Van Kammen (1995) found that, in comparison to boys who did not have best friends who were truant or disobedient, disruptive boys who did have deviant peer associations had three to four times the odds of participating in covert and overt delinquent acts. Adolescents appear to reinforce each other's antisocial beliefs within deviant peer groups (e.g., Dishion, Patterson, & Griesler, 1994). Deviant peer influences serve both to escalate the seriousness of offending among those youth with a history of delinquency and to instigate initial delinquency among those with more marginal risk profiles (e.g., Vitaro, Tremblay, Kerr, Pagani-Kurz, & Bukowski, 1997). They also affect school dropout (Cairns, Cairns, & Neckerman, 1989) and early substance use (Chassin, Curran, Hussong, & Colder, 1996).

Whereas girls are at considerably lower risk than boys for overt aggression during elementary school, their risk for becoming involved in early sexual activity, substance use, and covert antisocial activity rises in adolescence, due largely to associations with older antisocial boys (Moffitt, Caspi, Rutter, & Silva, 2001). Girls who enter puberty early and who have learning problems and depressed mood are at elevated risk for associations with deviant boys who, in turn, encourage behaviors such as truancy, substance use, covert delinquency, and sexual activity. For example, girls with this early behavior problem profile are the ones at greatest risk for having babies prior to age 14 (Miller-Johnson et al., 1999).

In regard to academic achievement and academic orientation, children who have low commitment to school and high rates of school failure are at risk for a range of adolescent problem behaviors (Hawkins, Catalano, & Miller, 1992). Adolescents who dislike school and spend little time on homework are frequently truant, show poor achievement, and have higher rates of drug use and early initiation of sexual activity (Hawkins et al., 1992; Ohannesian & Crockett, 1993).

With respect to social cognition and identify development, adolescents' rates of problem behaviors are heavily influenced by their deviance-prone attitudes and beliefs, such as their

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low values for school attendance and academic achievement, and high toleration of, and values for, deviant behaviors such as stealing and lying (Wills & Filer, 1996). Adolescents who have histories of violence, delinquency, and substance use often lack effective coping skills, demonstrating impulsive behavioral reactivity, poor self-control, weak problem-solving skills, hostile attributional biases, and dominance-oriented social goals (Dodge, Lochman, Hamish, Bates, & Pettit, 1997; Wills & Filer, 1996).

As adolescents become increasingly autonomous and as demands for self-discipline increase in schoolwork and other areas, the importance of a positive self-identity increases. Adolescents' "possible selves," or their images of who they would strive to be, serve to guide adolescents' choices and are important motivators of their behavior (e.g., Oyserman & Markus, 1993). Among high-risk youth, resilient adolescents are those who develop a positive sense of self, perceive themselves to have internal control over their environment, and have good problem-solving skills and a strong network of relationships with adults (e.g., Masten & Coatsworth, 1998).

In regard to parent and family relations, poor parenting—involving weak monitoring, ineffective parental control, and low levels of parent support—contributes directly to adolescent deviant behavior (Chassin et al., 1996). Because of the greater mobility of adolescents and their increased needs for personal privacy, parents have less opportunity to monitor their adolescents' activities and their friendships. Research indicates that poor parental monitoring and discipline play a critical role in adolescents' involvement in deviant peer groups, and in early- and late-onset delinquency and drug use (e.g., Dishion & McMahon, 1998; Patterson & Yoerger, 1997. Strong bonds of attachment to family serve a protective function in youth otherwise at risk for delinquency and substance abuse (e.g., Johnson & Pandina, 1991). Productive parent-adolescent communication, joint, problem solving, and collaborative planning are all indices of supportive family relations in adolescence.

Implications of the Developmental Model for Intervention

So, what are the implications of this developmental model for preventive intervention (Conduct Problems Prevention Research Group, 1992, 2000)? First, it suggests that the intervention should begin early as children at long-term risk can be identified with reasonable accuracy by school entry (Haapasalo & Tremblay, 1994), and that it should address multiple skill domains of the child, including emotional and behavioral regulation, and social and academic skills. Second, because these children are functioning in multiple social systems (i.e., family, peers, school, neighborhood), intervention must incorporate those social support systems. Third, because of the likely persistence of the child's conduct problem behavior, intervention will likely need to be sustained and wilt need to be developmentally informed as to age-related stressors and risk and protective factors, as the child moves through childhood into adolescence. Although the negative impact of early risk factors may be mitigated by protective support services during the grade school years, the risk factors themselves may continue to influence developmental trajectories during adolescence. Also, developmental research suggests that, during adolescence, new risk factors emerge that are associated with the escalation of antisocial and related adolescent behavior problems. Thus, more intensive intervention is called for as these high-risk children move into middle school. Finally, different intervention components should be well integrated, and they should be culturally sensitive.

