

The Pennsylvania State University

The Graduate School

Department of Psychology

PREDICTING CHANGE IN CONDUCT PROBLEMS DURING MIDDLE SCHOOL:
THE UTILITY OF RISK AND PROTECTIVE FACTORS ASSESSED DURING MIDDLE
SCHOOL

A Dissertation in

Psychology

by

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Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

August 2009

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ABSTRACT

This study examined the utility of risk and protective factors in predicting change in conduct problem symptoms across the middle school years for at-risk youth participating in the Fast Track Project. Parent, teacher, and youth reports of risk and protective factors made significant contributions to the prediction of growth in conduct problem symptoms between 6th and 9th grade. In addition, structured ratings completed by clinical staff made similar contributions to the prediction of growth in conduct problem symptoms (and were superior to global clinical judgments made by the same staff). The results suggest that attention to risk and protective factors is important for predicting growth in conduct problems across the early adolescent years, and that clinical staff can provide valid assessments of these risk and protective factors using brief, structured rating forms.

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ACKNOWLEDGEMENTS

The successful completion of this dissertation would not have been possible without the significant contributions of many individuals. I am extremely lucky to have been given the opportunity to utilize the Fast Track Project's rich database and to work with some of the fantastic people associated with the project. I am so grateful to the Fast Track database staff for their technical support and assistance in negotiating remote connections and password complications. I am also thankful to Sandra Stewart, who was the recipient of many emails and office visits as I waded my way through the Triannual Assessment data. Rob Nix and C.J. Powers provided countless hours of invaluable statistical guidance, couched in patience and understanding of my lack of experience with SAS. Cynthia Huang-Pollock and Doug Coatsworth contributed excellent feedback and valuable advice from their specific areas of research and training.

I am quite lucky to be surrounded by a fantastically supportive group of family and friends throughout this process, who have likely heard all that they would ever wanted to hear about conduct problems during middle school. Special thanks to: Marcela Torres, who routinely gave up her computer for statistical analyses and provided never-ending smiles of support; Kerry Makin-Byrd, whose warmth and encouraging words know no bounds; and Nicole Cain, whose uncanny knack of balancing sarcasm and true kindness has been a necessary part of surviving graduate school. And, of course, my endless thanks go to my mother, my sister, and my Steve, who, in their generosity, confidence, and unconditional emotional support, are truly irreplaceable.

My wonderful advisor, Karen Bierman, truly deserves her own paragraph of thanks, namely to highlight her amazing guidance throughout the completion of this dissertation and her unwavering support throughout the years of graduate school. Her ability to provide truly constructive criticism and instill confidence is a true gift, and I feel so lucky to have had her as a mentor in this field.

Chapter 1. INTRODUCTION

There is no denying that conduct problems are among the most concerning of mental health problems among youth, and carry with them significant monetary, societal, and individual costs (Cohen, 1998). The path to adult criminality and persistent antisocial behavior is most likely for those individuals following the “early starter” or “life-course-persistent” trajectory of conduct problems (e.g., Moffitt, 1993; Moffitt, Caspi, Rutter, & Silva, 2002; Patterson, Capaldi, & Bank, 1991), in which the pathway to serious antisocial behavior begins during childhood. Individuals with early onset conduct problems initially present with physical aggression and other disruptive behaviors during childhood (typically at school entry) and tend to escalate to a broader range of antisocial activities during adolescence and adulthood (Hinshaw & Lee, 2003). While there are individuals who engage in chronic antisocial behavior beginning in adolescence and even adulthood, the group of individuals with early starting conduct problems accounts for a significant portion of the population that continues on to display serious antisocial behaviors into adulthood (e.g., Moffitt, 1993; Farrington, 1995; Loeber & Stouthamer-Loeber, 1998). In addition, a large proportion of children with conduct problems do not show a significant response to existing interventions, which is particularly true for individuals older than 8 years old (Frick, 2001). These findings highlight the heterogeneity of the group of individuals with conduct problems, and emphasize the need to develop more flexible methods to effectively understand the predictors of continuity versus desistance of conduct problems during the transition to adolescence, particularly among those children who show early-starting trajectories.

Considering the existence of the early-starting pathway to conduct problems, the difficulty in treating antisocial behavior during late adolescence and adulthood, and the high recidivism rates of criminality in adulthood, it is most prudent to establish ways to interrupt the

trajectory of conduct problem progression, specifically by focusing on prevention or early intervention strategies. Rather than focus narrowly on problem behaviors or early symptoms of disorder alone, prevention science recommends that we incorporate knowledge of intra-personal and contextual risk and protective factors that can encourage or attenuate the progression of a problematic trajectory, and focus efforts to intervene on those factors with the hope of affecting change on the problematic outcome of choice (Coie, 1996). To that end, risk and protective factors present during early adolescence may play a critical role in fostering the escalation or attenuation of childhood risk for chronic, severe conduct problems into adolescence, and assessment of these factors might permit the facilitation of more effective preventative interventions.

In order to better inform prevention and intervention efforts targeting early-starting aggressive youth, the present study focused on two central questions: 1) whether there is evidence that risk and protective factors in four identified domains of functioning can predict changes in the level of conduct problems exhibited by early-starting youth during early adolescence, and 2) whether clinical staff engaged in preventive interventions can provide reliable and valid assessments of these risk and protective factors in order to guide their intervention efforts. Correspondingly, the first aim of this study was to examine a developmental model of risk and protective factors aimed at predicting change in conduct problems during early adolescence in a sample of children who exhibited early-starting risk by using standardized, research-based measures. The specific risk and protective factors examined were selected based upon a developmental model for the treatment of conduct problems and, in turn, based upon their inclusion in an assessment system specifically designed for use in tailoring the adaptive intervention portion of a longitudinal intervention aimed at prevention of conduct problems (the

Fast Track Project). A second major aim was to determine whether clinical staff responsible for implementation of prevention programs for conduct problem youth were able to provide reliable assessments of these risk and protective factors, and whether these clinical assessments showed concurrent validity when compared with research-based measures. This second aim had two parts: a) to determine the reliability and concurrent validity of staff's clinical judgments of individual risk and protective factor items, and b) to determine the concurrent validity of staff's structured clinical judgments of overall impairment in each of four domains of functioning. A third aim was to explore the predictive validity of clinical staff judgments of youth risk and protective factors in early adolescence, and to assess the degree to which they contribute to the prediction of change in conduct problems during the middle school years. This aim had three parts: a) to determine the predictive validity of clinical ratings of risk/protective factors; b) to determine the predictive validity of global judgments of overall impairment in four domains of functioning; and c) to determine the incremental validity of clinical staff ratings and/or judgments of domain impairment relative to research-based measures of the same risk and protective factors.

The data for this study were drawn from the Fast Track Project, a longitudinal preventive intervention trial focused on aggressive, disruptive, and noncompliant youth exhibiting "early starting" patterns of antisocial behavior at elementary school entry. The Fast Track Project is based upon a developmental model of conduct problem development, in which early behavior problems during the preschool and early elementary school years are exacerbated by coercive parent-child interactions and poor school readiness which contribute to broad difficulties in academic and interpersonal functioning during elementary school, which in turn place youth at high risk for adolescent association with deviant peers and subsequent secondary school

disengagement (CPPRG, 1992). Elementary school entry and the transition to middle school are highlighted as key time points for intervention. This model posits that interventions aimed at treatment of conduct problems must address functioning in home, school, and interpersonal domains, and must consider the changing importance of these domains throughout childhood and adolescence. Information regarding these various aspects of functioning was gathered through annual research-based assessments utilizing standard parent, teacher, and youth reports of adjustment. Beginning in early adolescence, the Fast Track intervention assessment process also utilized clinical judgments completed by study staff, in which staff provided clinical ratings of individual adolescents on a set of risk and protective factors. Using those individual ratings, staff then produced global judgments of overall impairment in four domains of functioning centrally implicated by the Fast Track's developmental model in the persistence or desistance of conduct problems: academic achievement, adult involvement, peer relations, and identity development.

In order to lay the groundwork for this study, I will review literature pertaining to the study of conduct problems during adolescence (including specific challenges and needs of adolescents in assessment and intervention), the importance of considering risk and protective factors when assessing conduct problems during adolescence, and the possible benefits of using structured clinical judgment methods for this purpose.

The Case of Conduct Problems During Early Adolescence

While adolescence is no longer considered a period that is normatively characterized by storm and stress (e.g., Larsen & Ham, 1993), there is still consistent evidence that adolescence is a time of rapid and significant change. In particular, early adolescence (generally identified as the period of time between 11-14 years) has been described as a "critical developmental

transition” (e.g., Petersen & Hamburg, 1986), when exposure to cross-domain changes occurs at a level comparable only to infancy (Lerner & Foch, 1987). Changes are simultaneously occurring across multiple individual domains (biological/pubertal, cognitive, and self-perception and identification) and contextual domains (family relationship and structure, peer relations, school environment and demands, and community involvement) (Brooks-Gunn, 1988; Ebata, Petersen, & Conger, 1990; Petersen & Hamburg, 1986; Simmons, Burgeson, & Reef, 1988). As with any period of rapid change, this challenging transition period provides opportunities for growth but also exacerbates risk and fosters adjustment difficulties (Hamburg, 1974; Lerner, 1987; Petersen, Kennedy, & Sullivan, 1991). Overall, these major transitions interact in order to create what some have described as a “pileup” of life changes during early adolescence, placing youth at risk for increased levels of distress and disorder (e.g., Larson & Ham, 1993; Petersen & Hamburg, 1986). Some researchers estimate that as many as 25% of all adolescents meet criteria for a mental health diagnosis (McGee, Feehan, Williams, Patridge, & Silva et al., 1990; Offord, Boyle, Szatmari, Rae-Grant, & Links et al., 1987; Rutter, Tizard, Yule, Graham, & Whitmore, 1976). Individuals with a history of childhood difficulties are more likely than others to experience continued or increased psychopathology during and after the transition to adolescence (Petersen & Hamburg, 1986).

Early adolescence also represents a key period in the progression of conduct problems in particular. The term “conduct problems” is used to describe a broad range of inter-related hostile, disruptive, and rule-breaking behaviors, including oppositional behaviors (such as temper tantrums and frequent arguing with adults), lying and truancy, and more serious types of antisocial behavior (such as physical aggression, stealing, and property destruction).

Normatively, the frequency of conduct problem behaviors is thought to rise dramatically during

early adolescence and peaks at approximately 15-16 years, after which it declines until approximately age 30 (Blumstein et al., 1986). The prevalence of conduct problems reaching the level of diagnostic severity during early to mid-adolescence has been estimated as 4-15% for boys and girls, as compared to 2-7% during childhood (Offord, Boyle, & Racine, 1991); however, the percentage of adolescents self-reporting any problem behavior has been reported to be as high as 95% in a high-risk sample (Elliott & Voss, 1974). The dramatic increase in the incidence of conduct problems during this developmental period suggests that there are new, age-sensitive influences at play that serve to escalate rates of problem behaviors for many adolescents (CPPRG, 2004).

Multiple trajectories have been identified in the progression of antisocial behavior, leading to a significant amount of heterogeneity in the clinical presentation of conduct problems, particularly in adolescence. There is also emerging support for the idea of different trajectories associated with early onset conduct problems. These include a pattern of chronic antisocial behavior that continues at high rates from childhood through to adulthood, but also includes two alternate developmental trajectories: a group of “desisters” (who exhibit early-starting problems, but show “recovery” without sustained conduct problems through adolescence and adulthood), as well as a group of “low-level chronics” (who display low levels of persistent conduct problems throughout development, but do not escalate to high rates of adolescent antisocial activity) (Hinshaw & Lee, 2003; Fergusson, Horwood, & Nagin, 2000; Moffit, Caspi, Dickson, Silva, & Stanton, 1996; Nagin & Tremblay, 1999). Research suggests that at least half of children who display significant conduct problems prior to age 10 do not progress on to have serious antisocial behavior during adolescence (Patterson, Forgatch, Yoerger, & Stoolmiller, 1998). Yet, there are few established methods of identifying which of these individuals will continue to display

conduct problems beyond childhood (Loeber & Farrington, 2000). In addition, there is a second major trajectory of individuals engaging in conduct problems, known as the “adolescent-onset” or “late-starter” group (e.g., Moffitt, 1993); these individuals do not present with significant conduct problems during childhood, but rather begin to display antisocial behavior during adolescence, and are thought to engage in more short-term and less serious patterns of conduct problems (McMahon & Kotler, 2006). Finally, there is conflicting evidence regarding differential trajectories for conduct problems for girls, with some suggesting that girls’ development of conduct problems tends to fit more consistently with an adolescent-onset pathway (e.g., Broidy et al., 2003; Silverthorn & Frick, 1999). Relatively little research has focused solely on the progression of conduct problems for girls exhibiting childhood conduct problems. The heterogeneity in the progression of conduct problems highlights the clear need to consider an individual child’s history of antisocial behavior, as well as a need to explore concurrent behaviors and contextual (family, peer) factors that may help predict and explain the likelihood of persistent conduct problems.

Overall, our knowledge of the specific challenges associated with early adolescence, combined with research on conduct problems during this developmental period, highlights the importance of early intervention and prevention for the group of youth entering adolescence with a history of childhood conduct problems. While the “pile-up” of life changes during early adolescence places all youth at risk for increased distress and disorder, the group of youth already at risk for conduct problems is even more likely to experience an escalation of difficulties in various domains of functioning during the transition to adolescence. Therefore, a serious need exists to further clarify which individuals are most likely to continue along maladaptive pathways, and to identify factors that could serve to influence the progression of

conduct problems during early adolescence. By identifying key influences on the persistence or desistance of conduct problems during adolescence, we can more successfully and pragmatically intervene during this critical period of development.

Risk and Protective Factors and the Persistence of Conduct Problems

There is a need to identify factors that may attenuate or interfere with the progression along a maladaptive course towards persistent conduct problem behaviors. While it is clear that the existence of childhood conduct problems serves as a strong predictor of ongoing adolescent conduct problems (Wasserman & Miller, 1998), research has also established that there is significant heterogeneity in the progression of conduct problems through adolescence (McMahon & Kotler, 2006). Prevention science and developmental psychopathology models suggest that a consideration of risk and protective factors may help explain heterogeneity in developmental trajectories as well as guide prevention efforts, as these factors may influence the persistence or desistance of conduct problem behaviors (Kazdin, Kraemer, Kessler, Kupfer, & Offord, 1997; Loeber, 1990). Risk factors have been defined as characteristics, variables, or hazards that, if present, are associated with an increased likelihood of a particular outcome, more so than would be expected in an unexposed population (e.g., Kraemer et al. 1997). Protective factors have been defined as characteristics or qualities that are associated with a decrease in the likelihood of an unwanted outcome, or an increase in the likelihood of a desired outcome (e.g., Garmezy, 1985). The field is divided as to whether risk and protective factors are uniquely associated with either risk or protection (e.g., Fergusson & Lynskey, 1996; Luthar, Cicchetti, & Becker, 2000; Pollard, Hawkins, & Arthur, 1999) or whether risk and protective factors are better conceptualized as separate ends of the same variable continuum (e.g. Kandel et al., 1988). Additionally, the ways in which particular factors serve to exacerbate or protect against risk may vary according to the

individual and qualities of their environmental context (Stouthamer-Loeber, Loeber, Wei, Farrington, & Wikstrom, 2002; Wikstrom & Loeber, 2000).

Specific to the study of conduct problem progression, recent research has explored the importance of examining risk and protective factors in tandem. It is well established that youth with higher numbers of risk factors are more likely to engage in conduct problem behaviors (e.g., Bry, McKeon, & Pandina, 1982; Loeber & Farrington, 2000). While risk factors (such as low commitment to school, poor parental supervision, and peer attitudes that support antisocial behavior) have a long history of support for their role in predicting conduct problem outcomes, it is only recently that protective factors have been included in models predicting problematic trajectories, and have henceforth been identified as possible targets for intervention (Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002; Jessor, Van Den Bos, Venderryn, Costa, & Turbin, 1995; Masten & Coatsworth, 1998; Pollard, et al., 1999; Rutter, 1990). Mixed evidence has emerged regarding the comparable utility of risk and protective factors in predicting problematic outcomes such as conduct problems. While some have posited that the inclusion of protective factors adds significant variance to our understanding of the likelihood of problematic outcomes (Jimerson, Sharkey, Furlong, & O'Brien, 2004; Loeber & Farrington, 2000; McKnight & Loper, 2002; Stouthamer-Loeber et al., 2002), others have noted that the strength of protective factors alone in predicting conduct problem outcomes is considerably weaker than the strength of risk factors alone (Pollard et al., 1999; Stoiber & Good, 1998), questioning the manner and degree to which protective factors should be included in predictive models.

There is empirical evidence that risk and protective factors within four major domains of youth functioning that might play central roles in the persistence or desistance of conduct problems during early adolescence: academic/school problems; parenting and adult involvement;

peer relations; and identity development. In addition, characteristics of the neighborhood and community are also important predictors of conduct problem outcomes. The following sections discuss evidence regarding the impact of risk and protective factors within each of these separate domains; however, it is important to keep in mind that these risk and protective factors do not function independently, but likely influence each other in placing the individual at higher or lower levels of overall risk.

Academic and School Problems

Most American youth experience a dramatic shift in the school context during the early adolescent years. Specifically, they transition from elementary schools that are organized around self-contained classrooms with single teachers to middle or junior-high schools, where they change classes, interact with multiple teachers, and face heightened expectations for student responsibility accompanied by decreased adult support, and a larger, more fluid peer group (Brown & Klute, 2003; Eccles & Midgley, 1990). This school transition has been associated with a normative decrease in school-focused motivation, lower grades, and decreased perceptions of academic efficacy (Blyth, Simmons, & Carlton-Ford, 1983; Schulenberg, Asp, & Petersen, 1984), often attributed to a mismatch between the typical middle school's structural context and the developmental needs of the early adolescent (Eccles, Lord, & Roeser, 1996).

Generally, low academic achievement and motivation function as risk factors for a range of concurrent problem behaviors, such as substance use, delinquency, and early sexual activity (Hawkins et al., 1998; Ohannesian & Crockett, 1993), and for the persistence of conduct problems into late adolescence and adulthood (LeBlanc, Vallieres, & McDuff, 1993; Maguin & Loeber, 1996; Stouthamer-Loeber et al., 2002). This risk relationship between school disengagement and problem behavior increases during early adolescence, when grades and

school-focused motivation and efficacy normatively decrease. Decreases in academic engagement and performance place students at risk for the continuation of conduct problems due to a number of interacting factors, including increased association with other disengaged students and less time spent on positive, productive academic activities. When students begin to dislike school and disengage with academic activities, likelihood of truancy increases, leaving more unstructured, unsupervised time in which to engage in conduct problem behaviors (Hawkins et al., 1998). Poor grades represent a risk factor for future conduct problems, as do adolescents' self-reports of school disengagement and academic disinterest (Rankin, 1980).

In terms of protective factors, higher academic performance has been linked with lower rates of conduct problems (e.g., Maguin & Loeber, 1996). Separate from performance alone, positive views of the school environment and staff, a sense of bonding to one's school, perceptions of school-related efficacy, and the desire to attend college have also been identified as protective factors that indicate reduced risk for conduct problems (Catalano & Hawkins, 1996; Jenkins, 1997; McKnight & Loper, 2002; O'Donnell, Hawkins, & Abbott, 1995). Some have posited that this relationship between conduct problems and school bonding is stronger for African-American students and males (Hawkins, 2000). Incorporating both of these aspects of academic success (adequate performance and investment in schooling), remaining in school and obtaining a degree has been identified as a protective factor linked with reduced conduct problems; this is particularly true for Hispanic youth, who are at elevated risk for dropping out of school early (Chavez, Oetting, & Swaim, 1994).

