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**Integrating Models of Risk and Protection for the Prevention of
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**INTEGRATING MODELS OF RISK AND PROTECTION FOR THE
PREVENTION OF ADOLESCENT DELINQUENCY**

By

Jennifer L. Juras

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ABSTRACT

INTEGRATING MODELS OF RISK AND PROTECTION FOR THE PREVENTION OF ADOLESCENT DELINQUENCY

By

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A risk and resilience approach has been increasingly utilized to develop interventions to prevent youth problems such as adolescent delinquency. This approach to prevention uses ecological theory as a framework for understanding adolescent development and behavior and adds information about delinquency from research on risk and protective factors.

This study addressed gaps in research and practice by combining two risk and resilience models of delinquency prevention - risk reduction and protection enhancement - in a comprehensive manner. An additional goal was to examine the utility of considering domains of risk and protection, rather than overall numbers of risk and protective factors, for delinquency prevention efforts. Finally, gender, urban/rural, and racial/ethnic differences in risk and protection were explored, as well as whether individual, family, peer, school, and community protection moderated risk for youth within these sociodemographic groups.

A survey measuring risk and protective factors in the individual, family, peer, school, and community domains was administered to 452 students from an urban and a rural middle school in a medium-sized Midwestern city. Of these, 57% were from the urban school and 43% were from the rural school, and slightly over half were female.

Within the urban site, 48% were Caucasian and 52% were youth of color, and 92% were Caucasian in the rural site.

The results revealed differences in levels and types of risk and protection within sociodemographic groups, and confirmed that information about domains of risk and protection significantly predicted delinquency beyond the amount explained by overall levels of risk and protection. The findings also showed a main effect of family and school protection on delinquency. In addition, school protection had a main effect on delinquency and family protection buffered risk for youth with the highest levels of risk. Finally, community protection was found to buffer the effects of risk for youth of color, and individual protection had an exacerbating effect on risk, particularly for youth from the urban area.

A number of implications for current practice emerged from this study. One, prevention efforts must attend to risk, as it is unlikely that protection by itself can mitigate the effects of risk. Two, type of protection matters for preventing delinquency. Using a protective factor enhancement model to build any type of protection will not necessarily be beneficial and may potentially do more harm than good. Three, consideration of youth sociodemographic characteristics may be useful in delinquency prevention efforts. Four, information about protective factors youth have may be used to direct strength-based interventions to prevent delinquency.

Future studies should include a greater number of protective factors and also re-examine the role of individual protections such as self-esteem and independence. In addition, future research should utilize longitudinal designs and ecological approaches to assessing risk and protection for real world views of how they influence youth outcomes.

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Chapter 1

INTRODUCTION

Overview

Concerns about adolescent delinquency have created a demand for effective strategies to prevent youth problem behaviors (Fraser, 1997). Prevention approaches have long focused on identifying and reducing risk factors for adolescent problem behaviors. More recently the prevention field has expanded to examine why some adolescents whose exposure to risk might presage negative outcomes do not experience serious problems. A number of researchers have suggested that both risk and protective factors are promising targets for preventive intervention based on a risk and resilience framework (Coie, Watt, West, Hawkins, Asarnow, Markman, Ramey, Shure, & Long, 1993; Fraser & Galinsky, 1997; Hawkins, Arthur, & Catalano, 1995; Luthar & Zigler, 1991; Mrazek & Haggerty, 1994; Wasserman & Miller, 1997). This perspective suggests that preventive interventions focus on both risk reduction and protective factor enhancement to prevent future crime, violence, and other problems.

This literature review examines research relevant to preventing adolescent delinquency. The first section provides information about its prevalence and also describes some of the major issues affecting public policy and research. Second, concepts and concerns related to the prevention of this adolescent problem are identified.

In particular, the concepts of risk, resilience, and protection, models of prevention, and the ecological framework underlying successful prevention efforts are delineated. The third section provides a summary of what is known about risk factors for adolescent delinquency and also describes a popular approach to risk reduction, the Communities

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That Care Model, that is widely used in schools and communities. Fourth, existing knowledge about the factors that protect youth either by directly affecting negative outcomes or by moderating the relationship among risk factors and problems is considered. This section includes a description of the Search Institute Model, an increasingly utilized approach to enhance protective factors. Finally, the review highlights gaps in the literature, as well as current practice, and introduces a study that addressed some of those gaps.

Prevalence and Consequences of Adolescent Delinquency

Policy makers, researchers, and the media have increasingly identified adolescent delinquency, particularly violence, as an urgent problem in the United States throughout the 1990s and early 21st century (Glassner, 1999). The term delinquency suggests a wide range of behaviors, from acting out or misbehaving during early childhood to violent and destructive illegal behaviors. Violence, substance use and abuse, stealing, vandalism, and truancy are some of the problem behaviors that fall under the rubric of delinquency for adolescents. Legally, delinquent behavior is prohibited by law and is carried out by youths approximately up to the age of eighteen, although the lower and upper age limits vary by state. State laws legally prohibit two types of behavior for juveniles. The first includes behavior that is criminal for adults, such as murder, rape, fraud, burglary, and robbery, as well as less serious criminal offenses such as trespassing and possession of drugs. The second type of delinquent behavior is status offenses that are not prohibited for adults, such as running away from home, drinking alcohol, being out of parental control (i.e., “unruly” or “ungovernable”), and being truant from school (Trojanowicz & Morash, 1992).

While overall levels of adolescent delinquency have substantially decreased since their peak in 1993 (Blumstein, 2000), public perceptions of juvenile offending have been influenced by attention focused on high-profile incidents in recent years, most notably school shootings occurring in Littleton, Colorado; Paducah, Kentucky; and Jonesboro, Arkansas. Although fatal assaults in and around schools remain rare events, juvenile offending has remained of utmost public concern, and citizens, parents, school officials, and policy makers have called upon communities and schools to prevent these problems as well as to adopt policies of zero tolerance for juvenile violence (Blumstein & Wallman, 2000; Snyder & Sickmund, 1999).

Rates of adolescent delinquency vary according to how they are measured, primarily by either self-reports or official arrest rates. Compared with official studies, self-report studies find a much higher proportion of the juvenile population involved in delinquent behavior. Self-reported delinquency rates are typically higher than official arrest rates because many juvenile crimes are never reported. A review of the literature on self-report surveys concluded that no more than 15 percent of all delinquent acts result in a police contact (Dryfoos, 1990). Furthermore, official arrest rates are influenced by bias in the types of crimes and offenders that enter the juvenile justice system. Arrest rates vary according to the current political and social climate and law enforcement policies (Snyder & Sickmund, 1999). For example, juvenile violent crime arrest rates were higher in 1997 than in 1980 even though victims' reports of juvenile violent crime did not increase and, after years of consistency, juvenile arrests for curfew law violations doubled from 1993 to 1996 (Snyder & Sickmund, 1999). It is likely that these increases reflect changes in public attitude and resulting law enforcement responses rather than changes in

juvenile behavior. In addition, racial and ethnic minorities are over-represented in arrest statistics, possibly due to greater police surveillance and a tendency to arrest rather than warn or otherwise informally sanction minority adolescents (Hawkins, Laub, & Lauritsen, 1998).

Although official crime statistics do not provide information about how many youth are arrested because they are incident-based rather than person-based, the 1997 National Longitudinal Survey of Youth asked a nationally representative sample of 9,000 youth aged 12 through 16 about their behaviors as well as how often they had been arrested. While only 8% had ever been arrested, 39% reported that they drank alcohol, 28% purposely destroyed property, 21% used marijuana, 18% committed assault, 11% ran away from home, 10% carried a handgun, 8% stole something worth over \$50, and 7% sold drugs. In addition, the 1997 Youth Risk Behavior Surveillance System found that 9% of high school students reported that in the past 30 days they had carried a weapon (e.g, gun, knife, or club) on school property, which was half the proportion of students (18%) who said they had carried a weapon anywhere in the past month.

It should be noted that it is considered developmentally normal to commit some delinquent acts during adolescence. Almost every child at one time or another defies parents or teachers, commits minor acts of vandalism, or breaks the law. The decision to label someone as “delinquent” is somewhat arbitrary, because being delinquent is a matter of degree. If every child who had ever broken the law were labeled as delinquent, then the majority of juveniles would be classified as such (Trojanowicz & Morash, 1992).

Clearly most adolescents who commit delinquent and violent acts are not current or future serious criminal and/or violent offenders. In fact, 54% of males and 73% of

females who initially enter the juvenile justice system never return on a new referral (OJJDP, 1998), and only 8% of juveniles who enter the juvenile justice system later become serious, violent, and chronic offenders (OJJDP, 2001).

However, many prevention and early intervention programs are designed to prevent and reduce early delinquent behaviors both to reduce the rate of future offending and to prevent the high cost of the behaviors themselves. For example, truancy is a status offense and would not be labeled as serious delinquency, yet it is one of the strongest predictors of future chronic and serious delinquency and itself carries serious negative consequences, such as affecting youths' educations and costing school districts hundreds of thousands of dollars each year (Garry, 1996). Other early conduct problems have also been found to be related to later delinquency and having an adult criminal career, and may cause serious immediate consequences (Dryfoos, 1990). For example, our current adherence to zero tolerance policies means that kids are suspended, expelled, or even land in juvenile court for increasingly minor infractions, which has implications for their education, their likelihood of participating in further delinquent acts, and their futures.

Prevention and early intervention programs also aim to prevent the multitude of problems that adolescent delinquent behavior poses for victims, families of victims and offenders, communities, and schools. For example, national surveys have consistently indicated that the people at greatest risk for victimization of violent crime are youth (Snyder & Sickmund, 1999), and studies that focus specifically on youth violence find that for adolescents the majority of interpersonal violence occurs between same race and age peers and commonly involves individuals who are acquaintances or friends (Hausman, Spivak, Prothrow-Stith, & Roebber, 1992). Besides the risk of physical injury,



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exposure to violence among children and adolescents has been shown to increase mental health disorders such as depression, anxiety, and post-traumatic stress disorder (Aneshensel & Sucoff, 1996; Bell & Jenkins, 1993; Martinez & Richters, 1993).

Adolescent delinquency affects families by providing opportunities for siblings to model delinquent or violent behavior and by causing emotional stress for family members of both victims and perpetrators (Farrington, 1987). Delinquency may lead to diminished quality of life for victims and people who reside in areas that are high in crime, and communities pay the cost of vandalism and other property damage.

Finally, adolescent delinquency may have profound and far-reaching effects on schools. According to the Centers for Disease Control and Prevention's 1997 Youth Risk Behavior Surveillance System, 37% of high school students reported they had been in one or more physical fights during the past 12 months, and one-third of high school students had property stolen or vandalized at school (Snyder & Sickmund). These problems may impact the climate of the school, thereby affecting the learning environment, by causing students to feel fearful of going to or being in school and reducing the amount of time teachers spend on education as opposed to discipline.

Prevention science attempts to prevent or moderate human problems such as adolescent delinquency. An important corollary of this goal is to eliminate or mitigate the causes of disorder, thus prevention research focuses on examining antecedents of dysfunction or health, called risk factors and protective factors respectively. The following sections describe concepts and issues related to preventing adolescent delinquency.

Prevention of Adolescent Delinquency

Public health professionals pioneered risk-focused approaches to prevention that have been successfully applied to problems as diverse as cardiovascular disease and traffic-related injuries. Prevention approaches attempt to interrupt the processes that produce problem behaviors (Coie et al., 1993). During the past 30 years, research has identified precursors of adolescent delinquency, called risk factors, as well as protective factors that buffer the effects of exposure to risks and inhibit the development of problem behaviors even in the face of risk.

Risk, Resilience, and Protection

The concept of risk is rooted in epidemiology and refers to conditions or variables that are associated with a higher likelihood of negative or undesirable outcomes, such as behaviors that compromise health or safety (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995). Researchers have compiled an extensive list of predictors of adolescent delinquency. For example, the U.S. Department of Justice's Office of Juvenile Justice and Delinquency Prevention (OJJDP) initiated a Program of Research on Causes and Correlates of Juvenile Delinquency in 1986, consisting of three longitudinal studies based in Denver, Rochester, and Pittsburgh. These and other studies have produced a unifying framework focused on risk factors for delinquent behavior (i.e., a risk-focused approach) that has dominated the field for more than a decade (Coie et al., 1993; Howell, Krisberg, Hawkins, & Wilson, 1995; Huizinga, Loeber, & Thornberry, 1994).

The concept of resilience emerged from the search for risk factors, as researchers consistently found that some children who faced stressful, high-risk situations fared well in life (Garmezy, 1985; Rutter, 1987; Werner, 1984; Werner & Smith, 1992). Data

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suggest that only about one-third of any population of “at-risk” children experience a negative outcome and two-thirds appear to survive risk experiences without major developmental disruptions (Wolin & Wolin, 1995). The term resilience has come to be used to describe children who achieve positive outcomes in the face of risk (Kirby & Fraser, 1997). For example, a child who is exposed to multiple risk factors for delinquency (e.g., exposure to violence, poor family management practices, etc.) and does not later exhibit serious or chronic delinquent behavior may be described in this manner. Resilience is thus best defined not as the absence of risk but as successful adaptation despite adversity (Masten, 1994; Werner & Smith, 1992).

In the face of growing dissatisfaction with pathology-focused intervention strategies, professionals from mental health and other fields have joined public health practitioners in the search for factors that might promote resilience in children (Kirby & Fraser, 1997). Resilience research is concerned with the identification of protective factors and mechanisms that operate to buffer youth facing multiple risks from problem outcomes such as delinquency and violence (Smith, Lizotte, Thornberry, & Krohn, 1995).

Protective factors are the internal and external forces that help children resist or ameliorate risk (Rutter, 1985). Although risk factor research is well-developed, developmental research in criminology has only recently begun to focus on protective factors related to resilience among youth at risk for delinquency (Smith et al., 1995).

The practice of reducing risk and increasing protective factors has been termed a “risk and resilience” approach by some researchers (e.g., Fraser & Galinsky, 1997) and has been increasingly utilized to understand and design interventions to prevent youth problems. This approach to prevention uses ecological theory as a framework for

understanding both child development and human behavior and adds specific information about adolescent delinquency from the growing body of research on risk and protective factors because resilience is believed to be affected by these factors (Fraser & Galinsky, 1997).

The risk and resilience perspective is comprised of two components. First, it consists of a growing body of knowledge of individual and environmental risk and protective factors that appear to underlie many adolescent social and health problems. In aggregate, this body of knowledge provides the basis for a common or cross-cutting model of risk and protective factors for a variety of youth problems. Second, building on these common factors, the risk and resilience perspective recognizes that some risk factors contribute uniquely to particular problems and that some protective factors provide safeguards against particular problems. Thus, to understand and prevent a particular childhood problem, one needs to consider not only common risk and protective factors, but also problem-specific factors. The following sections describe the ecological framework guiding this perspective, prevention terminology and concepts for distinguishing among different prevention goals, population foci, and timing of service, and, finally, empirical research supporting the risk and resilience approach to prevention.

Ecological Framework

Adolescent delinquency is a complex problem with multiple causes that span multiple domains of youths' lives and include influences outside of their direct life experiences. Ecological theory provides a framework not only for understanding complex social problems, such as delinquency, but also for developing and evaluating interventions that are sensitive to this complexity.

Ecological theorists emphasize that human behavior does not occur in a social vacuum, but exists as part of a complex system. People operate in many settings and are influenced by factors at many levels. A person exists in an environment, and it is the interplay of individual characteristics with contextual influences that ultimately yields human behavior (Germain, 1991).

Central to ecological theory is an emphasis on the interdependence of systems (Kelly, 1966). Kelly's principle of interdependence states that changes in one setting or level of a system impact other settings and levels in that system. Because components within a social system are interdependent, changes to any one component have the potential to create radiating effects. Thus, it is important to attend to the complex interconnections across system parts when planning interventions.

Ecological theory also provides an important frame of reference for understanding the experience of childhood because it reminds us that child development and behavior are shaped by both individual and environmental factors. As an early proponent of ecological theory, Bronfenbrenner (1979, 1986) argued that children's development is strongly influenced by the family, school, peer, neighborhood, and community contexts in which they live. From this perspective, the social ecology of childhood can be conceptualized as consisting of interdependent and often nested parts or systems.

Ecological theory gives order to the growing body of research on risk and protective factors by providing a conceptual framework that incorporates both individual and contextual conditions affecting the probability of a problem (Fraser, 1997). Risk and protective factors for juvenile delinquency are known to exist in all domains of a youth's life, including family, school, community, and peer group, as well as within individuals

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themselves. Ecological theory argues that delinquency is influenced by multiple risk and protective factors in many settings and that interventions to address this problem must be responsive to this complexity. Consequently, the risk and resilience perspective is consistent with ecological theory and provides a conceptual framework for prevention, intervention, and treatment based on the person-in-environment model (Williams, Ayers, and Arthur, 1997).

Concepts of Prevention

Caplan (1964) delineated three models of prevention – primary, secondary, and tertiary- that have become standard terminology for differentiating prevention goals, population foci, and timing of service delivery. Many prevention experts consider primary prevention as prevention in its purest sense (Linney & Wandersman, 1991). Primary prevention entails intervening before an unwanted condition or outcome occurs and is aimed at entire populations to reduce overall incidence (rate of occurrence) of a problem. An example of a primary prevention program is developing a community-wide media campaign to promote non-violent conflict resolution. Secondary prevention refers to programs or strategies to reduce the overall prevalence (total number of cases) of a problem and involves identifying and targeting individuals who are at risk for an unwanted outcome. An example of this type of prevention would be having a mentoring program for students who have been identified by teachers and school administrators as being at risk for engaging in delinquent behavior because they have friends who get into trouble. Tertiary prevention represents prevention in its narrowest form and is targeted at individuals who already manifest symptoms of a problem. Tertiary prevention strategies are designed to reduce adverse consequences of a problem or prevent further participation

in the problem behaviors. An example of tertiary prevention would be providing a social skills development program for youth who are in detention awaiting disposition.

The next sections will present risk and protective factor research as well as an example of a model of risk reduction, Communities that Care (CTC), and an example of a model of protective factor enhancement, the Search Institute Asset Model. The CTC and Search models of risk reduction and protective factor enhancement are not themselves primary, secondary, or tertiary prevention, but may be used in a range of settings to guide prevention programs and strategies. In other words, these approaches serve as needs assessments to guide programming, and primary, secondary, or tertiary prevention efforts may evolve from them depending on the setting, population, prevention goals, etc. For example, CTC and Search surveys are widely used to guide programming in schools and communities, where the focus is likely to be on primary and secondary prevention, but they have also been used in juvenile detention centers and prisons to guide tertiary prevention programming.

Although existing risk reduction and protective factor enhancement models have not been validated for use as instruments to classify individuals as “at-risk,” to the extent these approaches may be used for secondary prevention, a caveat concerning prediction and labeling is warranted. Although consensus among researchers regarding risk factors for delinquency and violence is considerable, an important aspect of prediction is the base rate of the behavior being predicted. A relatively small proportion of the individuals in any birth cohort will engage in violent or serious delinquency during late adolescence or early adulthood. Lipsey and Derzon (1998) found in their meta-analysis that approximately 8% of juveniles were typically classified as violent or seriously delinquent

or criminal on outcome measures administered between the ages of 15-25. Even selecting from youth who have been arrested, studies find that about 8% become serious repeat offenders. The outcome of serious and violent delinquency or crime then, has a rather low base rate and is consequently difficult to predict (Lipsey & Derzon, 1998). Therefore, the potentially harmful effects of incorrectly labeling someone as “at-risk” need to be considered when choosing secondary prevention strategies. Research suggests that labeling can have powerful, harmful consequences (Cowen, 1996). This issue will be further addressed in the sections below.

Risk and Protective Factor Research

Risk Factor Research

Ecological theory highlights the fact that risk factors in the individual, family, school, peer group, and community environment are interdependent. Child development occurs and human behavior unfolds in the context of multiple systems of influence that may have varying impacts at different stages in development. Risk is conceptualized as dynamic and interactional; individual risks are nested in the context of family, school, neighborhood, and broader societal influences that both affect and are affected by individual factors (Fraser, Richman, & Galinsky, 1999). Accordingly, most recent research has focused on identifying and understanding processes underlying risks in multiple domains of children’s lives. For example, Hawkins and Catalano (1992), in conjunction with the Office of Juvenile Justice and Delinquency Prevention, reviewed longitudinal studies of predictors of adolescent delinquency, violence, substance abuse, pregnancy, and school drop-out. They organized 30 years of risk factor research into community, school, family, and individual/peer domains for their “Communities That

Care” model of risk-focused prevention. This model is based upon the recognition that because risks for adolescent problems exist in multiple domains, interventions to address these problems should target multiple systems as well. More than 400 communities have used the Communities That Care Model to examine the risks youths are facing and to plan interventions accordingly. The CTC model and predictors of delinquency are presented in a later section of this review.

Many adolescent problem behaviors have been consistently associated with increasing exposure to risk factors (Jessor & Jessor, 1977; Newcomb & Felix-Ortiz, 1992; Osgood, Johnston, O’Malley, & Bachman, 1988; Rutter, 1990), and exposure to multiple risk factors has cumulative effects (Bry, McKeon, & Pandina, 1982; Coie et al., 1993; Newcomb, 1995). This cumulative effect is seen for risk factors within and across domains. For example, OJJDP Causes and Correlates researchers found that exposure to more than one type of family violence (e.g., intimate partner violence, hostile family climate, and child maltreatment) greatly increased the likelihood of subsequent violent youth behavior. Other analyses revealed that multiple risk factors across domains also interact to produce higher levels of risk than simple additive models would suggest. For example, juveniles who have both delinquent friends and parents who are involved in problem behaviors such as crime or drug abuse exhibit the highest levels of involvement in delinquency, and this effect far exceeds the individual effects of either peers or parents by themselves. The roles of parents and peers interact in influencing levels of delinquency and violence (Thornberry, 1994).

Common or cross-cutting risk factors. Because many risk factors appear to be common antecedents of a number of negative outcomes for adolescents, some researchers

have advocated for identifying a set of common or “cross-cutting” risk factors that could be targeted in interventions to prevent a range of mental health and behavioral problems for adolescents (e.g., Coie, Watt, West, Hawkins, Asarnow, Markman, Ramey, Shure, & Long, 1993). Common risk factors encompass multiple domains and include: family factors such as family conflict, child abuse, poor bonding to parents, unskilled parenting, and family disorganization; school problems; ecological/contextual factors such as neighborhood disorganization, racial injustice, sexism, unemployment, and extreme poverty; peer group factors such as peer rejection; and individual level factors such as below average intelligence, learning disabilities, and attention deficit hyperactivity disorder (Coie et al., 1993; Kirby & Fraser, 1997).

Cumulative number of risks versus problem-specific risk pathways. Some researchers have argued that the cumulative number of risk factors may be more important than examining problem-specific risk pathways (Rutter, Sameroff, Baldwin, Baldwin, & Seifer, 1999; Sameroff, Seifer, Zax, & Barocas, 1987; Sameroff, Seifer, Barocas, Zax, & Greenspan, 1987). For example, OJJDP’s Causes and Correlates researchers and others (e.g., Smith, Lizotte, Thornberry, & Krohn, 1995) defined “high-risk youth” as those who have five or more risk factors. In these studies it was considered more important to know that a child was exposed to five risk factors than to know to which factors the child was exposed. This perspective has led some researchers to suggest that focusing on common risk factors and overall numbers of risks may be more efficient than studying specific risk pathways for particular problems because the number of risks is more important than any particular risk.

However, a cumulative risk perspective does not imply that problems are explained fully by generic risks. It merely suggests that the effects of poverty, racism, gender discrimination, child maltreatment, unskilled parenting, and other negative conditions elevate the odds for many types of problems and disorders (Fraser, Richman, & Galinsky, 1999). For example, Loeber, Stouthamer-Loeber, Farrington, and Van Kammen (1998) found that lack of guilt was associated more strongly with conduct problems, physical aggression, and delinquency than with depression, substance use, and shy or withdrawn behavior. Miller and MacIntosh (1999), also demonstrating a specific risk and protective factor perspective, found that having a strong positive ethnic identity may reduce the effect of daily hassles and promote academic achievement among African American youths. These findings support an integrated perspective of risk that considers both cumulative numbers of risks as well as risks that are specific to particular outcomes.

Problem-specific risk factors. Extensive research has identified risks for delinquency, and numerous comprehensive risk factor reviews have been published (see American Psychological Association, 1993; Dryfoos, 1990; Hawkins, Herrenkohl, Farrington, Brewer, Catalano, & Hawkins, 1998; Lipsey & Derzon, 1998; OJJDP, 1995; Reiss & Roth, 1993; Tolan & Guerra, 1994; Yoshikawa, 1994). For one of the most commonly used models of risk-focused prevention, the Communities that Care model (CTC), the OJJDP has compiled 30 years of risk research for delinquency and updates this information on a regular basis. Risks specific to delinquency in this model are detailed below and include factors within community, school, family, peer, and individual domains.

Communities That Care model. Hawkins and Catalano (1992) developed The Communities That Care model to prevent adolescent substance use, delinquency, violence, pregnancy, and other adolescent problems. Communities That Care enumerates a process of community mobilization and assessment and then development, implementation, and evaluation of an action plan. As part of the community assessment process, communities collect and assess data regarding the nature and extent of 19 risk factors. Some risk factor data may be collected via community-level indicators, but communities are also encouraged to use the CTC Youth Survey as a risk and needs assessment instrument for youth in grades 6-12. Surveys are typically administered in schools and the Channing Bete Company, which owns the rights to Communities That Care, tabulates the results and provides the schools with a profile of risks and needs to guide programming.