The Fast Trade Preventive Intervention Model

Study Design

Consistent with the developmental model, evaluation and intervention began at school entry. Given the focus of this article, only a brief overview of the experimental design will be

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described. The design of the study was a randomized trial with randomization at the level of the school, as children entered first grade in four regions of the U.S. (Durham, NC; Nashville, TN; Seattle, WA; and rural central Pennsylvania). Schools at each site were selected for participation on the basis of high rates of crime and poverty statistics in the neighborhoods that they served. During kindergarten, high-risk children were identified through a multiple-gating screening procedure (Lochman & Conduct Problems Prevention Research Group, 1995) involving assessment of problem behaviors by both teachers and parents. The final high-risk sample included 891 children (445 in the intervention condition and 446 in the control condition) and almost 400 children in a normative community comparison condition. The high-risk sample consisted of 69% boys, 51% African American, 47% European American, and 2% of other ethnicity. Over half the children in the high-risk sample lived with a single parent and were low in socioeconomic status.

Intervention Components

Fast Track uses a “unified model of prevention” consisting of both universal and selective components (Conduct Problems Prevention Research Group, 2000). The Fast Track intervention began in Grade 1 and continued through Grade 10. The intervention was divided into two primary phases: (a) elementary school, and (b) transition to middle and high schools, coinciding with the transition to adolescence.

Elementary School Phase

Corresponding with the developmental risks associated with the early initiation of conduct problems, prevention activities during elementary school targeted the provision of positive behavioral support at school and at home; fostering the home-school relationship; promotion of parenting skills, child social skills, child social-cognitive skills, and child reading skills; and provision of mentoring for children by a same-sex, same-race community volunteer. Intervention components focused both on building the child's behavioral and cognitive skills and on changing the patterns of interaction with important people in the child's social environment (family, school, and peers) to promote healthy relationships with peers and adults.

The intervention was organized developmentally and included three levels of prevention activities: (a) universal prevention support provided at the school level; (b) standard indicated prevention support services provided to families of children identified as high risk during the initial kindergarten screening; and (c) additional individualized indicated prevention support provided to high-risk children and families on an as-needed basis (according to criterion-referenced assessments) (see Table 1). Prevention support was intensive with massed sessions offered at the important transition into elementary school (Grades 1 to 2). Sustained support was then continued through fifth grade. The content of each of the prevention services was organized developmentally, and integrated across components.

At the universal level of prevention, an adaptation of the PATHS (Promoting Alternative Thinking Strategies) curriculum (Kusche & Greenberg, 1993) was taught by classroom teachers two to three times per week in Grades 1 to 5. The PATHS curriculum model synthesizes the domains of self-control, emotional awareness and understanding, peer-related social skills, and social problem solving to increase social and emotional competence (Greenberg & Kusche, 2002; Kusche & Greenberg, 1993).In addition to a person-oriented model that focuses primarily on developmental integration, the intervention model incorporates an eco-behavioral systems orientation (Weissberg, Caplan, & Sivo, 1989), which places primacy on the manner in which the teacher uses the curriculum model. That is, program impact may be the greatest when teachers generalize support for curriculum-based skills during the day and build a healthy classroom atmosphere that supports the child's skill use and internalization of skills. It is presumed that improvements in social competence can be a

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function of both changes in the child, changes in the ecology, and their interaction. Fast Track staff also consulted with the school principal to bring the philosophy of PATHS to the entire school, resulting in various efforts (on a school-by-school basis) such as placing PATHS posters in school hallways, implementing new school behavior guidelines, and painting problem-solving "stop lights" on school playgrounds.

Classroom teachers were trained in the administration of this curriculum and received individualized teacher consultation about behavioral management issues. In the early school years, targeted skills were designed to enhance adaptation to the rules and routines of school and to foster the development of positive peer relations. In later years, more advanced topics included decision-making skills, study skills, goal setting, character development, coping with peer pressure, and problem-solving skills.

At the standard indicated level of prevention, 2-hour family group meetings were held regularly at local schools. Sessions were held weekly for 22 sessions in Grade 1, biweekly for 14 sessions in Grade 2, and monthly for 8 sessions each year in Grades 3 to 5. Each session involved separate 60-minute group meetings for parents and social skill training meetings for children. Children then received 30 minutes of tutoring in reading skills, led by a trained paraprofessional and observed by the parent. The last 30 minutes of each session included a parent-child sharing session, in which parents and children participated in joint activities. Parent groups promoted the development of positive family–school relationships (e.g., Burgoyne, Hawkins, & Catalano, 1991) and taught effective communication and discipline skills (including praise and ignoring, clear instructions and rules, and time out) (Forehand & McMahon, 1981; Webster-Stratton, 1989). Child social skill groups ("Friendship Groups") focused on friendship and play skills (Bierman, Miller, & Staub, 1987; Ladd, 1981; Oden & Asher, 1977) and self-control skills, anger-coping strategies and interpersonal problem-solving skills (Coie & Koeppl, 1990; Lochman, Burch, Curry, & Lampron, 1984; Lochman, Coie, Under-wood, & Terry, 1993). Parent-child sharing sessions promoted positive relationships and offered parents an opportunity to practice new parenting skills with staff guidance. As with PATHS, the skill topics addressed in the parent and child groups followed a developmental sequence, with an increasing emphasis over time on communication skills, homework study skills, goal setting, and negotiating parent-child conflicts. (See Bierman, Greenberg, & Conduct Problems Prevention Research Group, 1996; and McMahon, Slough, & Conduct Problems Prevention Research Group, 1996, for extensive descriptions of this phase of intervention). Facilitator's guides for the parent group, parent-child sharing time, and home visiting components (McMahon et al., in press) and the child social skill groups (Bierman et al., in press) will soon be available for the elementary-school phase of the intervention.