Overall, there is substantial support for the influence of school-related risk and protective factors on the persistence or desistance of conduct problems during early adolescence. These

factors include academic performance (i.e., GPA) and youths' perceptions of investment in academic pursuits and their views of school as a supportive environment.

Peer Relations

Adolescence has been described as a critical period for increasing peer influence and involvement, particularly as many youth shift from using family values to using peer groups as a reference for guiding their social behavior and social decision-making (Brown & Klute, 2003; Capaldi & Shortt, 2003). When adolescents associate with a peer group characterized by antisocial beliefs and activities, this peer influence can act as a strong risk factor for the continuation of conduct problems (Lipsey & Derzon, 1999; Stouthamer-Loeber et al., 2002). While the influence of a deviant peer group is particularly strong for adolescents with a history of conduct problems (Elliott, Huizinga, & Ageton, 1985; Keenan, Loeber, Zhang, Stouthamer-Loeber, & Van Kammen, 1995; Vitaro, Tremblay, Kerr, Pagani, & Bukowski, 1997), deviant peers act as a risk factor for conduct problems even for youth without a significant history of problem behaviors (Coie et al., 1995; Thornberry, 1987). Not only do deviant peers influence each others' engagement in antisocial activities, but they also can discourage involvement in positive activities (such as extra-curricular groups or community groups) due to occupation of unstructured time with unproductive or maladaptive activities.

The relationship between deviant peer groups and conduct problems may be exacerbated by peer rejection (e.g., Coie & Dodge, 1988). Rejected youth, many of whom show significant levels of aggression, are excluded from normative peer interactions, and often turn to other rejected and aggressive peers for support, whether through lack of alternative social options or through active selection of similar peers (Scarr & McCartney, 1983). In addition, Dishion and colleagues (1996, 2004) propose a dynamic system of reinforcement called deviancy training

that occurs among antisocial boys and their friends in which talk about deviant topics is selectively reinforced through positive attention, leading to a pattern in which deviant peers encourage the persistence of conversations that promote tolerance of deviant behavior and attitudes. This finding highlights the influence of deviant peers not only on actual behaviors, but also in reinforcing the replacement of normative, appropriate peer interactions with deviant content and undermining the social controls of mainstream peer values.

Protective factors associated with peer relations and conduct problems include quality relationships with non-deviant, normative peers and involvement in positive activities to minimize unstructured time (e.g., Fergusson, Lynskey, & Horwood, 1996). In addition, there is evidence that children with early conduct problems who have fewer delinquent friends are more likely to improve over time in terms of the level and severity of their own conduct problem behaviors than those with more deviant friends (e.g., Lahey, Loeber, Burke, & Rathouz, 2002), likely due to the positive influence of more prosocial peers and a higher likelihood of engaging in positive, non-deviant activities.

It should be noted that much of the research regarding peer relations and conduct problems has been completed with males, due to the higher rates of aggressive behavior and corresponding likelihood of belonging to and comprising deviant peer groups. Girls who associate with deviant peer groups tend to be those who enter adolescence with early behavior problems, poor academic achievement and low school motivation, may suffer from depressed mood, and have gone through puberty early (Miller-Johnson et al., 1999). For these girls, affiliation with deviant peer groups occurs through association with older deviant male peers, and increases their risk of persistent conduct problems (Caspi, Lynam, Moffitt, & Silva, 1993).

Parenting and Adult Involvement

The role of parenting practices in the persistence or desistance of conduct problems has been solidly supported by many researchers (e.g., Patterson, 1982). Specifically, parenting behaviors such as low degrees of involvement and support, frequent parent-child conflict, inconsistent and harsh, punitive discipline, and low levels of supervision and monitoring have been highlighted as key risk factors in the progression of conduct problems (Chamberlain, Reid, Ray, Capaldi, & Fisher, 1997; Frick, 1994; Wasserman, Miller, Pinner, & Jaramillo, 1996). It should be recognized, as well, that the relationship between parenting behaviors and conduct problems is best understood as dynamic and reciprocal (e.g., Patterson et al., 1992). That is, a parent may be less likely to enforce rules or limits with an adolescent who has a history of defiance and rule-breaking, leading to a lower level of parental supervision and monitoring, which in turn allows for increased opportunities to engage in rule-breaking behaviors.

Poor parental monitoring (that is, a parent-adolescent relationship in which the parent has little awareness of the adolescent's friends, activities, and involvement in risky behaviors) has been highlighted as particularly influential in supporting engagement in conduct problem behaviors during adolescence (e.g., Dishion & McMahon, 1998). Given the normative shift in time spent with peers versus family during early adolescence (Csikszentmihalyi & Larson, 1984), it is understandable how the importance of appropriate monitoring becomes central when conceptualizing situations that would encourage the persistence or desistance of conduct problems during the transition to adolescence. Stattin & Kerr (2000) suggest that the concept of monitoring should be altered to include the means by which parents obtain information about their children's activities, rather than simply focusing on the presence of the information itself, and posit that it is more helpful to understand the importance of "monitoring" by incorporating concepts such as child disclosure and parent-child communication.

The importance of considering risk and protective factors in conjunction (rather than poor parenting practices alone) has been emphasized when examining the link between parenting behaviors and conduct problems (Frick, 1994). Favorable parenting behaviors and a positive parent-youth relationship have been found to serve as protective factors in adolescents at risk for conduct problems, and for disruptive behavior problems in general (Johnson & Pandina, 1991; McCord, 1991; O'Donnell, Hawkins, & Abbott, 1995; Stouthamer-Loeber et al., 2002). In particular, factors such as productive parent-adolescent communication and conflict resolution, joint problem-solving, and effective planning and collaboration have been identified as aspects of supportive family interactions during adolescence (CPPRG, 2004). In addition, in situations in which positive family interactions are made more difficult by complications such as parental psychopathology or criminal involvement, a positive and supportive relationship with an adult other than the parent (such as a member of the extended family, mentor, church elder, or coach) can serve as a protective factor against developing conduct problems as well (Estroff & Zimmer, 1994).

Overall, problematic parent-adolescent relationships, characterized by low levels of involvement, support, and productive communication, serve as risk factors for conduct problems. Conversely, the presence of a positive, supportive adult (whether parental or school/community-based) serves as a protective factor against the continuation of conduct problems.

Attitudes, Values, and Beliefs

During adolescence, normative changes occur in individuals' self-definition and belief systems. To some extent, these changes reflect shifts in the reference group, with an increasing attention to peers (rather than family) for standard-setting in areas of appearance and social behavior. To some extent, the changes reflect shifts in the cognitive capacity of adolescents, and

in their increasing exposure to broader contexts and alternative viewpoints. Often, adolescents show a heightened tendency for impulsive and reckless behaviors that are novel, exciting, and sometimes risky and rule-breaking. In addition, adolescents show increasing complexity in their sense of self (in terms of present conceptualization and future goals), and ethnic identity beliefs (French, Seidman, Allen, & Aber, 2006; Markus & Nuriyas, 1986).

A number of attitudes and beliefs have been identified as placing youth at risk for conduct problems, including behavioral impulsivity and reactivity in social situations (Tremblay et al., 1994; White et al., 1994); high tolerance for and glorification of deviant behaviors and violent subjects (Wills & Filer, 1996); sensation-seeking tendencies, such as an affinity for high-risk and stimulating activities (Newcomb & McGee, 1991); and having reactive, negative attributions about others in social situations (Lochman, Wayland, & White, 1993). In addition, normative beliefs about antisocial behavior (i.e., personal standards about the acceptability and appropriateness of aggression and other delinquent acts) are strongly associated with an individual's tendency to display conduct problem behaviors, particularly during adolescence (Henry et al., 2000; Huesmann & Guerra, 1997; Werner & Nixon, 2005). Dynamic interaction may arise between these factors to support the continuation of conduct problems. For example, deviant peer group affiliation may promote antisocial attitudes and an increasing tolerance for and glorification of deviant attitudes and behaviors.

Conversely, researchers have suggested that other attitudes and beliefs serve a protective influence, reducing conduct problems, including having a positive sense of self and a sense of control over life occurrences and the environment (Luthar & Zigler, 1991) and having positive, hopeful images of possible future selves (Marcus & Nuriyas, 1986). These protective factors influence youth to consider their current behavior and decisions in terms of future goals, and

make it more likely they will work towards positive, adaptive career and life pathways. For minority adolescents, having a positive ethnic identity protects against the progressive increase of conduct problems and deviant behavior (French et al., 2006; Woods, 2005), facilitated through identification with same-race, positive role models and mentors.

Neighborhood and Community Risk.

Finally, the risk for conduct problems associated with living in a disadvantaged, disorganized, and high-crime neighborhood has been well documented (e.g., Loeber & Farrington, 2000). The influence of neighborhood crime and disorganization on conduct problems is theorized to occur when community members demonstrate a tolerance of deviant behavior and delinquent acts, and when community violence evokes self-protective and hostile antisocial behavior. This may occur through modeling of deviant behavior by community members, as well as a lack of positive role models within the neighborhood, and lack of available community resources or activity centers to divert youth from engaging in unstructured activities with deviant peers.

However, researchers have suggested that the impact of neighborhood risk is dependent on a number of factors: not all individuals who live in unsafe, poverty-ridden neighborhoods go on to have conduct problems (Wikstrom & Loeber, 2000). Rather, it has been posited that it is the interaction of various intrapersonal factors (such as intelligence and impulsivity) and neighborhood safety and influences that place youth at risk for conduct problems. For example, the influence of impulsivity on the continuation of conduct problems has been found to be dependent upon neighborhood safety and crime, such that high levels of impulsivity have been linked to conduct problems primarily when the individual lives in a high-risk neighborhood (Lynam et al., 2000).

Summary of Risk and Protective Factors

In summary, a variety of intrapersonal, family, peer, school, and contextual influences may function as risk or protective factors to enhance or attenuate the progression of conduct problems during early adolescence. The domains of risk and protective functioning identified as particularly important during this time period are not understood to function separately; rather, it is the interaction between individual risk and protective factors in separate domains that may affect the likelihood that an aggressive child will continue to display conduct problems throughout adolescence and into adulthood (Burke, Loeber, & Birmaher, 2002; Loeber & Farrington, 2000). More importantly, identification of the specific aspects of risk or strength that affect a youth's vulnerability for adolescent aggression may inform intervention. Theoretically, reduction of conduct problems can be more successfully attained by intervening preventatively to reduce risks and promote protective factors (Burke et al., 2002; Herrenkohl et al., 2003). By comprehensively assessing the particular patterns of risk and protection at work for individual adolescents, we can hope to better intervene before conduct problems become chronic and severe, and to tailor preventive efforts to foster the attenuation of conduct problems in adolescence among those children most at-risk for long-term maladaptive pathways.

There are a number of questions yet unanswered regarding the ways in which risk and protective factors interact to influence the likelihood that a youth's conduct problems will persist and/or escalate in adolescence. It has been consistently found that higher numbers of risk factors are associated with higher likelihoods of problematic outcomes (e.g., Jessor & Jessor, 1977; Rutter, 1979; Sameroff et al., 1998), while protective factors are thought to operate in an interactive manner, mainly through their influence on the impact of risk factors on the outcome of interest (Pollard et al., 1999; Stouthamer-Loeber et al., 2002). However, this area of research

is still in progress, and the specific ways in which risk and protective factors interact and exert their influences over possible outcomes are still under examination. Specifically, it is not yet clear whether the combined influence of these risk and protective factors is best understood as additive, where increased numbers of risk factors leads to increased chances of persistent conduct problems (e.g., Sameroff et al., 1998) or, rather, whether it is the aggregation of risk and protective factors in certain areas leading to significant impairment in particular domains of functioning such as academic functioning or peer relations that results in the persistence or attenuation of conduct problem behaviors in adolescence (e.g., Pollard et al., 1999). By clarifying the specific nature of the interaction between an adolescent's particular grouping of risk and protective factors, we can better identify those youths who are most at risk for persistent conduct problems at the transition to adolescence.

In addition to establishing the predictive power of various combinations of risk and protective factors, the capacity to incorporate this information into preventive intervention design requires an effective and pragmatic method for ongoing assessment. I will next discuss research that evaluates the validity and utility of clinical assessment strategies, and consider evidence regarding the strengths and weaknesses of each method.

Methods of assessing risk and protective factors for conduct problems

There is no standard, empirically-validated method for collecting information about risk and protective factors that impact the persistence of conduct problems during the transition into adolescence (Loeber, 1990). While research has highlighted specific areas of functioning that are of particular importance, the ways in which we can best conceptualize and organize this information for particular youth have not yet been clarified. In the next sections, methods of collecting and synthesizing measures of an individual's profile of risk and protective factors will

be discussed, with the goal of identifying a methodology that is both reliable and useful clinically for the purpose of individualized preventive intervention planning.

Research-Based Methods

There is substantial evidence supporting the predictive utility of research-based methods assessing conduct problems and concurrent youth and family characteristics (see McMahon & Frick, 2005, for a thorough review of empirically-based assessment methodologies in this area). Research-based judgments about behavior (i.e., information about behavior collected and interpreted using empirically-supported measures) often have better predictive validity when compared with other, less structured methodologies such as global clinical judgments (e.g., Dawes, Faust, & Meehl, 1989; Grove & Meehl, 2003). Contrary to the lack of replicability encountered with unstructured methodologies such as global clinical judgments, a clear strength of research-based methods is their unequivocal structure, which fosters systematic and reliable scoring and interpretation of scores. However, most research-based assessments were designed to evaluate and predict outcomes at the group level, and their utility for individualized intervention planning is questionable. Critics of research-based assessments emphasize the danger of over-reliance on research-based scores in clinical evaluations, as these measures focus only on a limited set of pre-conceived risk and protective factors and do not allow for a more nuanced and individualized representation of a particular youth's situation and functioning (Berlin, Galbreath, Geary, & McGlone, 2003; Dvoskin & Heilbrun, 2001; Hart, 2003). In addition, most research-based methodologies provide little information regarding conceptualization of causal and contributing factors, despite their considerable utility for examining levels of specific behaviors and symptoms (Enebrink, Langstrom, & Gumpert, 2006). Given the common suggestion that clinical decision-making regarding conduct problem

behaviors should take incorporate areas of current risk and need for future attention into account (e.g., Loeber & Farrington, 2000; Stouthamer-Loeber et al., 2002), most research-based methods for assessment of conduct problem behaviors do not fully capture the range of information needed to accurately conceptualize individuals with or at risk for conduct problems. Finally, even when using research-based methodologies to assess conduct problems (particularly during adolescence), clinicians are often required to synthesize or interpret varying reports of the same individual's behavior; given the low levels of agreement among multiple reporters of behavior (Achenbach, McConaughy, & Howell, 1987), it is very common for clinicians to be met with the task of clarifying contradicting information, which eventually requires a departure from dependence on research-based methods alone.

Clinical Judgment Methodologies

An alternate form of clinical decision-making that could be used in the assessment of risk and protective factors for conduct problems involves the use of clinical judgment methodologies. The use of clinical judgment in assessing and conceptualizing behavior has a long and complicated history within the field of clinical psychology (see Garb, 1998, for an extensive review of this literature). While we will not attempt to rapidly summarize the entire body of literature on clinical judgment within this writing, it is helpful to discuss various strengths and weaknesses of the use of clinical judgments of behavior and overall functioning, as well as conditions under which clinical judgment has been found to be most reliable and most clinically useful. In this methodology, the clinician is the sole decision-maker regarding the processing and synthesizing of clinical information (e.g., Dawes, Faust & Meehl, 1989). Overall, there are a number of benefits that clinical judgment provides, such as increased flexibility and attention to each client's individual needs, and consideration of clinical issues that might fall

outside of the scope of typical research-based methods, in which targeted behaviors have been identified by the creators of the particular assessment or treatment-planning tool. On the other hand, clinical judgment lends itself to a number of weaknesses, primarily the vulnerability to clinician bias and difficult replicability in research settings, both of which increase the difficulty of accurately assessing the effectiveness of clinical judgment techniques (Garb, 2005; Dawes et al., 1989; Rock, Bransford, & Maisto, 1987). While recent efforts have been made to preserve the positive features of clinical judgment while improving upon its reliability and validity, significant research is needed to operationalize and empirically validate this methodology for use in clinical populations.

Specifically, given the mixed findings regarding the reliability and validity of unstructured clinical judgments, researchers have explored conditions that may improve the utility of these judgments. A review of the literature suggests that clinical judgments are more reliable and valid when quantified using psychometrically sound methods, such as in Dutra, Campbell, & Westen's (2004) study examining clinicians' reports of their adolescent clients' behavior using the Child Behavior Checklist. Dutra and colleagues found that clinicians could reliably and validly rate their clients' behavior; however, in this study, only information from the clinician was used to validate their reports using the CBCL, which may have led to higher levels of concurrent validity. Similarly, Bierman and colleagues (2006) found that clinical judgments were more reliable and valid when clinical staff in a longitudinal intervention program were asked to rate specific behaviors and characteristics, as opposed to when they were asked to rate global functioning. In contrast, Hay and colleagues (1979) found low levels of reliability in clinical judgments of problem areas when no specific structured methodology was provided to clinicians; while clinicians in this study were able to reliably identify the number of problem

areas present, they were less reliable in terms of their agreement on the specific types of problems occurring.

Clinical judgments have also been found to be more reliable and valid when formal decision aids (such as algorithms for synthesizing information, diagnostic criteria, normative information, and base rates of behavior) are used, as opposed to when unstructured information-gathering techniques are relied upon. For example, Fallon and colleagues (2006) examined the reliability of a structured clinical judgment instrument used to guide level-of-care decisions used in conjunction with an algorithm for making treatment selections, and found acceptable levels of inter-rater reliability ranging from .057-0.93. In an analog study of cases based on actual clients for whom no specific decision-making algorithm was provided, Bickman and colleagues (1997) found generally low levels of reliability among clinicians in terms of rating recommended level of care. While there was adequate concurrent validity with the actual services being received by the clients on whom the cases were based, there was a tendency for clinicians to recommend lower levels of care than were truly being received by the clients. These findings are consistent with the literature regarding clinical judgment in diagnosis and assessment, which suggest that clinical judgments aided by structured methods are more reliable and valid than unstructured methods. For example, clinicians' use of a structured interview methodology in combination with a review of medical records was more accurate in terms of assigning diagnoses than use of either structured interview or unstructured clinical assessments alone (Basco et al., 2000).

In addition, qualities of the particular information being gathered and the intended use of the clinical information being gathered both affect the utility of clinical judgment. For instance, higher levels of agreement between clinician judgment and research-based methods has been found for externalizing behaviors (such as hyperactivity and impulsivity) as compared to

internalizing behaviors and inattention, suggesting that clinical judgment may be more or less valid according to the salience and disruptiveness of the client's problems (Edwards et al., 2005; Jensen & Weisz, 2002). The function of the particular clinical information also affects its utility, as seen in Bierman et al. (2006): clinical ratings regarding specific areas of difficulty were more reliable and valid than global judgments about need for treatment. This is consistent with findings about clinical judgment in diagnosis and assessment of behavior, which suggests that clinicians can validly and reliably report on the presence of behavior through clinical ratings (particularly when using a psychometrically-sound instrument for guidance), but are less able to provide reliable global judgments about overall functioning (Dutra et al., 2004). The amount of information available to clinicians has not been found to influence validity of clinical judgment, although it has been found to increase clinicians' confidence in their judgments (Oskamp, 1962; Rock et al., 1987). In other words, clinicians are more confident in their decisions when they have access to more information, but this is not reflected in increased accuracy of their judgments. Overall, while the quantity of clinical information may not affect the reliability and validity of judgments, other facets of clinical information and the clinical processes for which it is used can influence the degree of its utility.