Empirically identified risks for delinquency in the CTC model include: 1) individual factors such as early delinquent and aggressive behavior (Farrington, 1991; Hawkins, Catalano, & Miller, 1992; Maguin et al., 1995; Rutter, 1990; Werner & Smith, 1992) and attitudes favorable to these behaviors (Kandel, Kessler, & Maguiles, 1978; Huesmann & Eron, 1986); 2) family factors such as poor family management practices (Capaldi & Patterson, 1996; Farrington, 1991; Kandel & Andrews, 1987; Maguin et al., 1995; Patterson & Dishion, 1985; Peterson, Hawkins, Abbott, & Catalano, 1994; Thornberry, 1994), high levels of family conflict (Loeber & Dishion, 1984; Rutter & Giller, 1983; Yoshikawa, 1994), and favorable parental attitudes and involvement in criminal or violent behavior (Brook, Brook, Gordon, Whiteman, & Cohen, 1990; Hansen, Graham, Shelton, Flay, & Johnson, 1987; Hawkins & Weis, 1985; Kandel, Kessler, &

Maguiles, 1978; Maguin et al., 1995); 3) peer influences, such as having friends who use drugs or engage in delinquent or violent behavior (Farrington, 1991; Loeber, 1990) or who have favorable attitudes toward delinquent or violent behavior (Ageton, 1993; Elliott, 1994; Maguin et al., 1995); 4) school setting factors of academic failure (Maguin & Loeber, 1996) and lack of commitment to school (Maguin et al., 1995); and 5) characteristics of the community and neighborhood environment that are mediated through family characteristics or affect the likelihood of individual, family, and peer influences leading to delinquency or violence. These community and neighborhood influences include low neighborhood attachment and community organization (Maguin et al., 1995; Sampson, 1986; Sampson, Raudenbush, & Earls, 1997), high transitions and mobility (Gottfredson, 1988; Maguin et al., 1995), and extreme economic deprivation (Sampson & Lauritsen, 1994). Higher rates of juvenile drug problems, delinquency, and violence occur in neighborhoods where people have little attachment to the community and rates of vandalism are high (Murray, 1983; Wilson & Hernstein, 1985). Availability of drugs (Gottfredson, 1988) and firearms (Alexander, Massey, Gibbs, & Altekruze, 1985) and community norms favorable toward drug use, firearms, and crime also predict delinquency and violence (Maguin et al., 1995; Thornberry, Huizinga, & Loeber, 1995).

As stated earlier, the CTC and similar models are not primary, secondary, or tertiary prevention themselves, but assess risks and needs to guide prevention programming. The CTC Youth Survey does not collect information identifying individual students and schools do not keep the surveys; surveys are sent to the Channing Bete company, which compiles the information and sends schools a report that profiles the risks and needs faced by their students. In other words, the survey does not provide

schools with information to label certain youth as high risk so they may be targeted for intervention. However, it should be noted that some of the risk factors that appear in CTC and other risk reduction models (e.g., Developmental Services Group), such as early and persistent anti-social behavior and early initiation of problem behaviors (e.g., delinquency or violence), do imply that secondary and tertiary prevention approaches could be utilized. For example, if school staff and administrators learn that these risk factors are prevalent in their middle or high schools, they could respond by initiating primary prevention programs in their feeder elementary schools to prevent early behavior problems; alternatively, they could identify on their own the students with early problems and target them for intervention. Although experiencing early behavior problems is one of the strongest predictors of future serious and violent delinquency and criminality ($r=.36$), given the low base rate there is a high probability of mislabeling youth as at risk for serious and violent delinquency. It would be more prudent to devise primary prevention programs for younger children and base programs for youth already engaging in problem behaviors, such as fighting and truancy, on addressing those problems because of their high cost to youth themselves, schools, families, and communities, and not on the pretext of preventing youth from becoming future serious or violent criminals.

The next sections of this review will examine research on factors that help buffer the impact of risk. Although it was developed as a model of risk-focused prevention, a small number of protective factors have recently been added to the Communities that Care framework. Their protective factors were chosen based on well-established criminological theories, such as social control theory (Hirschi, 1969), that support the role of social bonds in protecting against delinquency. A recently published longitudinal

study has associated these factors with a reduction in future violent behavior (e.g., Huang, Kosterman, Catalano, Hawkins, & Abbott, 2001). The protective factors added to the model are: bonds to school, family, and conventional peers, opportunities for involvement in prosocial activities, skills to participate in such activities, and rewards or recognition for participation. Additional research on protection as well as a popular model for protective factor enhancement, the Search Institute Model, are considered below.

Protective Factor Research

The search for factors that mitigate the impact of risk has recently been extended beyond child psychopathology to adolescent delinquency (e.g., Brook, Whiteman, Cohen, & Tanaka, 1992; Newcomb & Feliz-Ortiz, 1992; Hawkins, Catalano, & Miller, 1992; Stacy, Newcomb, & Bentler, 1992; Stacy, Sussman, Dent, Burton, & Flay, 1992; Wills, Baccara, & McNamara, 1992). Although the concept of risk is widely understood, there has been far less consensus about the concept and operationalization of protective factors (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995). Protection has been defined by some as simply the absence of risk or as the low end of a risk variable. Rutter (1987) argued that protective factors should be treated as conceptually distinct rather than as opposite ends of a single dimension, and that view is now coming to be shared by many others (Newcomb & Felix-Ortiz, 1992; Hawkins et al., 1992; Jessor, Donovan, & Costa, 1991; Luthar & Zigler, 1991; Pellegrini, 1990). However, the means for defining and categorizing protective factors is not well specified. Whether high social support, for example, is defined as a protective factor or whether low social support is defined as a risk factor depends on earlier research and the nature of the relationship between social support and a specified outcome (Fraser, Richman, & Galinsky, 1999).

Relationship between risk and protection. Research on risk and protective factors has often shown them to be negatively related, which may reflect a particular organization of the social environment; for example, in contexts in which protection is high, risk is usually low, and vice versa. However, it is possible to find high risk accompanied by high protection. An adolescent may have antisocial friends and yet be committed to and involved in school. Although risk and protection may be inversely related empirically, the conceptual perspective is that they are independent (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995).

As with risk research, there has been debate over specific protective factor models versus cumulative numbers of protective factors. Some researchers (e.g., Garmezy, 1985) have rejected the notion of specific risk models as old-fashioned and have asserted that researchers should focus on overall numbers of common risk factors that are associated with an array of negative outcomes. This assertion has led other researchers (e.g., Jessor et al., 1995) to hypothesize that protection, like risk, has a wide spread of overlap and that a number of common protective factors buffer many types of risk and protect against many outcomes. Researchers should thus focus on cumulative levels or overall numbers of protective factors rather than enumerating specific models of risk and protection for particular outcomes. Other researchers (e.g., Guerra, 1998) believe that it would be a notable advance in the literature to identify protective factors for specific risk profiles. For example, which protective factors reduce risk for children living in neighborhoods with high levels of violence and other problems? Are different factors more effective at reducing risk for children who experience family problems? As with earlier risk research, studies examining protection incorporate both cumulative and specific approaches. Thus,

it is important to consider factors that have been shown to protect children facing a variety of risks for many problems as well as those that seem particularly effective against delinquency specifically.

Common or cross-cutting protective factors. Researchers have found support for a number of common or cross-cutting factors that protect youth from many problem outcomes, such as substance use, teen pregnancy, school drop-out, delinquency, and violence. These protection variables are posited to operate at three levels (Garmezy, 1985; Gordon, 1995; Luthar & Zigler, 1991; Rutter, 1987, Werner, 1998): a) individual attributes such as high efficacy, high intelligence, independence, reflective rather than impulsive decision making, internal locus of control, good communication and problem solving skills, and resilient temperament; b) family attributes, such as parental support and affection, appropriate discipline, adult monitoring and supervision, and strong family bonds; and c) extrafamilial or societal circumstances, such as support from other adults or strong community integration. In a review of resilience research, Davis (1999) identified caring relationships, high expectations and adequate support, and opportunities to contribute as general protective factors in families, schools, and communities. Masten (2001) also reviewed variable and person focused resilience research and found support for global factors associated with resilience that include connections to competent and caring adults in the family and community, cognitive and self-regulation skills, positive views of self, and motivation to be effective in the environment.

Problem-specific protective factors. Studies that focus specifically on delinquent behaviors such as violence, substance use, teen pregnancy, and school drop-out find evidence that similar factors play a role in protecting youth from these outcomes. The

protective factors that have been shown to reduce the chance that a child experiencing risk will become involved in delinquent behavior include strong attachment to parents, commitment to family, resilient or positive temperament or disposition, ability to adjust or recover, supportive family environment, strong external support system that reinforces children's coping efforts, healthy beliefs, prosocial orientation, and social problem solving skills (Farrington, 1994; Hawkins et al., 1992, Hawkins et al., 1995).

Search Institute's asset-building model. Recently, some authors have advocated for a paradigm shift in the prevention field to focus exclusively on building assets - the "positive relationships, opportunities, competencies, values, and self-perceptions that youth need to succeed" (Scales & Leffert, 1999, p.1) - rather than trying to reduce risk (e.g., Benard, 1993; Benson, 1997; Scales & Leffert, 1999). These researchers assert that targeting risk factors emphasizes the deficits of young people. They suggest that focusing on building children's strengths will produce more positive outcomes than interventions focusing on reducing risk factors. In recent years, there has been enormous support by community leaders and school officials across the country for asset building as promoted by the Search Institute in Minneapolis. In the late 1990s, more than 300 communities launched community-wide interventions to enhance the assets of their youth based upon reports from the Search Institute (Price & Drake, 1999), and the model continues to grow in popularity.

Search Institute has correlational data from surveys of over 600,000 6-12th grade students showing that youth with high numbers of assets tend to engage in few problem behaviors while adolescents with few assets tend to engage in many such behaviors (Scales & Leffert, 1999). Developing assets in youth is intended to generally support

positive outcomes and reduce risky behaviors and does not focus on preventing specific problems or buffering specific risks. Search's 40 developmental assets are grouped into 8 categories representing broad domains of influence in youths' lives. External assets, which are relationships and opportunities that adults provide, consist of support, empowerment, boundaries and expectations, and constructive use of time. The internal assets, competencies and values that youth develop internally to help them become self-regulating adults, are commitment to learning, positive values, social competencies, and positive identity (Scales & Leffert, 1999).

Researchers have voiced numerous concerns with Search Institute's asset-building model (e.g., Price & Drake, 1999). First, surveys were administered within self-selected communities that were primarily small, non-Metropolitan areas, and survey participants were 98% White. Thus, any results reported or any validation of the instrument has been conducted on a non-diverse sample that is not representative of U.S. youth. Second, although asset building is promoted as focusing on youths' strengths, it is not implemented as a strength-based strategy, that is, leveraging youths' strengths to help address their needs. Instead, the Institute asserts that if schools and communities can measure assets, they can then work to enhance the deficient assets for youth, thereby reducing their at-risk status. Third, of the 27 subscales with two or more items, six had reliability coefficients of .50 or less, indicating weak internal reliabilities. In addition, test-retest reliabilities have not been reported despite the fact that communities are currently using the instrument as a pre-post test. Fourth, all assets are weighted equally. Search aggregates data from the thousands of survey instruments provided by communities and schools. For example, they suggest that students with 0-11 assets are 3

times as likely as those with 21-25 assets to have early sex experiences. Simply adding the assets implies that they have the same effects on all students, although it seems logical that different assets would have varying effects according to gender, race/ethnicity, age of the student, and the types of risks faced. In addition, all Search data are correlational, and there have been no studies published in peer reviewed journals to test asset theory. Fifth, Search researchers themselves concede that their conceptualizations of some assets, such as empowerment, positive values, and social competencies, are not well-grounded in research (Scales & Leffert, 1999). Finally, the Search Institute survey, the validity and effectiveness of which has not been confirmed, has hindered the national longitudinal assessment of key adolescent risks by replacing well-established risk assessment surveys, such as the Youth Risk Behavior Survey, in many school districts. Many schools and communities do not have the time or resources to administer multiple surveys, and the Search survey cannot be shortened and combined with risk assessment questions because Search requires that schools and communities sign a contract that prohibits them from analyzing their own data.

Moreover, some researchers (e.g., Price & Drake, 1999; Tolan, 1996) have argued that a sole focus on the assets of young people emphasizes individual characteristics and ignores important social and contextual risk factors that should be a focus for prevention policies and interventions. In addition, the effect of ignoring risk and focusing solely on enhancing protection or assets on the development of adolescent problem behaviors is unknown. No published study has shown that a major intervention to change youths' assets, as defined by the Search Institute, reduces their risk for any type of negative outcome (Price & Drake, 1999). Given the strong relationship between exposure to

increasing numbers of risk factors and negative outcomes, the likely effect of interventions focused exclusively on building protection depends on whether protective factors can fully mitigate the negative effects of exposure to multiple risk factors during a child's development.

Research to date suggests that risk may be more potent than protection in influencing human behavior. Studies that have examined this issue indicate that simply focusing on strengthening assets or protective factors without attending to risk exposure is incomplete as a strategy for reducing the prevalence of problem behaviors. At higher levels of risk, protective factors either do not exist or weakly counteract the effects of adversity. It may be difficult to create and sustain high levels of assets or protection in the highest risk environments unless efforts also seek to reduce risk exposure (Pollard, Hawkins, & Arthur, 1999). Thus, both risk and protective factors should be considered to understand social problems and devise intervention plans (Fraser et al., 1999).

Risk and protection models. It is widely believed that resilience results in some way from the interplay between risk and protective factors, but the nature of these interactions is poorly understood. Two basic models of interaction are described in the literature: additive and interactive models.

Protective factors are considered to be independent variables that can have their own direct effects on behavior as well as moderate the relationship among risk factors and behavior (Rutter, 1987). In additive models, compensatory protective effects do not affect risk but rather act directly to reduce a problem or disorder. For example, in a study of over 36,000 7-12th grade students in Minnesota, compensatory protective effects for externalizing behavior problems were found for family, school, and religious

connectedness in students exposed to low levels of risk (Resnick, Harris, & Blum, 1993). In interactive models, protective factors are believed to serve as buffers by exerting an even stronger positive effect on children who have been exposed to adversity. This interactional perspective does not exclude the possibility that a factor exerts an influence on people who are not at risk, but rather asserts that the more important influence is on people whose risk levels are high (Dubow, Roecker, & D'Imperio, 1997). The increase in variance accounted for by interactions is typically small (e.g., Newcomb & Felix-Ortiz, 1992; Luthar & Zigler, 1991), but existing data indicate that protective factors do interact with risk factors and, thus, the processes leading to resilience are at least partly nonlinear (Kirby & Fraser, 1997).

Research incorporating both risk and protection. Pollard et al. (1999) measured a range of risk and protective factors to examine the relationship among increasing levels of risk exposure, increasing levels of protective factors, and adolescent substance use, delinquency, and academic achievement. They found that increased levels of risk exposure were associated with increases in the prevalence of substance use and delinquency and decreases in academic achievement. Although for each risk level the lowest prevalence rate of problem behavior was for students with the highest level of protection, generally variation in levels of risk exposure appeared more strongly related to the behavior outcomes than did variation in levels of protection. With increasing levels of risk, fewer individuals had high levels of protection, and conversely, more individuals with high levels of protection were found as overall risk decreased. At the highest levels of risk exposure, high levels of protection were not associated with elimination of problem behaviors. Even among those with high protection, prevalence rates of all

problem behaviors increased with more risk exposure. Finally, an interactive relationship was found between overall levels of risk and protection for the two problem behaviors but not for academic achievement. For each of the problem behavior outcomes, the reduction in prevalence associated with higher levels of protection was greatest at the highest risk levels. These findings support a buffering hypothesis of the relationship among aggregate risk and protection and these behavioral outcomes.

Pollard et al. (1999) highlighted two points for future research. One, they stated that more research is needed on the relationships between risk and protective factor exposure and positive outcomes in adolescence, especially for youth with both low levels of risk and low levels of protection. Two, although the strength and stability of their findings across different adolescent problem behaviors are consistent with assertions that aggregated risk and protection levels similarly impact multiple adolescent problem behaviors (Jessor & Jessor, 1977; Osgood et al. 1988), the authors believed that it was likely that different factors contributed differentially to overall risk and protection. Thus, they stated that more research is needed on the relative strengths of specific risk and protective factors in predicting various outcomes.

Many studies that examine the role of specific risk and protective factors examine only one or two factors at a time. However, there is evidence that some protective factors may have more weight in protecting youth experiencing specific risks from problem outcomes such as delinquency. Smith, Lizotte, Thornberry, and Krohn (1995) examined the effect of 18 family, school, and peer protective factors on serious delinquency for youth that were classified as high-risk because they had at least five of nine possible family risk factors (i.e., the top fifth of the distribution). Smith et al. found that two-thirds

of youth in the high-risk category were resilient to serious negative outcomes. They also found that resilient youth had higher levels of protective factors than did non-resilient youth; in other words, cumulative protective factors increased the likelihood of resilience to serious delinquency. In addition, they found that given these family risk factors, the most salient protective factors for resilience to delinquency and drug use were school protective factors (e.g., commitment to school and teachers and aspirations to attend college) followed by family protective factors (e.g., parental supervision, parent-child attachment, and parent involvement in child's activities). These findings provide support for the idea that certain protective factors may be especially important in protecting youth facing family risks from delinquency. The implications of these findings are that schools may play a particularly important role in interventions for youth facing family risks that may decrease the likelihood of them participating in delinquent behavior.

Summary and conclusions about gaps in the literature. The risk and resilience perspective is increasingly being applied to understanding and preventing complex youth problems such as delinquency. This perspective uses ecological theory as a framework for understanding human development and behavior and adds information about risk and protective factors for adolescent problems that occur in multiple domains of youths' lives. Many researchers believe that resilience results from the interplay between risk and protective factors and have devoted their efforts to determining which risk and protective factors are especially important, and the mechanisms by which they impact adolescents.

Research to date has provided evidence that both specific risk factors and cumulative numbers of risk factors predict negative outcomes for adolescents. Likewise, specific protective factors as well as cumulative numbers of protective factors have been

found to reduce the likelihood that adolescents will experience negative outcomes. While increasing protective factors is related to a decrease in the likelihood of negative outcomes for youth with few risks, available evidence suggests that focusing solely on protective factors may not be effective for youth with a high number of risks. Thus, interventions for these youth should focus on decreasing risks in conjunction with increasing protection.

However, there remain many unanswered questions about the relationships among risk, protection, and adolescent outcomes. Although some of the most widely used models of risk reduction and protective factor enhancement incorporate large numbers of risk and protective factors, little information is available on the relationships among the risk and protective factors in these models and adolescent outcomes; it is not known how well risk reduction and protective factor enhancement models work together. Although many schools and communities utilize these models, they tend to be used separately. For example, groups that utilize Search's asset model tend to ignore risk factors and groups that use risk assessment approaches incorporate only a few, if any, protective factors. Although there is evidence that both risk and protection are important (e.g., Pollard et al., 1999), research to date is piecemeal, examining overall or cumulative numbers of risk and protective factors or the specific pathways of only a few risk and protective factors. It is not known whether it is more effective for schools and communities using these models as needs assessment checklists to focus solely on increasing the overall number of protective factors and decreasing overall numbers of risks without regard to which factors they are, or whether there are factors that are particularly important. There is some evidence that specific protective factors do have more weight in protecting youth facing

specific risks from delinquency (e.g., Smith et al., 1995). Additional information of this nature may be helpful for designing more effective programs.

In addition, very little research has explored gender, urban/rural, or race/ethnicity differences in levels of risk and protection and how these factors relate to adolescent outcomes. Risk and protective factors may affect children differently, depending on such factors as gender, whether they live in urban or rural areas, and race/ethnicity. Although little information is available for gender, urban versus rural, and race/ethnicity differences in numbers of risk and protective factors or their relationship with outcomes such as delinquency, what is known will be described in the section below.

Potential Moderators of Risk, Protection, and Youth Outcomes

Prevalence data suggest that risk factors differ by a variety of sociodemographic factors. However, researchers are just beginning to develop an understanding of the ways in which risk and protective factors vary according to gender and race/ethnicity, and little information is available regarding differences in risk and protective factors among youth living in urban versus rural areas (Fraser, Richman, & Galinsky, 1999).

Gender. The U.S. Department of Justice's Office of Juvenile Justice and Delinquency Prevention (OJJDP) recently issued national reports calling for researchers and practitioners to focus on the needs of females who engage in delinquent or violent behavior, as girls in trouble have thus far been the afterthought of a juvenile justice system designed to deal with boys (Bergsmann, 1989; Miller, Trapani, Fejes-Mendoza, Eggleston, & Dwiggins, 1995). Research about female delinquents has been scarce (OJJDP, 1998; Yoshikawa, 1994), and a number of researchers have called attention to the need for more information (e.g., OJJDP, 1998; Snyder & Sickmund, 1999).

Adolescent female offenders have been called “the forgotten few” (Bergsmann, 1989), but their increasing numbers are now garnering attention from researchers, policy and lawmakers, and service providers. In many cases, girls were victims themselves before they became offenders (Davis, Schoen, Greenburg, Desroches, & Abrams, 1997; Prescott, 1997). For example, girls are three times as likely as boys to have experienced sexual abuse, which is often an underlying factor in high-risk behaviors (OJJDP, 1998). Among female delinquents, an estimated 70% have a history of sex abuse (Calhoun, Jurgens, & Chen, 1993). Because girls in crisis are more likely to strike inward and threaten their own well-being, abusing drugs, prostituting their bodies, starving, or mutilating themselves (Belknap, 1996), they seem less dangerous to society than boys, resulting in their needs being overlooked and undertreated (Chesney-Lind, 1988).

Adolescent females often enter the juvenile justice system because they commit status offenses such as running away from home. While status offenses continue to account for the bulk of cases involving girls, females are now more likely to be arrested for robbery, assault, drug trafficking, and gang activity-juvenile crimes only recently considered the exclusive domain of young males (Poe-Yamagata & Butts, 1996). Although girls still commit far fewer crimes than boys-they constitute about two out of eight juvenile offenders- their numbers are increasing at a faster rate than that of boys and violent crime has increased nearly four times as much among girls (16.5%) than among boys (4.5 percent) during the past decade (Snyder & Sickmund; Richie, 1999). Between 1993 and 1997, increases in arrests were greater for girls than for boys in almost every offense category (OJJDP, 1998).

Researchers have not only found different rates and patterns of offending for girls

and boys, but also differences in risk and protective factors that are similar to those delineated by the Communities That Care and Search models. For example, Werner (1990) noted that resilience in girls was promoted by parenting styles that placed emphasis on risk taking, independence, and stable emotional support, while for boys, resilience was fostered by parenting styles that provided higher degrees of supervision and structure, the presence of a male role model, and support for expressing emotions.

Ensminger (1990) examined parental monitoring and boundary setting and found that permissive family rules about curfews on school nights were associated with females engaging in multiple problem behaviors (e.g., substance use and assaulting others). Contrary to these findings, Seydlitz (1991) found that parental controls were more likely to inhibit delinquency in males than females; moreover, these controls were more effective in midadolescence for males and in later adolescence for females.

Researchers have also found that females tend to have larger possible networks of support, including more adults and more connections across family, school, and neighborhood (Coates, 1987; Svedhem, 1994) and that they seem to be more positively affected by support and connectedness in general, especially by parent support (Bailey & Hubbard, 1990; Clark-Lempers, Lempers, & Ho, 1991; Cotterell, 1992; Eccles, Early, Fraser, Belansky, & McCarthy, 1997; Leon, Fulkerson, Perry, & Dube, 1994; Margalit & Eysenck, 1990; Windle, 1992). Some research, however, suggests that males may be even more sensitive to and helped by support offered outside the family, in the neighborhood and wider community (Entwisle, Alexander, & Olson, 1994; Werner, 1992).

Other research supports the idea that neighborhoods may influence males more than they do females. Ensminger, Lamkin, & Jacobson (1996) examined the impact of

neighborhood indicators (percentage of residents below poverty level, percentage in white-collar occupations, median income, median education) on the likelihood of school drop-out and found no neighborhood effects for females as compared to males.

Studies have also found gender differences in achievement motivation. A study of a diverse sample of more than 1000 7th graders followed through 8th grade (Roeser & Eccles, 1998) found that females generally and African Americans of both genders valued education significantly more than did males generally and Caucasian adolescents of both genders. Females read for pleasure more than do males (Moffitt & Wartella, 1992) and also spend more time on homework in middle school, although by the 9th grade they appear to spend less (Leone & Richards, 1989).

Achievement motivation has less of a relationship to self-image for females as they make the transition from 6th to 7th grade, while for males, just the opposite occurs (Elmen, 1991). Juvonen and Murdock (1995) found that “smart and diligent” students are the most popular among peers in the 4th grade, but the least popular students by the 8th grade. If females tend to be engaged, do more homework, and get better grades overall than males, their popularity may decrease as they move into early adolescence. The researchers hypothesized that because group membership and belonging are important to females, they may lose interest in doing well, particularly in those subjects where success seems more connected to loss of popularity.

Although these studies provide information about gender differences in overall levels of a few risk and protective factors and their relationship to a variety of outcomes, information is needed on gender differences for a greater number of risk and protective factors as well as their relevance for female delinquency. The Office of Juvenile Justice

and Delinquency Prevention (1998) has begun this process by examining the needs, characteristics, and backgrounds of females in the juvenile justice system. The risk factors they deem as especially salient for girls include early sexual experimentation, academic failure, history of sexual abuse, low-self-esteem, dysfunctional family system, racism, sexism, and substance abuse. Protective factors specified as important for girls by the OJJDP (1998) include delay of sexual experimentation, academic success/progress, positive sexual development, positive self-esteem, positive family environment, positive minority identity, positive gender identity, and prosocial skills and competence. However, more work is necessary to further understand the role of these factors in promoting or inhibiting female delinquency and violence, as well as the role of gender in moderating the relationship among risk, protection, and delinquency.