Individualized indicated services included academic tutoring, home visiting, and school-based peer pairing to promote friendships. Children and families received a standard level of these services in Grade 1. In subsequent years, criterion-referenced assessments were used to adjust the dosage of these three indicated components to match the level of functioning of each family and child. In Grade 4, a mentoring program was added, reflecting the growing significance of the child's identity development and the importance of same-gender, same-race positive role models in the identity development process (Becker, 1994; Saito & Blyth, 1994).

Adolescence Phase

The adolescent phase of the intervention addressed the four core domains associated with successful adolescent adjustment that were described above: (a) peer affiliation and peer influence, (b) academic achievement and academic orientation, (c) social cognition and identity development, (d) parent and family relations. This phase of the intervention covered Grades 5 to 10. It began with intensive prevention efforts around the transition into middle school (Grades 5 to 7) that were followed by continuing individualized preventive support through

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Grades 8 to 10. Due to a growing dispersion of the target sample across schools, it was not possible to serve a substantial segment of the sample with a universal prevention curriculum in adolescence.

Strengthening protective factors associated with the four identified domains was the focus of both standardized group and individual intervention strategies from the transition to middle school through Grade 10. Monthly group sessions involving both parents and youth continued during Grades 5 and 6 with an increasing emphasis on joint presentations to parents and youth, along with guided parent-youth discussions. Reflecting the adolescent's emerging abstract reasoning capabilities and greater independence, workshops on aspects of identity development were held in Grades 7 and 8, called “youth forums.” Given the need to respond to the increasing developmental heterogeneity typical during adolescence, along with the need to avoid supporting possible deviant affiliations among high-risk adolescents in group settings(Dishion, McCord, & Poulin, 1999), individualized criterion-referenced services (rather than group sessions) were emphasized in the later grades (Grades 7 to 10). (See Conduct Problems Prevention Research Group, 2000, for details of this phase of the intervention.)

Intervention Outcomes to Date

Analyses to date of the effects of the Fast Track program have indicated that the intervention had significant impacts on the multiple proximal outcomes that were assessed in the elementary school phase of the project, such as improvements in child behavior and social skills, and parenting strategies. The effect sizes (in the small [.23] to moderate [.70] range) were strongest following the initial intensive intervention efforts in Grade 1 (Conduct Problems Prevention Research Group, 1999a, b). For example, after the first year of intervention, in the *parenting domain*, relative to control-group parents, parents in the intervention group reported less use of physical punishment, greater improvements in parenting behavior and greater satisfaction in parenting; additionally, observers blind to intervention status coded the parents as showing more warmth, more positive involvement, and more appropriate and consistent discipline in home observations. In the child *social cognition* domain, relative to control-group children, intervention-group children were more skilled in emotion recognition and coping, social problem solving, and refraining from aggressive retaliation. In the *academic* domain the intervention-group children displayed higher word attack skills and higher language arts grades than children in the control group. Evaluation of the impact of the universal component of the program (which included the PATHS curriculum and teacher consultation) indicated significant positive intervention effects on peer sociometric aggression and disruptive behavior in Grade 1 as well as improved classroom atmosphere (Conduct Problems Prevention Research Group, 1999b).

By the end of third grade, teachers reported significantly lower rates of child aggressive, disruptive, and disobedient behaviors for the intervention children and fewer intervention children received a special education diagnosis compared to the control children. Intervention parents reported more significantly positive change in problem behaviors over the course of the past 12 months at the end of Grade 3 than did control group parents. Additionally, at the end of third grade 37% of children in the intervention group were “case free” (as determined by a “clinical caseness” measure of serious conduct problems, which included *DSM* diagnoses of oppositional defiant disorder and conduct disorder, existence of an individualized educational plan [1EP], and elevated teacher or parent ratings of child behavior), in contrast to only 27% of the control sample, representing a one third increase in “case free” status (Conduct Problems Prevention Research Group, 2002b). Using a similar approach to caseness, we found significant intervention effects at the end of Grades 4 and 5 for three of four domains: (a) social cognition and social competence problems (tapping the child's abilities to reduce hostile attributional biases, aggressive responses to provocation and social problems,

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retributional goals, positive expectations of the effectiveness of aggressive responses, low rates of prosocial behavior and poor emotional regulation), (b) involvement with deviant peers (those who carry weapons, are involved in stealing, use marijuana, involved with police), and (c) home and community problems (child involvement in serious levels of parent-rated aggressive behavior, self-reported delinquent behaviors—such as physically attacking others, stealing or shoplifting, and engaging in arson or property destruction—and substance use) (Conduct Problems Prevention Research Group, 2004), There were reductions in caseness ranging from 17% to 33%. There were no significant intervention effects for a fourth domain of school context academic and behavior problems (aggressive/disruptive behavior in the classroom and academic risk as indicated by an IEP, grade retention, and failure in reading or math). This unexpected finding may be a reflection of an insufficient level of intervention in that domain (which seems unlikely, given the long-term and comprehensive nature of Fast Track) or it may represent a temporary developmental lag in these children's school progress at this age (e.g., Tremblay, Pagani-Kurz, Masse, Vitaro, & Pihl, 1995; Vitaro, Brendgen, Pagani, Tremblay, & McDuff, 1999).