Given the respective strengths and weaknesses of unstructured clinical judgment and research-based methods in assessing risk and protective factors for conduct problems, efforts have recently been made to utilize a more structured form of clinical rating assessment methodologies (Borum, 2000; Douglas et al., 2005; Doyle et al., 2002; Malone et al., 1995). Also known as structured professional judgments (e.g., Douglas & Kropp, 2002) or structured clinical judgments (Hart, 1998), this group of instruments utilizes a set of criteria or items similar to those provided in research-based methods, such as a list of empirically-derived risk or protective

factors thought to influence the progression of future conduct problems. However, structured clinical ratings often do not utilize specific norms, score cutoffs, or algorithms to interpret the information gathered, and instead utilize a set of guidelines provided to assist the clinician in reliably and consistently conceptualizing an individual's level of risk or need. Structured clinical ratings, therefore, utilize empirically-informed criteria, similar to research-based instruments, but also allow for the clinician to incorporate or consider other factors not included in the instrument's set of pre-determined criteria, allowing for more flexibility and individualized conceptualization of cases across various contexts (Vincent & Grisso, 2005; Borum, 1996).

Attempts to address this area of need emerged initially out of the criminal justice field, including the development of instruments such as the Early Assessment Risk List for Boys (EARL-20B; Augimeri, Goldberg, & Koegl, 1999), the Structured Assessment of Violence Risk in Youth (SAVRY; Bartel, Borum, & Forth, 1999), and the Santa Barbara Assets and Risks Assessment (SB ARA; O'Brien, Jimerson, Sharkey, & Furlong, 2001). The EARL-20B is an empirically based screening instrument used to "red flag" certain domains of a child and family's lives as in need of attention. This instrument was designed for use with children under 12, and utilizes risk factors specific to childhood conduct problems (family factors, child factors, and amenability to treatment). Scores include a total score (the sum of risk factors endorsed) as well as a global judgment of overall risk (rated low, medium, or high). Excellent inter-rater reliability has been found for the total score of the EARL-20B, with an intra-class correlation coefficient of .92, with acceptable (.49-.62) levels of inter-rater reliability found for the global judgment of risk (Augimeri, Koegl, Levene, & Webster, 2005; Enebrink, Langstrom, Hulten, & Gumpert, 2006). The EARL-20B total score accounted for between 3-10% of the variance in parent and teacher-reported conduct problems at 30-month follow-up, above and beyond a baseline diagnosis of

conduct disorder, while global judgments of short-term and long-term risk for antisocial behavior accounted for an additional 8-15% and 6-10% of the variance in conduct problems, respectively (Enebrink, Langstrom, & Gumpert, 2006). The SAVRY was adapted from adult violence risk assessment tools to assess risk and protective factors for future violence in an adolescent sample of juvenile offenders, including historical (i.e., early initiation of violence and school problems), clinical (i.e., impulsivity and hostile attribution bias), and contextual factors (i.e., negative peer relation and neighborhood crime). Inter-rater reliability of the SAVRY Total Risk Score (a summed score of the total number of risks identified) was .97, while inter-rater reliability of the Summary Risk Rating (a global judgment of overall risk for future violence) was .95 (Meyers & Schmidt, 2008). In terms of predictive validity, the SAVRY Total Risk Score explained 27% of the variance in overall recidivism and 31% of the variance in violent recidivism, when entered first in a hierarchical logistic regression (Welsh et al., 2008). The SB ARA is a semi-structured interview conducted with adolescents and their family members, after which the clinician rates the youth on a variety of indicators across multiple domains, which include family risks and characteristics, individual substance use and criminality, peer and school factors, and history of trauma. The SB ARA was designed for use with a population of first-time juvenile offenders, and uses youth re-offense as its targeted outcome for prediction. The SB ARA has been found to have adequate inter-rater reliability (e.g., intra-class correlations above .85) and concurrent validity with other measures of recidivism (e.g., correlations between .40 and .72). In terms of predictive validity, the set of factors captured within the SB ARA was found to explain 43% of the variance in recidivism after 12 months for females, and 30% of the variance in recidivism after 12 months for males (Jimerson, Sharkey, Furlong, & O'Brien, 2004). Despite varying types of scoring procedures and outcome variables, all of these structured clinical judgment

methodologies show early support for inter-rater reliability and for predictive validity of recidivism, violence, or aggression and conduct problem behaviors.

With the exception of the EARL-20B, the majority of assessment tools in this area focus primarily on predicting violence or delinquency, rather than predicting the persistence of the range of conduct problems (which includes violence and delinquency but also incorporates defiant and oppositional behavior and other behaviors that do not immediately result in criminal consequences). Inclusion of other conduct problem behaviors allows for assessment tools to be more useful for larger, broader populations of individuals at risk for conduct problems, including those whose behaviors never reach the level of criminal involvement but still have a significant impact on their quality of life; this is particularly important for assessment of girls at risk for conduct problems, who are less likely to engage in violent behavior and more likely to engage in other forms of aggression and rule-breaking behavior (Moffitt et al., 2003).

One of the strengths of structured clinical judgment lies in the ability to easily assess risk and protective factors across multiple domains of functioning. Assessing multiple domains of functioning may be particularly important during early adolescence, due to the specific transitions and challenges that characterize that developmental period. Early adolescence is a point of development during which youth become more involved in a variety of contextual domains (i.e., more than one classroom setting, multiple peer groups, increased autonomy and exposure to community settings), making it more difficult to gather and synthesize information from all involved adults and peers. Overall, when considering the task of assessing risk and protective factors for conduct problems during early adolescence, the methodology of structured clinical judgments allows for more flexibility than research-based methods, while providing more standardization and guidance than traditional clinical judgment methods. As the field of

structured clinical judgments is still relatively new, reliability and validity estimates are still emerging; however, early findings are promising.

Summary

In conclusion, three key issues have central relevance to the challenge of preventing adolescent conduct problems among children at high-risk due to childhood onset of aggression: 1) early adolescence is a critical period for the persistence (and escalation) or desistance/stabilization of conduct problems; 2) consideration of the constellation of risk and protective factors at work during early adolescence may aid us in our attempts to understand which aggressive children are most likely to persist and escalate their antisocial behavior in early adolescence and, correspondingly, may serve as strategic targets for prevention efforts; and, 3) while there is no set method for collecting information about risk and protective factors during early adolescence, structured clinical judgments (based upon both research-based and clinical judgment methodologies) may offer a practical and promising strategy for individualized assessment to guide prevention planning. Given these key points, we are left with two major questions. The first is whether risk and protective factors predict change in conduct problems over the transition to adolescence in the expected ways among a sample of children who exhibited early-starting aggression. Confirmation of the hypothesized influence of these factors on conduct problem persistence or desistance during this age period for this vulnerable population would support the use of risk and protective factors in the design of preventive interventions. The second question is whether clinical staff can reliably and validly provide assessments of these risk and protective factors, in order to guide prevention program design. While research-based methodologies are well established as more reliable and valid than clinical judgment, it is unknown whether clinician reports in the form of structured clinical judgments

(either behavior-based clinical ratings or global judgments) can provide a comparably reliable and valid assessment of risk and protective factors for early adolescents. In addition, it is unknown whether these additional reports could contribute explained variance to what has already been predicted by research-based measures completed by other informants, such as parents, teacher, or youths themselves.

The Present Study

Given the literature detailing the specific challenge of early adolescence for all youth, and in particular the specific influences that may affect youth with a childhood history of conduct problems, the task of identifying and assessing not only existing problem behaviors but also the likelihood of engaging in future problem behaviors becomes clearly important. However, considering the heterogeneity of developmental trajectories for conduct problems and the multiple causal influences at play in the continuation of these problem behaviors, our field is not yet able to predict which individuals are at risk for continuing along the pathway to persistent conduct problem behaviors and escalation antisocial activity, and which individuals are more likely to show stable low-grade conduct problems or to desist from conduct problems. Significant research exists supporting the influence of a variety of risk and protective factors on the persistence and desistance of conduct problems throughout the life span, and has identified a number of domains that have strong influences on conduct problem development during adolescence in particular. Considering the normative rise in conduct problem symptomatology during adolescence, it is appropriate to focus on the transition to adolescence as a target point for identifying specific factors that will encourage or discourage the continuation of conduct problems beginning during childhood.

The first specific aim of this study was to examine a theoretical model for predicting change in conduct problems at the transition to adolescence, based upon consideration of risk and protective factors in four domains of functioning identified as playing a key role in the progression of conduct problems during this developmental period. I examined a set of factors (assessed using research-based parent, teacher, and youth self reports) that were hypothesized to predict change in the number of conduct problem symptoms from late childhood to middle adolescence. Specifically, I examined a set of risk and protective factors (identified as centrally important in the prediction of conduct problems by the Fast Track Project's developmental model) to determine whether intra-personal, family, peer, school, and contextual factors assessed during early adolescence predicted change in conduct problem symptoms from late childhood (6th grade) to middle adolescence (9th grade). Given research suggesting that early adolescence represents a period of critical developmental transition, I hypothesized that consideration of risk and protective factors during early adolescence will significantly contribute to the prediction of change in the number of conduct problem symptoms during early adolescence (i.e., between 6th grade and 9th grade), above and beyond predictions based simply upon the number of conduct problems evident in late childhood.

The second specific aim of this study was to examine the reliability and concurrent validity of two types of judgment-based clinician report methods for assessing risk and protective factors. These clinical judgments were collected using a criterion-based assessment measure designed to provide on-going information about individual youth adjustment for the purpose of preventive intervention planning (e.g., the Triannual Assessment from the FAST Track Project, a longitudinal intervention program). On this measure, clinical staff provided clinical ratings of the presence of individual risk and protective factors. They also provided

global judgments regarding the level of impairment in each of four domains of functioning. In order to examine the clinical utility of the Triannual Assessment procedure, I examined inter-rater reliability for both types of clinician report (clinical ratings and global judgments) and assessed concurrent validity by comparing them with the research-based measures tapping the same domains. Based on knowledge regarding the improved reliability and validity of structured judgments as compared with more global judgments, I hypothesized that the clinical ratings would show higher levels of inter-rater reliability and concurrent validity than the clinician's global judgments of risk.

The third aim of the study was to evaluate the predictive validity of these clinician ratings and judgments, first alone and then in conjunction with the research-based measures of risk and protective factors. That is, I examined the degree to which the clinical ratings and judgments, in comparison with the set of research-based measures, predicted the outcome of change in conduct problem symptoms across the transition to adolescence (between grade 6 and grade 9). Given the previous findings of their improved reliability and validity, I hypothesized that clinical ratings would contribute additional variance to the prediction of conduct problems symptoms in adolescence, but that global judgments would not add variance above and beyond what was predicted by demographic variables and grade 6 conduct problems. Finally, I conducted exploratory analyses to determine whether the clinical ratings added incremental validity to predicting change in conduct problems, above and beyond the prediction based upon research-based parent, teacher, and youth reports.

Chapter 2. RESEARCH DESIGN AND MEASURES

Design Overview

Data used for this study were collected as part of a multi-site longitudinal study of children at risk for continued conduct problems. The Fast Track Project began in 1990, and has followed three cohorts of subjects since kindergarten. Data were collected from these children and their families for the next 12 years (from kindergarten through twelfth grade). Participants in the study were recruited equally from four areas of the country: 1) Durham, North Carolina (a small city with a primarily African-American school population); 2) Nashville, Tennessee (a moderate-sized city with an African-American and European-American population); 3) Seattle, Washington (a moderate-sized city with an ethnically diverse population); and 4) central Pennsylvania (a rural area with a primarily European-American population).

Participants

Subject recruitment for the Fast Track Project began with the selection of target schools in all four sites, identified as high-risk based on crime and poverty statistics of the neighborhoods served. Within each geographic location, schools were divided into one or two sets matched for demographics (size, percentage free or reduced lunch, ethnic composition), and the sets were randomly assigned to intervention and control conditions. Using a multiple-gating screening procedure that combined teacher and parent ratings of disruptive behavior, all kindergarteners in three cohorts (1991-1993) in the matched schools were screened for classroom conduct problems using teacher reports. Those children scoring in the top 40% within each cohort and site were then solicited for the next stage of screening for home behavior problems by the parents (91% of parents completed this screening stage). Teacher and parent screening scores were then standardized and combined into a sum score, based on screening of a representative sample of approximately 100 children within each site (who also comprised the normative comparison

sample, not used in this study) and then summed to yield a total severity-of-risk screen score. Children were selected for inclusion into the study based on this screen score, moving from the highest score downward until desired sample sizes were reached within sites, cohorts, and conditions. Deviations were made when a child failed to matriculate in the first grade at a core school ($n=59$) or refused to participate ($n=75$), or to accommodate a rule that no child would be the only girl in an intervention group. Ninety-five percent of the selected sample scored in the top 20% on both parent and teacher screening measures. These levels of problems were defined relative to other children in the high-risk schools. On the kindergarten teacher reports (using the Teacher's Report Form of the Child Behavior Checklist (TRF; Achenbach, 1991), which provides national norms, the average Externalizing T-score (available for 88% of the high-risk sample) was 66.4, and 76% of those children scored in the clinical range (i.e., T-scores of 60 or higher). For the final overall study sample, 445 children participated in the intervention condition, and 446 children participated in the control condition. (For a detailed review of the Fast Track intervention model, see CPPRG, 1992).

For the first portion of this study (examination of the predictive model), data was examined from the high-risk control sample only ($N=446$). For the second portion of this study (exploration of clinical ratings from the Triannual Assessment as compared to research-based information), data was examined from the intervention sample only ($N=445$), as they were the sole recipients of the Triannual Assessment procedure.

Table 1 contains demographic information for the high-risk control and intervention groups from the overall sample. Approximately $\frac{1}{4}$ of the sample lived in each geographic location. The sample was approximately 53% African-American, 45% Caucasian, and 2% Hispanic, Native-American, Asian, and other ethnicities.

Table 1. Frequencies for gender and race across site for high-risk youth (control and intervention groups).

	Site							
	Durham (n=219)		Nashville (n =230)		Central PA (n =225)		Washington (n =217)	
	Male	Female	Male	Female	Male	Female	Male	Female
High-Risk Control								
African-American	75	27	39	26	1	2	29	17
Caucasian	4	3	33	18	70	39	36	15
Hispanic	0	0	0	0	0	0	5	2
Other ^a	0	0	0	0	0	0	4	1
Intervention								
African-American	82	19	64	19	2	1	31	18
Caucasian	6	2	22	9	76	34	30	19
Hispanic	1	0	0	0	0	0	1	0
Other	0	0	0	0	0	0	7	2

^a Includes Asian (n=1), Native American (n=3), biracial or multiracial and unidentified (n=10)

Measures and Procedures

Covariates

Along with demographic factors (e.g., race, gender, and geographic location), a number of contextual and intra-individual factors known to influence risk for conduct problems were controlled for in this study. These factors included early risk factors assessed at school entry (early conduct problems, attention problems, and cognitive ability), contextual risk factors assessed during middle school (parental psychopathology, single-parent status, and household socioeconomic status), and neighborhood risk factors (overall safety and the youth's reported exposure to violence).

Early risk covariates. To capture early risk factors for conduct problems, three measures collected at school entry were utilized (kindergarten and 1st grade). Aggressive-disruptive behaviors and attention problems were assessed with the Authority Acceptance and Cognitive Concentration subscales of the Teacher Observation of Classroom Adaptation - Revised (TOCA-R, Werthamer-Larsson, Kellam, & Wheeler, 1991). On these scales, teachers were asked to assess how well each behavioral descriptor (such as "Concentrates", "Yells at others", and "Disobedient") was true for a target child. Responses were coded on a six-point scale, with a score of 0 indicating "Almost Never" and a score of 5 indicating "Almost Always". Some items were reverse scored, such that higher scores on these two scales indicated higher levels of problematic behavior. For the Cognitive Concentration subscale, the internal reliability alpha for the high-risk control sample was 0.93. For the Authority Acceptance subscale, the internal reliability alpha was 0.91. The third measure of early risk was an estimate of IQ, based upon the Vocabulary and Block Design subtests of the WISC-R (Wechsler, 1974), assessed at kindergarten and 1st grade. This estimate was used to capture overall cognitive ability, which

has been routinely identified as a risk factor for conduct problems as well as a protective factor for youth already at high risk for antisocial behavior (Kandel et al., 1988).

Proximal risk covariates. To assess contextual risk factors during the middle school years, three variables were included as covariates: parental psychopathology, single-parent household status, and socioeconomic status (SES). The presence of parental psychopathology was endorsed if the primary caregiver reported that either parent had a lifetime history of depression, alcohol/substance abuse, or arrest. Single-parent household status was endorsed if the youth's caretaker reported being the only parent living with the child at the time of the assessment. Parental psychopathology and single-parent household status were calculated as dichotomous variables, with "0" indicating the lack of presence of the risk factor, and "1" indicating the presence of the risk factor. Socioeconomic status (SES) was captured using a continuous code, based on Hollingshead's coding system (Hollingshead, 1976); using this system, lower scores indicate lower education levels and lower occupation status, while higher scores indicate higher education levels and higher occupation status.

Neighborhood and community risk covariates. The *Neighborhood Questionnaire* is a 16-item measure that assessed the parent's perceptions of their neighborhood (CPPRG, 1991). The Neighborhood Safety subscale was used in this study, which includes 16 questions such as "How satisfied are you with the police presence around here?" and "How much of a problem is the selling and using of drugs around here?" as well as other queries about frequency of illegal activities. Responses were scored on four-point or five-point scales, with higher scores indicating higher levels of neighborhood safety (some items were reverse scored). The internal reliability alpha for the high-risk control sample was 0.76.

In addition, youth were asked to report on the frequency and location of their exposure to violence using a self-report measure adapted for use in the Fast Track Project, called *My Exposure to Violence* (Buka et al., 1996). Adolescents were asked to reflect on their exposure to five types of violent events, which included beatings, attacks with a weapon, gun shootings, accidents or other events resulting in death/serious injury, and threats of serious injury, and were asked to provide a dichotomous “yes” (score=1) or “no” (score=0) response. They were also asked to report their own involvement in these events as a victim, with the same response options. The total score was used in this study, which represents the sum of all reports of witnessing violence and being victimized. The internal reliability alpha for the high-risk sample was 0.90.

Outcome Measures

Conduct problems were measured using the *Diagnostic Interview Schedule for Children, Child and Parent Reports (DISC)*, a structured clinical interview designed for use by lay interviewers (Shaffer & Fisher, 1997a; Shaffer & Fisher, 1997b). The DISC was administered by interviewers who were blind to the treatment group of each subject, using a computerized administration method during yearly home visits for all participants. To compute the central outcome variable for this study (change in conduct problems from late childhood to adolescence), we used the number of conduct problem symptoms endorsed within the Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) modules, from both parent report and youth self reports at years 7 and 10 (when youth were in grades 6 and 9). Symptom counts from parent and youth reports at each year were combined using an “either/or” rule, meaning that a symptom was counted if either the parent or child endorsed it (e.g., Bird, Gould, & Staghezza, 1992). Therefore, the total number of symptoms that could be endorsed at either

time point for each child was 23 (8 for Oppositional Defiant Disorder and 15 for Conduct Disorder).