Urban versus rural. Researchers have noted that although youth in urban settings are at-risk for multiple behavior problems, few empirical investigations have been undertaken regarding resiliency within this group (Luthar, Doernberger, & Zigler, 1993; Miller, 1999). Likewise, researchers and practitioners have observed that youth in rural settings face unique challenges, such as higher rates of tobacco and alcohol use (Cronk & Sarvela, 1997), as well as barriers to accessing programs and resources. A study conducted by a county health department examined urban versus rural differences in levels of risk and protective factors measured by the Michigan Alcohol, Tobacco, and Other Drug (ATOD) Survey and their relationship to substance use (Cheatum, 1998). The study examined local survey data gathered from 8th, 10th, and 12th graders between 1992 and 1997. The outcome variable was the frequency with which survey participants used alcohol, tobacco, or other drugs, and the measured risk factors were whether or not

respondents had been victims of violence and availability of alcohol, tobacco, and other drugs, as measured by how often respondents went out at night. Measured protective factors included family support, emotional well-being, enjoyment of school, and religious service attendance.

The researchers found that patterns of substance use varied by region, with cigarette and alcohol use higher in rural areas and marijuana use higher in urban areas. However, marijuana use increased ten percent in the rural areas between 1992-93 and 1996-97, while there was only a two percent increase in urban areas during that time period.

The results also indicated that number of protective factors varied by region. Rural youth reported fewer protective factors than youth in urban communities. In comparison with rural youth, urban youth reported higher levels of family support and were more likely to report that they enjoyed school. However, urban youth were less likely than rural youth to report that they were happy.

The researchers found that each of the measured risk and protective factors had a direct relationship with youth alcohol, tobacco, or other drug use. They also reported regional differences in the relationship of protective factors with substance use. While all of the protective factors showed a significant negative relationship with substance use for urban youth, enjoyment of school and family support did not predict substance use for rural teens.

These results provide some support for the assertion that urban versus rural differences may be important to consider in risk-focused prevention. This analysis found that the outcome of interest - substance use - varied by region. Urban versus rural

differences were also found in the number of protective factors youth had and the relationship of these factors with substance use. However, more information is needed on other outcomes, such as delinquency. In addition, while these findings support the relevance of urban versus rural differences in risk focused prevention, it should be noted that only a limited number of risk and protective factors were examined in this analysis and clearly more information is needed to fully understand urban versus rural differences in levels and salience of risk and protective factors.

Race/Ethnicity. Similarly, researchers have recognized the need for more studies on racial and ethnic minorities. The exploration of additional protective factors within populations that have unique stressors and histories is paramount for further understanding resiliency in general and minority groups in particular (Miller, 1999). For example, African American children in urban settings often have numerous obstacles to overcome, such as poverty, substandard housing, and inferior schools (Peters, 1985; Safyer, 1994). In addition, socialization of African American children frequently occurs in the context of racial discrimination and oppression (McCreary et al., 1996), an environment that is not conducive to mental health (Thorton, Chatters, Taylor, & Allen, 1990). Research thus far suggests that risk and protective factors vary as a function of race and ethnicity. For example, among African American families, strong social ties, a deep sense of spirituality, racial identity, and flexibly configured families that include kin and non-kin have been reported to contribute to resilience (McAdoo, 1998). Studies of African American adolescents have found that high racial identity is a significant factor in successfully coping with stress, academic achievement, and lower participation in problem behaviors (Bowman & Howard, 1985; McCreary, Slavin, & Berry, 1996).

A number of studies address the variation of family boundaries and expectations as a function of racial and ethnic group differences. For example, Steinberg, Mounts, Lamborn, and Dornbusch, (1991) reported that the relationship between authoritative parenting and school performance is greater among Caucasian and Hispanic adolescents than among their African American or Asian American counterparts. They found no racial or ethnic differences related to other adolescent outcomes such as behavior problems.

Adolescents' experience of family boundaries may vary considerably across different contexts. Bulcroft, Carmody, and Bulcroft (1996) used a nationally representative sample of households with a child between ages 12 and 18 to show that the race, age, and gender of an adolescent interact to affect the kinds of boundaries and independence parents grant. Hispanic parents maintain earlier curfews for both genders at all ages than do Caucasian or African American parents. African American males of all ages are given more independence outside the home than are males of other races, but African American females' curfews stay relatively early even as they grow older. The researchers concluded that Hispanic females in middle and late adolescence were among the most restricted youth.

Roeser and Eccles (1998) found that African Americans of both genders valued education significantly more than did Caucasian adolescents of both genders, which may have implications for the protective factor of achievement motivation. Landrine et al., (1994) found some evidence that the impact of peer involvement in problem behaviors, a risk factor specified by CTC and other risk reduction models, may vary by race/ethnicity. They found smoking by peers to be the best predictor of smoking among Caucasian

adolescents, while peer smoking was a somewhat weaker predictor of smoking among Hispanic and Asian youth and was not found to be a good predictor of smoking among African American youth (Landrine et al., 1994).

Although these studies suggest that race/ethnicity is an important factor to consider, as with gender and urban/rural, additional information is needed on a greater number of factors as well as the relationship of the factors to delinquency for youth from different racial/ethnic backgrounds. Further work is necessary to further understand the role of race/ethnicity in moderating the relationship among risk, protection, and delinquency.

Current Study

The current study attempts to address several gaps in the literature with a survey of middle school students. First, two popular approaches for targeting delinquency are combined in a comprehensive manner. The survey incorporates many of the risk and protective factors that appear in widely used risk reduction and protective factor enhancement models, and this study examines the relationships of the risk and protective factors with each other and with the outcome of adolescent delinquency. Second, gender, race/ethnicity, and urban versus rural differences in risk and protective factors within the individual, family, peer, school, and community domains are explored. Third, the utility of considering the domains of the risk and protective factors rather than merely the overall number of risk and protective factors is examined. Finally, to inform practice, protective factors are examined to ascertain whether they buffer individual, family, peer, school, and community risks for both genders, within different race/ethnicity groups, and for students from rural and urban areas. Specific research questions and hypotheses for

the current study are listed below.

Research Questions and Hypotheses

1) Are there gender, urban/rural, or race/ethnicity differences in overall (cumulative) levels of risk and protection?

Specific hypotheses:

- a. Males will have higher levels of overall risk than females, and females will have higher levels of overall protection than males.
- b. Students from the urban school will have higher levels of overall risk and higher levels of overall protection than students from the rural school.
- c. Students of color will have higher levels of overall risk and higher levels of overall protection than Caucasian students.

2) Are there gender, urban/rural, or race/ethnicity differences in levels of risk and protection within individual, family, peer, school, and community domains?

3) Does a cumulative or a domain-specific model of risk and protection better predict delinquency?

- a. It is hypothesized that a domain-specific model of risk and protection will better predict delinquency than a cumulative model of risk and protection.

4) Which domains of protective factors buffer the effects of overall, individual, family, peer, school, and community risks on delinquency? Which protective factors buffer overall risk for each gender, for students from urban versus rural areas, and for students of color versus Caucasian students?

Chapter 2

METHOD

Development and Administration of Surveys

The Youth Survey was developed for the purpose of a risk and needs assessment conducted in an urban and a rural site in mid-Michigan by the Youth Violence Prevention Coalition (YVPC). The YVPC is a collaborative body charged with the responsibility of advising the city and county on policies and programs concerning juvenile justice. The YVPC consists of representatives from city and county government, schools, police, the prosecutor's office, the Family Independence Agency, and other child and youth welfare organizations, as well as youths themselves.

Although copyright considerations prohibited utilizing existing surveys and scales, YVPC members reviewed popular risk reduction and protective factor enhancement models as well as risk and protective factor research to distill factors that are recurrent in both the research literature and in these commonly used models. Survey questions were designed to measure risk and protective factors in the following five domains: individual, family, peer, school, and community. First, other published or locally available surveys were examined to find relevant items for each of the risk and protection scales. When the number of items found in already existing surveys was insufficient to measure a domain, new items were generated by YVPC members and representatives from the two participating sites.

The survey was then tested with a sample of 20 students from the rural site to ensure that the items were easy to understand and that the survey could be completed in less than 45 minutes. Finally, a larger pilot study was conducted during Spring 1997 with

108 students from the urban and the rural sites. Letters and permission slips were sent to all 6th grade students and their parents to recruit participants for the pilot survey. A YVPC representative visited the 6th grade lunch hour and made announcements over the P.A. system at both sites to remind students to turn in their permission slips. Students completed their surveys during school hours and were paid \$5 for their time.

After the pilot survey was administered, survey items were combined into scales measuring risk and protective factors, and reliability statistics (e.g., item-scale correlations) were used to eliminate unnecessary items from the survey. The final survey, administered in 1998 and 1999 to 6th, 7th, and 8th graders in the urban and rural schools, consisted of approximately 220 items and is contained in Appendix A.

Sites

The two sites participated in the Youth Survey as part of a larger community assessment project of the Youth Violence Prevention Coalition. The urban site consisted of a large middle school with a diverse population. This middle school had gained a local reputation for being unsafe and having a large number of students engaging in delinquent and violent acts. School administrators and staff were interested in working with the YVPC to assess the extent and nature of any problems they might have. The rural site had a homogeneous population, and was the only middle school located in a rural township within the same county as the urban site.

Participants

Participant demographics for the 1998 and 1999 years of survey administration, as well as for the combined sample analyzed in this study, are shown in Table 1.

Table 1

Survey Participant Demographics

Participant Information	1998 (N=277)	1999 (N=245)	Combined Sample (N=452)
<u>Urban Site</u>	N=161 (58%)	N=134 (55%)	N=258 (57%)
Female	91 (57%)	74 (56%)	143 (55%)
Grade Level	6 th – 55 (35%) 7 th – 57 (36%) 8 th – 44 (28%)	6 th – 50 (37%) 7 th – 36 (27%) 8 th – 48 (36%)	6 th – 92 (36%) 7 th – 74 (29%) 8 th – 89 (34%)
Race/Ethnicity	Afr. Amer.– 43 (28%) Caucasian- 70 (45%) Latino(a)-15 (10%) Asian Pac.-9 (6%) Nat. Amer.-2 (1%) Multiracial-15 (9%)	Afr. Amer.–28 (21%) Caucasian- 75 (56%) Latino(a)-10 (7%) Asian Pac.-10 (8%) Nat. Amer.-1 (1%) Multiracial-10 (7%)	Afr. Amer.–65 (25%) Caucasian- 124 (48%) Latino(a)-25 (10%) Asian Pac.-17 (7%) Nat. Amer.-3 (1%) Multiracial-21 (8%)
<u>Rural Site</u>	N=115 (42%)	N=111 (45%)	N=194 (43%)
Female	59 (51%)	56 (51%)	97 (50%)
Grade Level	6 th – 29 (25%) 7 th – 37 (32%) 8 th – 42 (37%)	6 th – 39 (35%) 7 th – 32 (29%) 8 th – 40 (36%)	6 th – 59 (30%) 7 th – 51 (26%) 8 th – 81 (42%)
Race/Ethnicity	93% Caucasian ¹	92% Caucasian ¹	92% Caucasian ¹

¹ Percentages of non-Caucasian students are not provided for the rural school survey participants to protect the identity of the students.

In 1998, 277 students took the survey; 161 (58%) were from the urban site and 115 (42%) were from the rural site. In the urban sample, 57% were female, and 28% were African American, 45% Caucasian, 10% Latino or Hispanic, 6% Asian Pacific, 1% Native American, and 10% Multiracial. Thirty-five percent of the urban sample were in 6th grade, 36% were in 7th grade, and 28% were in 8th grade. In the rural sample, 51% were female, and 25% were in 6th grade, 32% were in 7th grade, and 37% were in 8th grade. Most (93%) of the rural sample were Caucasian.

In 1999, 245 students completed the survey; 134 (56%) were from the urban site and 111 (45%) were from the rural site. In the urban sample, 56% were female, and 21% were African American, 56% Caucasian, 7% Latino or Hispanic, 8% Asian Pacific, 1% Native American, and 7% Multiracial. Thirty-seven percent of the urban sample were in 6th grade, 27% were in 7th grade, and 36% were in 8th grade. In the rural sample, 51% were female, and 35% were in 6th grade, 29% were in 7th grade, and 36% were in 8th grade. Again, most (92%) of the rural sample were Caucasian.

The 1998 and 1999 survey administrations were combined into one sample for this study. The most recent (1999) survey was retained for students who participated in the survey during both years. The combined sample consisted of 452 students; 258 (57%) were from the urban site and 194 (43%) were from the rural site. In the urban sample, 57% were female, and 25% were African American, 48% Caucasian, 10% Latino(a) or Hispanic, 7% Asian Pacific, 1% Native American, and 8% Multiracial. Thirty-six percent of the urban sample was in 6th grade, 29% were in 7th grade, and 34% were in 8th grade. In the rural sample, 50% were female, and 30% were in 6th grade, 26% were in 7th grade, and 42% were in 8th grade. Most (92%) of the rural sample were Caucasian.

Table 2 compares demographic information for the survey participants with the demographic characteristics of the entire urban and rural schools. In terms of gender,

Table 2

Comparison of Survey Participants with all Students in Urban and Rural Schools

	Urban School Survey Participants	All Urban School Students	Rural School Survey Participants	All Rural School Students
Grade Level	6 th – 36% 7 th – 29% 8 th – 34%	6 th – 32% 7 th – 36% 8 th – 31%	6 th – 30% 7 th – 26% 8 th – 42%	6 th – 32% 7 th – 37% 8 th – 31%
Gender	55% Female	50% Female	50% Female	47% Female
Race/ Ethnicity	25% Afr. Amer 48% Caucasian 10% Latino(a) 7% Asian Pacific 1% Nat. Amer. 8% Multiracial	28% Afr. Amer. 46% Caucasian 15% Latino(a) 9% Asian Pac. 2% Nat. Amer.	92% were Caucasian ¹	.9% Afr. Amer. 96% Caucasian 2% Latino(a) .2% Asian Pac. .3% Nat. Amer.

¹ Percentages of non-Caucasian students are not provided for the rural school survey participants to protect the identity of the students.

grade, and race/ethnicity, the students sampled for the survey closely resembled the populations of their schools. Females and 8th-graders were slightly over-sampled and 7th graders were under-sampled in both the urban and rural sites (see Table 2), but the survey participants are otherwise representative of the school populations.

Independent Variables

The risk and protective factor scales measured by the YVPC Youth Survey encompassed multiple domains; they are listed in Table 3 and described in the paragraphs below. Indicators of internal consistency are based on the combined sample of 1998 and 1999 survey administrations. Psychometric information is listed in Table 4 for the risk factor scales and Table 5 for the protective factor scales. All survey questions are shown in Appendix A.

Risk Factors

Individual risk factors. Within the individual level domain, the risk factor of Early Initiation of Problem Behaviors was assessed with 8 items that were scored on a scale of 1 (never) to 5 (younger than 10). Youths were asked how old they were when they first engaged in delinquent or violent behaviors such as fighting, skipping school or carrying a weapon. Item-total correlations ranged from .24 to .71, and Cronbach's alpha was .80.

Poor Conflict Resolution Tactics were assessed with 3 items that were scored on a 4-point Likert-type scale, with higher scores indicating frequent use of poor conflict resolution tactics. Youths were asked how often they used tactics such as yelling, refusing to talk, or throwing things in response to conflicts with their friends. Item-total correlations ranged from .49 to .57, and Cronbach's alpha was .71.

Table 3

Risk and Protective Factors Measured by the YVPC Youth Survey

Domain	Risk	Protection
Individual	Early Initiation of Problem Behavior	Independence
	Poor Conflict Resolution Tactics	Self-Esteem
	Family Management Problems	Role Models in the Home
Family	Poor Family Supervision	Positive Parenting Behaviors
	Family Conflict and Violence	Family Care and Social Support
	Parent Attitudes toward Child Problem Behaviors	
	Parent Participation in Violence	
Peer	Peer Attitudes toward Prob. Behav.	Peer Support for Non-Violence
	Peers Involved in Problem Behav.	Conventional Friends
	Academic Failure	School Role Models/Mentors
School	Lack of Commitment to School	Perceived Care and Social Support at School
	Early and Persistent Anti-Social Behavior at School	Teacher Expectations of Success and Achievement
		Opportunities for Participation & School Involvement
Community	Availability of Firearms	Sense of Community
	Availability of Drugs	Positive Community Orientation toward Youth/Adult Role Models
	Community Disorganization	
	Experience of Racism	Positive Police Presence in the Community

Table 4

Risk Factor Psychometrics

Risk Factor	Number of Items	Item-Total Correlations	Alpha
Individual			
Early Initiation of Problem Behaviors	8	.24 - .71	.80
Poor Conflict Resolution Tactics	3	.49 - .57	.71
Family			
Family Management Problems	6	.27 - .56	.67
Poor Family Supervision	8	.40 - .69	.83
Family Conflict and Violence	5	.35 - .65	.77
Parent Attitudes toward Child Problem Behaviors	11	.59 - .68	.88
Parent Participation in Violence	9	.38 - .75	.84
Peer			
Peer Attitudes Toward Problem Behaviors	7	.54 - .76	.88
Peer Involvement in Problem Behaviors	8	.55 - .77	.88
School			
Academic Failure	3	N/A	N/A
Lack of Commitment to School	8	.38 - .60	.77
Early and Persistent Anti-Social Behavior at School	11	.38 - .74	.82
Perceived Lack of Safety in School	4	.59 - .66	.80
Community			
Availability of Firearms	3	.50 - .71	.77
Availability of Drugs	6	.46 - .85	.89
Community Disorganization	6	.54 - .65	.82
Experience of Racism	4	.33 - .74	.76

Table 5

Protective Factor Psychometrics

Protective Factor	Number of Items	Item-Total Correlations	Alpha
Individual			
Independence	7	.38 - .63	.80
Self-Esteem	3	.34 - .45	.57
Family			
Family Role Models	3	.40 - .44	.62
Positive Parenting Behaviors	3	.56 - .63	.75
Family Care and Social Support	6	.58 - .71	.86
Peer			
Peer Support for Non-Violence	4	.41 - .61	.72
Conventional Friends	5	.63 - .75	.86
School			
Role Models or Mentors at School	3	.56 - .65	.77
Perceived Teacher Care and Social Support	3	.52 - .58	.73
Teacher Expectations of Success and Achievement	5	.24 - .51	.67
Opportunities for Participation	3	.28 - .42	.55
School Involvement	4	N/A	N/A
Community			
Sense of Community	4	.62 - .77	.85
Positive Orientation Toward Youth and Adult Role Models	Composite Measure 2 positive orientation items correlated .55; 1 yes/no item		
Positive Police Presence in Community	4	.53 - .64	.76

Family risk factors. The family domain risks chosen for this study include Family Management Problems, Poor Family Supervision, Family Conflict and Violence, Parent Attitudes toward Child Problem Behaviors, and Parent Participation in Violence. Family Management Problems were measured with 6 items that assessed the extent to which youths experienced transitions or instability due to problems within their families. For example, youths were asked how often they stayed in shelters or stayed with relatives because their parents were having problems. Because this scale demonstrated low internal consistency (Cronbach's alpha was .60) in the 1997 pilot study, the items were revised for subsequent survey administrations in 1998 and 1999. Item-total correlations ranged from .27 to .56 and Cronbach's alpha was .67 for the scale administered in the 1998 and 1999 surveys.

Poor Family Supervision consisted of 8 items assessing level of family supervision and consistent discipline. Responses were measured on a scale of 1 to 4, with higher scores indicating low levels of supervision. This scale included questions about whether or not parents consistently enforce clear rules for behavior and whether or not they ask youth questions about schoolwork, their friends, and where they are going. Item-total correlations ranged from .40 to .69 and Cronbach's alpha was .83.

Family Conflict and Violence were assessed with 5 questions measured on a 4-point Likert-type scale (higher scores indicated higher conflict and violence). The scale centered on verbal conflicts and threats as well as actual physical violence between youths' parents, and a question focusing on sibling violence was added to surveys

administered in 1998 and 1999. Item-total correlations ranged from .35 to .65 and Cronbach's alpha was .77.

Parental Attitudes toward Child Problem Behaviors were measured with 11 items that assessed youths' perceptions of whether their parents would accept them participating in delinquent or aggressive behaviors. These items were scored on a 4-point Likert-type scale, with higher scores indicating higher acceptance of delinquency and aggression. Item-total correlations ranged from .59 to .68 and Cronbach's alpha was .88.

Parent/Family Participation in Violence consisted of 9 items that assessed how often youths witnessed their parents or other family members get into physical confrontations or fights. The items were scored on a 4-point Likert-type scale, item-total correlations ranged from .38 to .75, and Cronbach's alpha was .84.

Peer risk factors. Risks assessed within the peer domain included Peer Attitudes toward Problem Behaviors and Peer Involvement in Problem Behaviors. Peer Attitudes toward Problem Behaviors were measured by 7 items scored with a 4-point Likert-type response format. Youths were asked if their friends would think "it is alright" to engage in behaviors such as skipping school, getting into a fight if challenged, or carrying a weapon. Item-total correlations ranged from .54 to .76 and Cronbach's alpha was .88.

The Peer Involvement in Problem Behaviors scale consisted of 8 items assessing how often youths' friends participated in behaviors such as skipping school, getting into fights, carrying weapons, and getting into trouble at school. Items were scored with a 4-point Likert-type scale, item-total correlations ranged from .55 to .77, and Cronbach's alpha was .88.

School risk factors. The YVPC Youth Survey measured school risks that included: Academic Failure, Lack of Commitment to School, Early and Persistent Anti-Social Behavior at School, and Perceived Lack of Safety in School.

Academic failure was measured with three items. Youths were asked about their overall grades at schools. This item was scored on a 9-point scale, with 1=mostly As, 2=mostly As and Bs, and 9=Mostly Es. Youths were also asked how many classes they have failed and how many times they have had to repeat a grade at school. These items were scored on a 7-point scale, with 0=zero to 6=six or more.

Lack of Commitment to School was measured by 8 items in which youths were asked how important doing well at school is to them, how important they think school is, whether they intend to finish high school, how important education is for getting the job or career they want, and whether they think they will go to college. These items were scored on a 4-point Likert-type scale, item-total correlations ranged from .38 to .60, and Cronbach's alpha was .77.

Early and Persistent Anti-Social Behavior at School was measured with 11 items asking youth how often they skip classes, get into fights, and get disciplined at school (e.g., office referrals, detention, suspension, etc.). Items were scored on a 4-point Likert-type scale, item-total correlations ranged from .38 to .74 and Cronbach's alpha was .82.

Perceived Lack of Safety in School was measured with 4 items asking youth whether they fear for their safety in or around school. Items were scored with a 4-point Likert-type response format, item-total correlations ranged from .59 to .66, and Cronbach's alpha was .80.

Community risk factors. Finally, the survey assessed the community risks of Availability of Firearms, Availability of Drugs, Community Disorganization, and Experience of Racism.

To assess Availability of Firearms, youths were asked 3 questions about whether they could easily obtain a gun in their neighborhood and how often people in their neighborhood carry weapons. All items were scored on a 4-point Likert-type scale, item-total correlations ranged from .50 to .71, and Cronbach's alpha was .77.

Availability of Drugs was measured by 6 items in which youth were asked how often people use, buy or sell drugs in their neighborhood. These items were scored on a 4-point Likert-type scale, item-total correlations ranged from .46 to .85 and Cronbach's alpha was .89.

Community Disorganization was measured by 6 items, such as "There are many abandoned houses or other buildings in my neighborhood or community" and "There is a lot of writing and other graffiti on the houses and other buildings in my neighborhood or community." These items were scored on a 4-point Likert-type scale and were drawn from a Sense of Community Questionnaire developed by John Schweitzer and used in research at Michigan State University. Item-total correlations ranged from .54 to .65 and Cronbach's alpha was .82.

Experience of Racism was measured by 4 items that were adapted from McCord and Ensminger's (1995) longitudinal research on pathways from childhood aggression to adult violence. Youths were asked how often they had experienced problems with teachers or had police officers or other people bothering them in their neighborhood

because of their race or ethnicity. Items were scored with a 4-point Likert-type scale, item-total correlations ranged from .33 to .74, and Cronbach's alpha was .76.

Protective factors

Individual protective factors. Individual-level protective factors measured on the YVPC Youth Survey were Independence and Self-Esteem. The Independence scale consisted of 7 items asking youth whether they feel comfortable voicing their opinions and whether they think it is okay to be different from other kids. Responses were scored on a 4-point Likert-type scale, item-total correlations ranged from .38 to .63, and Cronbach's alpha was .80.

Self-Esteem was measured with 3 items asking youth whether they are "able to do things as well as others" or whether they are generally able to do whatever they set their minds to do. Responses were scored on a 4-point Likert-type scale, item-total correlations ranged from .34 to .45, and Cronbach's alpha was .57.

Family protective factors. Family protective factors measured on the survey included Family Role Models, Positive Parenting Behaviors, and Family Care and Social Support. Family Role Models was measured by 3 questions measured on a 4-point Likert-type scale in which youth were asked if they have parents, siblings, or other relatives that they admire and look up to. Item-total correlations ranged from .40 to .44, and Cronbach's alpha was .62.

Positive Parenting Behaviors were measured by a 3-item scale asking youth how often their parents reward or praise their good behavior or calmly discuss their misbehavior with them. Items were scored on a 4-point Likert-type scale, item-total correlations ranged from .56 to .63, and Cronbach's alpha was .75.

The Family Care and Social Support scale consisted of 6 questions asking youth if they are able to talk with their parents about problems and if their parents listen to them and spend time with them. The items were scored on a 4-point Likert-type scale, with higher scores indicating higher care and social support. Item-total correlations ranged from .58 to .71 and Cronbach's alpha was .86.

Peer protective factors. Peer protective factors measured by the youth survey included Peer Support for Non-Violence and Conventional Friends.

Peer Support for Non-Violence was assessed by 4 items in which youth were asked whether their friends would support them or think they were afraid if they walked away from a fight. The items were scored on a 4-point Likert-type scale, item-total correlations ranged from .41 to .61, and Cronbach's alpha was .72.

Conventional Friends consisted of a 5-item scale that measured the extent to which parents and teachers approve of youths' friends. Youths were asked questions about whether or not their parents and teachers think their friends are "good kids," and if their friends are interested in school and get good grades. The items were scored on a 4-point Likert-type scale, item-total correlations ranged from .63 to .75, and Cronbach's alpha was .86.