Mediational analysts of fourth grade outcomes were decidedly domain specific (Conduct Problems Prevention Research Group, 2002c). For example, improvements in parenting behavior 1 year earlier partially accounted for intervention effects on oppositional/aggressive behavior at home (but not school), whereas improvements in children's prosocial behavior at school 1 year earlier partially mediated intervention effects on peer social preference in the classroom (as assessed by sociometrics). Improvements in children's social cognitions about peers (i.e., hostile attributions) 1 year earlier partially mediated intervention effects on deviant peer associations. These patterns support the developmental model from which the Fast Tack intervention was derived, and indicate that a multifaceted intervention may be necessary in order to improve children's adjustment outcomes in the diverse spheres of Grade 4 life.

We have not found systematic moderating effects of the intervention during the elementary school period. This suggests that the intervention effects are generalizable, with comparable effects, for example, for boys and girls, for African American and European American children, and in urban and rural settings. However, there is evidence of emerging moderation of intervention effects for a subset of variables concerning externalizing psychiatric disorders and antisocial behavior on the basis of the severity of the child's initial risk score (Conduct Problems Prevention Research Group, 2007). This is the screening score that was obtained on the basis of both teacher and parent report during the kindergarten year. Significant interaction effects between intervention and initial risk level were found after Grades 3 and 6, but most strongly after Grade 9. Among the highest-risk group (top 3%) in Grade 9, assignment to intervention was responsible for preventing 75% of conduct disorder cases, 53% of ADHD cases, and 43% of all externalizing disorder cases. In contrast, the intervention had no impact on children who were initially at only moderate levels of risk. Similar findings were obtained with an antisocial behavior score, based on the youth's self-reported delinquency (although there was also a main effect of intervention). Youth in the highest-risk portion of the sample who participated in the Fast Track intervention reported significantly lower engagement in this measure of index crimes, interpersonal violence, and general delinquency than youth in the control group at similar levels of risk. We are currently attempting to determine the extent to which this moderation effect may be applicable to other indices of outcome.

These studies document the efficacy of the Fast Track intervention to date. A related and important issue has to do with the expense involved in such a long-term and comprehensive intervention and whether such expense is cost-effective. Recent findings from an ongoing extensive economic analysis of Fast Track indicate that the intervention is indeed costly: $58,283 (in 2004 dollars) per child for the 10 years of intervention (i.e., $5,828/year) (Foster, Jones, & Conduct Problems Prevention Research Group, 2006). Such expenditures are large

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but must be valued relative to the other public and social costs stemming from the behavior of these youth. The costs of a life of crime include criminal justice expenditures (e.g., arrest, adjudication, and incarceration), costs to victims (e.g., medical costs, time missed from work, the value of stolen property as well as loss of life), and costs that accrue to the criminal and his or her family (e.g., lost wages). As noted above, Cohen (1998) estimated that the social costs of a single life of crime total at least $1.3 million. A preliminary cost-effectiveness analysis conducted through age 14 (so still very early in the highest-risk period for delinquency and other antisocial outcomes) found that the Fast Track intervention was, in fact, cost-effective in terms of reducing conduct disorder diagnoses for those children at highest risk (Foster et al., 2006). From a policy standpoint, this finding is encouraging because those children are the most likely to generate higher costs to society over their lifetimes.

Case Illustration[1]

Joseph (a composite of several study participants) was a 5-year-old Caucasian male, and was part of the second group of children and families to be recruited into Fast Track. Joseph lived with his biological mother, stepfather of a few months, and his 2 1/2-year-old sister. Joseph's biological father had moved to another town and saw his son infrequently.

Pre-intervention Information

During the summer assessment, prior to Joseph and his mother being invited to join Fast Track, Joseph's mother (referred to here as Ms. L.) described her biggest concerns about her son as not being able to understand what he was told, not listening well, and being always ready for a fight. On the parent screening measure (a 24-item questionnaire concerning child externalizing behavior problems drawn from existing behavior checklists (e.g., the Child Behavior Checklist [Achenbach, 1991] and the Revised Problem Behavior Checklist [Quay & Peterson, 1983])). Ms. L. endorsed the following items as “often true” (the highest rating) of Joseph: easily upset, annoyed or irritated; starts fights with other children; stubborn, breaks rules; teases other children; whines and nags; threatens or bullies other children; sneaky; defiant toward adults; blames others for misbehavior; and temper tantrums. She also expressed concern about Joseph setting fires. His most serious incident occurred at age 4 when he burned up a tool shed; however, there had been other serious “accidents” since then. Ms. L. also stated that she and Joseph had a “personality clash”; yelled at each other a lot; that it was difficult to be patient with him; and that he had “more energy than any child his age.” Overall, however, Ms. L. felt that it had been “mostly pleasant” to raise him and described him as a happy child.