Early Adolescent Risk and Protective Factors

These measures were primarily collected during year 8 of the study (when youth were in seventh grade), in order to assess risk and protective factors in early adolescence (following the initial transition to middle school). For one measure (Grade Point Average from school records), information was collected across 7th and 8th grades. Measures were selected in terms of their alignment with the four domains assessed and considered by Youth Coordinators during the Triannual Assessment procedure, which were based upon key domains in the progression of conduct problems previously described in the Fast Track developmental model.

Risk and protection in the domain of academic achievement and orientation. Youth *Grade Point Average (GPA)* served as a research-based indicator of academic achievement, based upon information drawn from school records. GPA was calculated by obtaining an average of grades from mathematics, Reading, Social Studies, and Science classes during the 7th and 8th grade years. As with traditional GPA measurement, values ranged from .00 (for youth who failed all classes across both years) to 4.00 (for youth who scored “A” in all four courses across both years).

In order to assess youth perceptions of their academic orientation and school environment, youth were asked to complete a 20-item scale regarding describing their school experiences during the previous school year (CPPRG, 1997a). The General Aspects/School and Teachers subscales were used in this study, which included items such as “I had a good year at school”, “Teachers do not care about kids” (which was reverse-coded), “Kids will succeed at my school”, and “School is fun”. Responses ranged from 1 to 5, with a score of 1 indicating “Never

true” and a score of 5 indicating “Always true”. Higher scores on this subscale indicated more positive school perceptions, whereas lower scores reflected poorer school perceptions and experiences. The internal reliability alpha for this subscale was 0.60 for the high-risk control sample.

A concurrent measure of the parent’s report of their child’s school experiences was also gathered (CPPRG, 1997b). This 18-item scale queried parents on the school experiences of their child during the previous year, including academic performance, disciplinary problems, and interactions with staff and other students. For this study, we used the total score, which included academic, peer, and general school-related concerns, and included items such as “This school year was difficult for my child” (reverse scored), “My child did not do well in academics” (reverse scored), and “My child stayed out of trouble”. Response choices range from 1 to 5, with a score of 1 indicating “Strongly disagree” and a score of 5 indicating “Strongly agree.” Higher scores on this subscale indicated more positive school adjustment, whereas lower scores reflected poorer school adjustment. The internal reliability alpha for this scale was 0.91 for the intervention sample and 0.68 for the high-risk control sample.

Risk and protection in the domain of peer relations. In order to assess peer deviance, each parent was asked to complete a 10-item measure describing the behaviors of their child’s three best friends, the *Parent Report on Child’s Close Friends* (CPPRG, 1990). For each friend, the parent was asked three questions: “Does this friend get into trouble with teachers, the police, or other adults?”, “Does this friend do things you disapprove of?”, and “Are you concerned about the negative influence this friend has on your child?” These questions were scored using a scale from 1 to 4, with 1 indicating “Not at all” and 4 indicating “Very much”. The final question of this measure asks parents, “How much does your son/daughter hang around with kids who get

into trouble?” This final question was scored using a scale from 1 to 5, with a score of 1 indicating “Never” and a score of 5 indicating “All the time”. For this study, we used the Total Parental Concern scale, which included all ten questions, with the final item rescaled to match the other items. A high score indicated greater levels of parental concern about their child’s peers, whereas a lower score indicated less concern about their child’s peers. The internal reliability alpha for this subscale was 0.86 for the high-risk control sample.

In order to assess youths’ conceptualizations of their social networks, youths were asked to complete an 84-item measure about characteristics of their three best friends, the *Self Report of Close Friends-Revised*. A set of 28 questions was asked about each identified best friend (CPPRG, 1999). We used the Total Deviant Activity subscale from this measure to assess the youth’s self-reports of their involvement in problem behaviors with each of their three best friends. Items from this subscale included “Have the two of you ever done things that might have gotten you into trouble with the police?”, “Have the two of you ever been around alcohol or drugs together?”, and “Do your parents approve of this person?” Responses ranged from 1 to 4, with 1 indicating “Very much” and 4 indicating “Not at all” Some items were reverse-scored so that higher scores on individual items indicated greater levels of maladaptive behavior. A higher score on this measure indicated a greater level of peer deviance, whereas a lower score indicated a lower level of peer deviance. The internal reliability alpha for this subscale for the high-risk control sample was 0.94.

Questions from the *National Longitudinal Study of Adolescent Health* (Resnick, Bearman, Blum, et al., 1997) were used to assess smoking and substance use (*Tobacco, Alcohol & Drugs – TAD*). Initiation of tobacco use was determined by an affirmative response to either of two questions: Whether the youth had ever tried cigarette smoking (even one or two puffs)

and the number of days the youth smoked cigars or used chewing tobacco or snuff over the past 30 days. Substance use items included the use of alcohol (beer, wine, wine coolers and liquor) and illegal drug use (marijuana, cocaine, crack, inhalants, heroin, LSD, PCP, ecstasy, mushrooms, speed and other pills not prescribed by a physician). Based upon their answers to questions regarding use in the past year, a composite score was constructed: a score of 0 represented no use, while a score of 1 indicated any reported tobacco, alcohol, or drug use.

Risk and protection in the domain of adult involvement. Parents were asked to complete a 20-item measure assessing parental supervision and involvement (Loeber, Farrington, Stouthamer-Lober & van Kammen, 1998a; CPPRG, 1995a). Monitoring was measured using the *Supervision/Involvement* subscale, which included items such as “If your child did not come home by the time that was set, would you know?”, “Do you know who your child’s companions are when he/she is not at home?”, and “When you and your child are both at home, do you know what he/she is doing?” Response choices ranged from 1 to 5, with 1 indicating “Almost never” and 5 indicating “Almost always”. A higher score on this subscale indicated higher levels of monitoring, whereas a lower score indicated lower levels of monitoring. The internal reliability alpha for this subscale was 0.68 for the high-risk control sample.

Child reports at 8th grade were also used in order to obtain a more complete assessment of parental supervision and involvement during early adolescence – *Supervision/Involvement, Youth report* (Loeber, Farrington, Stouthamer-Lober & van Kammen, 1998a; CPPRG, 1995b). The child version of this questionnaire was comprised of 18 similar items assessing the child’s perception of the parent’s knowledge of his/her activities and companions. Youth perspectives of parental monitoring were measured using the *Supervision/ Involvement* subscale. Items were comparable to those on the parent-report version, including queries such as “If you did not come

by the time that you were supposed to be in, would your [caregiver] know?" and "Does your [caregiver] know who you are with when you are away from home?" As with the parent-report version of this measure, responses ranged from 1 to 5, with 1 indicating "Almost never" and 5 indicating "Almost always" Higher scores on this subscale indicated higher levels of monitoring. The internal reliability alpha for this subscale was 0.65 for the high-risk control sample.

Parents were also asked to complete a 20-item measure assessing their perceptions of their openness to communication. For this study, we used the Parent Communication scale, which reflected parents' perceptions of their ability to communicate with their adolescent son or daughter, and the Child Emotional Expression scale, which reflected parents' perceptions of their child's willingness to discuss and display emotions and feelings with them (CPPRG, 1994a). Sample items within the Parent Communication scale included "Can you discuss your beliefs with [your child] without feeling restrained or embarrassed?" and "Do you and [your child] come to a solution when you talk about a problem?" Sample items within the Child Emotional Expression scale included "Does [your child] tell you about his/her personal problems?" and "Does [your child] hide being angry?" Items were scored using a scale from 1 to 5, with a score of 1 indicating a frequency of "almost never" and a score of 5 indicating "almost always". A higher score, therefore, indicated better parent-child communication and higher levels of child emotional expression. The internal reliability alpha for the Parent Communication scale was 0.77 for the high-risk control sample; the internal reliability alpha for the Child Emotional Expression scale was 0.68 for the high-risk control sample.

Adolescents were also asked to complete a 10-item measure assessing their own perceptions of their caregivers' openness to communication (CPPRG, 1994b). For this study, we used the Parent Communication scale, which reflected the child's perceptions of their caregiver's

communication skills, and the Child Communication scale, which reflected the frequency with which the child reported communicating his/her feelings with the caregiver. Sample items from the Parent Communication scale included “How often is your [caregiver] a good listener?” and “How often can you have a say even if your [caregiver] disagrees with you”. Sample items from the Child Communication scale included “How often can you let your [caregiver] know what is bothering you?” and “How often do you think you can tell your [caregiver] how you really feel about some things?” As with the parent-report version of this measure, items were scored using a scale from 1 to 5, with a score of 1 indicating a frequency of “almost never” and a score of 5 indicating “almost always”. A higher score indicated better parent-child communication. The internal reliability alpha for the Parent Communication scale was 0.73 for the high-risk control sample. The internal reliability alpha for the Child Communication scale was 0.80 for the high-risk control sample.

Parent reports and child reports of monitoring, parent communication, and child communication were collapsed into two comparable variables capturing parent-reported and child-reported parental monitoring and parent-child communication (entitled Monitoring/Communication). This conceptualization (including the level of parental supervision and the degree of communication occurring between parent and child) is consistent with current research-based theories regarding the nature of parental monitoring (e.g., Stattin & Kerr, 2004). The three scores used to create this new variable were all significantly correlated within a given reporter (see Table 4).

In order to examine positive parenting strategies and responses to positive behavior, we used parallel scales of parent and child report – *Parenting, Primary Caregiver* (CPPRG, 1994c) and *About My Parent* (CPPRG, 1994d). A positive parenting scale required parents and youth to

describe parental responses to positive child behavior, such as “Give [child] a wink or a smile”, “Say something nice about it; praise or approval”, and “Give [child] some special privilege such as staying up late, watching TV, or doing some special activity”. Comparable questions were asked of youth regarding their parents’ responses for positive behavior. Items were scored using a scale from 1 to 5, with a score of 1 indicating a frequency of “Almost never” and a score of 5 indicating “Almost always”. Therefore, higher scores on this subscale indicated higher levels of positive reinforcement from parents for good behavior. The internal reliability alpha was .82 for the parent report of this subscale and .86 for the child report.

Risk and protection in the domain of attitudes, values and beliefs. Youths were asked to complete a 16-item measure assessing their tolerance for a variety of delinquent behaviors – *Attitudes about Behavior* (Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1991a). Items concerned beliefs about overall delinquency (i.e., “How wrong do you think it is for someone your age to skip school without an excuse?” and “How wrong do you think it is for someone your age to steal something worth 50 dollars”), and substance use (i.e., “How wrong do you think it is for someone your age to smoke cigarettes or chew tobacco?”). The items were rated on a 4-point scale, where a response of 1 indicated “Not wrong at all” and 4” indicated “Very wrong”. In order to assess youths’ overall tendencies to tolerate antisocial activities, we used the total scale, which represented a mean of all item responses. A higher score on this measure indicated lower levels of tolerance for delinquent behavior (i.e. less maladaptive views), whereas a lower score indicated more accepting attitudes about delinquent behavior (i.e., more maladaptive views). The internal reliability alpha for this scale was 0.86 for the high-risk control sample.

Youths were also asked to complete a 22-item measure assessing their beliefs about future goals and life activities – *Expectations/Aspirations* (Loeber, Stouthamer-Loeber, Van Kammen, and Farrington, 1991b). For this study, we used the Future Expectations I scale, which included 6 items that measure the youth’s beliefs regarding the likelihood they would experience a set of positive or negative outcomes in the future (i.e., having a steady job, being a good parent, being in trouble with the police). Item responses were based on a 4-point scale, where a score of 1 indicated “Very likely” to “Not likely at all”. Responses to questions about negative outcomes (such as being in trouble with the police) were reverse-scored to be consistent with the overall direction of the scale. Higher scores indicated less optimistic views about the ability to achieve positive outcomes in the future, whereas lower scores indicated more optimistic views about future outcomes. The internal reliability alpha for this scale was 0.78 for the high-risk control sample.

Youth responded to a 9-item ethnic identity measure adapted for the Fast Track Project, which assessed their feelings about the ethnic group with which they identified (Phinney, 1992). This measure captured ethnic identity exploration, group esteem, and ambivalence (i.e., confusion or discontent about one’s own ethnic group or identification). Youth were asked to provide responses to statements such as “I feel good about my racial/ethnic group”, “I am confused about my racial/ethnic group and what it means to me”, and “I have talked with my parent and other adults about what it means to be a member of my racial/ethnic group”. Item responses were based on a four-point scale, with a score of 1 indicating “Not at all true” and a score of 4 indicating “Very true”; some scores were reverse-coded to correspond with the overall scoring system. Higher scores on this scale indicated a more positive ethnic identity. The overall internal reliability alpha for the Total Scale was 0.71 when completed with the normative and

high-risk control samples combined, with a range according to ethnicity (from 0.63 to 0.97, with lower alphas for African-American and Caucasian youth, and higher alphas for Hispanic and other ethnicities).

Clinician Reports Using the Triannual Assessment

The Triannual Assessment procedure was initiated during year 7 (grade 6) of the Fast Track Project. Before year 7, each subject and their family worked with an Education Coordinator (EC) and a Family Coordinator (FC), who respectively oversaw the academic and parenting aspects of the program. During year 7, a transition was made in study staff, such that the EC and FC positions were combined into one main clinical staff position (the Youth Coordinator, or YC) for each subject. The YC position was typically filled by one of the individuals who had previously been a EC or a FC in the geographical area, if not involved directly with the subject, and was usually already familiar with the subject and their family. Thus, beginning in year 7, the YC was the sole clinical staff responsible for interacting with the subject, their family, and the subject's school professionals, and for planning, implementing, and reviewing intervention procedures. Three times per year, YCs completed a criterion-based assessment of each child's risk and protective factors within four different domains of functioning associated with conduct problems: 1) academic achievement and orientation; 2) peer relations; 3) adult involvement, communication, and monitoring; and 4) identity development. A full assessment was completed each September, and brief updates were completed each January and May, incorporating information from the previous 3 months of involvement.

At each assessment point, Youth Coordinators completed two kinds of structured clinical judgments: 1) ratings regarding the presence/absence of specific risk and protective factors, and 2) global judgments of risk within each of four domains. First, to complete the ratings, YCs

indicated whether or not each youth had specific risk and protective factors, as specified within each of four identified domains of functioning (see Appendix for a copy of the Triannual Assessment and rating criteria). Then, based on the ratings within each domain as well as their own judgment, YCs made global judgments regarding the degree to which the youth exhibited minimal, moderate, or severe risk in each of the four domains of functioning. As part of the Triannual Assessment procedure, guidelines were also provided for YCs to facilitate the uniform assignment of domain-specific summary ratings (see Appendix for summary rating guidelines). These four summary ratings were used to conceptualize the youth's need for intervention at the time, and provided guidance as the YCs constructed individualized treatment plans using available FAST Track interventions.

Inter-rater reliability data (i.e., Triannual Assessments completed about the same subject at the same time by two different study staff) were available for 73 intervention children. While the majority of Triannual Assessment forms were completed by Youth Coordinators, during 1998-1999 a number of subjects in Cohort 2 from all four sites were still in the process of transitioning from having an EC and a FC to a YC only. For these subjects, both the EC and the FC completed the Triannual Assessment form, and then met to come to a consensus for the final assessment results. The data available for inter-reliability, therefore, are the two assessment forms completed separately, before the consensus was reached. Subjects with complete inter-rater reliability data came from all four sites: Durham ($n=26$), Pennsylvania ($n=26$), Nashville ($n=14$), and Washington ($n=12$).

Chapter 3. RESULTS

Analyses for this study were run using SPSS and SAS. SPSS was used to conduct preliminary analyses, Pearson and Spearman correlations, and intra-class correlations, using listwise deletion to address missing data. To better address the high numbers of missing data throughout the dataset, SAS PROC MI and MIANALYZE were used to run the hierarchical regression analyses. However, the key outcome variables (e.g., number of conduct problems at 6th and 9th grades) were not imputed in any of these analyses.

Preliminary Analyses

Examination of Missing Data

Of the 891 youth in the high-risk sample (i.e., control and intervention groups), 680 had complete data available regarding conduct problem (CP) symptoms at year 7 (grade 6) and year 10 (grade 9), qualifying them for inclusion in these preliminary analyses. Of the 211 individuals missing conduct problem data, 25 were missing CP data from year 7 alone, 83 were missing CP data from year 10 alone, and 103 were missing CP data from both years. In order to examine whether the youth without full data on CP symptoms differed from the youth included in these analyses, a series of independent-sample t-tests were run, using the demographic variables (gender, race, site) and covariates to be used in future analyses (i.e., SES, parental and family risk factors, early behavior and attention problems, IQ, neighborhood safety/violence). Results from t-tests indicate a significantly smaller percentage of missing data occurring for the Durham sample (10.0%) as compared with the samples from Nashville, Pennsylvania, and Seattle (ranging from 20.4%-32.2%), with the highest percentage of missing data occurring in the Nashville sample. Higher rates of missing data were also observed for youth with higher rates of parental psychopathology ($M = 0.44$ vs. 0.29 ; $t = -2.56$, $p < .01$), higher IQ scores at school entry ($M = 93$ vs. 90 ; $t = -2.14$, $p < .05$), and higher rates of exposure to neighborhood violence during

middle school ($M = 11.23$ vs. 9.50 ± 7.82 ; $t = -1.93$, $p < .05$). No significant differences between youth with missing CP data and those with full CP data were found in terms of sex, race, SES, single-parent family status, early attention or behavioral problems, or parent-rated neighborhood safety.

Exploration of Conduct Problem Data

A number of analyses were run in order to describe rates of parent- and youth-reported conduct problems, including variability across demographic factors, stability and change over time, and baseline prediction from 6th grade to 9th grade. Examination of the frequencies of conduct problem symptom counts at 6th and 9th grades indicated that approximately one-third of the high-risk youth in this sample endorsed no CP symptoms at 6th grade (32.4%) or at 9th grade (34.9%) (see Table 2). Another one-third of the sample endorsed 1-3 CP symptoms at each time point. Rates of reported CP symptoms for other youth in the sample ranged primarily between 4-10 symptoms, with fewer than 1% of the sample reporting more than 10 symptoms. In terms of further description of the conduct problem symptomatology of this sample, it should be noted that 22.5% and 15.0% of youth in this sample met criteria for a diagnosis of DSM-IV Oppositional Defiant Disorder (ODD) at 6th and 9th grades, respectively, while 14.4% and 12.5% met criteria for a diagnosis of Conduct Disorder (CD) at 6th and 9th grades. These rates are higher than typically seen in normative populations (e.g., Lahey, Miller, et al., 1999). The elevated number of CP symptoms highlights the continued high-risk nature of this sample during early adolescence.

A set of t-tests were run in order to examine demographic variability in the mean number of conduct problem symptoms endorsed at 6th and 9th grades. There were no significant

Table 2. Frequencies and percentages of conduct problem symptom count at 6th grade and 9th grade for high-risk youth (control and intervention groups).