School protective factors. School protective factors included Role Models or Mentors at School, Perceived Care and Social Support at School, Teacher Expectations of Success and Achievement, Opportunities for Participation, and School Involvement.

The Role Models or Mentors at School scale consisted of 3 questions that assessed whether youths have teachers that they trust, admire, and respect. Items were

scored on a 4-point Likert-type scale, item-total correlations ranged from .56 to .65, and Cronbach's alpha was .77.

Perceived Care and Social Support at School were measured by a 3-item scale that included questions about whether teachers seem to care about students and help them when they have problems. The items were measured on a 4-point Likert-type scale, item-total correlations ranged from .52 to .58, and Cronbach's alpha was .73.

Teacher Expectations of Success and Achievement were measured by a 5-item scale asking youths how many of their teachers expect that they will do well at school. These items were scored on a 4-point Likert-type scale (1=none and 4=all), item-total correlations ranged from .24 to .51, and Cronbach's alpha was .67.

Opportunities for Participation were measured by 3 questions about how many opportunities there are for youths to participate in school activities. The items were scored on a 4-point Likert-type scale, item-total correlations ranged from .28 to .42, and Cronbach's alpha was .55.

School Involvement was measured by 4 items asking youth about the number of school activities in which they were involved and about their level of participation in school. This scale was scored as the total number of activities.

Community protective factors. Community-level protective factors assessed on the YVPC Youth Survey included Sense of Community, Positive Community Orientation toward Youth and Adult Role Models, and Positive Police Presence in Community.

A 4-item scale measured Sense of Community. Examples of items included "It is easy for me to tell a stranger in my neighborhood or community from somebody who lives there" and "Neighbors take care of each others' plants, pets, or children if needed."

These items were scored on a 4-point Likert-type scale and were drawn from a Sense of Community Questionnaire developed by John Schweitzer and used in research at Michigan State University. Item-total correlations ranged from .62 to .77, and Cronbach's alpha was .85.

Positive Community Orientation toward Youth and Adult Role Models consisted of a yes/no item asking youths if there are adults in their neighborhood that they admire or would like to be like, and 2 questions asking youth whether adults in their neighborhood know the names of kids who live there and seem to like them. The 2 items were measured on a 4-point Likert-type scale and were correlated .55.

Positive Police Presence in the Community was measured with 4 items asking youth whether they and the adults in their community trusted the police they saw in their neighborhood. Item-total correlations ranged from .53 to .64, and Cronbach's alpha was .76.

Dependent Variables

Delinquency was measured by a modified version of the Self-Reported Delinquency Index (SRD) that was developed for the National Youth Survey (Elliott, Huizinga, & Ageton, 1985) and has been used extensively in delinquency research (e.g., Smith & Thornberry, 1995; Smith et al., 1995; Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1991). The original scale consists of 21 self-report items assessing participation in a range of delinquent behaviors, such as stealing, vandalism, arson, and using drugs. Youths were asked to respond with the exact number of times they participated in these behaviors during the last year. The index was shortened to 16 items for this study; item-total correlations ranged from .29 to .70 and Cronbach's alpha was .82.

Chapter 3

RESULTS

This chapter presents the findings of the current study. First, procedures of analysis are delineated. Second, information is provided concerning the dependent variable, youth participation in delinquency. Next, information about the independent variables, risk and protection, is detailed. Finally, the results of the study are presented in order of the four research questions.

Procedures of Analysis

Each student's standardized scores were averaged across scales to compute risk and protective factor scores for each domain (e.g., individual, family, peer, school, and community), and then risk and protective scores were averaged across domains to compute an overall or aggregate risk score and an overall protective score.

Data for research questions 1, 2, and 4 were analyzed using SPSS for windows. T-tests were used to compare overall and domain-specific (e.g., individual, family, peer, school, and community) risk and protection by gender, urban/rural, and race/ethnicity. T-tests by race/ethnicity were computed using only students from the urban site to avoid confounding the effects of urban/rural and race/ethnicity. For purpose of analysis, race/ethnicity was recoded into a dichotomous variable (student of color or Caucasian). On the basis of research showing that pairwise rather than listwise deletion may be advantageous in terms of bias and efficiency (Arbuckle, 1996), analyses were computed with pairwise deletion to account for missing data. Graf and Alf's (1999) method and software for comparing R-squares with non-overlapping predictors were used to answer research question 3.

To answer research question 4, multiple regression analysis was first used to examine the ability of protective factors within each domain (protective factors were grouped by domain and entered in blocks) to moderate the effects of overall risk (standardized scores averaged across all risk scales) on delinquency, with gender, race, and urban/rural entered as controls. Gender, race/ethnicity, and urban/rural were entered in block one, followed by individual, family, peer, school, and community protection in block two. Block three contained overall risk, and block four was comprised of the interactions between overall risk and each of the protective factors.

Second, five separate regressions were computed to examine which domains of protective factors moderate the effects of individual, family, peer, school, and community risks on delinquency. In other words, a regression equation was computed to examine the ability of the protective factors to buffer individual risks; a separate analysis examined the protective factors that buffer family risks, then peer risks, etc. Gender, race/ethnicity, and urban/rural were entered in block one as control variables, followed by individual, family, peer, school, and community protection in block two. Block three contained individual, family, peer, school, or community risk, and block four was comprised of the interactions between individual, family, peer, school, or community risk and each of the protective factors.

Finally, regression analysis was used to examine which domains of protective factors buffer overall risk for females versus males (controlling for urban/rural and race/ethnicity), urban versus rural students (controlling for gender and race/ethnicity), and for students of color versus Caucasian students (controlling for gender and urban/rural). Control variables were entered in block one, followed by gender, urban/rural, or

race/ethnicity; individual, family, peer, school, or community protection; and overall risk in block two. Block three contained the two-way interactions of gender, urban/rural, or race/ethnicity by individual, family, peer, school, or community protection; gender, urban/rural, or race/ethnicity by overall risk; and individual, family, peer, school, or community protection by overall risk. The fourth block contained the three-way interaction of gender, urban/rural, or race/ethnicity by individual, family, peer, school, or community protection, by overall risk. In total, fifteen multiple regression analyses were computed to answer the final component of research question four.

In all multiple regression analyses, independent variables were centered to reduce multicollinearity and increase interpretability of the predictor variables. As recommended by Aiken and West (1991), interaction terms were formed by computing the products of standardized variables and interpreted by examining the unstandardized solution and plotting effects at one standard deviation above and below the mean.

Although most of the regression analyses build on each other in sets that repeat the same main effects in the initial blocks, a large number of interactions were tested in this study. Thus, modified Bonferroni corrections were applied to t-tests and regression analyses to limit the inflation of alpha due to repeated testing while preserving a reasonable level of power (Jaccard & Wan, 1996). The modified Bonferroni procedure still retains a family-wise type 1 error rate of 5%. For this procedure, analyses may be grouped into “families” of effects that have something in common for adjustment of alpha. In this study, effects were grouped into families according to type of analysis and domain of risk and protection (see Appendix B). Significance values from the multiple tests were rank ordered within each family from smallest to largest. Within each family,

the significance of the first test was evaluated at $\alpha/\text{number of tests}$. If the test statistic was statistically significant after this adjustment was performed, the next test was evaluated at $\alpha/(\text{number of tests}-1)$. If this test was significant, the third test was evaluated at $\alpha/(\text{number of tests}-2)$. Each test was evaluated in this fashion until a non-significant test result was obtained. All tests after the first non-significant test were deemed not significant. Tables showing the application of the modified Bonferroni procedure to the analyses in this study are contained in Appendix B.

Dependent Variable: Youth Involvement in Delinquency

Students' scores on the modified Self-Reported Delinquency Index ranged from 0 to 72, and the mean score was 3.62. To correct for the highly skewed distribution (skewness=4.6; kurtosis=25.62) and better meet the distributional assumptions of multiple regression, a linear log transformation was applied to the scale. The resulting distribution was less skewed (skewness=1.20; kurtosis=.555).

Independent Variables: Youth Experience of Risk and Protection

Tables 6 and 7 contain the means, standard deviations, skewness, and kurtosis statistics for each of the risk and protective factor scales. Risk and protection scales were scored so that lower scores indicate lower risk or protection and higher scores indicate higher risk or protection (e.g., most scales were scored 1=not at all, 4=a lot). Skewed distributions among the independent variables were transformed to better approximate normality because they were used to form interaction terms; researchers recommend transformation as a strategy in this instance because interactions magnify the effect of extreme scores (e.g., Aiken & West, 1991). Accordingly, a linear log transformation was applied to the family management and family violence scales to correct for skewed

distributions.

Tables 6 and 7 show that mean protective factor scores are generally higher than mean risk factor scores, and the highest levels of protection are found in the individual domain and the lowest levels of protection are found in the community domain. All of the risk factor scales had mean scores ranging from 1 (not at all) to 2 (a little). Some of the highest risks for the student survey participants were the individual-level domain risk factors of Early Initiation of Problem Behaviors and Poor Conflict Resolution Tactics, the school domain risk of Lack of Commitment to School, and the community domain risk of Availability of Drugs. Some of the lowest reported risks were the family domain risk of Parent Participation in Violence and the school domain risk of Early and Persistent Anti-Social Behavior in School.

Tables 8-12 show the correlations of the dependent variable, delinquency, with the risk and protective factor scales that were used to form the risk and protective factor domain scores, and Table 13 contains correlations between overall risk and protection and among risk and protective factor domain scores. Correlations among the risk and protection scales, between overall risk and protection, and among risk and protective factor domains were examined to determine whether the risk and protective factor scales and domain scores measured distinct constructs or if they measured a single factor at opposite ends of a continuum. Cohen's (1988) standards were used to interpret small (.10), medium (.30), and large (.50) effect sizes.

Table 6

Risk Factor Descriptive Statistics

Risk Factor	N	Range	Mean	SD	Skew	Kurt
Individual						
Early Initiation of Problem Behaviors	450	1.00-4.75	1.92	.904	.813	-.264
Poor Conflict Resolution Tactics	422	1.00-4.00	1.73	.708	1.23	1.25
Family						
Family Management Problems ^a	446	1.00-3.40	1.31	.375	2.42	7.80
	446 ^a	0.00-1.22 ^a	.241 ^a	.236 ^a	1.40 ^a	2.33 ^a
Poor Family Supervision	442	1.00-3.88	1.59	.586	1.32	1.76
Family Conflict and Viol.	426	1.00-4.00	1.55	.553	1.79	3.75
Parent Attitudes toward Child Problem Behaviors	435	1.00-3.73	1.36	.463	1.89	4.64
Parent Participation in Violence ^a	432	1.00-3.56	1.17	.367	3.42	13.43
	432 ^a	0.00-1.27 ^a	.128 ^a	.229 ^a	2.47 ^a	6.48 ^a
Peer						
Peer Attitudes Toward Problem Behaviors	420	1.00-4.00	1.68	.653	.982	1.03
Peer Involvement in Problem Behaviors	417	1.00-4.00	1.58	.632	1.51	2.25
School						
Academic Failure						
Lack of Commitment to School	450	1.00-3.75	1.80	.501	.920	.999
Early and Persistent Anti-Social Behavior at School	447	0.00-7.60	1.09	1.40	1.80	3.23
Perceived Lack of Safety in School	450	1.00-4.00	1.73	.665	1.00	.825
Community						
Availability of Firearms	404	1.00-4.00	1.60	.703	1.35	1.35
Availability of Drugs	408	1.00-4.00	1.86	.804	.879	-.098
Community Disorganization	414	1.00-4.00	1.65	.621	1.06	.882
Experience of Racism	359	1.00-4.00	1.28	.508	2.37	6.25

^a Scale descriptives after linear log transformation

Table 7

Protective Factor Scale Descriptive Information

Protective Factor	N	Range	Mean	SD	Skew.	Kurt.
Individual						
Independence	450	1.43-4.00	3.33	.545	-1.04	.810
Self-Esteem	446	2.00-4.00	3.49	.483	-.789	.044
Family						
Role Models in the Home	434	1.00-4.00	2.78	.759	-.300	-.375
Positive Parenting Behaviors	440	1.00-4.00	3.14	.745	-.814	.147
Family Care and Social Support	447	1.00-4.00	3.30	.674	-1.11	.717
Peer						
Peer Support for Non-Violence	451	1.00-4.00	3.32	.688	-1.09	.712
Conventional Friends	423	1.00-4.00	3.10	.717	-.667	-.061
School						
Role Models or Mentors at School	450	1.00-4.00	2.85	.790	-.307	-.764
Perceived Teacher Care and Social Support	451	1.00-4.00	2.98	.706	-.513	-.264
Teacher Expectations of Success and Achievement	451	1.20-4.00	3.11	.498	-.352	-.023
Opportunities for Participation	450	1.00-4.00	3.25	.686	-.877	.208
School Involvement (z-score)	451	-1.67-1.97	-.002	.823	-.028	-.332
Community						
Sense of Community	410	1.00-4.00	2.87	.852	-.442	-.685
Positive Orientation Toward Youth and Adult Role Model	411	1.00-4.00	2.81	.884	-.271	-.823
Positive Police Presence	408	0.00-1.00	.790	.331	-1.32	.339

Table 8 contains the correlations between delinquency and individual risk and protection scales. Within the individual domain, risk and protection were negatively related and had small, non-significant correlations. Risk and protection scales within the family domain (see Table 9) were negatively related and had mostly low to medium significant correlations. However, Poor Family Supervision was a notable exception with a moderate negative correlation with Family Role Models (-.377) and high negative correlations with Positive Parenting (-.614) and Family Care and Social Support (-.761). Within the peer domain (see Table 10), risk and protection scales had mostly medium-sized significant negative correlations. However, Conventional Friends had medium to high correlations with Peer Attitudes toward Problem Behaviors (-.450) and Peer Involvement in Problem Behaviors (-.448). Within the school domain (see Table 11), risk and protection scales had mostly low to moderate negative correlations. The highest correlations were between Lack of Commitment to School and School Role Models/Mentors (-.583) and Teacher Care and Social Support (-.427). Risk and protection scales within the community domain had low to moderate significant negative correlations (see Table 12). The highest correlations were in the medium range and involved the relationship of Positive Police Presence in the Community with Availability of Firearms (-.397) and Availability of Drugs (-.352).

Table 8

Individual Risk and Protection Scale Correlations with Delinquency

	Protection			Risk	
	Independence	Self-Esteem	Early Initiation of Problem Behaviors	Poor Conflict Resolution Tactics	Delinquency
Protection					
Independence		.481**	-.059	-.094	-.115
Self-Esteem			-.025	-.068	-.136**
Risk					
Early Initiation of Problem Behaviors				.153**	.609**
Poor Conflict Resolution Tactics					.230**

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2 tailed).

Table 9

Family Risk and Protection Scale Correlations with Delinquency

	Protection			Risk				
	Pos. Par.	Fam. Care & Soc. Supp.	Fam. Man. Probs.	Poor Family Super.	Family Conflict & Vio.	Parent Attitude- Child Beh.	Parent Partic. in Vio.	Delinq
Protect.								
Family Role Models	.419*	.459**	-.069	-.377**	-.189**	-.140**	-.156**	-.171**
Positive Parent.		.670**	-.065	-.614**	-.180**	-.240**	-.226**	-.201**
Fam Care & Social Support			-.060	-.761**	-.296**	-.292**	-.265**	-.342**
Risk								
Family Manag. Probs				.085	.222**	.227**	.361**	.094
Poor Family Superv.					.222**	.380**	.297**	.340**
Family Conf. & Violence						.367**	.549**	.221**
Parent Attitudes -Child Beh.							.484**	.405**
Parent Vio.								.273**

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2 tailed).

Table 10

Peer Risk and Protection Scale Correlations with Delinquency

Protection		Risk		Delinquency
	Peer Support for Non-Violence	Conventional Friends	Peer Attitudes Toward Prob. Beh.	Peer Involvement in Problem Behaviors
Protection				
Peer Support for Non-Viol.		.335**	-.301**	-.246**
Conventional Friends			-.450**	-.448**
Risk				
Peer Attitudes Toward Problem Behaviors				.726**
Peer Involvement in Problem Behaviors				.451**
				.510**

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Table 11

School Risk and Protection Scale Correlations with Delinquency

	Protection				Risk				
	Tch Care	Tch Exp.	Opp. for Part.	Sch. Invol	Acad. Fail.	Lack Sch. Com.	Early Anti- Soc Beh.	Lack Sch. Safe	Delinq
Protect									
School	.692*	.503*	.153*	.094*	-.139**	-.583**	-.330**	-.035	-.329**
Mentor	*	*	*	*					
Teach		.559*	.152*	.057	-.021	-.427**	-.247**	-.054	-.308**
Care		*	*						
Teach			.192*	.145*	-.119*	-.344**	-.180**	-.056	-.230**
Expt			*	*					
Opp for				.581*	-.245**	-.333**	-.067	-.102*	-.042
Partic.				*					
School					-.242**	-.203**	-.046	-.074	.009
Involv.									
Risk									
Acad.									.251**
Fail.						.267**	.323**	.183*	
								*	
Lack									
Com. to									
Sch.							.360**	.204*	.359**
								*	
Early									
Anti-									
Soc								.088	.700**
Beh.									
Lack									
Sch.									
Safety									.094

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2 tailed).

Table 12

Community Risk and Protection Scale Correlations with Delinquency

	Protection		Risk				
	Positive Comm. Orient. to Youth	Positive Police Presence in Comm.	Avail. of Firearms	Avail. of Drugs	Comm. Disorg.	Exper. of Racism	Delinq
Protection							
Sense of Comm.	.789**	.268**	-.304**	-.256**	-.280**	-.119*	-.068
Positive Comm. Orient. Toward Youth		.283**	-.273**	-.259**	-.233**	-.104	-.078
Positive Police Presence in Comm.			-.397**	-.352**	-.281**	-.299**	-.413**
Risk							
Avail. of Firearms				.558**	.496**	.280**	.410**
Avail. of Drugs					.621**	.204**	.369**
Comm. Disorg.						.132*	.232**
Exper. of Racism							.341**

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Table 13

Risk and Protective Factor Domain Correlations

	Overall Risk	Individual Risk	Family Risk	Peer Risk	School Risk	Community Risk
Overall Protection	-.562**	-.266**	-.445**	-.409**	-.564**	-.432**
Individual Protection	-.307**	-.10	-.253**	-.102*	-.412**	-.235**
Family Protection	-.454**	-.175**	-.475**	-.340**	-.374**	-.314**
Peer Protection	-.525**	-.319**	-.400**	-.475**	-.486**	-.344**
School Protection	-.372**	-.181**	-.251**	-.315**	-.438**	-.242**
Community Protection	-.394**	-.247**	-.256**	-.218**	-.330**	-.439**

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

For the most part, risk and protection scales had low to moderate negative correlations, indicating that although the scales within each domain are related they measure distinct constructs. One exception is that the very high correlation between Poor Family Supervision and Family Care and Social Support signifies a high level of overlap between these constructs. However, once the family risk and protection scales were combined into family risk and protection domain scores (see Table 13) the correlation between family risk and protection was less extreme, which suggests that the overall family risk and protection domain scores measured distinct constructs.

The correlation between overall risk and overall protection was $-.562$ ($p < .01$), and the correlations between risk and protection within each domain are lower (individual = $-.10$, $p > .05$; family = $-.475$, $p < .01$; peer = $-.475$, $p < .01$; school = $-.438$, $p < .01$; community = $-.439$, $p < .01$). Most of the correlations between risk and protection are moderate to high and none are very high, supporting the idea that although risk and protection are related, the risk and protective factor domain scores measured distinct constructs.

Main effects of specific domains of protection on delinquency.

Table 14 shows the intercept, unstandardized coefficients, standardized coefficients, zero-order correlations, and R^2 and adjusted R^2 after entry of demographic control variables and all protective factor domains. Gender had a significant effect on delinquency, and R^2 was significant after entry of the demographic control variables in block 1. R^2 was also significant after all protective factor domains were entered in block 2, and family and school protection had significant main effects on delinquency. Being male, having lower levels of family and school protection, and having higher levels of risk were related to higher levels of delinquency.

Table 14

Main Effects of Protection on Delinquency

Model 2 containing demographics and protective factors	Unstandardized Coefficients		Standardized Coefficients		Zero- Order Correl.	R²	Adj. R²
	B	Std. Error	Beta	t			
Constant	.186*	.084		2.22*		.085**	.078**
Block 1. Demographic Controls							
Gender	-.488**	.098	-.244	-4.97**	-.285		
Urban/Rural	.107	.106	.053	1.01	.042		
Race	.033	.113	.016	.298	.024		
						.195**	.178**
Block 2. Protective Factors							
Individual Protection	.014	.066	.013	.222	-.148		
Family Protection	-.195**	.066	-.161	-2.95**	-.289		
Peer Protection	-.073	.069	-.062	-1.06	-.285		
School Protection	-.232**	.086	-.151	-2.68**	-.278		
Community Protection	-.101	.067	-.080	-1.52	-.232		

**Denotes significant gender differences at 0.01 level (2-tailed). *Denotes significant gender differences at 0.05 level (2-tailed).

Findings

The results of the study are presented in order of the four research questions.

Are there gender, race/ethnicity, or urban/rural differences in overall levels of risk and protection?

Tables 15 and 16 show the means and standard deviations for overall risk and protection for males and females. Gender differences were found in overall levels of risk and overall levels of protection, and the hypothesis that males would have higher levels of overall risk and females would have higher levels of overall protection was confirmed.

Tables 17 and 18 show the means and standard deviations for overall risk and protection for students from the urban and the rural school. Urban versus rural differences were found in levels of overall risk, and the hypothesis that youth from the urban school would have higher levels of overall risk than students from the rural school was confirmed. However, support was not found for the hypothesis that urban students would have higher levels of protection; urban versus rural differences were not found in levels of overall protection.

Tables 19 and 20 show the means and standard deviations for overall risk and protection for students of color and Caucasian students. Support was not found for the hypotheses that students of color would have higher levels of overall risk and protection; analyses including only students from the urban school district revealed no race/ethnicity differences for levels of overall risk or levels of overall protection

Table 15

Risk Domains by Gender

Risk	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>
Overall					
Female	237	-0.102	0.520	4.08*	436
Male	201	0.118	0.605		
Individual					
Female	240	-0.217	0.652 ^v	6.34*	389
Male	209	0.239	0.844		
Family					
Female	236	-0.062	0.613 ^v	2.01 [†]	388
Male	199	0.069	0.729		
Peer					
Female	227	-0.151	0.849	3.64*	418
Male	193	0.178	0.998		
School					
Female	240	-0.119	0.636	4.18*	447
Male	209	0.136	0.653		
Community					
Female	226	-0.048	0.705	1.55	411
Male	187	0.067	0.804		

* Bonferroni-adjusted $p < .05$ (2-tailed).[†] Bonferroni-adjusted ($p < .10$).^v Denotes significant difference in variances.

Table 16

Protection Domains by Gender

Protection	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>
Overall					
Female	240	0.051	0.541	-2.44*	447
Male	209	-0.077	0.562		
Individual					
Female	240	-0.030	0.828	.75	446
Male	208	0.031	0.893		
Family					
Female	239	0.056	0.809	-1.80	440
Male	203	-0.085	0.847		
Peer					
Female	240	0.205	0.732 ^v	-6.05*	401
Male	209	-0.269	0.901		
School					
Female	240	0.029	0.630	-1.14	447
Male	209	-0.041	0.678		
Community					
Female	222	0.049	0.760	-1.47	405
Male	185	-0.067	0.828		

*Bonferroni-adjusted $p < .05$ (2-tailed).^vDenotes significant difference in variances.

Table 17

Risk by Urban/Rural

Risk	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>
Overall					
Rural	183	-0.066	0.521	-2.11**	439
Urban	258	0.050	0.602		
Individual					
Rural	194	-0.164	0.679 ^v	-3.92*	446
Urban	258	0.114	0.827		
Family					
Rural	183	-0.063	0.589 ^v	-1.76	430
Urban	255	0.049	0.734		
Peer					
Rural	172	-0.086	0.850 ^v	-1.66	399
Urban	251	0.063	0.984		
School					
Rural	194	-0.058	0.618	-1.69	450
Urban	258	0.047	0.679		
Community					
Rural	166	0.023	0.722	.368	414
Urban	250	-0.004	0.776		

* Bonferroni-adjusted $p < .05$ (2-tailed). ** Bonferroni-adjusted $p < .05$ (1-tailed).

^vDenotes significant difference in variances.

Table 18

Protection by Urban/Rural

Protection	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>
Overall					
Rural	194	-0.010	0.524	-.108	450
Urban	258	-0.004	0.580		
Individual					
Rural	194	-0.069	0.829	-1.45	449
Urban	257	0.050	0.885		
Family					
Rural	188	-0.103	0.824	-2.15 ^t	443
Urban	257	0.067	0.826		
Peer					
Rural	194	0.046	0.769	1.38	450
Urban	258	-0.065	0.901		
School					
Rural	194	-0.009	0.630	-.232	450
Urban	258	0.005	0.669		
Community					
Rural	165	0.114	0.692 ^v	2.50*	408
Urban	245	-0.077	0.846		

* Bonferroni-adjusted $p < .05$ (2-tailed).

^t Bonferroni-adjusted ($p < .10$). ^v Denotes significant difference in variances.

Table 19

Risk by Race/Ethnicity

Risk	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>
Overall					
Caucasian	124	-0.024	0.580	-1.76	253
Student of Color	131	0.106	0.598		
Individual					
Caucasian	124	-0.013	0.809	-2.29*	253
Student of Color	131	0.223	0.831		
Family					
Caucasian	123	-0.031	0.698	-1.51	251
Student of Color	130	0.104	0.720		
Peer					
Caucasian	122	0.042	0.954	-.341	246
Student of Color	126	0.084	1.006		
School					
Caucasian	124	-0.003	0.685	-.922	253
Student of Color	131	0.075	0.670		
Community					
Caucasian	122	-0.090	0.750	-1.67	245
Student of Color	125	0.072	0.773		

* Bonferroni-adjusted $p < .05$ (2-tailed).