The Teacher Observation of Classroom Adaptation-Revised (TOCA-R; Werthamer-Larsson, Kellam, & Wheeler, 1991) was completed by Joseph's kindergarten teacher during the winter months of the academic year. On a 5-point scale, Joseph's teacher rated the following behaviors as “very often” (4) or “almost always” (5) true of Joseph: stubborn; breaks rules; harms others; fights; lies; trouble accepting authority, disobedient; yells at others; and is “often” (3) disliked by classmates.

Both Joseph's kindergarten teacher and his mother described him as being aggressive with other children; and it is notable how he responded on the Home Interview With the Child (HIWC; Conduct Problems Prevention Research Group, 1991), when interpreting other, children's intentions of offensive actions of an ambiguous nature (e.g., being bumped or hit with a ball or being denied a request to join a group of children at play). Joseph ascribed a hostile intent to seven of eight responses to vignettes in which the child interprets an offender's intentions (e.g., “He hates me”; “Cause he is a mean kid”). Joseph's description of how he

[1]Identifying information in this case description has been changed. Portions of the description represent a composite of several Fast Track participants.

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would behave in response to the offense was also aggressive, in that he responded to five of the eight situations by “punching” or by “showing who's tougher.”.

In addition to Joseph's social skills deficits, he struggled with learning to read and mastering basic math concepts. Ms. L. was frustrated with the teacher calling her at least once every week to complain about Joseph; and she was “no good” at helping him at home.

Attempts to recruit Ms. L. into Fast Track were initially met with refusal. Nonetheless, it was clear that she wanted Joseph to be involved, especially so that he could receive tutoring. After agreeing to participate in the program, she stated not to expect her to attend parent groups but that it “might be okay” for the Family Coordinator (FC) to visit her at home.

Initial Intervention Sessions in First Grade

Home visits—Scheduling biweekly home visits with Ms. L. was generally uncomplicated, as she did not work outside of the home. Once the FC arrived at her home, however, Ms. L. was habitually upset about a family (or other) incident and launched into a litany of complaints that precluded any real discussion. After several home visits, the FC ascertained that Ms. L.’s characteristic bravado was shielding a fairly anxious woman who was insecure in social situations. Over time it also became evident that some of Ms. L.’s impudence during the visits was a “test” of the commitment that Fast Track and, in particular, the FC, had to her and her family. Ms. L. held very strong opinions about parenting and did not see the necessity for discipline strategies other than her own approach of privilege removal, sending Joseph to his room, and, when necessary, using “a hand or belt,” depending on the misbehavior. Ms. L. described herself as more like a single parent since she did not allow Joseph's stepfather to discipline the children. She expressed her feeling that parenting Joseph was difficult and that even after she “put her foot down” he whined and yelled until he got his way. Problem-solving sessions, centered on resolving some of their parent-child difficulties, typically resulted in Ms. L. generating only one solution, usually one with a negative focus.

Parent group—True to her word, Ms. L. was initially resistant to Fast Track's encouragement of her attendance at parent groups; although she was pleased that Joseph was attending the first-grade Friendship Group and receiving tutoring. However, once Ms. L. was persuaded (due in part to Joseph's insistence) to visit a few of the parent groups, she attended consistently and, in time, seemed to enjoy being part of the group. She was an active participant and was particularly vocal if something was said with which she disagreed. As she gained more trust in her relationship with the FC and felt more comfortable with the group process and with other group members, the agitation and nervousness she initially demonstrated diminished.

Friendship Group—Joseph had a difficult time in Friendship Group. He played off other children’s misbehavior and often spoke out of turn. He delighted in making crude jokes, throwing food at snack time, and trying to get the other children’s attention with inappropriate behavior that included punching or threatening them. His behavior would improve for short periods when the Educational Coordinator (EC) attended to his appropriate behavior. His behavior also improved when he was given a task with some responsibility (e.g., setting up snacks).

Parent-Child Sharing Time—Both Ms. L. and Joseph appeared uncomfortable as they joined together for Parent-Child Sharing Time. They often teased each other maliciously and sat with their arms folded across their chests until they began an activity. Complimenting each other was a chore, especially for Ms. L., and took a good deal of coaching by the FC.

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Academics and behavior at school—Joseph had a hard time with schoolwork and being attentive in class. Part of his difficulty in school could be attributed to his distractibility, inattentiveness, “constant fidgeting,” and talking out of turn. He also engaged in many of the same acting-out behaviors that he demonstrated in Friendship Group.

Ms. L. had difficulty supporting Joseph in getting his homework finished and turned in on time. Additionally, Ms. L.’s relationship with school personnel was strained, at best. Her visits to the school were rare. When they did occur they usually resulted in her adamantly blaming the school for whatever incident that had brought her there. In fact, Ms. L. twice threatened to quit Fast Track during the first year of the intervention because she was upset about events that occurred with Joseph at school. One such precipitating event was a School referral to Child Protective Services for a cigarette burn on Joseph's hand, which Ms. L. had employed as a disciplinary strategy to teach him not to play with matches. Fast Track staff responded quickly to the situation by helping Ms. L. calm down and by providing her with some strategies for both expressing her remorse for the punishment and appropriately advocating for herself as a capable parent.