	6 th grade		9 th grade	
	Frequency	Percentage	Frequency	Percentage
0	220	32.4	237	34.9
1	105	15.4	121	17.8
2	74	10.9	75	11.0
3	59	8.7	61	9.0
4	41	6.0	57	8.4
5	41	6.0	29	4.3
6	27	4.0	18	2.6
7	26	3.8	31	4.6
8	25	3.7	11	1.6
9	21	3.1	9	1.3
10	14	2.1	9	1.3
11	7	1.0	5	0.7
12	6	0.9	6	0.9
13	6	0.9	3	0.4
14	3	0.4	3	0.4
15	2	0.3	3	0.4
16	2	0.3	1	0.1
17-18	1	0.1	1	0.1

differences in the mean number of CP symptoms at either time point associated with control vs. intervention status, race, or site. There were, however, significant differences in the number of CP symptoms endorsed by males and females. Males had significantly higher numbers of reported CP symptoms than females, both at 6th grade ($M = 3.32$ vs. 2.35 ; $t = 3.83$, $p \leq .01$) and at 9th grade ($M = 2.66$ vs. 2.12 ; $t = 2.31$, $p < .05$). However, sex differences in rates of CP symptoms diminished over time, being smaller at 9th grade than at 6th grade. This overall finding is consistent with research suggesting that males typically exhibit higher levels of conduct problem behavior than females during childhood and early adolescence, but that the expression of conduct problems becomes more equal as adolescence progresses (e.g., McMahon & Kotler, 2006). For males, there was a significant decrease in the number of CP symptoms reported between 6th grade and 9th grade ($t = 3.88$, $p < .01$). However, among females, rates of reported CP symptoms were stable between grades 6-9. Thus, the observation of a decrease in reported CP symptoms appears limited to males in this high-risk sample.

The observed decrease in mean reported CP symptoms for males between 6th and 9th grade was unexpected, so additional statistics were run to explore possible factors affecting this finding. A drop in the number of males with 10 or more symptoms was observed between 6th and 9th grades; at 6th grade, 7% of males (or their parents) endorsed 10 or more CP symptoms, while only 4% of males (or their parents) endorsed 10 or more CP symptoms at 9th grade. As the total number of conduct problem symptoms was collected using an “either/or” rule including both parent and child report, we examined whether the change in the mean number of CP symptoms for males was limited to either parent or youth reports by running a set of paired sample t-tests. While there was no significant change in youth reports of CP symptoms from 6th grade to 9th grade ($M = 1.26$ vs. 1.12 , ns), there was a significant decrease in the number of CP symptoms

endorsed by parents of males from 6th grade to 9th grade ($M = 2.35$ vs. 1.82 ; $t = 3.95$, $p < .01$). In order to determine whether this pattern of reporting was limited to the DISC or whether it occurred more globally on other parent reports of CP behaviors across the transition to adolescence, an additional paired sample t-test was run using another measure of parent-reported CP problems collected at the same time points (Parent Daily Report; Chamberlain & Reid, 1987). Similar to findings from the DISC, parent reports of oppositional and aggressive behavior significantly declined from grade 5 to grade 9 for males ($M = 0.19$ vs. 0.11 ; $t = 11.77$, $p < .01$).

In order to further clarify differences between parent and youth reports of conduct problem symptoms, a set of correlations was run between the symptom counts endorsed by both reporters at both grade 6 and grade 9, and the total symptom counts across reporters as created using the “either/or” rule. Both parent and youth reports of conduct problem symptoms were significantly and strongly correlated with the total symptom counts, although it should be noted that the parent-reported symptom counts were slightly more correlated with the total symptom counts at both time points, as compared to the youth-reported symptom counts ($r = 0.88$ vs. 0.62 ; $r = 0.85$ vs. 0.68). At each time point, parent- and youth-reported symptom counts were significantly but mildly correlated ($r = 0.20$). This level of correlation is consistent with what is commonly seen in parent and adolescent samples for disruptive behavior disorders (Achenbach, McConaughy, & Howell, 1987).

Additional statistics were run examining the group of males whose number of CP symptoms decreased from 6th grade to 9th grade. Of males whose CP symptoms decreased during this time, 46% were in the control group and 54% were in the intervention group. This is in contrast to an equal percentage of control and intervention subjects in the group of males whose CP symptoms increased, but comparable to the 42% control subjects and 58% intervention

subjects in the group of males whose CP symptoms did not change. Males whose CP symptoms decreased had significant higher mean CP symptom totals at 6th grade compared to males whose CP symptoms increased ($M = 5.42$ vs. 2.14 ; $t = 8.84$, $p < .01$). A reverse pattern of CP symptoms was observed between these two groups at 9th grade, in that males whose CP symptoms decreased had symptom counts significantly lower than those of males whose CP symptoms increased ($M = 2.06$ vs. 5.12 ; $t = -8.96$, $p < .01$). Males whose CP symptoms decrease also had higher mean CP symptom totals at 6th grade compared to males with no change in CP symptoms, which was a pattern observed both at 6th grade ($M = 5.42$ vs. 2.06 ; $t = 15.35$, $p < .01$) and at 9th grade ($M = 2.06$ vs. 0.83 ; $t = 5.25$, $p < .01$). Males with no change in CP symptoms had significantly fewer CP symptoms compared with males whose CP symptoms increased, which was a finding that held true at 6th grade ($M = 0.83$ vs. 2.14 ; $t = 4.63$, $p < .01$) and at 9th grade ($M = 0.83$ vs. 5.12 ; $t = 12.10$, $p < .01$). These findings indicate that, generally, males with little change in CP symptoms from 6th grade to 9th grade had significantly fewer symptoms than males whose CP symptom counts changed in either direction. Descriptive statistics indicated that the percentage of males whose CP symptoms decreased who endorsed 10 or more CP symptoms dropped from 13% to 2% from 6th grade to 9th grade. The majority of males whose CP symptoms decrease had symptom decreases of 1 symptom (31%), 2 symptoms (19%), or 3 symptoms (13%), with only 2% of males in this group decreasing 10 or more symptoms.

Finally, we examined the baseline prediction of adolescent conduct problem symptoms (when youth were in 9th grade) using the number of conduct problem symptoms reported when youth were in sixth grade, in order to examine whether the prediction is similar to what has been found in previous literature. For the high-risk (control and intervention) sample, the number of conduct problem symptoms endorsed by parents and/or children during 6th grade accounted for

25% of the variance in the number of conduct problem symptoms endorsed at 9th grade, $R^2 = .25$, $F = 231.45$, $p < .01$. When conducted separately for the control and intervention samples, the variance accounted for was similar for each group (25% for the control sample and 26% for the intervention sample). This percentage is consistent with findings from previous studies, which suggest that, while childhood conduct problem symptoms serve as a particularly strong predictor of conduct problems during adolescence, there are other factors at play in determining the persistence or desistance of conduct problems during the middle school period.

Correlations Among Predictor Variables

One final set of preliminary analyses involved the computation of correlations, in order to explore the associations among the set of identified early adolescent risk and protective factors hypothesized to affect the stability of conduct problems during adolescence. Pearson and Spearman correlations (to account for the presence of the dichotomous substance use variable) were utilized. Most of the within-domain correlations among the research-based measures designed to tap each domain of risk and protection were statistically significant (see Table 3). The one exception involved the domain of Attitudes, Values and Beliefs, in which the ethnic identity variable was not significantly correlated with the measure of deviant attitudes of behavior. It was, however, significantly correlated with the other variable in the Attitudes, Values & Beliefs domain (the youth's reported expectations for the future). Next, analyses were undertaken to test a prediction model to determine whether these intrapersonal, interpersonal, and contextual risk and protective factors predicted changes in conduct problem symptomatology during the transition to adolescence (as youth moved from 6th to 9th grade).

Testing the Theoretical Predictive Model

Table 3. Correlations between research-based risk factors in four domains (high-risk control and intervention samples).

Academic Achievement/Orientation

	1	2	3
1 Average GPA (7 th -8 th grades)	-	.46**	.40**
2 School Adjustment (Parent)		-	.44**
3 School Adjustment (Child)			-

Peer Relations

	1	2	3
1 Peer Deviance (Parent)	-	.19*	.21**
2 Peer Deviance (Child)		-	.36**
3 Tobacco, Alcohol, Drug Use (Child)			-

Adult Involvement

	1	2	3	4	5	6	7	8	9	10
1 Supervision/Involvement (Parent)	-	.42**	.32**	.68**	.25**	.19**	.10*	.03	.12**	.08*
2 Parent Communication (Parent)		-	.45**	.81**	.46**	.14**	.23**	.19**	.22**	.18**
3 Child Communication (Parent)			-	.82**	.20**	.22**	.18**	.24**	.27**	.16**
4 <i>Monitor./Communication (Parent)</i>				-	.39**	.23**	.23**	.22**	.28**	.18**
5 Positive Parenting (Parent)					-	.02	.13**	.16**	.13**	.22**
6 Supervision/Involvement (Child)						-	.45**	.43**	.72**	.44**
7 Parent Communication (Child)							-	.64**	.84**	.54**
8 Child Communication (Child)								-	.89**	.54**
9 <i>Monitor./Communication (Child)</i>									-	.60**
10 Positive Parenting (Child)										-

Attitudes, Values & Beliefs

	1	2	3
1 Deviant Attitudes (Child)	-	-.18**	.03
2 Future Expectations (Child)		-	-.22**
3 Ethnic Identity (Child)			-

** $p \geq .01$, * $p \geq .05$

Italics indicate composite score

Our first major aim for this study was to determine whether a set of risk and protective factors representing four different domains would account for variance in conduct problems assessed at 9th grade for children identified as at risk for persistent conduct problems, above and beyond the variance predicted by demographic, early risk and contextual factors, and the level of childhood conduct problems (i.e., number of CP symptoms endorsed at 6th grade). In order to test this predictive model without the possible influence of a simultaneous intervention, we conducted a hierarchical regression with the high-risk control sample alone (that is, youth who had been identified as being at risk for childhood conduct problems at school entry but had not received the Fast Track intervention). We hypothesized that the cumulative set of risk and protective factors would explain a significant amount of variance in the number of conduct problem symptoms at 9th grade, above and beyond what was explained by demographic, early risk factors, contextual factors, and baseline levels of conduct problems at 6th grade.

First, in order to examine associations among the individual research-based risk and protective factors and the two conduct problem symptom assessments, a set of Pearson and Spearman (to account for the dichotomous substance use variable) correlations were run for the high-risk control group (Table 4). All of the identified research-based risk and protective factors were significantly correlated with both conduct problem symptom counts (6th grade and 9th grade), with two exceptions. Within the Attitudes, Values, and Beliefs domain, the Future Expectations variable and the Ethnic Identity variable were not significantly correlated with the number of 9th grade conduct problems endorsed, although they did reach significance in their correlation with the number of 6th grade conduct problems.

Next, the hierarchical regression model was run with the high-risk control sample, in order to examine the relative additional variance in 9th grade conduct problems explained by

Table 4. Correlations between research-based risk and protective factors and conduct problem variables (number of endorsed symptoms at grades 6 and 9) for high-risk control and intervention samples.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Average GPA	-	.48**	.39**	-.19**	-.08	-.14**	.14**	-.03	.10*	.05	.13**	-.08	-.02	-.11**	-.15**
2 Sch. Adjust. (Parent)		-	.45**	-.41**	-.11**	-.17**	.30**	.12**	.17**	.10*	.16**	.02	.02	-.27**	-.27**
3 Sch. Adjust. (Child)			-	-.27**	-.25**	-.24**	.19**	.12**	.29**	.10**	.30**	-.20**	.01	-.23**	-.24**
4 Peer Dev. (Parent)				-	.19**	.16**	-.26**	-.14**	-.15**	-.06	-.06	.05	.05	.30**	.26**
5 Peer Dev. (Child)					-	.36**	-.10**	-.05	-.18**	-.09*	-.33**	.15**	-.03	.23**	.21**
6 Tob./Alc./Drug (Child)						-	-.13**	-.09*	-.15**	-.08*	-.25**	.08	.03	.22**	.16**
7 Monit./Comm. (Parent)							-	.39**	.28**	.18**	.13**	-.08	-.08	-.16**	-.23**
8 Pos. Parenting (Parent)								-	.13**	.22**	.07	-.08*	.02	-.08*	-.13**
9 Monit./Comm. (Child)									-	.60**	.26**	-.26**	.12**	-.24**	-.18**
10 Pos. Parenting (Child)										-	.18**	-.35**	.22**	-.16**	-.12**
11 Dev. Attitudes (Child)											-	-.18**	-.03	-.12**	-.13**
12 Future Exp. (Child)												-	-.22**	.09*	.05
13 Ethnic Identity (Child)													-	-.10*	-.01
14 # CP symptoms (6)														-	.50**
15# CP symptoms (9)															-

** $p \geq .01$, * $p \geq .01$

each level of predictors (Table 5). The first block of the model contained demographics (gender, race, site), parent and family covariates (SES, single-parent status, parental psychopathology), early child risk factors (attention problems, behavior problems, and IQ as assessed in kindergarten/1st grade), and neighborhood risk factors (parent-rated overall neighborhood safety and the child's rating of their own exposure to neighborhood violence). The second block contained the number of conduct problem symptoms endorsed by parents and youth at 6th grade. Finally, the third block contained the set of research-based measures used to assess each adolescent's risk and protective factors in each of four domains of risk. Analyses indicated that the set of demographics and covariates, the number of 6th grade conduct problem symptoms, and the set of research-based risk and protective factors were all significant predictors of the number of conduct problem symptoms at 9th grade. In addition, while the number of 6th grade conduct problem symptoms contributed a particularly large increment to the prediction of the outcome variable, $\Delta F(1, 302) = 70.03, p < .01$, the set of research-based risk and protective factors also contributed a significant increment to the prediction of 9th grade conduct problems, above and beyond what was explained with 6th grade conduct problems, $\Delta F(13, 289) = 2.18, p < .01$. This supports our hypothesis that consideration of risk and protective factors assessed during the middle school years adds to the prediction of change in conduct problem symptomatology from grade 6 to 9.

A number of individual variables emerged as significant unique predictors of the number of conduct problem symptoms at 9th grade. In terms of demographics and covariates, parental psychopathology ($t = 3.04, p < .01$), behavior problems at school entry ($t = 2.39, p < .05$), and the youth's reported exposure to violence during the middle school years ($t = 4.39, p < .01$) emerged as significant unique predictors of the number of 9th grade conduct problem symptoms. In terms

Table 5. Predicting number of 9th grade CP symptoms using demographic and early risk variables, number of 6th grade CP symptoms, and set of research-based risk and protective factors (for high-risk control sample, N=315).

Predictors	B	SEB	β	R ²	ΔR^2
Level 1				0.15**	-
Gender	0.00	0.38	0.00		
Race	-0.49	0.28	-0.10		
Site	0.21	0.18	0.07		
Socioeconomic Status (SES)	0.00	0.02	0.00		
Single Parent Household	0.41	0.38	0.06		
Parental Psychopathology	1.16	0.38	0.17**		
Early Attention Problems	0.05	0.17	0.02		
Early Behavior Problems	0.41	0.17	0.14*		
IQ (WISC-R FSIQ)	-0.01	0.01	-0.03		
Neighborhood Safety (Par.)	0.00	0.02	-0.01		
Exposure to Violence (Ch.)	0.10	0.02	0.24**		
Level 2				0.31**	0.16**
# CP Symptoms (Gr. 6)	0.40	0.05	0.42**		
Level 3				0.37**	.06**
GPA (Gr. 7 & 8)	-0.28	0.22	-0.08		
School Adjustment (Parent)	0.06	0.28	0.01		
School Adjustment (Child)	-0.36	0.31	-0.07		
Peer Deviance (Parent)	0.09	0.03	0.17**		
Peer Deviance (Child)	0.27	0.26	0.06		
Tobacco, Alcohol, Drug Use	0.29	0.36	0.04		
Monitor./Comm. (Parent)	-0.44	0.39	-0.07		
Positive Parenting (Parent)	0.09	0.27	0.02		
Monitor./Comm. (Child)	-0.57	0.34	-0.12		
Positive Parenting (Child)	0.37	0.24	0.11		
Deviant Attitudes	0.20	0.34	0.03		
Future Expectations	-0.55	0.49	-0.06		
Ethnic Identity	-0.07	0.31	-0.01		

** $p \geq .01$, * $p \geq .05$

of research-based risk and protective factors, only parental report of peer deviance ($t = 3.01, p \leq .05$) emerged as a significant unique predictor of the youth's number of 9th grade CP symptoms.

Results from this portion of the study suggest that, whereas childhood conduct problems serve as a strong predictor of adolescent conduct problems, consideration of risk and protective factors assessed during the middle school years adds significantly to the prediction of change in conduct problems during the early adolescent years, beyond the contribution of demographics, early risk factors, and concurrent contextual factors. This finding supports previous research, which highlights the importance of considering the impact of risk and protective factors from multiple key domains when estimating the likelihood of a child having continuing, increasing, or decreasing conduct problems as they transition into adolescence. For the next step in analyses, we compared the utility of two possible methods of assessing risk and protective factors: research-based ratings by parents, teacher, and youth versus structured clinician ratings and global clinical judgments.

Examining the Reliability and Concurrent Validity of Clinical Ratings and Global Judgments

All remaining analyses utilized data from the intervention sample alone ($N=352$), as they were the only participants to receive clinician ratings of risk and protective factors (the Triannual Assessment).

Inter-rater Reliability

The second major aim of this study was to examine the inter-rater reliability and concurrent validity of two types of clinician reports for assessing risk and protective factors: clinical ratings and global judgments. We first examined the inter-rater reliability of these clinician reports, using data from the 73 subjects for whom rater agreement information was available. Two-way random intra-class correlations (ICC) were completed at two levels: clinical ratings reliability

(i.e., similarity across two raters on the total number of risk and protective factors within domains) and global judgments reliability (i.e., similarity across two raters on the overall summary risk rating assigned per domain; see Table 6). According to established practice, ICC coefficients higher than .74 are considered “excellent”, between .60-.74 are considered “good”, and between .40-.60 are considered “fair” (Cicchetti & Sparrow, 1981). In terms of the reliability of the clinical ratings (e.g., the number of risk or protective factors endorsed), ICC coefficient values varied. In particular, clinical staff were more reliable in their ratings of risk factors present within each domain than in their ratings of protective factors present within domain. All four clinical ratings of risk factors had ICC coefficients in the “fair” to “good” range, while only one of the clinical ratings of protective factors had an ICC coefficient in the “fair” range (the remainder were below .40). In terms of the reliability of the global judgments, all four global judgments (summary ratings) had ICC coefficients in the “fair” to “good” range, with the highest reliability for the Academic Achievement & Orientation rating, and the lowest reliability for the Peer Relations rating. These findings suggest that while clinical staff were adequately reliable on their global ratings of functioning in each of the four domains, they were more reliable overall on the clinical ratings of risk and protective factors present for each child, with higher reliability for ratings of risk factors than ratings of protective factors.

Concurrent Validity

Next, we examined the concurrent validity of the clinical ratings and global judgments by comparing them with the research-based parent, teacher, and youth reports assessing each of the four domains of functioning. Within each domain, correlations were run between the clinical ratings of risk and protective factors for each domain, the global judgments of functioning in each domain, and the corresponding research-based parent, teacher, and youth reports of each

Table 6. Intra-class correlations (ICC) for inter-rater reliability on sums of risk and protective factors (clinical ratings) and summary scores (global judgments) in the Triannual Assessment.