Table 20

Protection by Race/Ethnicity

Protection	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>
Overall					
Caucasian	124	-0.034	0.616 ^y	-.841	253
Student of Color	131	0.026	0.531		
Individual*					
Caucasian	123	-0.114	0.955	-2.94*	236
Student of Color	131	0.210	0.783		
Family					
Caucasian	123	0.038	0.849	-.567	252
Student of Color	131	0.096	0.802		
Peer					
Caucasian	124	-0.039	0.871	.449	253
Student of Color	131	-0.090	0.935		
School					
Caucasian	124	-0.049	0.755 ^y	-1.22	229
Student of Color	131	0.053	0.571		
Community					
Caucasian	119	0.015	0.815	1.60	240
Student of Color	123	-0.158	0.862		

* Bonferroni-adjusted $p < .05$ (2-tailed).^yDenotes significant difference in variances.

Are there gender, race/ethnicity, or urban versus rural differences in levels of risk and protection within individual, family, school, peer, and community domains?

Gender. Tables 15 and 16 show the means and standard deviations for each of the risk and protective factor domains for males and females. Significant gender differences were found for individual, peer, and school risks, as well as peer protection. Males had higher levels of individual, peer, and school risks. No gender differences were found in levels of family or community risk.

Females had higher levels of peer protection than did males. No gender differences were found in levels of individual, family, school, or community protection.

Urban/Rural. Tables 17 and 18 show the means and standard deviations for each of the risk and protective factor domains for students from the urban and the rural schools. Urban/rural differences were found in individual risk, with students from the urban school experiencing higher levels of individual risk than students from the rural school. Urban/rural differences were also found in community protection, with students from the rural school having higher levels of community protection than students from the urban school.

No urban/rural differences were found in levels of family, peer, school, or community risk, or individual, peer, or school protection.

Race/Ethnicity. Tables 19 and 20 show the means and standard deviations for each of the risk and protective factor domains for students of color and Caucasian students. Analyses including only students from the urban school showed race/ethnicity differences for individual risk and individual protection. Students of color had higher levels of both individual risk and individual protection.

No race/ethnicity differences were found in levels of family, peer, school, or community risk, or in family, peer, school, or community protection.

Does a cumulative or a domain-specific model of risk and protection better predict delinquency?

Table 21 contains the results of two regression equations: one using two predictors (overall risk and overall protection) for delinquency, and one using ten predictors (risk and protection scores for individual, family, school, peer, and community domains). Graf and Alf's (1999) method and software for comparing squared multiple correlations with non-overlapping predictors were used to compute R-squares, the standard error, and confidence limits. Support was found for the hypothesis that a domain-specific model of risk and protection would better predict delinquency than a cumulative model of risk and protection. A significantly larger squared multiple correlation was found for the ten domain-specific set of predictors than for the two predictor set of overall risk and protection ($R\text{-square}=0.452$ versus 0.364 ; $\text{difference}=.088$). The confidence interval for the difference was $0.049 \leq \text{Difference} \leq 0.127$ ($SE=0.020$).

One concern with the use of Graf and Alf's method is that it does not adjust for differences in the number of predictors (i.e., different levels of shrinkage) in the two equations being compared. However comparison of the difference between the adjusted R-square and the R-square statistic in an SPSS run of the two and ten predictor models (see Table 15) reveals that the amount of shrinkage is small (2-predictor model=.004; 10-predictor model=.014). Thus, we would expect that even if the adjusted R-squares were used in this analysis, the 95% Confidence Limits would not encompass zero.

Table 21

Comparison of Ability of Overall Risk and Protection versus Domains of Risk and Protection to Predict Delinquency

2-Predictor Model Overall Risk & Protection			10-Predictor Model Domain-Specific Risk & Protection											
	Const.	Risk	Prot	Const.	Indiv Risk	Fam Risk	Peer Risk	Sch. Risk	Com Risk	Indiv Prot	Fam Prot	Peer Prot	Sch. Prot	Com Prot
Unst. Coeff.														
B	-.002	1.04	-.023	.001	.397	-.122	.166	.430	.225	.045	-.121	.099	-.079	.045
SE	.039	.083	.085	.038	.064	.081	.063	.081	.072	.056	.058	.059	.074	.059
Stand. Coeff.														
Beta		.596	-.013		.309	-.083	.155	.282	.170	.038	-.100	.084	-.052	.036
t	-.045	12.58**	-.274	.021	6.20**	-1.50	2.66**	5.33**	3.14**	.794	-2.10*	1.69	-1.07	.770
R ² = .364														
Adj. R ² = .360														

*Denotes significant race/ethnicity differences at 0.05 level (2-tailed). **Denotes significant race/ethnicity differences at 0.01 level (2-tailed).

Which protective factors buffer overall risk, and which protective factors buffer individual, family, peer, and community risks?

Overall risk. Table 22 displays the unstandardized regressions coefficients (B), intercept, zero-order correlations, and R^2 and adjusted R^2 after entry of all independent variables. The change in R^2 was significantly different from zero at the end of each block. In the final model, gender, overall risk, and the interaction between overall risk and individual protection significantly predicted delinquency. Being male and having higher levels of overall risk were related to higher levels of delinquency. The nature of the interaction between individual protection and overall risk in predicting levels of delinquency is shown in Figure 1. Individual protection was found to have an exacerbating effect on overall risk. When overall risk is low, higher levels of individual protection are associated with lower levels of delinquency. However, when overall risk is high, higher individual protection is associated with higher delinquency.

Table 22

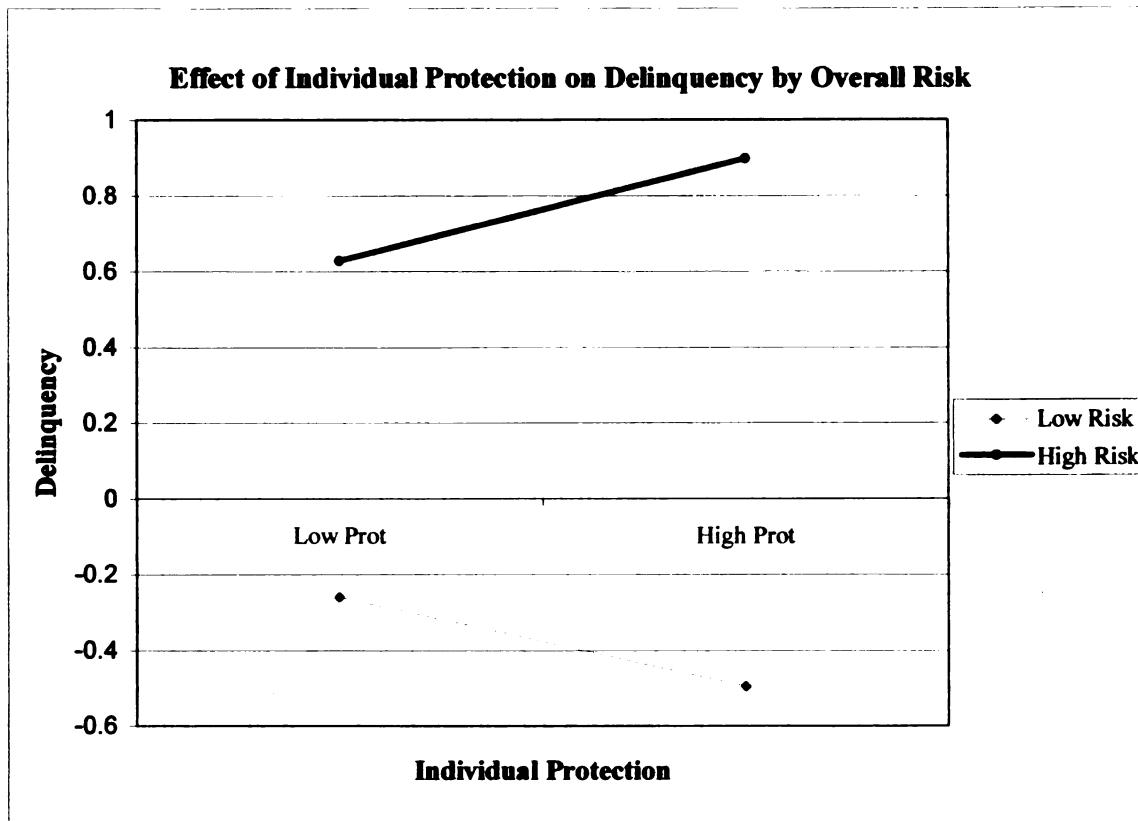
Do Individual, Family, Peer, School, and Community Protection Buffer the Effect of Overall Risk on Delinquency?

Final model containing all 4 blocks	B (Unstand. Coeff.)	Std. Error	t	Zero- Order Correl.	R²	Adj. R²
Constant	.193	.075	2.58*			
Block 1. Demographic Controls					.085**	.078**
Gender	-.402	.084	-4.77**	-.285		
Urban/Rural	.036	.091	.395	.042		
Race/Ethnicity	-.046	.097	-.471	.024		
Block 2. Protective Factors					.195**	.178**
Individual Protection	.011	.057	.202	-.148		
Family Protection	-.000	.062	-.008	-.289		
Peer Protection	.104	.063	1.65	-.285		
School Protection	-.118	.076	-1.54	-.278		
Community Protection	.012	.058	.205	-.232		
Block 3. Overall Risk					.408**	.394**
Overall Risk	1.04	.094	11.12**	.603		
Block 4. Risk x Prot. Interactions					.427*	.406*
Risk*Indiv. Protect.	.258	.092	2.79*	-.023		
Risk*Family Prot.	-.101	.087	-1.16	-.196		
Risk*Peer Prot.	.100	.081	1.11	-.186		
Risk* School Prot.	-.168	.130	-1.29	-.164		
Risk*Comm. Prot.	-.186	.103	-1.81	-.104		

Note. For the final model, $F(14,375)=19.98$, $p=.000$.

** $p<.01$. * Bonferroni-adjusted $p<.05$ (2-tailed).

Figure 1. Interaction of overall risk and individual protection in predicting delinquency



Individual risk. Table 23 displays the unstandardized regressions coefficients (B), intercept, zero-order correlations, and R^2 and adjusted R^2 after entry of all independent variables. The change in R^2 was significantly different from zero at the end of the first three steps, entry of demographic control variables, protective factors, and individual risk. After the interactions between individual risk and each of the protective factors, the final step, the change in R^2 was not significantly different from zero.

In the final model, gender, family protection, school protection, individual risk, and the interaction between individual risk and individual protection significantly

predicted delinquency. Being male, having lower levels of family and school protection, and having higher levels of individual risk were related to higher levels of delinquency.

The nature of the interaction between individual protection and individual risk in predicting levels of delinquency is shown in Figure 2. Individual protection was found to have an exacerbating effect on individual risk. When individual risk is low, higher levels of individual protection are associated with lower levels of delinquency. However, when individual risk is high, higher individual protection is associated with higher delinquency.

Table 23

Do Individual, Family, Peer, School, and Community Protection Buffer the Effect of Individual Risk on Delinquency?

Final model containing all 4 blocks	B (Unstand . Coeff.)	Std. Error	t	Zero- Order Correl.	R²	Adj R²
Constant	.159	.075	2.11*			
Block 1. Demographic Controls					.085**	.078**
Gender	-.296	.090	-3.29**	-.285		
Urban/Rural	-.003	.094	-.032	.042		
Race/Ethnicity	-.071	.100	-.713	.024		
Block 2. Protective Factors					.195**	.178**
Individual Prot.	-.022	.058	-.376	-.148		
Family Protection	-.161	.061	-2.65*	-.289		
Peer Protection	.021	.063	.330	-.285		
School Protection	-.171	.078	-2.20*	-.278		
Community Prot.	-.041	.060	-.677	-.232		
Block 3. Individual Risk					.370**	.355**
Individual Risk	.589	.060	9.73**	.550		

Table 23 (Continued)

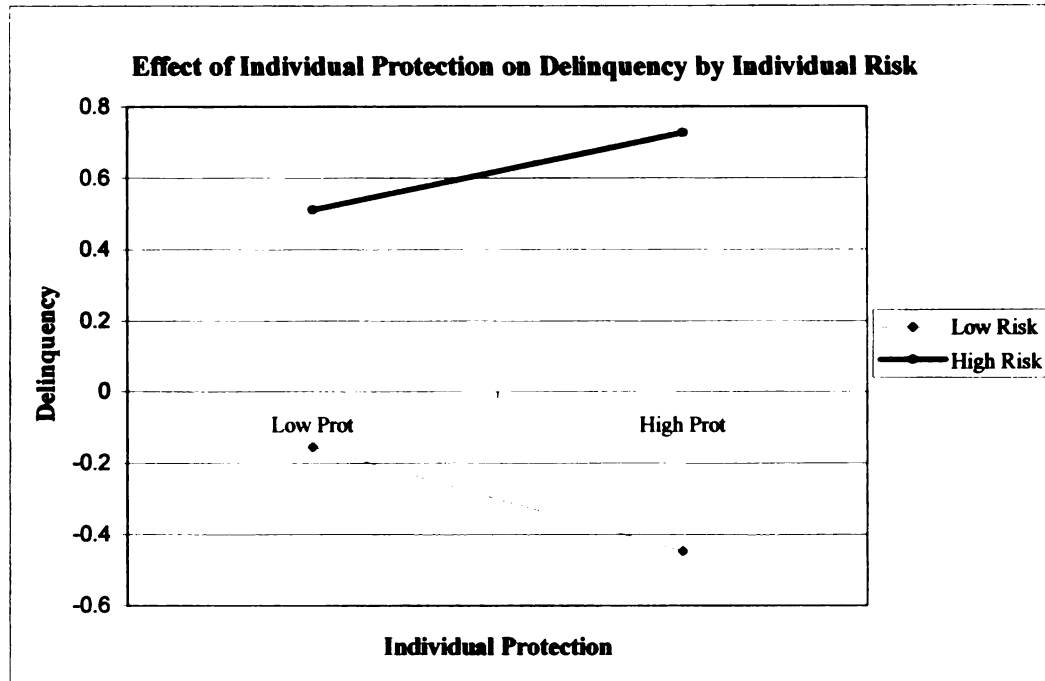
Do Individual, Family, Peer, School, and Community Protection Buffer the Effect of Individual Risk on Delinquency?

Final model containing all 4 blocks	B (Unstand . Coeff.)	Std. Error	t	Zero- Order Correl.	R²	Adj R²
Block 4. Risk x Prot. Interactions					.386	.363
Indiv. Risk * Indiv. Prot.	.190	.071	2.66*	-.001		
Indiv. Risk * Family Prot.	-.045	.071	-.643	-.086		
Indiv. Risk * Peer Prot.	-.066	.057	-1.16	-.162		
Indiv. Risk * School Prot.	-.194	.101	-1.92	-.062		
Indiv. Risk * Comm. Prot.	-.006	.072	-.081	-.077		

Note. For the final model, $F(14,375)=16.84$, $p=.000$.

* Bonferroni-adjusted $p<.05$ (2-tailed).

Figure 2. Interaction of individual risk and protection in predicting delinquency.



Family risk. Table 24 displays the unstandardized regressions coefficients (B), intercept, zero-order correlations, and R^2 and adjusted R^2 after entry of all independent variables. The change in R^2 was significantly different from zero at the end of the first three steps in which demographic control variables, protective factors, and family risk were entered. After the interactions between family risk and each of the protective factors, the final step, the change in R^2 was not significantly different from zero.

In the final model, gender, school protection, family risk, and the interaction between family risk and individual protection significantly predicted delinquency. Being male and having lower levels of school protection and higher levels of family risk were related to higher levels of delinquency. The nature of the interaction between individual protection and family risk in predicting levels of delinquency is shown in Figure 3.

Individual protection appears to have an exacerbating effect on family risk. When individual protection is high, levels of delinquency are higher at high levels of family risk and lower at low levels of family risk than when individual protection is low.

Table 24

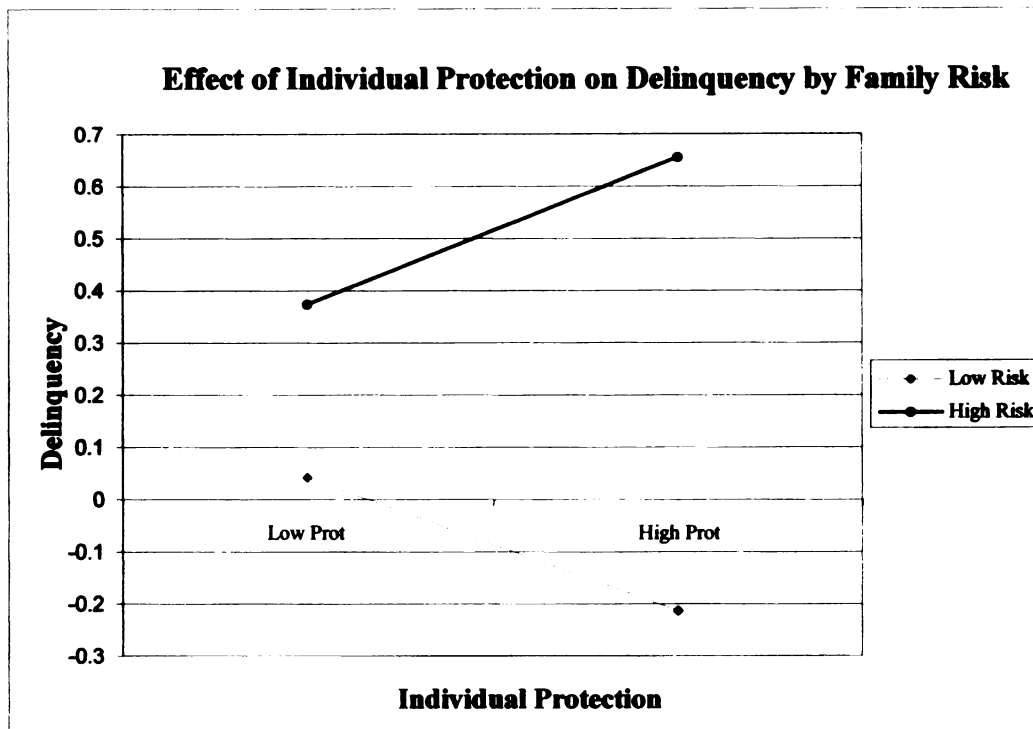
Do Individual, Family, Peer, School, and Community Protection Buffer the Effect of Family Risk on Delinquency?

Final model containing all 4 blocks	B (Unstand. Coeff.)	Std. Error	t	Zero- Order Correl.	R²	Adj R²
Constant	.215	.083	2.60*			
Block 1. Demog. Controls					.085**	.078**
Gender	-.503	.095	-5.31**	-.285		
Urban/Rural	.080	.103	.784	.042		
Race/Ethnicity	-.022	.110	-.203	.024		
Block 2. Prot Fact.					.195**	.178**
Individual Prot.	.008	.064	.120	-.148		
Family Protection	-.013	.071	-.184	-.289		
Peer Protection	-.005	.069	-.076	-.285		
School Protection	-.225	.084	-2.66**	-.278		
Community Prot.	-.104	.064	-1.62	-.232		
Block 3. Fam. Risk					.254**	.236**
Family Risk	.442	.083	5.30**	.390		
Block 4. Risk x Prot. Interactions					.275	.248
Fam. Risk * Indiv. Prot.	.229	.086	2.66*	-.007		
Fam. Risk * Fam. Prot.	-.159	.084	-1.89	-.192		
Fam. Risk * Peer Prot.	.053	.082	.647	-.138		
Fam. Risk * School Prot.	-.050	.122	-.406	-.085		
Fam. Risk * Comm. Prot.	-.088	.099	-.895	-.083		

Note. For the final model, $F(14,373)=10.12$, $p=.000$

* Bonferroni-adjusted $p<.05$ (2-tailed)

Figure 3. Interaction of individual protection and family risk in predicting delinquency.



Peer risk. Table 25 displays the unstandardized regressions coefficients (B), intercept, zero-order correlations, and R^2 and adjusted R^2 after entry of all independent variables. The change in R^2 was significantly different from zero at the end of the first three steps. After the interactions between peer risk and each of the protective factors, the final step, the change in R^2 was not significantly different from zero.

In the final model, gender and peer risk were significant predictors of delinquency. Males and students with higher levels of peer risk reported engaging in more delinquent behavior than did females and students with lower levels of peer risk. Peer protection was related to delinquency on a trend level; students with higher levels of

peer protection reported fewer delinquent behaviors than did students with lower levels of peer protection.

Table 25

Do Individual, Family, Peer, School, and Community Protection Buffer the Effect of Peer Risk on Delinquency?

Final model containing all 4 blocks	B (Unstand. Coeff.)	Std. Error	t	Zero- Order Correl.	R²	Adj R²
Constant	.191	.078	2.45*			
Block 1. Demographic Controls					.085**	.078**
Gender	-.463	.089	-5.21**	-.285		
Urban/Rural	.046	.096	.474	.042		
Race/Ethnicity	.074	.103	.723	.024		
Block 2. Protective Factors					.195**	.178**
Individual Prot.	-.107	.061	-1.75	-.148		
Family Protection	-.081	.063	-1.29	-.289		
Peer Protection	.131	.067	1.94	-.285		
School Protection	-.083	.082	-1.01	-.278		
Community Prot.	-.099	.061	-1.62	-.232		
Block 3. Peer Risk					.342**	.326**
Peer Risk	.492	.057	8.58**	.518		
Block 4. Risk x Prot Interactions					.353	.329
Peer Risk * Individ. Prot.	.103	.062	1.65	.000		
Peer Risk * Family Prot.	-.080	.054	-1.49	-.178		
Peer Risk * Peer Prot.	.068	.051	1.34	-.152		
Peer Risk * School Prot.	-.029	.078	-.366	-.149		
Peer Risk * Comm. Prot.	-.079	.067	-1.17	-.106		

Note. For the final model, $F(14,375)=14.62$, $p=.000$.

* Bonferroni-adjusted $p<.05$ (2-tailed).

School risk. Table 26 displays the unstandardized regressions coefficients (B), intercept, zero-order correlations, and R^2 and adjusted R^2 after entry of all independent variables. The change in R^2 was significantly different from zero at the end of the first three steps. After the interactions between school risk and each of the protective factors, the final step, $R=.593$, $R^2=.351$, adjusted $R^2=.327$, $F_{change}(5, 375)=1.06$, $p>.05$.

In the final model, gender and school risk were significant predictors of delinquency. Males and students facing higher levels of school risk reported engaging in more delinquent behavior than did females and students with lower school risk. Family protection trended toward predicting delinquency, with students with higher levels of family protection reporting fewer delinquent behaviors.

Table 26

Do Individual, Family, Peer, School, and Community Protection Buffer the Effect of School Risk on Delinquency?

Final model containing all 4 blocks	B (Unstand. Coeff.)	Std. Error	t	Zero- Order Correl.	R^2	Adj R^2
Constant	.171	.080	2.14*			
Block 1. Demographic Controls					.085**	.078**
Gender	-.369	.090	-4.11**	-.285		
Urban/Rural	.046	.096	.477	.042		
Race/Ethnicity	-.036	.103	-.345	.024		
Block 2. Protective Factors					.195**	.178**
Individual Prot.	.092	.063	1.46	-.148		
Family Protection	-.116	.064	-1.81	-.289		
Peer Protection	.039	.067	.581	-.285		
School Protection	-.068	.083	-.811	-.278		
Community Prot.	-.075	.061	-1.22	-.232		

Table 26 (Continued)

Do Individual, Family, Peer, School, and Community Protection Buffer the Effect of School Risk on Delinquency?

Final model containing all 4 blocks	B (Unstand. Coeff.)	Std. Error	t	Zero- Order Correl.	R²	Adj R²
Block 3. School Risk					.342**	.327**
School Risk	.712	.082	8.65**	.536		
Block 4. Risk x Prot. Interactions					.351	.327
School Risk *Indiv. Prot.	.171	.082	2.10 [†]	-.021		
School Risk *Fam. Prot.	-.032	.084	-.374	-.136		
School Risk *Peer Prot.	-.018	.095	-.190	-.110		
School Risk *Scho. Prot.	-.141	.108	-1.30	-.179		
School Risk *Com. Prot.	-.075	.102	-.743	-.028		

Note. For the final model, $F(14,375)=14.51$, $p=.000$.

* Bonferroni-adjusted $p<.05$ (2-tailed). ** $p<.01$ (2-tailed).

[†]Bonferroni-adjusted ($p<.10$).

Community risk. Table 27 displays the unstandardized regressions coefficients (B), intercept, zero-order correlations, and R^2 and adjusted R^2 after entry of all independent variables. The change in R^2 was significantly different from zero at the end of each step. In the final model, gender, family protection, school protection, and community risk were significant predictors of delinquency. Students who were male, had low levels of family and school protection, and who had high community risk reported more delinquent behaviors than did students who were female, had high levels of family

and school protection, and lower levels of community risk.

Table 27

Do Individual, Family, Peer, School, and Community Protection Buffer the Effect of Community Risk on Delinquency?

Final model containing all 4 blocks	B (Unstand. Coeff.)	Std. Error	t	Zero- Order Correl.	R²	Adj R²
Constant	.146	.079	1.84			
Block 1. Demographic Controls					.085**	.078**
Gender	-.502	.090	-5.56**	-.285		
Urban/Rural	.159	.098	1.62	.042		
Race/Ethnicity	.003	.104	.032	.024		
Block 2. Protective Factors					.195**	.178**
Individual Prot.	.018	.061	.298	-.148		
Family Protection	-.125	.063	-1.98*	-.289		
Peer Protection	.010	.067	.157	-.285		
School Protection	-.255	.081	-3.16**	-.278		
Community Prot.	.043	.067	.643	-.232		
Block 3. Community Risk					.312**	.295**
Community Risk	.461	.070	6.56**	.454		
Block 4. Risk x Prot Interactions					.335*	.310*
Com. Risk *Indiv. Prot.	.175	.075	2.32*	-.051		
Com. Risk* Family Prot.	-.078	.072	-1.09	-.218		
Com. Risk* Peer Prot.	-.105	.071	-1.49	-.233		
Com. Risk* School Prot.	-.178	.109	-1.64	-.166		
Com. Risk* Com. Prot.	.019	.079	.239	-.108		

Note. For the final model, $F(14,373)=13.44$, $p=.000$.