Intervention Strategies: Grades 1 and 2

Home visits—Home visits with Ms. L. continued on a biweekly basis throughout the first 2 years of the project. Ms. L. preferred that the FC visit during school hours, but occasionally Joseph was present. During these occasions, the FC coached Joseph and his mother through problem-solving sessions on the topics of completing his homework or chores.

Recognizing that her impatience with Joseph (and others) was an impediment to their relationship, Ms. L. was eager to set goals focusing on being more patient with her son. Over the first 2 years of the project, the FC and Ms. L. agreed to concentrate on the following goals: (a) practice the methods for calming down taught in parent group and in the PATHS curriculum; (b) try to be more patient with Joseph by recognizing her own feelings and calming down; (c) let Joseph express his feelings and listen to his side of the story *before* deciding to punish him; (d) move immediately into using the time-out strategies taught in parent group for any physical aggression; (e) monitor Joseph's homework to be sure it was completed on time; and (f) make a positive comment whenever she “caught Joseph being good.”

While Ms. L. eventually accepted the idea that giving praise and positive attention to Joseph was important, she found it difficult to implement. During home visits, the FC focused on finding opportunities to praise and congratulate Ms. L. on her efforts and accomplishments. This positive attention accomplished three intervention goals: (1) it allowed Ms. L, to experience how *she* felt when positively recognized; (2) it modeled an important and basic component of the parenting skills curriculum with which Joseph's mother needed to become comfortable; and (3) it reinforced Ms. L.’s efforts in attaining the goals she was working on with Joseph.

Friendship Group—The EC and co-facilitator set up a behavior plan that focused on Joseph reducing his physical aggression, using more positive and less threatening language, and behaving more seriously and in a more mature fashion during group. This included having him use calming down and “active ignoring” strategies to avoid joining in misbehavior with other group members. Joseph was rewarded with verbal praise and positive attention and received more responsibility for setting up, and sometimes leading, group activities.

Parent-Child Sharing Time—The estrangement that Joseph and his mother displayed during Parent-Child Sharing Time resulted in the decision to pair them with different partners to practice the skills that Ms. L. was learning in parent group (i.e., Ms. L. practiced with another

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child and Joseph practiced with another parent). Both Joseph and his mother responded well to this re-matching and the skills practices appeared rewarding for both of them.

Academics and behaviors at School—Joseph continued to have difficulty behaving appropriately in the classroom. If he earned a discipline slip for his behavior, he would sometimes throw major tantrums that involved screaming, kicking, and crying. He agitated his peers with teasing, name-calling, and sometimes hitting. A similar behavior plan to the one used in Friendship Group was set up with Joseph's teacher. The plan worked particularly well during the PATHS curriculum time when Joseph recognized the same concepts being taught as in Friendship Group. Joseph also responded positively to the one-on-one reading tutoring provided by Fast Track during which he was cooperative and mostly showed good effort. Additionally, he demonstrated mature and cooperative effort during the peer-pairing sessions involving another child from the classroom and conducted by his tutor.

Progress by Third Grade

After the conclusion of the first 2 years of the intervention, Joseph's mother expressed her regret that the parent and child groups would be meeting only once a month. Her demeanor on home visits could still be antagonistic at times, but she was able to calm down and focus on parenting issues shortly after the FC arrived. Ms. L. reported that it was definitely easier to praise Joseph but noted that “there still aren’t that many opportunities to do so.” Ms. L. had become skilled at the use of the time-out strategies and Joseph's aggressive behavior during arguments declined sharply. Ms. L. and the FC were able to set up long-term goals for parenting that included sharing some responsibilities with her husband. She and Joseph became much more comfortable (even animated at times) when paired together during Parent-Child Sharing Time and could make appropriate comments to each other during the complimenting exercise. Visits to the school by Ms, L., together with the FC, became more productive and much less confrontational.

Joseph continued to experience frustration and difficulty in academics early in his third grade year. His failure in reading and math prompted him to remark that it “didn't matter” because he was going to “be a bum” when he grew up. A few months into the school year, a new Fast Track tutor began meeting with Joseph 4 times/week for reading and math. Ms. L. had implemented the homework monitoring and reward plan and Joseph had begun turning in his homework regularly. By the end of February, Joseph was at class level in math and reading, and his attitude toward school had greatly improved. He received very few detention referrals for the remainder of that year.

Joseph made the most growth in his social skills—“a real success,” as his EC remarked. He evidenced strong leadership in Friendship Group when he remembered to ignore the inappropriate behavior of others. He could also identify that he was using his ignoring skills to avoid fights and be successful in group. His ignoring of their misbehavior, in fact, often prompted more appropriate behavior by other children in the group. Importantly, he was able to generalize his Friendship Group skills and use them with his non-Fast Track schoolmates by cooperating and being a “team player.” Additionally, no incidents of fire-setting had been reported since first grade.

Follow-up Information

Joseph continued to improve (with ups and downs) in his academic and social skills throughout elementary school. Both he and his mother reported communicating and getting along better with each other. The school reported that interactions with Ms. L. were going smoothly; and Ms. L. described “trusting [her FC] more than anyone in my life.”