Item/Scale	ICC	N	95% CI
Academic Achievement & Orientation Summary Score	.71	73	.57-.81
AAO Total Number of Risk Factors	.73	73	.61-.82
AAO Total Number of Protective Factors	.26	73	.03-.46
Peer Relations Summary Score	.49	73	.30-.65
PR Total Number of Risk Factors	.64	73	.48-.76
PR Total Number of Protective Factors	.35	73	.14-.54
Adult Involvement Summary Score	.54	73	.36-.68
AI Total Number of Risk Factors	.66	73	.51-.77
AI Total Number of Protective Factors	.10	73	-.13-.32
Attitudes, Values, & Beliefs Summary Score	.65	73	.50-.77
AVB Total Number of Risk Factors	.51	73	.32-.66
AVB Total Number of Protective Factors	.48	73	.29-.64

domain (see Tables 7-10). Overall, concurrent validity varied according to the domain being assessed. For the Academic Achievement & Orientation and Peer Relations domains, the clinical ratings and global judgments of functioning were significantly correlated with their respective research-based measures. There was more variability in the significance of the correlation between the clinical judgment measures and research-based measures for the other two domains (Adult Involvement and Attitudes, Values, & Beliefs). In the Adult Involvement domain, the global judgment rating was not significantly correlated with the parent's self-report of positive parenting strategies; in addition, clinicians' ratings of protective factors were not significantly correlated with three of the four research-based measures. However, it should be noted that this lack of significance is not altogether unexpected, as these two clinician reports methods were ones with particularly low inter-rater reliability scores (see Table 6). For the Attitudes, Values, & Beliefs domain, none of the clinical judgments correlated significantly with the ethnic identity variable, which was also non-significantly and inconsistently correlated with the other variables in this domain.

Overall, the clinical judgments showed adequate levels of inter-rater reliability (particularly clinical ratings of risk factors). In addition, the two types of clinical judgments studied here showed adequate concurrent validity with research-based measures completed by parents, teacher, and youth, particularly in the areas of academic risk and peer risk.

Predictive Validity of Clinical Ratings and Global Judgments

Comparison of Clinical Ratings and Global Judgments

The next analyses sought to explore whether the two types of clinical judgments examined would enhance the prediction of 9th grade conduct problems, in a manner similar to the research-based measures completed by other informants. To that end, two hierarchical

Table 7. Correlations between global judgment, clinical ratings, and research-based measures within the Academic Achievement & Orientation (AAO) domain.

	1	2	3	4	5	6
1. AAO Domain Risk Rating	-	.68**	-.44**	-.48**	-.44**	-.34**
2. AAO # Risk Factors		-	-.38**	-.52**	-.52**	-.46**
3. AAO # Protective Factors			-	.29**	.34**	.22**
4. Average GPA (Gr. 7 &8)				-	.46**	.40**
5. School Adjustment (Par. Report)					-	.44**
6. School Adjustment (Ch. Report)						-

Table 8. Correlations between global judgment, clinical ratings, and research-based measures within the Peer Relations (PR) domain.

	1	2	3	4	5	6
1. PR Domain Risk Rating	-	.71**	-.60**	.32**	.22**	.20**
2. PR # Risk Factors		-	-.49**	.34**	.19**	.26**
3. PR # Protective Factors			-	-.19**	-.16**	-.18**
4. Peer Deviance (Par. Report)				-	.19**	.17**
5. Peer Deviance (Ch. Report)					-	.35**
6. Tobacco, Alc., Drug Use						-

Table 9. Correlations between global judgment, clinical ratings, and research-based measures within the Adult Involvement (AI) domain.

	1	2	3	4	5	6	7
1. AI Domain Risk Rating	-	.77**	-.38**	-.32**	-.10	-.29**	-.18**
2. AI # Risk Factors		-	-.26**	-.31**	-.14*	-.22**	-.12*
3. AI # Protective Factors			-	.22**	.06	.01	.05
4. Monit./Comm. (Par. Report)				-	.39**	.27**	.18**
5. Pos. Parenting (Par. Report)					-	.13**	.23**
6. Monit./Comm. (Ch. Report)						-	.60**
7. Pos. Parenting (Ch. Report)							-

Table 10. Correlations between global judgments, clinical ratings, and research-based measures within the Attitudes, Values, and Beliefs domain.

	1	2	3	4	5	6
1. AVB Domain Risk Rating	-	.61**	-.57**	-.24**	.12*	.04
2. AVB # Risk Factors		-	-.32**	-.20**	.15**	.01
3. AVB # Protective Factors			-	.15*	-.15**	.02
4. Deviant Attitudes				-	-.18**	-.03
5. Future Expectations					-	-.22**
6. Ethnic Identity						-

regressions were run with the high-risk intervention sample examining the comparative variance explained by two different types of structured clinical judgment: clinical ratings of risk and protective factors, and global judgments of functioning in four different domains. Analyses were initially completed using the PROC MIXED program in SAS, in order to account for the nesting of judgments within clinical staff (Youth Coordinators) who completed the Triannual Assessment. However, initial analyses indicated that the identity of the Youth Coordinator did not account for any of the variance in the outcome variable or interactions, which eliminated the need to run nested models. Therefore, the analyses were completed using the SAS regression program (REG), with the PROC MI and MIANALYZE procedures used to impute missing data.

A set of correlations were run in order to examine associations between clinical ratings of risk and protective factors, global judgments of risk (domain risk ratings), and the number of 6th grade and 9th grade conduct problems (see Table 11). All correlations were significant. As expected, numbers of risk factors in all four domains were inversely correlated with numbers of protective factors in all four domains. Numbers of risk factors in all four domains were positively correlated with global risk ratings in each domain, and numbers of protective factors in all four domains were inversely correlated with global risk ratings in each domain. The number of conduct problems at 6th grade was positively correlated with the numbers of risk factors in all four domains and with all four global domain risk ratings, and was inversely correlated with the number of peer protective factors. The number of conduct problems at 9th grade was positively correlated with the number of academic, adult involvement, and attitude and values risk factors, and the global ratings of academic and adult involvement risk. The number of conduct problems at 9th grade was inversely correlated with the numbers of academic, peer, and adult involvement protective factors.

Table 11. Correlations between clinical ratings of risk and protective factors, domain risk ratings, and conduct problem variables (number of endorsed symptoms at grades 6 and 9) for intervention sample (N=352).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 AAO # Risk Factors	-	-.38**	.54**	-.36**	.58**	-.19**	.63**	-.28**	.68**	.57**	.55**	.52**	.20**	.13*
2 AAO # Prot. Factors		-	-.34**	.45**	-.28**	.32**	-.29**	.39**	-.44**	-.43**	-.37**	-.38**	-.09	-.14*
3 PR # Risk Factors			-	-.49**	.63**	-.24**	.64**	-.33**	.44**	.71**	.54**	.57**	.20**	.11
4 PR # Prot. Factors				-	-.41**	.49**	-.44**	.38**	-.36**	-.60**	-.50**	-.49**	-.14*	-.12*
5 AI # Risk Factors					-	-.26**	.59**	-.29**	.45**	.65**	.77**	.56**	.12*	.14*
6 AI # Prot. Factors						-	-.24**	.29**	-.17**	-.35**	-.38**	-.29**	-.11	-.16**
7 AVB # Risk Factors							-	-.32**	.42**	.57**	.57**	.61**	.24**	.20**
8 AVB # Prot. Factors								-	-.26**	-.38**	-.39**	-.57**	-.05	-.04
9 AAO Dom. Risk Rating									-	.54**	.53**	.51**	.12*	.12*
10 PR Dom. Risk Rating										-	.72**	.69**	.22**	.10
11 AI Dom. Risk Rating											-	.66**	.22**	.15*
12 AVB Dom. Risk Rating												-	.17**	.10
13 # CP symptoms (6)													-	.51**
14 # CP symptoms (9)														-

** $p \geq .01$, * $p \geq .05$

The first regression model examined the degree to which clinical ratings of individual risk and protective factors in four domains of functioning added variance to the prediction of 9th grade conduct problems. This model involved entering variables in three blocks. First, demographics, early risk factors, and concurrent contextual factors were entered, followed by the number of conduct problem symptoms endorsed at 6th grade in the second block. In the third block, the clinical ratings of risk and protective factors endorsed in each of the four domains (resulting in eight sums of risk and protective factors) were entered (see Table 12). As with the theoretical model run with the high-risk control sample, the set of demographics, early risk factors, and concurrent contextual factors ($R^2 = 0.11, p < .01$) and the number of conduct problems endorsed at 6th grade ($R^2 = 0.30, p < .01$) were each significant predictors of 9th grade conduct problems. The number of 6th grade conduct problem symptoms contributed a significant increment in the prediction of 9th grade conduct problem symptoms, beyond the contribution of the block of contextual and early risks, $\Delta F(1, 339) = 92.01, p < .01$. In addition, the set of clinical ratings of risk and protective factors also contributed a significant amount of variance to the prediction of 9th grade conduct problem symptoms, $\Delta F(8, 331) = 2.51, p < .01$, beyond what had been explained by the substantial contribution of 6th grade conduct problem symptoms.

The second model examined the possible contribution of the set of global judgments of functioning (domain risk ratings) for each of four domains. The model was set up identically to the previous one (see Table 13). The first two sets of variables were again significant contributors to the prediction of 9th grade conduct problems, but the set of global judgments did not add significantly to the prediction, $\Delta F(4, 335) = 0.00, ns$. As predicted based on previous research, clinical ratings thus contributed significantly to the prediction of 9th grade conduct problems, whereas global judgments of functioning did not.

Table 12. Predicting number of 9th grade CP symptoms using demographic and early risk variables, 6th grade CP symptoms, and set of behavior-based sums of risk and protective factors, for intervention sample (N=352).

	B	SEB	β	Est. R ²	ΔR^2
Predictors					
Level 1				.11**	-
Gender	-0.66	0.36	-.10		
Race	0.11	0.27	.03		
Site	0.32	0.16	.12*		
Socioeconomic Status (SES)	-0.04	0.02	-.15*		
Single Parent Household	-0.32	0.35	-.05		
Parental Psychopathology	0.67	0.34	.11*		
Early Attention Problems	0.01	0.17	.00		
Early Behavior Problems	0.10	0.16	.04		
IQ (WISC-R FSIQ)	0.00	0.01	.02		
Neighborhood Safety (Par.)	0.00	0.02	.01		
Exposure to Violence (Ch.)	0.10	0.02	.26**		
Level 2				.30**	.19**
# CP Symptoms (Gr. 6)	0.40	0.04	.46**		
Level 3				.34**	.04**
AAO # Risk Factors	-0.16	0.14	-.08		
AAO # Protective Factors	-0.41	0.22	-.11		
PR # Risk Factors	-0.42	0.22	.14		
PR # Protective Factors	0.02	0.18	.00		
AI # Risk Factors	0.20	0.15	.09		
AI # Protective Factors	-0.51	0.31	-.09		
AVB # Risk Factors	0.29	0.23	.09		
AVB # Protective Factors	0.17	0.20	.05		

** $p \geq .01$, * $p \geq .05$

Table 13. Predicting number of 9th grade conduct problem symptoms using demographic and early risk variables, 6th grade CP symptoms, and set of global judgments (domain risk ratings), for the intervention sample (N=352).

Predictors	B	SEB	β	Est. R ²	ΔR^2
Level 1				.11**	-
Gender	-0.62	0.35	-.09		
Race	0.11	0.27	.02		
Site	0.33	0.16	.13*		
Socioeconomic Status (SES)	-0.04	0.02	-.14*		
Single Parent Household	-0.32	0.35	-.05		
Parental Psychopathology	0.64	0.35	.10		
Early Attention Problems	0.00	0.17	.00		
Early Behavior Problems	0.13	0.15	.05		
IQ (WISC-R FSIQ)	0.01	0.01	.04		
Neighborhood Safety (Par.)	0.00	0.01	.01		
Exposure to Violence (Ch.)	0.10	0.02	.22**		
Level 2				.31**	0.20**
# CP Symptoms (Gr. 6)	0.40	0.04	.46**		
Level 3				.31**	0.00
AAO Domain Risk Rating	0.14	0.24	.04		
PR Domain Risk Rating	-0.50	0.32	-.13		
AI Domain Risk Rating	0.30	0.31	.07		
AVB Domain Risk Rating	0.02	0.30	.01		

** $p \geq .01$, * $p \geq .05$

Comparison of Risk vs. Protective Factors

Given the earlier findings regarding the greater reliability of ratings of risk factors as compared with protective factors, additional hierarchical regression analyses were completed in order to determine whether the set of clinical ratings of risk factors could predict a comparable amount of variance as the inclusion of protective plus risk factors. Prior research has raised the question of whether protective factors play as strong a role as risk factors in predicting problematic outcomes; as of yet, findings are generally inconclusive, with support existing for each side (Jimerson, Sharkey, Furlong, & O'Brien, 2004; Loeber & Farrington, 2000; Pollard et al., 1999; Stoiber & Good, 1998; Stouthamer-Loeber et al., 2002).

In order to explore this question, another set of hierarchical regression analyses was computed, structured similarly to previous models, with the set of demographics and covariates entered in the first block and the number of 6th grade conduct problems symptoms entered in the second block. In one model, the set of clinical ratings of risk factors in each domain (four scores total) was added in the third block; in the other model, the set of clinical ratings of protective factors in each domain (four scores total) was entered in the third block (see Tables 14 and 15). Results from these analyses indicated that, whereas clinical ratings of risk factors contributed a significant increment to the prediction of 9th grade conduct problem symptoms, $\Delta F(4, 335) = 2.46, p < .05$, it did not explain as much variance as the inclusion of clinical ratings of both risk and protective factors, as seen in Table 11. The model with clinical ratings of protective factors alone did not explain a significant amount of variance in the prediction of 9th grade conduct problem symptoms beyond the number of 6th grade conduct problem symptoms, $\Delta F(4, 335) = 1.23, ns$. It should be noted, however, that the clinical rating of Adult Involvement protective factors was a significant independent predictor of 9th grade conduct problems, above and beyond

Table 14. Predicting number of 9th grade CP symptoms using demographic and early risk variables, 6th grade CP symptoms, and set of behavior-based sums of risk factors alone, for intervention sample (N=352).

	B	SEB	β	R ²	ΔR^2
Predictors					
Level 1				.12**	-
Gender	-0.62	0.36	-.09		
Race	0.10	0.27	.02		
Site	0.31	0.16	.12*		
Socioeconomic Status (SES)	-0.04	0.02	-.16**		
Single Parent Household	-0.31	0.35	-.05		
Parental Psychopathology	0.62	0.34	.10		
Early Attention Problems	0.03	0.17	.01		
Early Behavior Problems	0.10	0.16	.04		
IQ (WISC-R FSIQ)	0.01	0.01	.04		
Neighborhood Safety (Par.)	0.00	0.02	.01		
Exposure to Violence (Ch.)	0.10	0.02	.26**		
Level 2				.30**	.18**
# CP Symptoms (Gr. 6)	0.40	0.04	.47**		
Level 3				.32**	.02*
AAO # Risk Factors	-0.11	0.13	-.06		
PR # Risk Factors	-0.40	0.21	-.14		
AI # Risk Factors	0.26	0.16	.12		
AVB # Risk Factors	0.29	0.23	.09		

** $p \geq .01$, * $p \geq .05$

Table 15. Predicting number of 9th grade CP symptoms using demographic and early risk variables, 6th grade CP symptoms, and set of behavior-based sums of protective factors alone, for intervention sample (N=352).

	B	SEB	β	R ²	ΔR^2
Predictors					
Level 1				.12**	-
Gender	-0.60	0.36	-.09		
Race	0.12	0.27	.03		
Site	0.31	0.16	.12*		
Socioeconomic Status (SES)	-0.04	0.02	-.15**		
Single Parent Household	-0.31	0.35	-.05		
Parental Psychopathology	0.67	0.34	.11*		
Early Attention Problems	0.00	0.17	.00		
Early Behavior Problems	0.10	0.16	.04		
IQ (WISC-R FSIQ)	0.01	0.01	.05		
Neighborhood Safety (Par.)	0.02	0.01	.01		
Exposure to Violence (Ch.)	0.10	0.02	.26**		
Level 2				.30**	.19**
# CP Symptoms (Gr. 6)	0.40	0.04	.46**		
Level 3				.32**	.01
AAO # Protective Factors	-0.39	0.23	-.08		
PR # Protective Factors	0.10	0.17	.04		
AI # Protective Factors	-0.72	-0.30	-.13*		
AVB # Protective Factors	0.15	0.19	.04		

** $p \geq .01$, * $p \geq .05$

what had been explained by the number of 6th grade conduct problems ($t = -2.37, p < .01$).

These analyses suggest that while clinical ratings of risk factors explain a greater amount of predictive variance in the number of 9th grade conduct problems than ratings of protective factors, the strongest predictive model includes clinical ratings of risk and protective factors examined together.

Comparison of Domains

One additional set of exploratory analyses examined the degree to which clinical ratings of functioning in each of four domains could separately predict the number of 9th grade conduct problems, after controlling for demographics, contextual factors and early risk, and the number of 6th grade conduct problems. Four exploratory hierarchical regression models were run separately, with demographics and covariates entered in the first block of variables and the number of 6th grade conduct problems entered in the second block of variables; the third block of variables contained the pairs of clinical ratings of risk factors and protective factors in each of the four domains. Results from these analyses indicated that none of the pairs of clinical ratings of risk and protective factor sums in any of the four domains explained any additional variance in the prediction of 9th grade conduct problems, suggesting that it is more helpful to examine clinical ratings from the four domains in conjunction with each other. This is consistent with literature regarding the influence of these varying domains on youth during the transition to adolescence, which highlights the interactive nature of academic, peer, adult, and intra-individual influences on the progression of conduct problems during this time (Burke, Loeber, & Birmaher, 2002; Loeber & Farrington, 2000).

Exploratory Analyses Examining the Unique Predictability of Clinical Judgments

The final major aim for this study was to explore whether the clinical judgments of risk

and protective factors collected for the high-risk intervention sample contributed any significant variance in the prediction of 9th grade conduct problem symptoms, above and beyond the set of demographics and covariates, 6th grade conduct problem symptoms, and the established set of research-based risk and protective factor measures completed by other informants. To that end, a hierarchical regression was completed, using demographics and covariates in block 1, the number of 6th grade conduct problem symptoms in block 2, the research-based risk and protective factor measures in block 3, the set of clinical ratings of risk and protective factors in block 4, and the set of global judgments in block 5 (see Table 16). Ordering for these final two blocks was decided upon based on the higher levels of reliability, and concurrent and predictive validity for the clinical ratings, in comparison with the global judgment. Results indicated that, whereas the previously validated sets of predictors (demographics and covariates; 6th grade conduct problem symptoms; research-based risk and protective factors) all contributed significant amounts of variance in the number of 9th grade conduct problem symptoms, the set of clinical ratings of risk and protective factors also contributed a significant amount of additional variance in the outcome variable, $\Delta F(8, 318) = 3.43, p < .01$. In contrast, the set of global judgments did not contribute any additional amount of variance beyond the clinical ratings. In order to further test the comparable contribution of clinical ratings versus global judgments, the same hierarchical regression was run with the order of the set of clinical ratings and the set of global judgments switched in blocks 3 and 4. When this regression was run, results again supported the lack of significant contribution for the set of global judgments when they were entered in block 3. When entered in block 4, the set of clinical ratings again contributed a significant amount of variance in the outcome variable.

Table 16. Exploring the contributions of research-based risk and protective factors, clinical ratings, and global judgments in predicting the number of 9th grade conduct problem symptoms for intervention sample (N=352).