* Bonferroni-adjusted $p<.05$ (2-tailed). ** $p<.01$ (2-tailed).

Which protective factors buffer overall risk for each gender, for students of color versus Caucasian students, and for students from urban versus rural areas?

Regression analyses for the final research question examined which domains of protective factors most effectively buffer overall risk for girls versus boys (controlling for race/ethnicity and urban/rural), students of color versus Caucasian students (controlling for gender and urban/rural), and for urban versus rural students (controlling for gender and race/ethnicity).

Gender. Tables 28-32 show the unstandardized regression coefficients (B), intercept, zero-order correlations, and R^2 and adjusted R^2 for each block of regression analyses examining the ability of each of the protective factor domains to buffer overall risk by gender. Individual, family, peer, and school protection did not moderate overall risk for either female or male students.

Urban/rural. Regression analyses examining the ability of each of the protective factor domains to moderate overall risk by urban/rural are shown in Tables 33-37. Family, peer, school, and community protection did not buffer overall risk for students from the urban or rural school. However, the three-way interaction of urban/rural, risk, and individual protection was significant (see Table 33).

Figure 4 shows that among students from the rural school at low risk, higher individual protection is associated with higher levels of delinquency, while higher individual protection for students at high risk is associated with little to no change in delinquency. For urban students with low risk, high individual protection is related to slightly lower delinquency, but for those with higher levels of risk, higher levels of

individual protection are related to higher delinquency (see Figure 4). Examination of the slopes revealed that the exacerbating relationship of individual protection and overall risk is statistically significant for the students from the urban school.

Race/ethnicity. Tables 38-42 contain the unstandardized regression coefficients (B), intercept, zero-order correlations, and R^2 and adjusted R^2 for each block of regression analyses examining the ability of each of the protective factor domains to buffer overall risk by race/ethnicity. Individual, family, peer, and school protection did not moderate overall risk for students of color or Caucasian students. However, the three-way interaction of race/ethnicity, risk, and community protection was bordering on significance after Bonferroni corrections were applied (see Table 42). Figure 5 shows that community protection buffers the effect of overall risk for both students of color and Caucasian students. Among students with low levels of overall risk, higher levels of community protection are related to little to no change in levels of delinquency for both students of color and Caucasian students. At higher levels of overall risk, higher community protection is associated with lower levels of delinquency for both students of color and Caucasian students. Examination of the slopes revealed that the buffering relationship of community protection and risk is statistically significant for students of color.

Table 28

Gender by Individual Protection by Overall Risk

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.002	-.003
Constant	-.049	.076	-.651			
Urban/Rural	.079	.112	.705	.042		
Race/Ethnicity	.013	.118	.109	.024		
<u>2. Indiv. Prot. & Risk</u>					.395**	.388**
Constant	.198	.070	2.81**			
Urban/Rural	.020	.088	.230	.042		
Race/Ethnicity	-.085	.094	-.905	.024		
Individual Protection	.035	.048	.719	-.148		
Overall Risk	1.02	.074	13.84**	.603		
Gender	-.342	.079	-4.32**	-.285		
<u>3. Two-way interaction terms</u>					.401	.389
Constant	.215	.072	2.98**			
Urban/Rural	.029	.088	.324	.042		
Race/Ethnicity	-.101	.094	-1.07	.024		
Individual Protection	.008	.070	.109	-.148		
Overall Risk	1.07	.100	10.71**	.603		
Gender	-.345	.079	-4.35**	-.285		
Gender*Individual Prot.	.021	.096	.220	-.093		
Gender*Risk	-.094	.147	-.639	.391		
Risk*Individual Protection	.132	.076	1.74	-.023		
<u>4. Three-way interaction term</u>					.401	.387
Constant	.215	.073	2.93**			
Urban/Rural	.029	.088	.324	.042		
Race/Ethnicity	-.101	.094	-1.07	.024		
Individual Protection	.008	.072	.104	-.148		
Overall Risk	1.07	.100	10.69**	.603		
Gender	-.345	.083	-4.14**	-.285		
Gender*Individual Protection	.021	.098	.217	-.093		
Gender*Risk	-.094	.148	-.636	.391		
Risk*Individual Protection	.133	.105	1.26	-.023		
Gender*Risk*Individual Prot.	-.001	.156	-.005	.018		

Note. For the final model, $F(9,406)=30.14$, $p=.000$.

** $p<.01$ (2 tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

Table 29

Gender by Family Protection by Overall Risk

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.002	-.003
Constant	-.049	.076	-.651			
Urban/Rural	.079	.112	.705	.042		
Race/Ethnicity	.013	.118	.109	.024		
<u>2. Family Prot. & Risk</u>					.394**	.387**
Constant	.194	.071	2.74**			
Urban/Rural	.026	.088	.296	.042		
Race/Ethnicity	-.072	.093	-.773	.024		
Family Protection	-.020	.053	-.383	-.289		
Overall Risk	.986	.078	12.62**	.603		
Gender	-.350	.079	-4.44**	-.285		
<u>3. Two-way interaction terms</u>					.399	.388
Constant	.173	.072	2.39*			
Urban/Rural	.025	.088	.279	.042		
Race/Ethnicity	-.061	.093	-.658	.024		
Family Protection	-.061	.076	-.809	-.289		
Overall Risk	1.00	.102	9.82**	.603		
Gender	-.355	.079	-4.48**	-.285		
Gender*Family Prot.	.107	.107	.995	-.190		
Gender*Risk	-.053	.158	-.335	.391		
Risk*Family Protection	-.071	.068	-1.05	-.196		
<u>4. Three-way interaction term</u>					.400	.386
Constant	.176	.073	2.42*			
Urban/Rural	.024	.088	.274	.042		
Race/Ethnicity	-.058	.093	-.625	.024		
Family Protection	-.070	.079	-.886	-.289		
Overall Risk	1.00	.102	9.81**	.603		
Gender	-.366	.084	-4.34**	-.285		
Gender*Family Protection	.117	.111	1.06	-.190		
Gender*Risk	-.063	.160	-.394	.391		
Risk*Family Protection	-.045	.094	-.482	-.196		
Gender*Risk*Family Prot.	-.054	.137	-.394	-.058		

Note. For the final model, $F(9,406)=30.02$, $p=.000$.

** $p<.01$ (2-tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

Table 30

Gender by Peer Protection by Overall Risk

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.002	-.003
Constant	-.049	.076	-.651			
Urban/Rural	.079	.112	.705	.042		
Race/Ethnicity	.013	.118	.109	.024		
<u>2. Peer Prot. & Risk</u>					.400**	.393**
Constant	.214	.071	3.02**			
Urban/Rural	.026	.087	.299	.042		
Race/Ethnicity	-.072	.092	-.779	.024		
Peer Protection	.107	.054	1.98*	-.285		
Overall Risk	1.08	.079	13.61**	.603		
Gender	-.383	.080	-4.77**	-.285		
<u>3. Two-way interaction terms</u>					.406	.394
Constant	.220	.072	3.04**			
Urban/Rural	.028	.087	.326	.042		
Race/Ethnicity	-.073	.092	-.791	.024		
Peer Protection	.053	.073	.730	-.285		
Overall Risk	1.20	.118	10.15**	.603		
Gender	-.376	.080	-4.68**	-.285		
Gender*Peer Prot.	.096	.111	.858	-.179		
Gender*Risk	-.158	.168	-.940	.391		
Risk*Peer Protection	.125	.073	1.70	-.186		
<u>4. Three-way interaction term</u>					.408	.395
Constant	.227	.073	3.13**			
Urban/Rural	.026	.087	.298	.042		
Race/Ethnicity	-.062	.092	-.676	.024		
Peer Protection	.041	.074	.551	-.285		
Overall Risk	1.24	.123	10.09**	.603		
Gender	-.413	.086	-4.79**	-.285		
Gender*Peer Protection	.105	.112	.942	-.179		
Gender*Risk	-.199	.171	-1.16	.391		
Risk*Peer Protection	.184	.089	2.07*	-.186		
Gender*Risk*Peer Prot.	-.189	.161	-1.18	.099		

Note. For the final model, $F(9,406)=31.07$, $p=.000$.

** $p<.01$ (2-tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

Table 31

Gender by School Protection by Overall Risk

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.002	-.003
Constant	-.049	.076	-.651			
Urban/Rural	.079	.112	.705	.042		
Race/Ethnicity	.013	.118	.109	.024		
<u>2. School Prot. & Risk</u>					.398**	.390**
Constant	.194	.070	2.75**			
Urban/Rural	.023	.087	.259	.042		
Race/Ethnicity	-.060	.093	-.651	.024		
School Protection	-.097	.064	-1.53	-.278		
Overall Risk	.957	.074	12.85**	.603		
Gender	-.352	.079	-4.48**	-.285		
<u>3. Two-way interaction terms</u>					.403	.392
Constant	.161	.072	2.23*			
Urban/Rural	.019	.087	.216	.042		
Race/Ethnicity	-.037	.093	-.401	.024		
School Protection	-.049	.090	-.548	-.278		
Overall Risk	1.02	.099	10.29**	.603		
Gender	-.361	.079	-4.59**	-.285		
Gender*School Prot.	-.087	.130	-.668	-.213		
Gender*Risk	-.183	.151	-1.21	.391		
Risk*School Protection	-.168	.101	-1.66	-.164		
<u>4. Three-way interaction term</u>					.405	.392
Constant	.174	.073	2.37*			
Urban/Rural	.015	.087	.169	.042		
Race/Ethnicity	-.033	.093	-.354	.024		
School Protection	-.070	.092	-.762	-.278		
Overall Risk	1.02	.099	10.32**	.603		
Gender	-.393	.084	-4.67**	-.285		
Gender*School Protection	-.074	.131	-.565	-.213		
Gender*Risk	-.208	.153	-1.36	.391		
Risk*School Protection	-.073	.136	-.537	-.164		
Gender*Risk*School Prot.	-.215	.204	-1.06	-.062		

Note. For the final model, $F(9,406)=30.70$, $p=.000$.

** $p<.01$ (2-tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

Table 32

Gender by Community Protection by Overall Risk

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.002	-.003
Constant	-.049	.078	-.630			
Urban/Rural	.079	.115	.682	.042		
Race/Ethnicity	.013	.122	.106	.024		
<u>2. Comm. Prot. & Risk</u>					.394**	.386**
Constant	.196	.073	2.69**			
Urban/Rural	.022	.091	.247	.042		
Race/Ethnicity	-.073	.096	-.766	.024		
Community Protection	.005	.055	.091	-.232		
Overall Risk	1.00	.077	13.01**	.603		
Gender	-.349	.081	-4.29**	-.285		
<u>3. Two-way interaction terms</u>					.397	.384
Constant	.172	.076	2.27*			
Urban/Rural	.020	.091	.215	.042		
Race/Ethnicity	-.065	.096	-.671	.024		
Community Protection	.016	.078	.201	-.232		
Overall Risk	1.06	.104	10.16**	.603		
Gender	-.350	.082	-4.30	-.285		
Gender*Community Prot.	-.016	.114	-.142	-.161		
Gender*Risk	-.131	.157	-.836	.391		
Risk*Community Protection	-.097	.092	-1.05	-.104		
<u>4. Three-way interaction term</u>					.403	.389
Constant	.208	.078	2.68**			
Urban/Rural	.008	.091	.090	.042		
Race/Ethnicity	-.056	.096	-.585	.024		
Community Protection	-.007	.078	-.095	-.232		
Overall Risk	1.06	.104	10.21**	.603		
Gender	-.416	.088	-4.72**	-.285		
Gender*Comm. Protection	.003	.114	.027	-.161		
Gender*Risk	-.152	.157	-.970	.391		
Risk*Community Protection	.083	.131	-.632	-.104		
Gender*Risk*Comm. Prot.	-.366	.189	-1.93	-.042		

Note. For the final model, $F(9,380)=28.50$, $p=.000$.

** $p<.01$ (2-tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

Table 33

Urban/Rural by Individual Protection by Overall Risk

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.083**	.078**
Constant	.280	.075	3.72**			
Gender	-.575	.094	-6.09**	-.285		
Race/Ethnicity	.082	.100	.821	.024		
<u>2. Indiv. Prot. & Risk</u>					.395**	.388**
Constant	.198	.070	2.81**			
Gender	-.342	.079	-4.32**	-.285		
Race/Ethnicity	-.085	.094	-.905	.024		
Individual Protection	.035	.048	.719	-.148		
Overall Risk	1.02	.074	13.84**	.603		
Urban/Rural	.020	.088	.230	.042		
<u>3. Two-way interaction terms</u>					.405	.393
Constant	.232	.072	3.22**			
Gender	-.343	.079	-4.34**	-.285		
Race/Ethnicity	-.088	.095	-.928	.024		
Individual Protection	.035	.076	.467	-.148		
Overall Risk	1.21	.124	9.76**	.603		
Urban/Rural	.014	.088	.159	.042		
Urban/Rural*Indiv. Prot.	-.023	.098	-.232	-.091		
Urban/Rural *Risk	-.282	.153	-1.84	.445		
Risk*Indiv. Protection	.140	.075	1.86	-.023		
<u>4. Three-way interaction term</u>					.415**	.402**
Constant	.176	.075	2.35*			
Gender	-.339	.079	-4.31**	-.285		
Race/Ethnicity	-.086	.094	-.919	.024		
Indiv. Protection	.046	.075	.613	-.148		
Overall Risk	1.15	.126	9.17**	.603		
Urban/Rural	.086	.092	.934	.042		
Urban/Rural *Indiv. Prot.	-.055	.098	-.557	-.091		
Urban/Rural *Risk	-.216	.154	-1.40	.445		
Risk*Indiv. Protection	-.196	.149	-1.32	-.023		
Urban/Rural*Risk*Indiv Prot	.454	.174	2.61*	.057		

Note. For the final model, $F(9,406)=31.64$, $p=.000$.

** $p<.01$ (2-tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

Table 34

Urban/Rural by Family Protection by Overall Risk

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.083**	.078**
Constant	.280	.075	3.72**			
Gender	-.575	.094	-6.08**	-.285		
Race/Ethnicity	.082	.100	.821	.024		
<u>2. Family Prot. & Risk</u>					.394**	.387**
Constant	.194	.071	2.74**			
Gender	-.350	.079	-4.44**	-.285		
Race/Ethnicity	-.072	.093	-.773	.024		
Family Protection	-.020	.053	-.383	-.289		
Overall Risk	.986	.078	12.62**	.603		
Urban/Rural	.026	.088	.296	.042		
<u>3. Two-way interaction terms</u>					.409*	.397*
Constant	.161	.073	2.22*			
Gender	-.350	.079	-4.46**	-.285		
Race/Ethnicity	-.067	.092	-.723	.024		
Family Protection	-.148	.085	-1.75	-.289		
Overall Risk	.997	.138	7.24**	.603		
Urban/Rural	.030	.088	.342	.042		
Urban/Rural*Family Prot.	.257	.110	2.34*	-.144		
Urban/Rural *Risk	-.042	.167	-.249	.445		
Risk*Family Protection	-.092	.067	-1.37	-.196		
<u>4. Three-way interaction term</u>					.413	.400
Constant	.133	.074	1.78			
Gender	-.353	.078	-4.51**	-.285		
Race/Ethnicity	-.073	.092	-.791	.024		
Family Protection	-.137	.085	-1.62	-.289		
Overall Risk	.947	.141	6.73**	.603		
Urban/Rural	.086	.094	.909	.042		
Urban/Rural *Family Prot.	.220	.112	1.97	-.144		
Urban/Rural *Risk	.013	.170	.079	.445		
Risk*Family Protection	-.223	.104	-2.15**	-.196		
Urban/Rural*Risk*Fam Prot	.227	.137	1.66	-.075		

Note. For the final model, $F(9,406)=31.69$, $p=.000$.

** $p<.01$ (2-tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

Table 35

Urban/Rural by Peer Protection by Overall Risk

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.083**	.078**
Constant	.280	.075	3.72**			
Gender	-.575	.094	-6.08**	-.285		
Race/Ethnicity	.082	.100	.821	.024		
<u>2. Peer Prot. & Risk</u>					.400**	.393**
Constant	.214	.071	3.02**			
Gender	-.383	.080	-4.77**	-.285		
Race/Ethnicity	-.072	.092	-.779	.024		
Peer Protection	.107	.054	1.98*	-.285		
Overall Risk	1.08	.079	13.61**	.603		
Urban/Rural	.026	.087	.299	.042		
<u>3. Two-way interaction terms</u>					.406	.395
Constant	.231	.072	3.20**			
Gender	-.375	.080	-4.67**	-.285		
Race/Ethnicity	-.065	.092	-.710	.024		
Peer Protection	.054	.092	.581	-.285		
Overall Risk	1.21	.137	8.84**	.603		
Urban/Rural	.018	.087	.211	.042		
Urban/Rural*Peer Prot.	.076	.113	.666	-.181		
Urban/Rural *Risk	-.184	.169	-1.09	.445		
Risk*Peer Protection	.048	.068	.705	-.186		
<u>4. Three-way interaction term</u>					.407	.394
Constant	.213	.078	2.71**			
Gender	-.377	.080	-4.68**	-.285		
Race/Ethnicity	-.065	.092	-.702	.024		
Peer Protection	.048	.093	.517	-.285		
Overall Risk	1.19	.143	8.31**	.603		
Urban/Rural	.042	.096	.439	.042		
Urban/Rural *Peer Prot.	.077	.114	.681	-.181		
Urban/Rural *Risk	-.152	.178	-.857	.445		
Risk*Peer Protection	-.034	.154	-.223	-.186		
Urban/Rural*Risk*Peer Prot.	.103	.174	.593	-.153		

Note. For the final model, $F(9,406)=30.95$, $p=.000$.

** $p<.01$ (2-tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

Table 36

Urban/Rural by School Protection by Overall Risk

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.083**	.078**
Constant	.280	.075	3.72**			
Gender	-.575	.094	-6.08**	-.285		
Race/Ethnicity	.082	.100	.821	.024		
<u>2. School Prot. & Risk</u>					.398**	.390**
Constant	.194	.070	2.75**			
Gender	-.352	.079	-4.48**	-.285		
Race/Ethnicity	-.060	.093	-.651	.024		
School Protection	-.097	.064	-1.53	-.278		
Overall Risk	.957	.074	12.85**	.603		
Urban/Rural	.023	.087	.259	.042		
<u>3. Two-way interaction terms</u>					.404	.392
Constant	.183	.072	2.53*			
Gender	-.357	.079	-4.54**	-.285		
Race/Ethnicity	-.035	.093	-.377	.024		
School Protection	-.051	.106	-.481	-.278		
Overall Risk	1.09	.135	8.09**	.603		
Urban/Rural	.011	.088	.129	.042		
Urban/Rural*School Prot.	-.042	.133	-.318	-.183		
Urban/Rural *Risk	-.223	.162	-1.37	.445		
Risk*School Protection	-.125	.101	-1.25	-.164		
<u>4. Three-way interaction term</u>					.405	.392
Constant	.206	.076	2.71**			
Gender	-.356	.079	-4.53**	-.285		
Race/Ethnicity	-.029	.094	-.305	.024		
School Protection	-.052	.106	-.486	-.278		
Overall Risk	1.13	.141	8.04**	.603		
Urban/Rural	-.025	.095	-.264	.042		
Urban/Rural *School Prot.	-.034	.134	-.255	-.183		
Urban/Rural *Risk	-.264	.167	-1.58	.445		
Risk*School Protection	.006	.165	.034	-.164		
Urban/Rural*Risk*Sch. Prot.	-.210	.210	-.998	-.088		

Note. For the final model, $F(9,406)=30.77$, $p=.000$.

** $p<.01$ (2-tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

Table 37

Urban/Rural by Community Protection by Overall Risk

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.083**	.078**
Constant	.280	.078	3.60**			
Gender	-.575	.098	-5.89**	-.285		
Race/Ethnicity	.082	.104	.794	.024		
<u>2. Comm. Prot. & Risk</u>					.394**	.386**
Constant	.196	.073	2.69**			
Gender	-.349	.081	-4.29**	-.285		
Race/Ethnicity	-.073	.096	-.766	.024		
Community Protection	.005	.055	.091	-.232		
Overall Risk	1.00	.077	13.01**	.603		
Urban/Rural	.022	0.91	.247	.042		
<u>3. Two-way interaction terms</u>					.406	.393
Constant	.174	.075	2.32*			
Gender	-.344	.081	-4.25**	-.285		
Race/Ethnicity	-.057	.096	-.596	.024		
Community Protection	.169	.103	1.65	-.232		
Overall Risk	1.27	.135	9.39**	.603		
Urban/Rural	.018	.091	.197	.042		
Urban/Rural*Comm. Prot.	-.221	.126	-1.76	-.185		
Urban/Rural *Risk	-.397	.165	-2.40*	.445		
Risk*Community Protection	-.103	.091	-1.12	-.104		
<u>4.Three-way interaction term</u>					.407	.393
Constant	.205	.082	2.50*			
Gender	-.348	.081	-4.29**	-.285		
Race/Ethnicity	-.055	.096	-.572	.024		
Community Protection	.164	.103	1.60	-.232		
Overall Risk	1.27	.135	9.38**	.603		
Urban/Rural	-.020	.100	-.203	.042		
Urban/Rural *Comm. Prot.	-.212	.126	-1.69	-.183		
Urban/Rural *Risk	-.399	.165	-2.42*	.445		
Risk*Community Protection	.052	.191	.270	-.104		
Urban/Rural*Risk*Com Prot.	-.207	.225	-.918	-.123		

Note. For the final model, $F(9,380)=29.00$, $p=.000$.

** $p<.01$ (2-tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

Figure 4. Three-way interaction of individual protection, overall risk, and urban/rural in predicting delinquency.

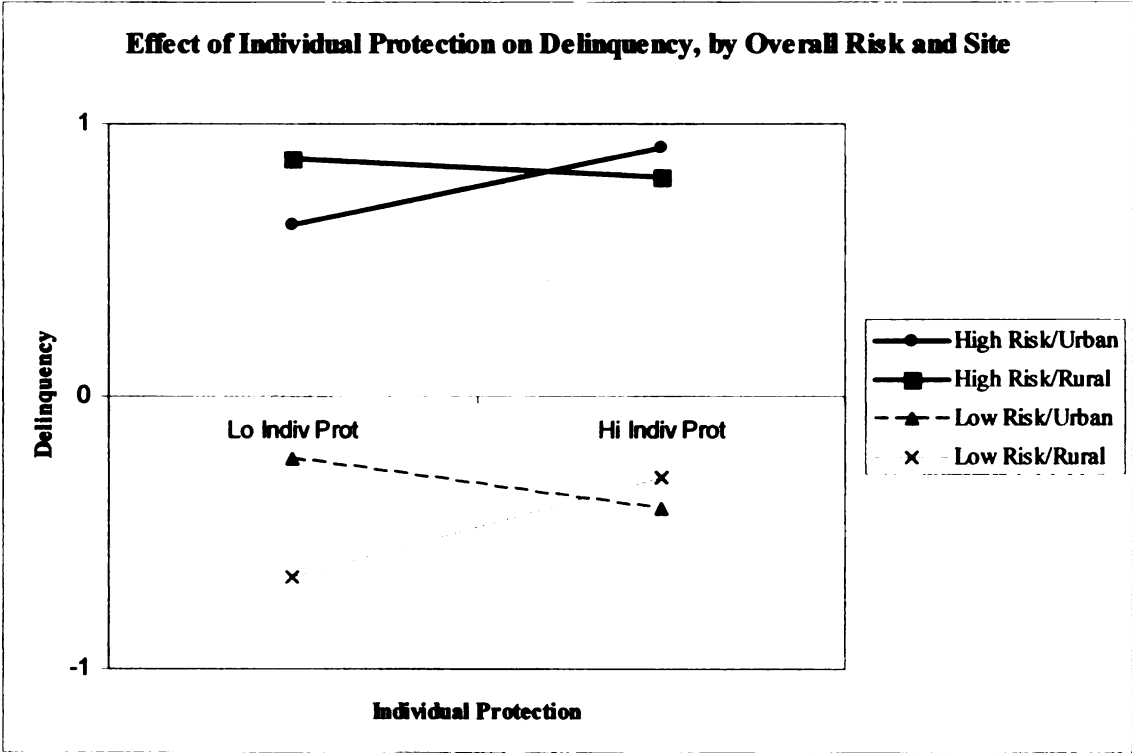


Table 38

Race/Ethnicity by Individual Protection by Overall Risk

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.085**	.080**
Constant	.241	.086	2.80**			
Gender	-.578	.095	-6.11**	-.285		
Urban/Rural	.120	.095	1.25	.042		
<u>2. Indiv. Prot. & Risk</u>					.395**	.388**
Constant	.198	.071	2.80**			
Gender	-.342	.079	-4.31**	-.285		
Urban/Rural	.020	.088	.230	.042		
Individual Protection	.035	.048	.718	-.148		
Overall Risk	1.02	.074	13.82**	.603		
Race/Ethnicity	-.085	.094	-.904	.024		
<u>3. Two-way interaction terms</u>					.404	.393
Constant	.233	.072	3.25**			
Gender	-.349	.079	-4.41**	-.285		
Urban/Rural	.036	.088	.416	.042		
Individual Protection	.060	.057	1.04	-.148		
Overall Risk	1.13	.095	11.85**	.603		
Race/Ethnicity	-.088	.094	-.931	.024		
Race*Indiv. Protection	-.130	.106	-1.22	-.061		
Race*Risk	-.247	.156	-1.58	.341		
Risk*Indiv. Protection	.172	.078	2.21*	-.023		
<u>4. Three-way interaction term</u>					.406	.393
Constant	.244	.072	3.37**			
Gender	-.347	.079	-4.39**	-.285		
Urban/Rural	.035	.088	.400	.042		
Indiv. Protection	.057	.058	.996	-.148		
Overall Risk	1.15	.097	11.85**	.603		
Race/Ethnicity	-.115	.098	-1.18	.024		
Race*Indiv. Protection	-.098	.110	-.886	-.061		
Race*Risk	-.234	.156	-1.50	.341		
Risk*Indiv. Protection	.228	.094	2.42*	-.023		
Race*Risk*Indiv Prot.	-.180	.171	-1.05	.074		

Note. For the final model, $F(9,405)=30.74$, $p=.000$.