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Joseph's participation in the Fast Track intervention continued during middle school. He attended and actively participated in the youth meetings and, due to his mother's insistence, reluctantly attended the twice-weekly homework club meetings in seventh grade. The Youth Coordinator (YC) continued her involvement with Ms. L., primarily through phone calls; she also scheduled problem-solving meetings with Joseph and his mother on a monthly basis. On outings with the YC, Joseph talked openly about family, friends, school, and girls. He also developed a good relationship with his mentor who, unfortunately, moved after their first year of involvement together.

During Joseph's middle school years, his mother and stepfather's relationship was failing and he and his mother argued “like in the old days.” Following eighth grade, Joseph chose to move in with his biological father who had remarried and now had stepchildren, all younger than Joseph. Joseph had a difficult time living in the family and following their rules. Although he and his father argued loudly at times, Joseph managed to control his urges to strike out. He moved again and lived with a friend of the family for about a year. During that year, Joseph reported later, he “hung out with a bunch of losers” who were using drugs and stealing cars. Subsequently, Joseph moved back in with his mother and dropped out of high school. Joseph is now 20 years old, working on obtaining his GED, living with friends, and holding down a full-time job. He reported that he has given up drugs, is living with people who also do not use drugs, and feels like he is “going somewhere” with his life.

Comments

The variety and complexity of the individual children and families who participated in this intervention preclude depiction of a “typical Fast Track family,” Nonetheless, Joseph is representative of many of the children who participated in Fast Track. Joseph's behavior was causing problems at both home and school. His loud and immature behavior was disruptive in the classroom, and his negative attributions to his peers' intentions and reactive aggression caused him to be disliked by his classmates. Also, as predicted in the long-term preventive design of Fast Track, it took time for Joseph's family to become involved in the intervention process. This family did differ from many of the families participating in Fast Track in that Ms. L. was not a single parent (although her partner was often uninvolved), she did not need to work outside of the home, and she did not receive public assistance to support her family. Although Joseph did not complete high school, his involvement with Fast Track may have facilitated his decision as a young adult to pursue his education and his ability to stop using drugs and to be gainfully employed. Because data collection is ongoing, we are as yet unable to assess the degree to which Joseph's outcomes are representative of those achieved by other participants in this comprehensive and long-term intervention. However, based on the findings to date, we are hopeful that we will continue to see intervention-related improvements for the youth at highest initial risk.

Implications for Practitioners

We realize that practitioners will not have the resources or time to implement an intervention as comprehensive and long-term as the full Fast Track intervention described in this paper. However, Fast Track does provide guidance to practitioners on several points that should be considered for successful intervention with youth with conduct problems (McMahon et al., 2006).

First, know the problem! By that, we mean that practitioners should be knowledgeable about the developmental phenomenology of conduct problems. Conduct problems are very heterogeneous with respect to their nature (e.g., overt versus covert) and severity (e.g., temper tantrums, stealing, physical assault), their classification and diagnosis (e.g., externalizing behaviors, oppositional defiant disorder, conduct disorder, delinquency), and their

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developmental pathways (e.g., early versus late starters). Heterogeneity is also apparent in the patterns of comorbidity and associated features that these children may demonstrate (e.g., attention-deficit/hyperactivity disorder, depression, anxiety, substance use, academic underachievement), as well as the particular risk and protective factors that influence the development and maintenance of conduct problems for individual youth. To add to this complex clinical presentation, knowledge in this area is advancing rapidly, and it is essential that practitioners are conversant with current theory and evidence concerning conduct problems in children and adolescents. Effective interventions derived from theory and empirical research have a significantly greater chance of positively affecting these youth.

Second, because of this heterogeneity of conduct problems, comorbid conditions, and risk and protective factors, it is essential to screen and assess broadly with youth with conduct problems. General issues and needs with respect to the evidence-based assessment of CP in youth have been delineated recently by McMahon and Frick (2005). They stress the importance of a developmentally sensitive assessment, not only with respect to age and sex, but especially with respect to progression along a particular developmental pathway. The practitioner needs to recognize the transactional nature of these developmental and contextual processes, and conduct the assessment accordingly. Finally, use of multiple methods completed by multiple informants in relevant settings is crucial to the success of the assessment process.

For all of these reasons, use of a developmental pathways perspective as an organizational schema for integrating knowledge about these various aspects of CP in children and adolescents makes great sense (McMahon & Frick, 2005; McMahon et al., 2006). Tremendous progress has been made in the past 15 years in the identification and subsequent delineation of some key developmental pathways (most notably the early-and late-starter pathways). Practitioners will have individual children with CP presenting for services at particular ages. It behooves a clinicians to be aware of the prototypical developmental progressions of CP and their manifestations at particular ages so that he/she can use them as starting points for working hypotheses about how best to assess and intervene with a particular youth. Both the developmental model and extant research indicate the importance of intervening as early as possible with youth on the early-starter pathway.