	B	SEB	β	Est. R ²	ΔR^2
Predictors					
Level 1				.12**	-
Gender	-0.65	0.36	-.10		
Race	0.11	0.27	.02		
Site	0.32	0.16	.13*		
Socioeconomic Status (SES)	-0.04	0.02	-.15*		
Single Parent Household	-0.27	0.35	-.04		
Parental Psychopathology	0.64	0.34	.10		
Early Attention Problems	0.04	0.17	1.02		
Early Behavior Problems	0.10	0.16	.04		
IQ (WISC-R FSIQ)	0.01	0.01	.04		
Neighborhood Safety (Par.)	0.00	0.01	.01		
Exposure to Violence (Ch.)	0.10	0.02	.26**		
Level 2				.30**	.18**
# CP Symptoms (Gr. 6)	0.40	0.04	.47**		
Level 3				.37**	.07**
GPA (Gr. 7 & 8)	-0.10	0.18	-.03		
School Adjustment (Parent)	-0.56	0.26	-.13*		
School Adjustment (Child)	0.11	0.27	.02		
Peer Deviance (Parent)	-.01	0.02	-.02		
Peer Deviance (Child)	0.28	0.20	.08		
Tobacco, Alcohol, Drug Use	-0.45	0.31	-.07		
Monitor./Comm. (Parent)	-0.83	0.34	-.13*		
Positive Parenting (Parent)	-0.30	0.24	-.07		
Monitor./Comm. (Child)	0.25	0.30	.05		
Positive Parenting (Child)	-0.42	0.21	-.13*		
Deviant Attitudes	-0.10	0.29	-.02		
Future Expectations	-0.24	0.44	-.03		
Ethnic Identity	0.36	0.27	.06		
Level 4				.42**	.06**
AAO # Risk Factors	-0.35	0.15	-.18*		
AAO # Protective Factors	-0.24	0.21	-.06		
PR # Risk Factors	-0.57	0.21	-.16**		
PR # Protective Factors	0.09	0.17	.03		
AI # Risk Factors	0.12	0.17	.05		
AI # Protective Factors	-0.52	0.32	-.10		
AVB # Risk Factors	0.40	0.23	.13		
AVB # Protective Factors	0.12	0.20	.04		
Level 5				.43**	.01
AAO Domain Risk Rating	0.22	0.30	.06		
PR Domain Risk Rating	-0.54	0.37	-.14		
AI Domain Risk Rating	-0.41	0.41	-.10		
AVB Domain Risk Rating	-0.23	0.37	-.06		

Additional analyses were completed to clarify unexpected results from this final exploratory model. Specifically, the number of Academic Achievement and Orientation and Peer Relations risk factors were found to be significantly inversely correlated with the number of conduct problems endorsed in 9th grade (see Table 16). This inverse relation was not observed in earlier correlation analyses (Table 11). Therefore, a number of steps were taken to determine whether suppression effects were the cause of this inverse relation, or whether there were specific interactions between other factors and clinician reports of risk factors in academic and peer domains which resulted in the inverse relation observed. First, hierarchical regression analyses were run in order to determine whether the addition of specific variables into the regression model led to the inversion of the correlation for these two variables. These analyses suggested an interaction between parent reports of school adjustment, youth ratings of beliefs regarding deviant behavior, and clinician ratings of risk factors in the domain of Academic Achievement and Orientation and Peer Relations. Further exploration of these associations indicated significant variability among parent reports of academic difficulty, clinician ratings of academic risk, and 9th grade conduct problems, such that clinician ratings were not wholly consistent with parent reports of problematic academic functioning and did not predict according to the number of conduct problem symptoms endorsed by parents and youth at 9th grade. This suggests that, rather than supporting a suppression effect, errors in clinical ratings in the areas of academic and peer functioning resulted in the inverse relations found in Table 16. Therefore, the exploratory model was run again with the two inversely related clinical rating variables entered separately, to determine whether other clinician ratings of risk and protective factors predict 9th grade conduct problem symptoms in the correct direction (Table 17). While the block of

Table 17. Exploring the contributions of research-based risk and protective factors, clinical ratings, and global judgments in predicting the number of 9th grade conduct problem symptoms for intervention sample (N=352), with AAO and PR risk clinical ratings entered separately.

Predictors	B	SEB	β	Est. R ²	ΔR^2
Level 1				0.13**	-
Sex	-0.66	0.36	-.10#		
Race	0.03	0.28	.01		
Socioeconomic Status (SES)	-0.05	0.02	-.17*		
Single Parent Household	-0.25	0.35	-.04		
Parental Psychopathology	0.64	0.34	.10#		
Early Attention Problems	0.04	0.17	.01		
Early Behavior Problems	0.14	0.16	.05		
IQ (WISC-R FSIQ)	0.01	0.01	.03		
Neighborhood Safety (Par.)	0.00	0.01	.01		
Exposure to Violence (Ch.)	0.10	0.02	.27**		
Level 2				0.31**	.18**
# CP Symptoms (Gr. 6)	0.39	0.04	.46		
Level 3				0.39**	.08**
GPA (Gr. 7 & 8)	-0.06	0.18	-.01		
School Adjustment (Parent)	-0.56	0.25	-.13*		
School Adjustment (Child)	0.00	0.28	.00		
Peer Deviance (Parent)	-0.01	0.02	-.02		
Peer Deviance (Child)	0.24	0.21	.07		
Tobacco, Alcohol, Drug Use	-0.40	0.30	-.06		
Monitor./Comm. (Parent)	-0.84	0.35	-.14*		
Positive Parenting (Parent)	-0.27	0.23	-.06		
Monitor./Comm. (Child)	0.29	0.33	.06		
Positive Parenting (Child)	-0.43	0.21	-.13*		
Deviant Attitudes	-0.11	0.28	-.02		
Future Expectations	-0.25	0.44	-.02		
Ethnic Identity	0.37	0.30	.07		
Level 4				0.40**	.01
AAO # Protective Factors	-0.06	0.24	-.02		
PR # Protective Factors	0.06	0.15	.06		
AI # Risk Factors	-0.04	-0.08	-.04		
AI # Protective Factors	-0.70	0.31	-.13*		
AVB # Risk Factors	0.04	0.21	.01		
AVB # Protective Factors	0.18	0.19	.05		
Level 5				0.43**	.03**
AAO # Risk Factors	-0.28	0.15	-.15#		
PR # Risk Factors	-0.54	0.21	-.19*		

** $p \geq .01$, * $p \geq .05$

clinician ratings of risk and protective factors did not contribute additional significant variance overall, the variable of Adult Involvement protective factors served as a significant independent predictor ($t = xx, p < .05$).

Taken together, these findings suggests that when used alone, clinical ratings in the domains of academic achievement and peer relations are predictive of conduct problem symptoms, but their true value lies in their shared variance with parent and youth reports of comparable domains. That is, for those domains, clinical ratings do provide valuable information regarding risk for future conduct problem symptoms, but parent and youth reports are likely to be more consistent and valid predictors. However, this finding may also be due to the shared variance of parent/youth reported conduct problems and parent and youth reports of academic functioning and deviant attitudes about behaviors.

Chapter 4. DISCUSSION

This study aimed to explore two central questions regarding change in conduct problems over the transition into adolescence. First, it tested a predictive model, based upon the hypothesis that consideration of risk and protective factors would add to the prediction of change in the number of conduct problem symptoms reported across the middle school years (grades 6 to 9). Second, it examined the reliability, concurrent validity, and predictive validity of clinical judgments made by staff in a long-term prevention study, including two different types of clinician ratings (structured behavioral ratings versus global judgments). It tested the hypothesis that clinical staff would be able to provide reliable and valid reports of risk and protective factors, and that these ratings would predict change in youth conduct problems during the transition to adolescence (grades 6 to 9).

Overall, results supported the hypothesis that a set of risk and protective factors would add significant additional variance to the prediction of the number of conduct problem symptoms at 9th grade, above and beyond what could be predicted using a set of empirically-based early and concurrent risk factors and youth conduct problem symptoms at 6th grade. In addition, results from this study supported the hypothesis that clinical staff could reliably and validly rate early adolescents on a set of risk and protective factors when using a structured clinical judgment methodology (clinical ratings of risk and protective factors), more so than when making more global judgments about youth functioning. Finally, results from this study supported the hypothesis that structured clinician ratings of risk and protective factors contributed additional variance to the prediction of change in youth conduct problem symptoms between 6th and 9th grades, above and beyond what was predicted by research-based measures of those risk and protective factors completed by parents, teachers, and youth; however, this result was not

supported when risk factors in academic functioning and peer relations were entered separately in the regression analysis due to inverse loadings within the model. Protective factors in adult involvement, however, emerged as a significant independent predictor of 9th grade conduct problems.

Each of these topics will be discussed in greater detail in the next section, including clarification of specific hypotheses, interpretation of findings in the context of existing research, and areas for future exploration.

Reporting of Conduct Problem Symptoms

Preliminary analyses for this study involved the exploration of conduct problem symptoms as endorsed by parents and youth through structured clinical interviews at two time points (grade 6 and grade 9). We expected to see low to moderate magnitude agreement between parent and youth reports of conduct problems as has been found previously (e.g., Achenbach et al., 1987; Edelbrock et al., 1986; Loeber, Green, Lahey, & Stouthamer-Loeber, 1989). Our findings replicated correlation coefficients seen in other samples that have examined parent and adolescent agreement in the reporting of conduct problem symptoms, with average levels of agreement in the $r = .20$ range.

Based upon prior research, we expected conduct problem symptoms to increase as youth moved from sixth to ninth grades, reflecting the theorized increase in the incidence of conduct problems from childhood to adolescence (e.g., Bird, Canino, Rubio-Stipec, Gould, Ribers, et al., 1988; Offord, Boyle, & Racine, 1991). However, when symptom counts were examined within reporter, there was an observed decrease in parent-reported conduct problems for males from grade 6 to grade 9, with other reports (parent reports for females and self-reports for males and females) remaining stable. This finding was unexpected, given that a majority of the theoretical

and quantitative literature in this area supports a general increase in the prevalence of conduct problems during the transition to adolescence (e.g., Bird et al., 1988; McGee et al., 1990; McGee, Feehan, Williams, & Anderson, 1992; McMahon & Kotler, 2006). While there have not been many studies that have specifically examined change in the number of conduct problem symptoms for individuals already at high risk for continued conduct problems, some studies have noted significant increases in the rate of conduct problems as assessed using behavior rating scales over the transition to adolescence in birth cohort samples (e.g., McGee et al., 1992) and community samples (August, Realmuto, Joyce, & Hektner, 1999; Bird et al., 1988). Interestingly, Barker and colleagues hypothesize that adolescents in clinical samples may be more likely to report fewer problem behaviors than their parents, while adolescents in community samples may be more likely to report higher numbers of symptoms than their parents (Barker, Bornstein, Putnick, Hendricks, & Suwalksy, 2007). This suggested difference may be due to the greater severity and intensity of symptoms experienced by adolescents in clinical samples simply due to their referral status; however, the range of studies examining conduct problem reporting in clinical vs. community samples does not consistently support this observation.

One possible explanation for our finding of a decrease in parent-reported conduct problem symptoms for males involves an artifact associated with the repeated administrations of the structured clinical interview (the DISC). Researchers have found that fewer symptoms are often reported on structured interviews on repeated administrations (e.g., Piacentini et al., 1993). Additionally, there is some research illuminating factors that could affect parents' and adolescents' varying patterns of reporting conduct problem symptoms and other psychopathology (e.g., Barker et al., 2007; Bidaut-Russell et al., 1995; Loeber et al., 1989).

Bidaut-Russell and colleagues (1995) provide an interesting perspective in their qualitative data of parents' and adolescents' opinions regarding discrepant reports of emotional and behavioral symptoms on the DISC. Pairs of clinically referred and community-selected parents (mostly mothers) and adolescents (mean age 15.1 ± 1.8) were separately asked a number of DISC symptom queries regarding the adolescent's current behavior, and were then asked to predict the response that the other individual would likely give. If parents or youth predicted a discrepancy in what they reported and what they anticipated the other would report, they were asked to provide a possible reason for the other individual's discrepant response. Adolescents' and parents' reasons for discrepancies typically involved a belief that the other individual was exaggerating or minimizing a symptom, misperceiving or misinterpreting a symptom, or simply unaware of the symptom's presence. Adolescents also indicated that a possible explanation for parental endorsement of adaptive or maladaptive behavior could be parental expectations for behavior, whether more optimistic (e.g., expecting adaptive behavior when maladaptive behavior was truly present) or pessimistic (e.g., expecting maladaptive behavior when it was not truly occurring). Although the study's sample was small and fairly limited in age and race (predominantly European-American), it provides interesting possibilities for thinking about cognitions that could influence discrepant reporting on structured interviews for adolescents and their parents.

Rather than reflecting concerns with measurement or validity of reports, the isolated decrease in parent reports of conduct problems for males could also reflect a normative decrease in time spent with parents which occurs for both male and female adolescents (Brown, 2004; Larson, Richards, Moneta, Holmbeck, & Duckett, 1996), which would then lead to fewer opportunities for parents to observe the presence of these behaviors (Laird, Pettitt, Bates, &

Dodge, 2003; Rubio-Stipec, Gitzmaurice, Murphy, & Walker, 2003). In other words, while early adolescents might be engaging in consistent or increasing levels of conduct problem behaviors, their parents may not be as aware of the behaviors as they had been during childhood, resulting in a decrease in observed conduct problem symptoms by parents which does not truly reflect actual symptom presentations.

A final alternate possible explanation for the observed decrease in parent-reported conduct problem symptoms at 9th grade could be that it truly reflects a change in the pattern of conduct problem symptoms at early adolescence. That is, while the number of different symptoms/behavior could have decreased, the severity of the symptoms may have increased. For instance, a parent could endorse the presence of 3 symptoms of Conduct Disorder (such as robbery or destruction of property) at 9th grade, as opposed to 5 symptoms of Oppositional Defiant Disorder (such as losing one's temper or arguing with adults) endorsed at 6th grade. In this example, the change in symptom count from 6th grade to 9th grade would likely not represent a decrease in impairment or functioning, and would rather be more indicative of an increase in symptom severity and variability in the types of behaviors exhibited at different points in time (McMahon & Estes, 1997).

While there is no way of determining the actual reason for the decrease in parent-reported symptoms of conduct problems in this sample from 6th grade to 9th grade, it is clear that the validity of reports on conduct problem symptoms is an issue that continues to warrant examination in the field. There is no current gold standard informant to depend upon when synthesizing information about conduct problem behaviors; rather, as many others have suggested, it is most prudent to utilize a multimodal assessment model, in which multiple forms of information are collected from multiple reporters in order to increase the chance of obtaining

the most accurate composite of present symptoms (Cummings, Davies, & Campbell, 2000; Johnston & Murray, 2003; LaGreca & Stone, 1992; Mash & Terdal, 1997). The multimodal assessment model, however, brings with it the challenge of synthesizing conflicting information, and researchers continue to disagree regarding the “best” informant for reporting on specific behaviors or the most accurate method of combining symptom counts (e.g., Loeber et al., 1989; Piacentini et al., 1992; Rubio-Stipec et al., 2003). This is complicated by the variability within symptoms falling underneath the umbrella of the conduct problems term. For example, parents and teachers may be the preferred informants for oppositional or aggressive behaviors, which are overt and accessible to the observer, whereas self-reports may be more reliable for assessing covert conduct behaviors, which by their very nature, are hidden to observers (McMahon & Frick, 2005). While the nature of conduct problem symptoms themselves often make it difficult to obtain valid and complete accounts of behavior, future research should focus on solidifying methods of gathering and synthesizing this often-contradictory information with the hopes of attaining a standardized and empirically-supported method of assessment.

Theoretical Model of Risk and Protective Factors

A central aim of this study was to examine whether a set of risk and protective factors representing four key domains in the progression of conduct problems would account for variance in conduct problems assessed at 9th grade, above and beyond the variance predicted by demographic, early risk and contextual factors, and the level of childhood conduct problems (i.e., number of CP symptoms endorsed at 6th grade). Results from this study supported the hypothesis that the cumulative set of risk and protective factors explained a significant amount of variance in the number of conduct problem symptoms at 9th grade, above and beyond what was explained by demographic and household factors (e.g., race, gender, SES, single-parent household status,

and parental psychopathology), early risk factors (e.g., aggressive-disruptive behavior problems, attention problems, and cognitive ability at school entry) and concurrent contextual risks (e.g., neighborhood safety and exposure to violence), and baseline levels of conduct problems at 6th grade. This finding supports an increasing body of literature that highlights the importance of risk and protective factors in better understanding progressions towards or away from problematic behavior (e.g., Pollard et al., 1999; Stoiber & Good, 1998; Stouthamer-Loeber et al., 2002). As stated earlier, while childhood conduct problems play a strong role in predicting future conduct problems, they do not fully explain all of the variance; consideration of intra-personal and contextual factors during the key transitional period of early adolescence not only increases the ability to predict conduct problem symptoms later in adolescence, but also highlights areas in which prevention efforts could be focused with the hope of disrupting the progression of conduct problem behaviors.

The importance of the role of this set of risk and protective factors in predicting the progression of conduct problem symptoms from late childhood to middle adolescence is intensified by the high-risk nature of this sample, which has not been examined closely in other studies. Although population-based studies of conduct problem progression are also important, youth with elevated behavior problems at school entry face heightened risks for becoming chronic offenders. Hence, better understanding factors that affect the stability or change in conduct problem progression for these high-risk youth is of extreme importance. A specific contribution of this study was the finding that late childhood conduct problem symptoms (when youth were in 6th grade) made a substantial prediction to youth conduct problem symptoms when youth were in the 9th grade, which emphasized that even in youth already identified as having a high level of conduct problem behavior at elementary school entry, the amount of conduct

problem symptoms endorsed at the transition to adolescence is also significantly important. In addition, key concurrent factors during the middle school years were found to have significant independent influences on 9th grade conduct problem symptoms, such as parental psychopathology (which could interfere with a parent's ability to effectively adapt parenting strategies to deal with the new challenges of adolescence) and exposure to neighborhood violence and peer deviance (which both serve to provide or deny opportunities for deviant activities and normalize or pathologize attitudes about the acceptability of antisocial behavior). These are risk factors for conduct problems for all adolescents, but have a particularly strong influence for youth already displaying high levels of conduct problems at the transition to adolescence.

While the theoretical model explained approximately 37% of the variance in the prediction of 9th grade conduct problems (which is consistent with amounts of variance explained in other studies), there are some lingering questions regarding the set of risk and protective factors identified for this study. The specific risk and protective factors examined in this study were selected based upon the developmental model of the Fast Track Project, which implicated these four domains of functioning as key in the progression of conduct problem behaviors during the transition to adolescence. Despite being highlighted in the literature as particularly salient in predicting conduct problems, there were other risk and protective factors that could have been included instead of or in addition to the selected domains, such as callous/unemotional traits (e.g., Frick & Morris, 2004) and neuropsychological characteristics (e.g., Moffit, 1993). Similarly, given the variability in prevalence, it is possible that there are subsets of the sample according to sex, race, or geographical location for which different risk and protective factors play a stronger role. Finally, even with the current set of risk and protective factors selected for

examination in this study, utilization of alternate research-based measures of the same constructs could have resulted in higher or lower amounts of variance explained. Future studies might consider attempting to replicate these results using different measures of similar constructs, perhaps by obtaining information from a greater variety of reporters or by using different research-based instruments.

Reliability of Structured Clinical Judgments of Risk and Protective Factors

The second aim of this study was to evaluate the reliability and validity of two types of clinician reports (clinical judgments) in order to determine their possible contribution to adapting an intervention for high-risk youth. Based on previous findings of specific areas of increased reliability and validity in the area of clinical judgment, it was hypothesized that structured clinical judgments would have adequate inter-rater reliability and concurrent validity -- particularly clinical ratings, in which clinical staff endorsed the presence or lack of presence of specific risk or protective behaviors in four domains for each youth. It was hypothesized that global judgments (in which clinical staff completed summary ratings of a youth's overall risk in each of the four domains) would be less reliable and valid, given the body of literature regarding these types of unstructured clinical judgments.