** $p<.01$ (2-tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

Table 39

Race/Ethnicity by Family Protection by Overall Risk

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.085**	.080**
Constant	.241	.086	2.80**			
Gender	-.578	.095	-6.11**	-.285		
Urban/Rural	.120	.095	1.25	.042		
<u>2. Family Prot. & Risk</u>					.394**	.387**
Constant	.194	.071	2.73**			
Gender	-.350	.079	-4.43**	-.285		
Urban/Rural	.026	.088	.295	.042		
Family Protection	-.020	.053	-.382	-.289		
Overall Risk	.986	.078	12.60**	.603		
Race/Ethnicity	-.072	.093	-.772	.024		
<u>3. Two-way interaction terms</u>					.399	.387
Constant	.192	.072	2.65**			
Gender	-.362	.079	-4.57**	-.285		
Urban/Rural	.018	.089	.206	.042		
Family Protection	.045	.068	.668	-.289		
Overall Risk	1.04	.102	10.24**	.603		
Race/Ethnicity	-.051	.093	-.547	.024		
Race*Family Protection	-.131	.114	-1.15	-.152		
Race*Risk	-.165	.160	-1.03	.341		
Risk*Family Protection	-.071	.068	-1.06	-.196		
<u>4. Three-way interaction term</u>					.399	.386
Constant	.193	.073	2.65**			
Gender	-.361	.080	-4.54**	-.285		
Urban/Rural	.018	.089	.208	.042		
Family Protection	.044	.068	.647	-.289		
Overall Risk	1.04	.103	10.17**	.603		
Race/Ethnicity	-.057	.098	-.583	.024		
Race*Family Protection	-.123	.121	-1.02	-.152		
Race*Risk	-.168	.161	-1.04	.341		
Risk*Family Protection	-.062	.082	-.754	-.196		
Race*Risk*Family Prot.	-.030	.147	-.203	-.106		

Note. For the final model, $F(9,405)=29.91$, $p=.000$.

** $p<.01$ (2-tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

Table 40

Race by Peer Protection by Overall Risk

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.085**	.080**
Constant	.241	.086	2.80**			
Gender	-.578	.095	-6.11**	-.285		
Urban/Rural	.120	.095	1.25	.042		
<u>2. Peer Prot. & Risk</u>					.400**	.393**
Constant	.214	.071	3.02**			
Gender	-.383	.080	-4.77**	-.285		
Urban/Rural	.026	.087	.299	.042		
Peer Protection	.107	.054	1.97*	-.285		
Overall Risk	1.08	.079	13.60**	.603		
Race/Ethnicity	-.072	.092	-.778	.024		
<u>3. Two-way interaction terms</u>					.418**	.407**
Constant	.246	.072	3.44**			
Gender	-.393	.080	-4.93**	-.285		
Urban/Rural	.042	.087	.487	.042		
Peer Protection	.241	.069	3.51**	-.285		
Overall Risk	1.25	.100	12.45**	.603		
Race/Ethnicity	-.083	.091	-.906	.024		
Race*Peer Protection	-.375	.112	-3.35**	-.226		
Race*Risk	-.351	.166	-2.11*	.341		
Risk*Peer Protection	.127	.069	1.83	-.186		
<u>4. Three-way interaction term</u>					.420	.407
Constant	.263	.073	3.58**			
Gender	-.389	.080	-4.87**	-.285		
Urban/Rural	.042	.086	.490	.042		
Peer Protection	.245	.069	3.57**	-.285		
Overall Risk	1.28	.104	12.30**	.603		
Race/Ethnicity	-.117	.097	-1.20	.024		
Race*Peer Protection	-.356	.114	-3.13**	-.226		
Race*Risk	-.403	.174	-2.31*	.341		
Risk*Peer Protection	.204	.103	1.99*	-.186		
Race*Risk*Peer Prot.	-.143	.141	-1.02	-.159		

Note. For the final model, $F(9,405)=32.53$, $p=.000$.

** $p<.01$ (2-tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

Table 41

Race by School Protection by Overall Risk

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.085**	.080**
Constant	.241	.086	2.80**			
Gender	-.578	.095	-6.11**	-.285		
Urban/Rural	.120	.095	1.25	.042		
<u>2. School Prot. & Risk</u>					.398**	.390**
Constant	.194	.070	2.75**			
Gender	-.352	.079	-4.48**	-.285		
Urban/Rural	.023	.088	.259	.042		
School Protection	-.097	.064	-1.52	-.278		
Overall Risk	.957	.075	12.84**	.603		
Race/Ethnicity	-.060	.093	-.650	.024		
<u>3. Two-way interaction terms</u>					.403	.392
Constant	.174	.072	2.41*			
Gender	-.358	.079	-4.54**	-.285		
Urban/Rural	.024	.087	.273	.042		
School Protection	-.034	.077	-.441	-.278		
Overall Risk	.977	.100	9.80**	.603		
Race/Ethnicity	-.038	.093	-.404	.024		
Race*School Protection	-.178	.143	-1.24	-.136		
Race*Risk	-.068	.158	-.431	.341		
Risk*School Protection	-.138	.103	-1.35	-.164		
<u>4. Three-way interaction term</u>					.404	.391
Constant	.182	.073	2.49*			
Gender	-.356	.079	-4.52**	-.285		
Urban/Rural	.025	.088	.280	.042		
School Protection	-.034	.077	-.447	-.278		
Overall Risk	.989	.101	9.81**	.603		
Race/Ethnicity	-.059	.097	-.612	.024		
Race*School Protection	-.156	.146	-1.07	-.136		
Race*Risk	-.058	.158	-.365	.341		
Risk*School Protection	-.093	.117	-.797	-.164		
Race*Risk*School Prot.	-.206	.251	-.821	.002		

Note. For the final model, $F(9,405)=30.55$, $p=.000$.

** $p<.01$ (2-tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

Table 42

Race/Ethnicity by Community Protection by Overall Risk

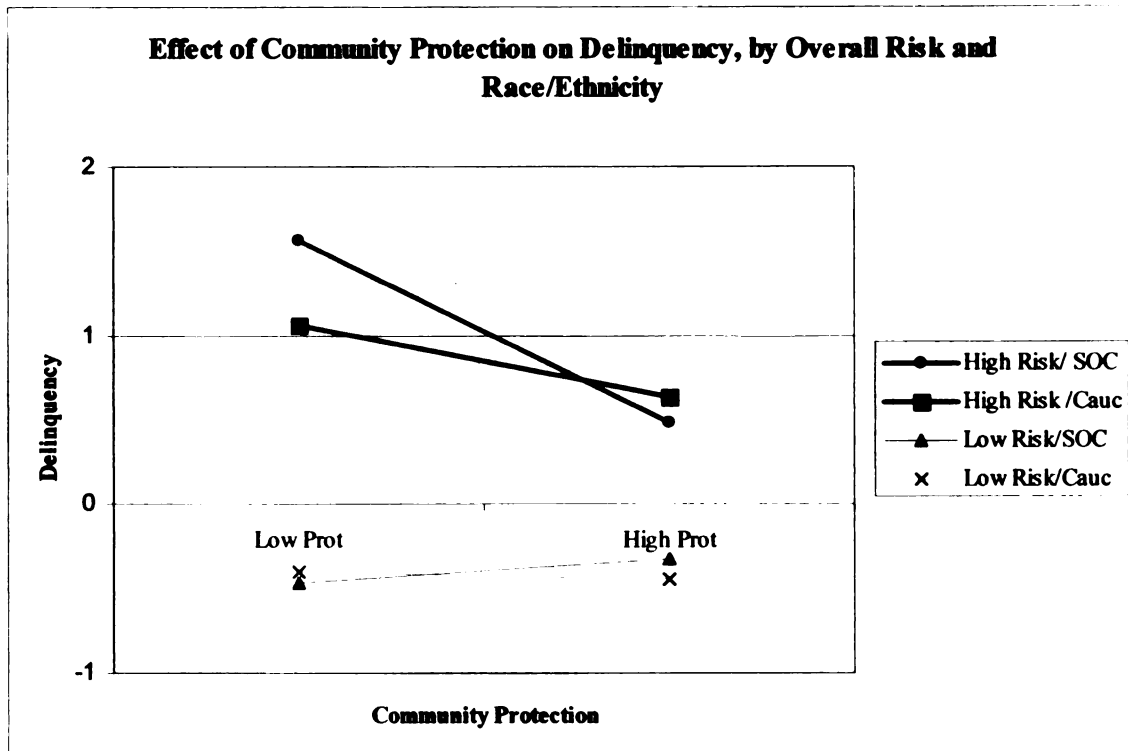
Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.085**	.080**
Constant	.241	.089	2.71**			
Gender	-.578	.098	-5.92**	-.285		
Urban/Rural	.120	.098	1.22	.042		
<u>2. Comm. Prot. & Risk</u>					.394**	.386**
Constant	.196	.073	2.69**			
Gender	-.349	.081	-4.30**	-.285		
Urban/Rural	.022	.091	.247	.042		
Community Protection	.005	.055	.091	-.232		
Overall Risk	1.00	.077	13.01**	.603		
Race/Ethnicity	-.073	.096	-.766	.024		
<u>3. Two-way interaction terms</u>					.401	.388
Constant	.178	.075	2.37*			
Gender	-.346	.081	-4.26**	-.285		
Urban/Rural	.026	.091	.283	.042		
Community Protection	.093	.074	1.25	-.232		
Overall Risk	1.09	.100	10.84**	.603		
Race/Ethnicity	-.073	.096	-.757	.024		
Race*Community Protection	-.186	.117	-1.59	-.136		
Race*Risk	-.189	.160	-1.18	.341		
Risk*Community Protection	-.069	.093	-.742	-.104		
<u>4. Three-way interaction term</u>					.409*	.395*
Constant	.212	.076	2.79**			
Gender	-.341	.081	-4.21**	-.285		
Urban/Rural	.034	.090	.381	.042		
Community Protection	.100	.074	1.35	-.232		
Overall Risk	1.11	.100	11.10**	.603		
Race/Ethnicity	-.148	.101	-1.46	.024		
Race*Community Protection	-.151	.117	-1.29	-.136		
Race*Risk	-.208	.159	-1.31	.341		
Risk*Community Protection	.126	.124	1.02	-.104		
Race*Risk*Comm. Prot.	-.463	.198	-2.34 ^t	-.117		

Note. For the final model, $F(9,380)=29.23$, $p=.000$.

** $p<.01$ (2-tailed). * Bonferroni-adjusted $p<.05$ (2-tailed).

^tBonferroni-adjusted ($p<.10$).

Figure 5. Three-way interaction of community protection, overall risk, and race/ethnicity in predicting delinquency.



Final Analyses Examining Students with the Highest Risk

Finally, students with the highest amount of risk in the sample were examined to see which protective factors had significant main effects on delinquency and which protective factors buffered overall risk for this sub-sample. Students in the highest quartile, or an overall risk score of .30 or above were selected for this analysis (standardized overall risk; overall sample mean=0). This sub-sample included 110 students whose risk scores ranged from .30 to 2.43 and had a mean risk score of .68. Sixty-six percent of the sub-sample were from the urban school, 44% were female, and 39% were students of color. Their overall protection (standardized overall protection;

overall sample mean=0) ranged from -.157 to .90 and the mean overall protection was -.43. Table 43 shows the standardized coefficients, intercept, zero-order correlations, R^2 and adjusted R^2 after entry of demographic control variables, each domain of protection, overall risk, and the interactions between each protective factor domain and overall risk. Gender, school protection, and overall risk had significant main effects on delinquency for this sub-sample, and the interaction between overall risk and family protection was significant. Figure 6 shows that for students with the highest amounts of risk, higher levels of family protection are related to lower levels of delinquency. However, higher levels of protection for students in the sub-sample with comparatively lower risk are related to higher amounts of delinquency.

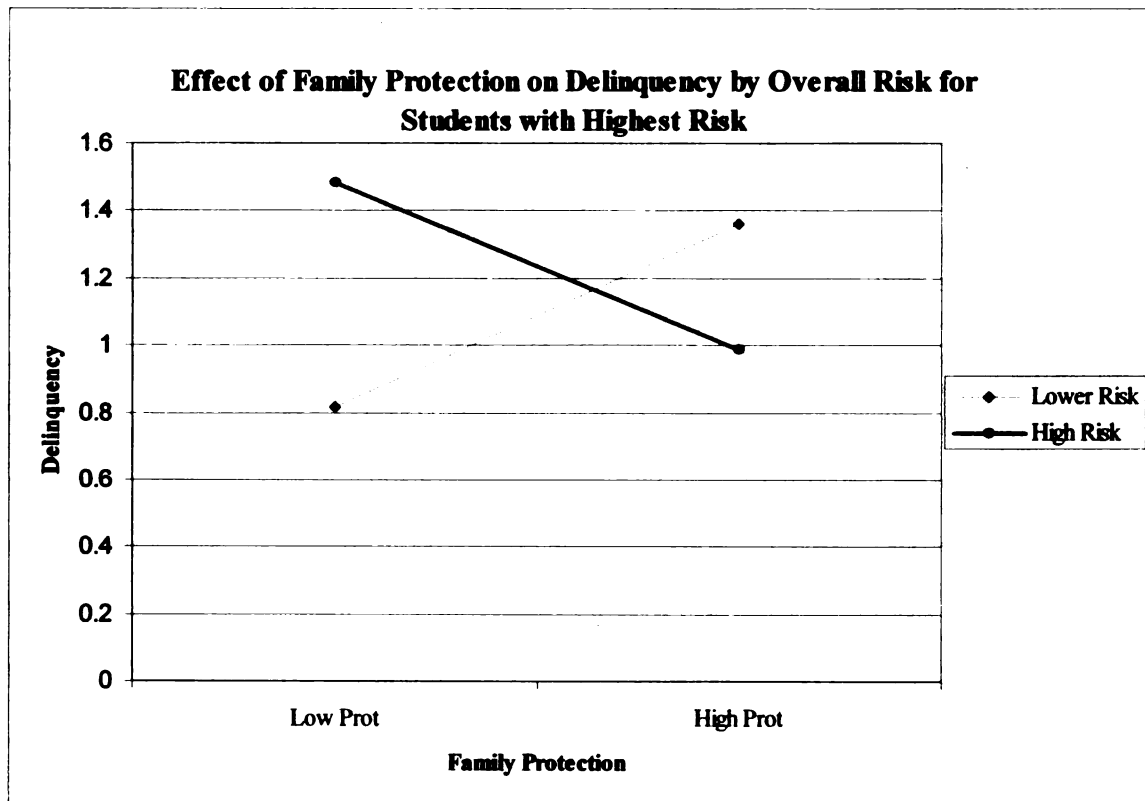
Table 43

Do Domains of Protection Buffer the Effect of Risk for Students with the Highest Risk?

Model	Unstand. Coeff. B SE		t	Zero Order Correl	R ²	Adj. R ²
<u>1. Demog. Controls</u>					.060	.029
Constant	1.25	.205	6.13**			
Gender	-.474	.219	-2.16*	-.230		
Urban/Rural	-.117	.262	-.446	-.094		
Race/Ethnicity	-.100	.254	-.393	-.088		
<u>2. Domains of Protection & Overall Risk</u>					.203*	.118*
Constant	.702	.269	2.60**			
Gender	-.453	.224	-2.02*	-.230		
Urban/Rural	-.138	.258	-.534	-.094		
Race/Ethnicity	-.046	.255	-.179	-.088		
Individual Protection	.189	.135	1.40	.020		
Family Protection	-.085	.132	-.646	-.175		
Peer Protection	.099	.144	.690	-.036		
School Protection	-.401	.186	-2.15*	-.229		
Community Protection	-.120	.156	-.765	-.072		
Overall Risk	.557	.230	2.42*	.270		
<u>3. Interaction terms</u>					.294	.169
Constant	1.27	.335	3.79**			
Gender	-.531	.220	-2.41*	-.230		
Urban/Rural	-.248	.259	-.957	-.094		
Race/Ethnicity	.112	.258	.435	-.088		
Individual Protection	.027	.266	.101	.020		
Family Protection	.461	.260	1.78	-.175		
Peer Protection	.352	.263	1.34	-.036		
School Protection	-.556	.394	-1.41	-.229		
Community Protection	.326	.330	.986	-.072		
Overall Risk	-.133	.378	-.351	.270		
Individual Prot * Risk	.174	.288	.606	-.037		
Family Prot * Risk	-.579	.249	-2.33*	-.314		
Peer Prot * Risk	-.252	.258	-.977	-.192		
School Prot * Risk	.149	.432	.344	-.317		
Community Prot * Risk	-.603	.368	-1.64	-.145		

**Denotes significant race/ethnicity differences at 0.01 level (2-tailed). *Denotes significant race/ethnicity differences at 0.05 level (2-tailed).

Figure 6. Interaction of family protection and overall risk in predicting delinquency for students with the highest risk.



Chapter 4

DISCUSSION

The purpose of this study was to address gaps in delinquency prevention research by combining two popular approaches for preventing delinquency - risk reduction and protective factor enhancement - in a comprehensive manner. Additional aims of the study included exploring the utility of considering domains, rather than merely overall levels, of risk and protection, examining the relationship of protection with delinquency, and examining sociodemographic differences in risk and protection. The findings corroborate previous research showing that preventing and reducing delinquency requires reducing risk in conjunction with increasing protection (e.g., Pollard et al., 1999). This study also found evidence that type of risk and protection matters, supporting an ecological perspective for delinquency prevention. The results highlight the relevance of domain of protection both in directly affecting delinquency and in moderating the effects of risk. In addition, this study found that contextual information about youth and the risks they are facing has implications for which types of protection should be fostered. The specific results, as well as the implications of the findings for prevention of delinquency, are discussed below.

Domain-Specific versus Cumulative Approach to Risk and Protection

A hypothesis of this study was that a domain-specific model of risk and protection would better predict delinquency than a cumulative model of risk and protection. This hypothesis was confirmed; information about the domains of risk and protective factors significantly predicted delinquency beyond the amount explained by overall or

cumulative levels of risk and protection. Although cumulative levels of risk and protection were also found to significantly predict delinquency, the findings corroborate the utility of a domain-specific approach to risk and protection.

In terms of delinquency prevention efforts, these results suggest that it is not sufficient to concentrate solely on overall levels of risk and protection, because different types of risk and protection are not equal and interchangeable. The finding that the types of risk and protection youth have are important confirms and builds upon the work of a number of researchers (e.g., Smith et al., 1995; Guerra, 1998; Price and Drake, 1999; Pollard et al, 1999) and has implications for how models of risk reduction and protective factor enhancement to prevent adolescent delinquency are currently utilized. In addition to being used separately, these models are also currently used as checklists, where the goal is to reduce risk and increase protection as much as possible without regard to type of risk or protection. The finding that types of risk and protection are relevant suggests that arbitrarily decreasing risk and increasing protection may be an inefficient and less effective way of using these models, and that practitioners may need to attend to which types of protection they build.

This finding substantiates the idea that although cumulative risk and protection are valid for understanding and preventing delinquency, researchers and practitioners should not discontinue seeking and utilizing more specific information about risk and protection in the pursuit of efficiency. Continuing efforts to determine which risk and protective factors are especially relevant for delinquency are necessary to enhance the effectiveness, and eventually the efficiency, of initiatives to prevent delinquency and help youth. This type of information may eventually help practitioners to build the types of

protection that are most needed for particular groups of youth facing specific types of risks.

To this end, this study explored the role of different types of protection in directly affecting delinquency and in moderating the effects of various types of risk. Using hierarchical regression, family and school protection were found to exert direct effects on delinquency. Interventions to build family protections, such as family care and support, and school protections, such as teacher care and social support, high expectations of students, and opportunities for students to be involved in and bond to school, may be helpful in directly preventing and reducing delinquency regardless of risk. This finding supports other research regarding the importance of family and school protection (e.g., Smith et al., 1995).

When moderating relationships among risk, protection, and delinquency were examined, however, family and school protection did not buffer the effect of risk. Instead, the most consistent finding was the positive relationship of individual protection with risk. Surprisingly, individual protection was found to have an exacerbating, rather than buffering, effect on overall, individual, and family risks. For youth with low levels of these risks, higher individual protection is associated with lower levels of delinquency. Conversely, when youth have higher amounts of these types of risks, higher individual protection is related to higher delinquency.

Caution should be employed in interpreting this finding to suggest that increasing self-esteem may cause youth facing higher risks to engage in more frequent delinquent behavior, however, as research regarding the relationship between delinquency and individual protections such as self-esteem and independence is complex and has mixed

results (see Costello & Dunaway, 2003). Some research shows that inflated self-esteem promotes a protective information processing style that hinders youths' ability to benefit from corrective feedback about their behavior (see Wyman, 2003). In other words, inflated self-esteem may lead to youths ignoring teacher and family reactions to their inappropriate behavior or acting in ways that protect their inflated self views. Other research shows that increased participation in delinquency can result in improved self-esteem (e.g., Jang & Thornberry, 1998). The cross-sectional design of this study hinders determining whether higher self-esteem led to increased delinquency or if youth with higher levels of risk participated in a greater amount of delinquent behavior, which subsequently increased their self-esteem.

It is also possible that the measure of self-esteem used in this study may not have captured the multi-faceted nature of self-esteem or distinguished self-esteem from other related constructs such as egotism or bravado. Further research to determine whether building individual protections such as self-esteem is helpful or harmful for youth facing higher levels of risk is greatly needed, as these factors are featured in Search and other protective factor enhancement models.

Demographic Differences in Risk and Protection

This study also examined how different types of risk and protection vary by gender, urban/rural, and race/ethnicity and whether different types of protection moderate the effects of overall risk for youth within different sociodemographic groups. Information about sociodemographic differences in types of risk and protection could help practitioners use models of risk reduction and protective factor enhancement in a true strength-based manner. For example, practitioners could incorporate protective

factors generally found in rural youth within prevention programs to meet their risks and needs. Data regarding which protective factors moderate risk for boys and girls, youth from urban and rural areas, or youth of color and Caucasian youth may also facilitate the design of interventions to prevent delinquency.

Gender

The hypothesis that males would report significantly higher levels of overall risk compared to females, and that females would report significantly higher levels of overall protection was confirmed. This study also contributes to previous research by exploring differences in types of risk and protective factors for delinquency by gender. Males reported significantly higher levels of individual risks such as early initiation of problem behaviors (e.g., delinquency and violence) and poor conflict resolution skills, peer risks such as having friends who engage in delinquent acts, and school risks such as academic failure, lack of commitment to school, and early and persistent behavior problems at school. There was also some evidence that males experienced higher levels of family risks such as poor supervision from their caregivers, conflict and violence at home, and caregivers who engage in crime and violence; however, this finding became merely trend-level once Bonferroni corrections were applied.

This study adds to scarce information about risk and protective factors for females by showing that they have significantly higher levels of peer protection than males. Females reported having friends that earned good grades and did not get into trouble in school, and that their friends did not support use of violence to solve problems.

Researchers are beginning to focus on the needs of girls for prevention and intervention, because gender differences have been found in risk and protective factors

(e.g., Ensminger, 1990; OJJDP, 1998; Werner, 1990) and the reasons why girls enter the juvenile justice system are different from boys (e.g., OJJDP, 1998). The results of this study indicate that gender is important to consider in prevention and intervention. Gender continued to exert a significant direct effect on delinquency after domains of risk and protection were entered in hierarchical regression analysis, while the other sociodemographic factors examined in this study, urban/rural and race/ethnicity, did not. In addition, a greater number of overall and domain-specific risk and protective factor differences were found by gender than for other demographic variables. The information about gender differences in risk and protective factors for delinquency found in this and other studies could help direct preventive interventions. The results of this study suggest that peer groups are strengths for girls and could thus form the basis of strength-based preventive interventions to help address their risks and needs. Researchers have noted that group membership and belonging are especially important to females (e.g., Juvonen & Murdock, 1995), and a number of initiatives that aim to target the unique needs of female juvenile offenders are beginning to recognize the importance of incorporating girls' peer groups within gender responsive programming (e.g., Acoca, 1999). The results of this study suggest that utilizing girls' peer groups may be successful for prevention programs in the general population as well.

The findings of this study also indicate that boys have a number of risks to address in order to prevent delinquency. Although it is important to address the unique needs of girls because juvenile justice research and programming have typically been developed for boys, the result of this study also call attention to the fact that boys generally have more risks and appear in the juvenile justice system more often than girls. Practitioners

should focus on developing family and school protections for boys while targeting their risks.

Urban/Rural

The hypothesis that urban students would report higher levels of overall risk compared to rural students was confirmed; however, the hypothesis that they would also have higher levels of overall protection was not. The current study did not support the findings of previous research that rural students have fewer protective factors than urban youth (e.g. Cheatum, 1998). When domains of risk and protection were explored, urban students reported significantly greater levels of individual risks such as early initiation of problem behaviors and poor conflict resolution skills and rural students reported higher levels of community protection. Some support was found for the results of previous research showing that urban students report higher levels of family protection than do rural students (Cheatum, 1998).

It is notable that of the community-level factors, it is community protection, not risk, that differs for urban versus rural students. Contrary to media stereotypes, the urban/rural community differences for students in this sample were not related to the urban area having greater problems with drugs, firearms, and general disorganization, but were instead related to the rural students reporting a greater sense of community and positive orientation toward youth in their neighborhoods. The finding that rural youth report a greater sense of community fits with the observations of sociologists and researchers that sense of community diminished as people moved from smaller, tight-knit communities where everyone knew and depended upon their neighbors to larger, more anonymous cities where social isolation was greater. Perhaps the high sense of

community and positive orientation toward youth found in rural communities could be used to address youths' risks and needs. For example, these community protections could be utilized in a deliberate manner to support and provide needed resources for families, foster adult mentors, and recruit adults to supervise youth in the community and provide tutoring and other skill building activities.