A third and related recommendation is that practitioners will need to address the multiple social contexts in which the youth functions. Although generalization of treatment effects across settings has occasionally been demonstrated (e.g., occasional evidence of parent training effects generalizing to the school), it should not be expected (McMahon & Forehand, 2003), Instead, the practitioner will likely need to intervene (or coordinate intervention) in each setting in which the child is engaging in conduct problem behavior (e.g., home, classroom, playground). This also means that practitioners must be willing and able to enlist and maintain the co-operation of professionals in such settings. While in many cases this will be inconvenient and/or expensive, it is likely necessary for the successful treatment of children with serious conduct problems. Multisystemic Therapy (MST; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998) exemplifies this attention to multiple social contexts in treating adolescents with serious conduct problem behavior. We believe that similar attention to such contexts is mandatory when intervening with most preadolescent children with conduct problems as well. (See Conduct Problems Prevention Research Group, 2002a, for a discussion of strategies for engaging various stakeholders in multicomponent, multisetting interventions.).

One possible exception to this guideline is family-based intervention with young (i.e., preschool age) children, In that case, the family-based intervention may be both necessary and sufficient to achieve the needed reductions in conduct problem behavior and increases in the child's prosocial behavior. However, with older children and adolescents, it is likely that additional interventions designed to address the child's conduct-problem behavior in

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extrafamilial settings will also need to be implemented. For older youth, family-based intervention is likely to be necessary but not sufficient. It is important to note that the various intervention components should be presented in a clinically sensitive and integrated manner, especially if different interventionists are involved with different components. (See Conduct Problems Prevention Research Group, 2002a, for a presentation of the engagement and retention strategies employed in the Fast Track intervention.).

Fourth, practitioners need to identify and focus on protective factors as well as risk factors that are relevant for the youth's stage of development and for the particular developmental pathway that he or she is exhibiting. Building strengths and providing supports in the broader environment may be as important as decreasing exposure to risk (Thornberry, Huizinga, & Loeber, 1995).

Finally, we remind practitioners to be aware of the possibility of iatrogenic effects in skills-based peer-group interventions in certain contexts (McMahon et al., 2006). Although the extent to which this may occur is still a subject of debate (cf. Weiss et al., 2005), there is evidence that the placement of high-risk adolescents in at least some peer-group interventions may actually result in *increases* in both conduct problem behavior and negative life outcomes (e.g., Dishion et al., 1999). The causal mechanism is thought to be “deviancy training,” in which youth receive group attention for engaging in various problem behaviors (Dishion, Spracklen, Andrews, & Patterson, 1996; Gifford-Smith, Dodge, Dishion, & McCord, 2005). More recent evidence suggests that iatrogenic effects may also occur with groups of younger children (e.g., Boxer, Guerra, Huesmann, & Morales, 2005; Lavallee, Bierman, Nix, & Conduct Problems Prevention Research Group, 2005) and that they may be more prevalent in prevention programs than in treatment programs (Dishion & Dodge, 2005). Thus, caution is advised if intervention plans include participation in a group-based treatment composed of high-risk youth. However, inclusion of low-risk youth in such groups may serve a protective function in this situation.

Conclusion

The Fast Track intervention is based on a carefully articulated developmental model and begins during the critical period of school entry to address risk factors before they become stabilized and relatively intransigent to intervention. The focus on a range of factors within the child and within the child's socialization contexts, using a developmentally comprehensive and integrated intervention during the elementary and early adolescent school years, has been valuable and informative. The Fast Track intervention has demonstrated modest intervention effects in multiple domains throughout elementary school: These intervention effects appear to have been generalizable across gender, ethnicity site, and so forth; however, we have recently identified emerging evidence of moderation of effects on conduct problem outcomes (most notably by the end of Grade 9) based on the child's severity of initial risk as measured in kindergarten.

Implementing a long-term intervention strategy targeting the enhancement of child competencies and his or her multiple socialization systems may seem daunting. However, brief interventions targeting a single dimension have, for the most part, yet to prove their efficacy with youth with serious conduct problems. Recognizing the early signs of conduct problems, intervening early, focusing on multiple domains, and taking a long-term developmental perspective will give practitioners the greatest chance of successfully altering the trajectories of youth on the early-starter pathway.

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Table 1

Fast Track Intervention Components in Grades 1 Through 5

Component	Grade 1	Grade 2	Grade 3	Grades 4–5
Universal Component				
PATHS Curriculum	Yearly curriculum	Yearly curriculum	Yearly curriculum	Yearly curriculum
Indicated Components				
Child Social Skills Groups	22 sessions	14 sessions	9 sessions	9 sessions
Parent Training Groups	22 sessions	14 sessions	9 sessions	9 sessions
Parent-Child Sharing	22 sessions	14 sessions	9 sessions	9 sessions
Individualized Components				
Academic Tutoring	60 sessions	0 or 60 sessions	0 or 60 sessions	0 or 60 sessions
Peer Pairing	22 sessions	0 or 14 sessions		
Home Visiting	11 visits	6, 16, or 32 visits	8, 16, or 32 visits	8, 16, or 32 visits
Mentoring				1–2 visits/month

Note. In second grade, children received peer pairing only if they were rejected by peers or had elevated teacher ratings of aggression; in second through fifth grades, children received academic tutoring only if their reading skills placed them in the bottom third of the classroom; families received weekly, biweekly, or monthly home visits depending upon staff ratings of family functioning; in fourth and fifth grades, a mentor was assigned for children who did not have an appropriate same-sex, adult role model.