The first group of analyses in this area explored inter-rater reliability, using the responses of a subset of clinical staff who provided independent clinical ratings and global judgments of youth. Results suggested that, overall, clinical staff were adequately reliable reporters on structured clinical judgments of risk and protective factors in four key domains, with higher overall levels of inter-rater reliability obtained for clinical ratings as opposed to global judgments. These findings are consistent with previous studies, which posit higher levels of clinician reliability for ratings of more specific, behavior-based information as opposed to more

global judgments of functioning (e.g., Bierman et al., 2006; Dutra et al., 2004). Specifically, Bierman and colleagues found that, in the context of a longitudinal intervention, clinical staff's standardized ratings of parental functioning showed stronger reliability and better concurrent and predictive validity than global assessments of a family's need for services. Dutra and colleagues (2004) found that clinicians treating adolescents in an outpatient setting were adequately reliable and had good concurrent validity in their completion of the Child Behavior Checklist, a questionnaire with which to structure their clinical judgments. While Dutra and colleagues' study involved a different clinical context and did not include an unstructured global judgment for comparison, it supports the concept that clinical judgment can be reliable and valid when using a structured methodology. Finally, while the majority of global judgments in our study were not adequately reliable, a high inter-rater reliability coefficient was found for the global judgment rating of academic risk; this is likely due to the existence of concrete information on which to base academic risk judgments (such as grade point average, detentions and suspensions, and enrollment in special education services), which was not necessarily present for the other domains examined in this study.

The two types of clinical judgments examined showed adequate concurrent validity with research-based parent, teacher, and youth reports, particularly in the domains of academic risk and peer risk. The two areas with lower levels of concurrent validity (Adult Involvement and Attitudes, Values, & Beliefs) were ones that had evidenced lower levels of inter-rater reliability earlier in this study. It may be, therefore, that the types of questions asked in the Triannual Assessment in the two less reliable and less valid domains were more difficult for clinical staff to provide reliable responses. For instance, in the Attitudes, Values & Beliefs domain, the queries regarding positive personal goals, identity development status, and future vocational goals and

interest may have been particularly difficult for clinical staff to report on unless they had specifically asked the adolescent to discuss these topics, as they reflect cognitions rather than demonstrated behaviors. Alternately, the specific risk and protective factor information gathered in the less reliable and valid domains may not have been as closely associated with the information gathered by research-based tasks. For example, the research-based information reported by parents and adolescents in the Adult Involvement domain regarding supervision and parent-child communication may differ dramatically from the observations and conceptualizations of the clinical staff (an outside observer). Finally, also in terms of the Attitudes, Values, & Beliefs domain, it may be that some constructs being assessed at the time of this study are still in the process of developing, such as ethnic identity and expectations about future life goals, and are not yet stable predictors of change in conduct problems (French et al., 2006). Given the rapidity of change occurring in numerous domains during the transition to adolescence (particularly areas such as identity development), it is likely that constructs within these rapidly changing domains may exert variable degrees of prediction across the course of adolescence. Future studies should examine whether certain constructs serve as stronger predictors of conduct problem behavior at particular developmental time points, as opposed to exerting an overall strength of prediction at all ages. In addition, when designing research batteries and structured clinical judgment measures for the purpose of comparing them, efforts should be made to align these two forms of information-gathering as closely as possible in order to assure that near equivalent constructs are being compared.

Another key factor that must be considered when discussing the reliability and concurrent validity of the structured clinical judgments examined in this study is the nature of the role of the clinical staff. As with any type of task where clinical judgment is required, characteristics of the

clinician, the client, their relationship, and the specific clinical task being carried out certainly play a role in the way in which judgments are made (Jensen & Weisz, 2002). Given the many factors at play, it is encouraging that clinical staff in the Fast Track Project were able to provide fairly reliable reports of risk factors during the middle school years. When considering the difficulty of collecting and synthesizing clinical information from multiple reporters during this developmental period, it would be helpful to be able to rely on clinician's judgments of behavior as one way of organizing discrepant reports among informants. Additionally, specific to the needs of long-term prevention and intervention studies, clinical staff's ability to provide reliable and valid reports of behavior would allow for more regular and frequent assessments of study participants' current needs, as completion of a full research battery multiple times per year would be difficult to complete in the context of a large-scale study. While it would not be recommended to replace research-based assessments with clinical judgment by any means, the findings of this study suggest that structured clinical judgments could provide useful in clinical tasks such as treatment planning or assessment of need for specific services, such as would be necessary in adaptive intervention methodologies (Collins, Murphy, & Bierman, 2004). Future efforts are needed in order to improve the overall reliability and concurrent validity of structured clinical judgments, particularly ratings of protective factors, and in terms of ratings of certain constructs such as ethnic identity and deviant attitudes of behavior.

Predictive Validity of Structured Clinical Judgments

Our final group of analyses compared the two types of structured clinical judgments examined in this study (clinical ratings and global judgments) in terms of their ability to predict additional variance in 9th grade conduct problem symptoms, above and beyond demographics and covariates, and 6th grade conduct problem symptoms. As previously stated, we hypothesized

that clinical ratings would have better predictive validity as compared to global judgments, given their better inter-rater reliability and concurrent validity. Results of this study indicated that clinical ratings (that is, clinicians' ratings of behaviors or characteristics) had better predictive validity than global judgments of risk. As with the reliability and concurrent validity analyses, these findings are consistent with previous studies suggesting that increased structure improves validity of clinical judgments (e.g., Bierman et al., 2006). These findings are generally consistent with early predictive validity results of structured clinical judgment assessment tools such as the Early Assessment Risk List for boys (EARL-20B; Enebrink et al., 2006), the Structured Assessment for Violence Risk in Youth (SAVRY; Meyers & Schmidt, 2008), and the Santa Barbara Assets and Risks Assessment (SB ARA; Jimerson et al., 2004), though the predicted outcome variables vary. For example, Enebrink and colleagues (2006) found that, in a sample of 6-12 year old boys, the EARL-20B showed significant incremental predictive validity over unstructured clinical evaluations and a diagnosis of conduct disorder at baseline (30 months prior to the outcome measurement of parent and teacher rating scales of aggressive/disruptive behavior and a diagnosis of conduct disorder). The EARL-20B is composed of primarily risk factors, with some protective factors included as well, and utilizes clinical ratings as well as a global judgment of low, medium, or high risk for future antisocial behavior. Adequate predictive validity was seen for both clinical ratings and global judgments in the EARL-20B. In a sample of adolescents already involved with the juvenile justice system, Meyers & Schmidt (2008) found that the SAVRY showed good predictive validity in determining future risk for violence in low-risk youth, but did not have strong predictive validity for youth who had received medium- to high-risk ratings for future violence. The SAVRY is composed of risk factors alone, and has clinical ratings as well as global judgments of low, moderate, or high risk for future violence; only global

judgments were examined in terms of predictive validity. In a sample of first-time European-American and Mexican-American juvenile offenders, Jimerson and colleagues (2004) found that the SB ARA showed adequate predictive validity in terms of predicting recidivism (any re-offense) 12 months after initial assessment; interestingly, these results from the SB ARA suggested that there might be unique risk factors for recidivism for females and males. The SB ARA includes both risk and protective factors, and examined only clinical ratings (i.e., specific behavioral indicators of risk). While none of these three instruments examines the same population or prediction outcome variable as this study, these results suggest that structured clinical judgments (specifically, clinical ratings of specific risk and/or protective factors) show significant promise for predictive validity within the broad area of conduct problems and problem behavior.

In this study, when examined separately, neither the set of clinical ratings of risk factors or protective factors alone contributed as much variance as they had when entered together. This confirms some researchers' claims that inclusion of risk and protective factors are key in constructing a predictive model of risk for future conduct problems (e.g., Jimerson et al., 2004; Loeber & Farrington, 2000; Stouthamer-Loeber et al., 2002). In addition, this finding adds to the literature regarding the role of risk and protective factors for conduct problems; while some have conceptualized the influence of these factors as additive, in which the number of risk factors leads to increased number of conduct problems (e.g. Sameroff et al., 1998), our finding that the combination of the number of risk and protective factors entered together in the model contributed more variance than when entered alone is consistent with the overall concept that risk and protective factors do not function separately in their influence on a youth's likelihood to display conduct problem behaviors through adolescence (Burke et al., 2002; Loeber &

Farrington, 2000). Rather, it is the combined influence of these specific factors over time that serve to place youth at greater or lesser risk for future conduct problems, which highlights the need for prevention and intervention programs to simultaneously address multiple influences of conduct problem behavior (Henggeler, Melton, & Smith, 1992).

While the set of clinical ratings did contribute an additional 4% of the variance in 9th grade conduct problems, the amount of variance was not as large as what was contributed by the set of research-based measures completed by other informants (7%), which was expected given their established reliability and validity and given the number of different informants providing information. However, when the clinical ratings were entered into the model following the set of research-based measures, they did contribute significant variance in the outcome variable beyond what had already been predicted (an additional 6% of the variance in the number of 9th grade conduct problems). In comparison, the set of global judgments did not contribute any additional variance in the prediction of the outcome variable, even when it was entered sequentially in the hierarchical regression before the set of clinical ratings. The contribution of the overall set of clinical ratings was diminished when two risk factor sums (Academic Achievement and Orientation and Peer Relations) were entered separately due to inverse loadings within the model. These loadings emerged likely due to clinical error by staff in rating risk factors within these domains, and were possibly influenced by shared variance between parent/youth ratings of school adjustment and deviant attitudes about behavior and parent/youth-endorsed conduct problem symptoms. This overall finding highlights the idea that the inclusion of clinical ratings is most effective when used in conjunction with other informants' reports, while the inclusion of global judgments does not appear to contribute additional information in any case. It could be that, in this case, research-based measures and clinician ratings are capturing non-overlapping

portions of variance in the outcome variable of 9th grade conduct symptoms, which is consistent with arguments that clinical judgment methodologies allow for the inclusion of clinical information not easily captured by typical research-based measures and unique to the clinician as an informant (Bierman et al., 2006; Dutra et al., 2004). Alternately, clinical staff in this study could simply be considered as another informant, which, as the multimodal assessment literature suggests, has the basic benefit of providing an additional perspective along with what other informants (parents, youth, and teachers) can contribute. Overall, our finding suggests that while it would not be appropriate to fully replace the use of research-based methods in prevention studies with structured clinical judgment methodologies, consideration of these structured clinical ratings could contribute additional information about change in conduct problem symptoms over the course of the middle school years, specifically within the area of adult involvement.

Study Limitations

One key aspect of this study to consider is the specific intended use of the Triannual Assessment procedure as the basis for an adaptive intervention portion of the Fast Track intervention that would be responsive to changes in adolescents' functioning and levels of risk over time. That is, the Triannual Assessment method was not intended for use as a complete assessment system suitable for the majority of clinical populations and purposes. Given this intended purpose, the set of specific risk and protective factors assessed in the Triannual Assessment was pre-determined by the Primary Investigators of the Fast Track study, and therefore limited the scope of possible risk and protective factors considered in the predictive models.

A second limitation of this study was the significant presence of missing data, a common difficulty in working with a longitudinal dataset. Of the high-risk sample (control and intervention youth combined), 211 youth were excluded due to missing conduct problem data at either or both data collection points (6th grade and 9th grade). These youth evidenced higher rates of parental psychopathology, higher IQ scores at school entry, and higher rates of exposure to neighborhood violence during middle school, but did not significantly differ from the included youth in any other areas. The decision to not impute the number of conduct problem symptoms was a statistically conservative one aimed at not assuming the pattern of symptom increase or decrease, which eliminated a number of youth from the analyses who may have affected the findings of the study overall. In particular, youth with more severe levels of conduct problems resulting in placement in group homes or residential treatment facilities, juvenile detention centers, or inpatient hospitalization, thus making them available for data collection at either time point, were excluded from analyses. Therefore, these analyses may not have included youth with the most severe levels of problematic behavior, which should be considered in interpretation.

A third limitation of this study was the lack of standardized information available regarding characteristics of the Fast Track staff completing the Triannual Assessment, such as education level or duration of time spent with adolescents and their families. While research is inconclusive as to whether these factors significantly impact the validity or reliability of reports, it would have been helpful to examine or control for these possible variations in our analyses.

A fourth limitation of this study was the lack of conduct problem symptom information available from third-party sources (e.g., not parent or youth reports). Availability of additional conduct problem symptom ratings could have further clarified the role of shared variance between parent and youth reports of conduct problems and parent and youth reports on rating

scales. Given this, it is difficult to determine the degree to which the lower predictive variance in conduct problem symptoms accounted for by clinician ratings is simply due to shared variance from common informants. Inclusion of court records, school records, or other community reports of conduct problem symptoms could possibly increase the validity of clinician ratings.

Finally, it is important to consider the specific contribution of the protective factors within the predictive model. While statistical analyses indicate that addition of the set of protective factors contributed additional variance in the prediction of 9th grade conduct problem symptoms, this contribution could have solely been due to the inclusion of additional variables. It would be difficult to determine whether the same effect would emerge if additional risk factors were added (which would serve to control for the effects of including any additional variables) or whether there was a particular contribution from protective factors in particular. The predetermined number of risk and protective factors identified in the design of the Triannual Assessment limits us from clarifying this question within the confines of this study.

Implications for Empirical and Clinical Applications

Overall, this study found that consideration of risk and protective factors during the transition to adolescence does contribute to the prediction of change in conduct problems, and indicates that structured clinical judgment methodologies (such as clinicians' ratings of behavior) offer additional information that could prove helpful in prevention and intervention programs. One of the challenges of a long-term intervention project is the time and effort that is typically necessary to collect current data from a large sample of participants on a regular basis; this task becomes complicated when participants enter adolescence, as the number of informants tends to increase (i.e., self report, multiple teacher reports) and conflicting information must be considered when making intervention-specific decisions. Findings from this study support the

idea that, while it would not be prudent to replace a battery of research-based measures with clinical judgments alone, utilizing clinician ratings on a more frequent basis in addition to research-based measures completed by other informants can contribute to our ability to predict change in conduct problem symptomatology, and, therefore, towards eventually being able to reliably adapt and implement services based on a youth's particular areas of risk for conduct problem progression.

Appendix. TRIANNUAL ASSESSMENT CRITERIA

Academic achievement and orientation

Risk factors

1. Did the youth receive any D's and F's?
2. Did the youth experience any school suspensions or expulsions?
3. Was poor attendance, truancy, or tardiness a problem for the youth?
4. Did school staff express concerns about the youth's school behavior, such as anger control, staying on task, completing work, fighting?
5. Consider the youth's interest in school and staying out of trouble vs. his/her identification with deviant role models. Are negative school attitudes evident?

Protective factors

6. Did the youth demonstrate areas of academic competence (grades of C or higher)?
7. Did the school staff describe behaviors that represent competencies?
8. Are the parents able to help support the youth's academic success?
9. Have FAST Track staff found the youth to be responsive to tutoring?
10. Is the youth receiving any special services or support at school?

Summary Ratings for Academic Achievement and Orientation

0=*Minimal Risk*: Youth demonstrates a positive orientation towards school and is not failing any core academic subjects.

1=*Moderate Risk*: Youth is failing a core subject and/or has shown a significant decline in academic performance. Motivational risk factors may include the lack of a commitment to school. There may be deficits in study skills/homework completion. Youth may also be rated here if adequate academic performance appears dependent upon Fast Track support.

2=*Serious risk*: Youth is failing two or more core subjects, and exhibits motivational and organizational problems. Significant deficits in academic skills require intensive remedial support. Truancy, deterioration in grades, or school suspension may be evident.

Peer relations

Risk factors

1. Does the youth demonstrate current involvement with or a high level of exposure to deviant peers?
2. Does the youth demonstrate involvement or interest in high-risk antisocial activities, such as vandalism, shoplifting, smoking, drinking, risky sexual activity, etc.?
3. Is this youth alienated from normative peer groups, due to rejection or victimization, lack of social skill, or a lack of interest?

Protective factors

4. Has the youth shown interest in and involvement with positive peer activities in the context of school or community?
5. Does the youth have positive activities to occupy his/her leisure time?
6. Does the youth have high quality friendships with non-deviant peers or family members?

Summary Ratings for Peer Relations

0=*Minimal Risk*: Youth demonstrates affiliations with normative peers, involvement in appropriate leisure time activities, and no involvement in deviant peer activities.

1=*Moderate Risk*: Youth has or is at high risk for problematic peer relations. Exposure to deviant peers and/or a lack of positive peer affiliations exist as risk factors. Also rate here if adequate peer relations are dependent on Fast Track support.

2=*Severe risk*. Youth exhibits seriously problematic peer relations. Activities with deviant peers may include risky antisocial or sexual behavior, fights, suspensions, etc. Youth may also be rated here if peer problems are moderate currently, but social skill deficits and/or inadequate monitoring indicate high future risk in this area.

Adult involvement, supervision, and monitoring

Risk factors

1. Does the youth experience high levels of conflict within the family?
2. Does the youth exhibit defiance or experience conflict with other adults, including teachers or authority figures in the community?
3. Are there problems in parental monitoring functions (e.g., setting or enforcing appropriate limits regarding the youth's activities inside and outside the home; communication problems; inadequate supervision)?
4. Is there reason to believe that the youth is currently involved in unmonitored (covert) antisocial activities, such as ATOD use (including smoking), stealing/vandalism, or sexual activity?

Protective factors

5. Are there family members or other adults in the youth's life who serve as sources of support?
6. Are there opportunities for supervised leisure activities at school or in the community that provide structure and support for the youth?

Summary Ratings for Adult Involvement:

0=*Minimal Risk*: Youth is positively involved with parents, does not show heightened conflict, and does not engage in covert problem behaviors.

1=*Moderate Risk*: Conflict with parents or teachers is evident and/or problems exist in parental monitoring. Youth may also be rated here if adequate adult involvement is dependent upon the provision of external support by Fast track staff.

2=*Severe Risk*: Conflicts with parents or other authority figures are frequent and severe. Covert behavior problems (antisocial behaviors, substance use, risky sexual activity) associated with insufficient or ineffective monitoring are evident.

Identity development

Risk factors

1. Does the youth hold attitudes that glorify violence or other antisocial activities and/or does youth seek to model him/herself after deviant role models?
2. Is the youth reactive and impulsive in his/her social behavior and decision-making, easily "set off" by poor role models or situational pressures?

3. Does the youth demonstrate an affinity for high-stimulation, high-risk, health-endangering activities (including risky sexual activity)?

Protective factors

4. Is the youth able to talk about positive personal goals? Does the youth show a positive sense of self, positive ethnic identity, and a positive future orientation?

5. Are there relationships and areas in which the youth has exhibited a capacity of interpersonal sensitivity and concern, empathy, and caring?

6. Does the youth demonstrate interests and motivations that could support the future development of vocational skills and career development?

Summary Ratings for Identity Development:

0=*Minimal risk*: A positive self-concept, positive sense of the future, and skills to provide a basis for vocational development are evident.

1=*Moderate risk*: Self-concept includes deviant role models, negative orientation, and/or absence of future goals or interests. Deficits are significant enough to cause some impairment in functioning and indicate risk for the future. Youth may also be rated here if positive identity development appears dependent upon external support provided by Fast Track staff.

2=*Severe risk*: Problematic self concept, deficits in future goal orientation and/or deficits in responsible decision-making are serious and cause significant problems in youth adaptation. Deficits in motivation or skills appear highly likely to impede youth development of or success in vocational pursuits.

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PUBLICATIONS

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