Examination of the moderating effects of protection within demographic groups revealed that for rural students, higher levels of the individual protective factors of independence and self-esteem are associated with higher delinquency for students with low risk and no change in delinquency for students with higher risk. However, among urban students, individual protection was found to significantly exacerbate the effects of risk; higher levels of individual protection were associated with lower levels of delinquency for students with low risk and higher levels of delinquency for students with higher risk. As discussed previously, this effect is difficult to interpret due to the cross-sectional design of this study, and existing research on the relationship between self-esteem and delinquency is inconclusive (Costello & Dunaway, 2003). Perhaps inflated self-esteem leads youth to ignore environmental responses to their inappropriate behaviors or causes them to act in ways that protect their inflated self-views (Wyman, 2003). It is possible that this effect might be more pronounced in an urban context, where youths report higher levels of individual risks such as early initiation of delinquent behaviors and poor conflict resolution skills. For example, inflated self-esteem may cause youth to ignore feedback about their poor conflict resolution skills. Further, youth may respond to criticism from parents and teachers about poor conflict resolution skills by acting out in an attempt to dispel the threat to their inflated self-esteem.

On the other hand, research has also shown that participation in delinquent behavior may increase self-esteem (e.g., Jang & Thornberry, 1998). Longitudinal studies are needed to further examine this relationship to determine whether self-esteem programs may actually do more harm than good and should be avoided when working with urban youth facing higher risk, or if the positive relationship between individual protection and delinquency simply indicates that delinquent behavior increases self-esteem for urban youth.

Race/Ethnicity

The hypothesis that youth of color would report higher levels of overall risk and overall protection than Caucasian youth was not confirmed. When domain-specific risk and protection were explored, few differences were found in levels of risk and protection by race/ethnicity. Contrary to previous research suggesting that risk and protective factors, especially family factors, vary by race/ethnicity (e.g., Safyer, 1994; McAdoo, 1998), there were no differences in overall or family, peer, school, or community risk and protection. Youth of color did have higher levels of both individual risks, such as early initiation of problem behaviors and poor conflict resolution skills, and individual protection, such as self-esteem and independence, than Caucasian students. However, although individual risk was related to higher levels of delinquency and individual protection appeared to exacerbate delinquency and both of these factors were higher in youth of color, there was not a main effect of race/ethnicity on delinquency. Several issues that may have limited finding racial/ethnic variations in risk and protection are discussed later in this section.

Some evidence for a buffering effect of protection domains was also found when

moderating effects were examined within demographic groups. For students of color, higher community protection was related to little to no change in delinquency at low levels of risk. At higher levels of risk, however, high levels of community protection were associated with a reduction in delinquent behavior. These results suggest that building community protections such as sense of community and positive community orientation toward youth may be especially helpful in buffering the effects of risk for youth of color.

Effects of Domains of Protection for Students with the Highest Risk

Finally, the role of protection was examined for youth with the highest level of overall risk. Gender, school protection, and overall risk had direct effects on delinquency for this subgroup. Females and students with higher school protection and relatively lower risk had lower levels of delinquency, and males and students with less school protection and relatively higher risk engaged in greater amounts of delinquent behavior. The interaction between overall risk and family protection was also significant for this group. Within the sub-sample of students with the highest levels of risk, those with relatively lower risk actually had higher levels of delinquency at high levels of family protection, while for those with the absolute highest levels of risk, higher family protection is related to comparatively lower levels of delinquency. Interpretation of this finding is hindered by the study's cross-sectional design. Perhaps there is a level of risk at which youth rebel and engage in increased amounts of delinquent behavior in response to family attempts to provide positive discipline and support, and a threshold of risk at which family protection begins to exert a buffering effect. It is also possible that other factors, such as the types of risks youths are facing, explain this finding.

Implications for Delinquency Prevention

Similar to the findings of other research (e.g., Pollard et al., 1999), the results of this study highlight the importance of increasing protection in conjunction with decreasing risk; delinquency prevention programs cannot focus exclusively on increasing protection without regard for risk. While the current research was concerned primarily with the effects of protection, it is noteworthy that risk had a much stronger relationship with delinquency than did protection in every analysis conducted in this study. These findings confirm those of researchers (e.g., Pollard et al., 1999) who have found that protection enhancement alone is incomplete as a delinquency prevention strategy. It is unlikely that protection by itself can mitigate the effects of risk, thus prevention efforts must also attend to risk.

In terms of protection, the results of this study suggest that type of protection matters for preventing delinquency. Family and school protection had direct effects on delinquency, while individual, peer, and community protection did not. When moderating relationships were examined, individual protection had an exacerbating effect on risk. At the very least, these findings suggest that people who utilize protective factor enhancement models would be more efficient and effective by focusing their efforts on family and school protective factors. Increasing family protections such as family care and social support and school protections such as teacher care and social support, high expectations of students, and opportunities for students to be involved in and bond to school appears to have positive effects for all students.

In addition, the results of this study also have serious implications for how protective factor enhancement models are currently used. Models such as the Search

Institute employ a checklist of protective factors, and the goal is to build as many protective factors, regardless of type, as possible. The results of this study indicate that using a protective factor enhancement model to build any type of protection will not necessarily be beneficial. If the goal is strictly prevention of delinquency, efforts to build protection types other than family and school may be a waste of valuable resources for low risk youths. The only type of protection shown to buffer the effects of risk was family protection, and this effect was only seen for students with the highest levels of risk; again, delinquency initiatives focusing on other types of protection for this population may be wasting resources. Furthermore, programs that aim to increase individual-level protections may actually do more harm than good, as factors such as self-esteem and independence may actually be related to an increase in delinquency.

Furthermore, the results suggest that consideration of not only risk but also youth sociodemographic characteristics is helpful in delinquency prevention efforts. For example, initiatives to prevent delinquency for youth of color may be especially efficient and effective if they focus on building community protection.

Finally, the results of this study have implications for utilizing a true strength-based approach to preventing delinquency. Existing protective factor models typically use “asset building” in a deficit-oriented manner. Youth are surveyed to ascertain which protective factors they lack, and then those assets are targeted for development. Information gained from this study about protective factors youth have could also be used to direct interventions for particular youth in a strength-based approach; that is, the protective factors youth possess could be used to target their risks or needs. For example, current initiatives utilize girls’ peer groups in interventions to meet their needs. Rural

youths' community protective factors could be employed in a similar manner within an intervention to alter or offset their risks.

Limitations of the Study

In addition to the limitations imposed by this study's cross-sectional design and measurement of self-esteem, there are methodological problems that may have hindered accurate measurement of the independent variables and generalizability of the findings. The results of this study need to be replicated with a new sample due to the multiple families of analyses performed on this one dataset.

A limitation to understanding how risk and protection operate in the real world to affect delinquency is the individual-level measurement of all variables. This method was utilized in an attempt to simulate how people might combine existing risk reduction and protective factor enhancement models. As these models currently tend to be used separately, information about how the models work together would advance knowledge regarding delinquency prevention. However, a limitation to applying the results of this study to the use of popular risk reduction and protective factor enhancement models is that the exact scales to measure risk and protective factors used in these models could not be utilized in this study. Copyright regulations prohibit shortening the risk and protection surveys in order to combine them, and the models cannot be used separately and then combined in a meaningful way because the owners of the models do not allow consumers to keep their data.

Additionally, there were problems that may have precluded uncovering gender or racial/ethnic variation in risk and protective factors that may exist. One methodological

issue that may have obscured differences is the manner in which protective factor domains, rather than single protective factors, were examined in this study. Differences in particular protective factors may have diminished when they were combined into domain scores. For instance, females may have experienced higher family support and males may have experienced higher family supervision, but these differences may have been masked once the factors were combined into the family domain score. As a further example, research shows that African Americans value education more (achievement motivation) than Caucasian or Hispanic students (Roeser & Eccles, 1998), and peer pressure may affect Caucasian students more than students from other racial/ethnic groups (e.g., Landrine et al., 1994). Any variation in these particular factors within this sample may have faded once they were averaged with other protective factors in the school and peer domains.

Moreover, a number of gender and race/ethnicity differences in risk and protection identified in previous research were not examined in this study. Factors that may be salient for females that were not examined in this study include risk factors such as experience of sexism and history of sexual abuse, and protective factors such as positive gender identity, positive minority identity, positive sexual development, and delay of sexual experimentation. Factors that are likely to be relevant for protecting youth of color from delinquency that were not examined in this study include a deep sense of spirituality, racial identity, and flexibly configured families that include kin and non-kin (e.g., McAdoo, 1998, Miller, 2002).

Finally, Hispanic, Asian, Native American and multi-racial/ethnic youth were combined with African American youth into a “youth of color” category because the

number of survey participants within each of these categories was quite small. Combining these racial/ethnic groups may have been problematic, because research suggests they may vary in their experience of and reaction to risk and protective factors. For example, African American families have been found to grant youth more independence, while Hispanic families have been found to provide the highest levels of youth supervision (Bulcroft et al., 1996). Research also suggests that youth from different racial/ethnic groups vary in their response to risk and protective factors. For example, the relationship of family boundaries and expectations with school performance is greater for Hispanic and Caucasian youth than for African American and Asian youth (Steinberg et al., 1991).

Strengths of the Study

A number of this study's strengths contribute to the delinquency prevention literature. Research to date has focused primarily on either risk or protective factors; studies combining these approaches have examined cumulative risk and protection or have taken a narrow methodological approach of measuring only a few specific risk and protective factors (e.g., Florsheim, Tolan, & Gorman-Smith, 1998; Pollard et al., 1999). This study explored a large number of risk and protective factors for delinquency in a more comprehensive manner, moving beyond looking solely at cumulative levels of risk and protection. This study also contributes to delinquency prevention practice by attempting to combine two common prevention models, risk reduction and protection enhancement.

The findings built upon studies looking at the relationships of particular types of risk and protection with delinquency. For example, Smith et al. (1995) found that school

and family factors buffered the effect of family risks. This study included risks from other domains and also explored individual, family, peer, school, and community protection by gender, race/ethnicity, and urban/rural differences.

Conclusions and Next Steps in Research

Future studies should build on this research by using a longitudinal design to examine how risk and protective factors that appear in widely utilized risk reduction and protective factor enhancement surveys affect delinquency as well as other outcomes, including positive behaviors such as academic achievement. Research could also examine a greater variety of protective factors, such as gender and racial identity, and examine the effect of single protective factors rather than domains of protection.

Future studies could also utilize a more ecological approach to assessing domains of risk and protection. Rather than surveying youth about their perceptions of multiple settings in their lives, domains of risk and protection could be measured in other ways. For example, discipline records, grades, standardized test scores, and attendance data from a large number of schools could be examined to assess school risks and protection. Crime mapping data and community asset mapping procedures could be utilized to assess community risks and protection, and data on child abuse and neglect, runaway, domestic violence, and delinquency rates could be employed to assess family and peer risks and protective factors within a large sample of urban and rural neighborhoods.

This study represents a first step in understanding the role of specific types of risk and protection in predicting delinquency. The results confirm the findings of other researchers that protective factor enhancement alone is incomplete, and delinquency prevention efforts must also target risk. The results of the study support the idea that

domains of risk and protection are important, and these findings have practical implications for how we try to prevent adolescent delinquency.

This study also provided information about types and levels of risk and protection by gender, race/ethnicity, and urban/rural. The findings suggest that having information about youth sociodemographic characteristics as well as the risks they are facing is important when using risk reduction and protection enhancement to prevent delinquency.

Practitioners should gather this information before using these models, as the findings of this study suggest that increasing any type of protection without regard for this contextual information is at best inefficient and at worst may do harm. Researchers should continue to seek specific information about risk and protection specifically for delinquency rather than relying solely on cumulative levels of generic risk and protection.

APPENDIX A

A. Demographic Questions:

1. Race/Ethnicity:

- ① Black/African American
- ② White/Caucasian American
- ③ Latino/Chicano/Mexican American
- ④ Asian Pacific American
- ⑤ Native American
- ⑥ Other (indicate) _____

2. What is your age?

10 11 12 13 14 15 16

- ① ② ③ ④ ⑤ ⑥

3. What grade are you in at school?

- ① 6th
- ② 7th
- ③ 8th

4. What is your gender:

- ① Male
- ② Female

5. Does your mom or other adult female help take care of you?

- ② Yes
- ① No

6. Does your dad or other adult male help take care of you?

- ② Yes
- ① No

7. Does someone else help take care of you? Who?

- ① brother
- ② uncle
- ③ grandmother
- ④ godparent
- ⑤ stepparent
- ⑥ sister
- ⑦ aunt
- ⑧ grandfather
- ⑨ foster parent
- ⑩ other adult _____

B. School Questions:

1. What are your overall grades at school? (Please fill in one of the circles)

- ① Mostly As
- ② Mostly As & Bs
- ③ Mostly Bs
- ④ Mostly Bs & Cs
- ⑤ Mostly Cs
- ⑥ Mostly Cs & Ds
- ⑦ Mostly Ds
- ⑧ Mostly Ds & Es
- ⑨ Mostly Es

2. How many classes have you failed during this school year?

0 1 2 3 4 5 or more

- ① ② ③ ④ ⑤ ⑥

3. How many times have you had to repeat a grade at school?

0 1 2 3 4 5 or more

- ① ② ③ ④ ⑤ ⑥

4. What do you think you will do after high school?

- ① Look for a job
- ② Enlist in the military
- ③ Attend a four-year college
- ④ Attend a two-year college
- ⑤ Go to vocational/training school
- ⑥ Don't know

5. How much do you agree or disagree with the following statements?

Strongly Agree
Agree
Disagree
Strongly Disagree

- a. I plan to improve my grades in school next year ④ ③ ② ①
- b. I would like to get better grades ④ ③ ② ①
- c. I think I need special help with my schoolwork that I'm not getting ④ ③ ② ①
- d. I don't think I will finish high school ④ ③ ② ①

6. How important are your grades to you?

Very Important
Somewhat
A Little Important
Not at All

4 3 2 1

7. How important is education for getting the job you want?

4 3 2 1

8. How many hours do you spend each week on homework or studying?

0 1 2 3 4 5 6 7 8 9 10 or more

a. expect you to do well in school

All
Some
A few
None

4 3 2 1

b. use creative activities and other ways of teaching class

4 3 2 1

c. have students work together in groups during class time?

4 3 2 1

d. have group projects that you work on with other students?

4 3 2 1

e. seem to care about students?

4 3 2 1

f. seem to understand students' problems?

4 3 2 1

g. tell students when they do good work?

4 3 2 1

h. help you when you're having problems or are upset about something?

4 3 2 1

i. make you want to learn new things?

4 3 2 1

j. are people you trust and respect?

4 3 2 1

10. How much do you agree or disagree with the following statements:

a. In general, I feel safe in school

Strongly Agree
Agree
Disagree
Strongly Disagree

4 3 2 1

b. I am afraid that someone will try to start a physical fight with me or attack me at school

4 3 2 1

c. At my school, it is not safe to go into the bathroom alone

Strongly Agree
Agree
Disagree
Strongly Disagree

4 3 2 1

d. Because I fear for my physical safety, I go out of my way to avoid certain parts of my school

4 3 2 1

e. While I'm walking to or from school (or the bus), I'm afraid that someone will challenge me to a physical fight or attack me

4 3 2 1

11. How true are the following statements for your school?

a. I feel like I "fit in" with other kids

Very True
Somewhat True
A Little True
Not True

4 3 2 1

b. I feel it is okay to be me

4 3 2 1

c. I feel like I can say what I think even if it is different from others

4 3 2 1

d. It is okay to be different from other kids

4 3 2 1

e. I admire and look up to my teachers

4 3 2 1

12. How true are the following statements?

a. I have friends who are there for me when I need them

Very True
Somewhat True
A Little True
Not True

4 3 2 1

b. If I have a problem, I can talk to my friends

4 3 2 1

c. If I refuse to fight, my friends will think I'm afraid

4 3 2 1

d. If I walked away from a fight, my friends would stand by me

4 3 2 1

e. If I'm challenged, I'm going to fight

4 3 2 1

f. It is easy to make new friends at my school

4 3 2 1

g. Overall, I like the other students that go to my school

4 3 2 1

- h. I am able to do things as well as most other people
- Very True
Somewhat True
A Little True
Not True
- ④ ③ ② ①
- i. Overall, I feel accepted by other students who go to my school
- ④ ③ ② ①
- j. It is important for me to do well at activities other than sports, such as music, drama, clubs, etc
- ④ ③ ② ①
- k. I am interested in the activities my school offers (sports, clubs, etc.)
- ④ ③ ② ①
- l. I am interested in the social activities my school offers (dances & other activities)
- ④ ③ ② ①
- m. I participate in activities at my school
- ④ ③ ② ①
13. How many opportunities are there for you to participate in activities (sports, social, clubs, dances) at your school?
- A lot
Some
A few
None
- ④ ③ ② ①
14. How many of the following activities are you involved in?
- 0 1 2 3 4 5 6 or more
- a. Sports teams in the community ① ② ③ ④ ⑤ ⑥
- b. School activities (clubs, student government, band, choir, sports) ① ② ③ ④ ⑤ ⑥
- c. Religious youth groups ① ② ③ ④ ⑤ ⑥
- d. Community activities, such as scouts, service clubs, hobby clubs ① ② ③ ④ ⑤ ⑥
- e. Other (what?) _____ ① ② ③ ④ ⑤ ⑥
15. How much do you agree or disagree with the following statements?
- Strongly Agree
Agree
Disagree
Strongly Disagree
- a. I don't learn much in school ④ ③ ② ①
- b. Overall, I feel good about my school ④ ③ ② ①
- c. I think that this school is as good or better than other schools ④ ③ ② ①

- Strongly Agree
Agree
Disagree
Strongly Disagree
- d. My classes are boring ④ ③ ② ①
- e. I think that school is important ④ ③ ② ①
- f. It is important for me to do well at school ④ ③ ② ①
- g. It is important for me to do well at sports ④ ③ ② ①
- h. When I do a job, I do it well ④ ③ ② ①
- k. I can do just about anything I set my mind to ④ ③ ② ①

16. How much gang activity do you think there is at your school?

- A lot
Some
Little
None
- ④ ③ ② ①

C. Questions About Yourself:

1. About how old were you when you first?

- Younger than 10
11-12
13-14
15-16
Never
- a. got suspended from school? ⑤ ④ ③ ② ①
- b. got in trouble with the police or courts? ⑤ ④ ③ ② ①
- c. carried a weapon? ⑤ ④ ③ ② ①
- d. challenged someone to a physical fight? ⑤ ④ ③ ② ①
- e. got into a physical fight? ⑤ ④ ③ ② ①
- f. had to change schools because of your behavior? ⑤ ④ ③ ② ①
- g. were challenged to a physical fight? ⑤ ④ ③ ② ①
- h. skipped classes without an excuse? ⑤ ④ ③ ② ①

**2. About how many times in the last year
have you?(give number):**

0 1 2 3 4 5 6 7 8 9 10

or more

- a. run away from home? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
- b. carried a hidden knife,
gun, or other weapon? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
- c. Damaged, destroyed or
marked up somebody
else's property on purpose ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
- d. Set or tried to set fire on
purpose to a house,
building, car, or
someone's property? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
- e. Gone into or broken into
a building to steal or
damage something? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
- f. Tried to steal or actually
stolen money or things
worth:
\$5 or less? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
Between \$5 and \$100? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
More than \$100? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
- g. Tried to buy or sell things
that were stolen? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
- h. Taken a car or motorcycle
for a ride without the
owner's permission? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
- i. Stolen or tried to steal a
car or other motor vehicle? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
- j. Forged a check or used
fake money to pay for
something? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
- k. Used/tried to use a credit
card, bank card, or auto-
matic teller card without
permission? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
- l. Been challenged to a
physical fight? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
- m. Challenged someone to
a physical fight? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩
- n. Gotten into a physical
fight? ① ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

0 1 2 3 4 5 6 7 8 9 10

or more

- o. get suspended from school? 0 1 2 3 4 5 6 7 8 9 10
- p. get in trouble with the police or courts? 0 1 2 3 4 5 6 7 8 9 10
- q. hit someone because they made you angry? 0 1 2 3 4 5 6 7 8 9 10
- r. skip classes without an excuse? 0 1 2 3 4 5 6 7 8 9 10
- s. got in trouble because of your behavior in class, at school, or on the bus? 0 1 2 3 4 5 6 7 8 9 10
- t. Used a weapon with the idea of seriously hurting someone? 0 1 2 3 4 5 6 7 8 9 10
- u. Hit someone or thrown something at someone with the idea of hurting them (other than what you wrote above)? 0 1 2 3 4 5 6 7 8 9 10
- v. Been involved in gang fights? 0 1 2 3 4 5 6 7 8 9 10
- w. Used a weapon or physical force to makesomeone give you money or things? 0 1 2 3 4 5 6 7 8 9 10
- x. Used alcohol? 0 1 2 3 4 5 6 7 8 9 10
- y. Used marijuana or pot? 0 1 2 3 4 5 6 7 8 9 10
- z. Used tobacco (smoked cigarettes or cigars, or chewed tobacco)? 0 1 2 3 4 5 6 7 8 9 10

3. How often have you experienced any of the following problems because of your race or ethnicity?

a. someone bothering you because of your race or ethnicity while you were out walking somewhere (in your own neighborhood or in other neighborhoods)

4 3 2 1
A lot Sometimes A little Never

b. Someone causing problems for you because of your race or ethnicity when you were going out somewhere for fun or entertainment

4 3 2 1

c. A problem with your teachers (any teachers you've had since kindergarten) because of your race or ethnicity

4 3 2 1

d. The police bothering you because of your race or ethnicity

4 3 2 1

4. Are you a peer mediator?

2 Yes

1 No

5. If you are not a peer mediator would you like to be one?

2 Yes

1 No

0 Not applicable

6. Have you used the peer mediation program at your school to resolve a conflict that you were having?

2 Yes

1 No

7. If you haven't used peer mediation to resolve a conflict, why not?

1 Was not available

2 Didn't have a conflict

3 Didn't want to use (why?) _____

4 Didn't know enough about it

5 Like to solve my own conflicts

6 Other _____

8. How often do you get in verbal (talking or yelling) arguments or fights with other kids?

- ④ A lot ③ Sometimes
② A little ① Never

D. Family Questions:

1. How often have you and your family?

- | | A lot | Sometimes | A Little | Never |
|--|-------|-----------|----------|-------|
| a. moved in your lifetime? | ④ | ③ | ② | ① |
| b. moved in the past year? | ④ | ③ | ② | ① |
| c. been without your own place to live? | ④ | ③ | ② | ① |
| d. stayed with relatives because you did not have a place of your own? | ④ | ③ | ② | ① |
| e. stayed in a shelter? | ④ | ③ | ② | ① |
| f. How often have you had to stay with someone else because of the courts or because your parents were in trouble? | ④ | ③ | ② | ① |

2. How true are these statements for your parents or caregivers?

- | | Very True | Somewhat True | A Little True | Not True |
|---|-----------|---------------|---------------|----------|
| a. I share my thoughts and feelings with them | ④ | ③ | ② | ① |
| b. I enjoy spending time with my family | ④ | ③ | ② | ① |
| c. If I had a personal problem, I could ask them for help | ④ | ③ | ② | ① |
| d. They would miss me if I didn't come home from school | ④ | ③ | ② | ① |
| e. They want to know where I am or where I'm going | ④ | ③ | ② | ① |
| f. They ask me about my day? | ④ | ③ | ② | ① |

2. How true are these statements for your parents or caregivers? (cont.)

- | | Very True
4 | Somewhat True
3 | A Little True
2 | Not True
1 |
|---|----------------|--------------------|--------------------|---------------|
| g. They ask me about the work I have completed in school | 4 | 3 | 2 | 1 |
| h. They meet the friends I hang out with | 4 | 3 | 2 | 1 |
| i. They make sure I get to school everyday, even if it means that they have to take me themselves | 4 | 3 | 2 | 1 |
| j. They spend time with me | 4 | 3 | 2 | 1 |
| k. They tell me they love me | 4 | 3 | 2 | 1 |
| l. They ask me to tell them what I think | 4 | 3 | 2 | 1 |
| m. They listen to what I say | 4 | 3 | 2 | 1 |
| n. They criticize me | 4 | 3 | 2 | 1 |
| o. They enforce clear rules about what I can and cannot do | 4 | 3 | 2 | 1 |

3. How are you usually punished when you do something wrong?

- ① My parents and I usually talk about it
- ② I'm usually given a time-out or sent to my room
- ③ I'm usually given extra chores
- ④ I'm usually put on restriction or lose privileges such as using the phone or watching t.v.
- ⑤ I'm usually grounded
- ⑥ I'm usually yelled at
- ⑦ I'm usually hit or spanked

4. How often in the past year have your parents or caregivers done any of the following?

- | | A lot
4 | Sometimes
3 | A little
2 | Never
1 |
|---|------------|----------------|---------------|------------|
| a. rewarded you | 4 | 3 | 2 | 1 |
| b. praised you | 4 | 3 | 2 | 1 |
| c. discussed an issue calmly with you | 4 | 3 | 2 | 1 |
| d. sent you to your room | 4 | 3 | 2 | 1 |
| e. warned you not to do something again | 4 | 3 | 2 | 1 |

- | | A lot | Some | A few | None |
|---|-------|------|-------|------|
| f. took possessions or privileges away from you | 4 | 3 | 2 | 1 |
| g. grounded you | 4 | 3 | 2 | 1 |
| h. scolded or yelled at you | 4 | 3 | 2 | 1 |
| i. spanked or slapped you | 4 | 3 | 2 | 1 |
| j. asked you to leave your home | 4 | 3 | 2 | 1 |
| k. taken you to church, temple or other religious service | 4 | 3 | 2 | 1 |

5. What usually happens when your parents or caregivers disagree with one another?

- ① They usually talk it out
- ② They usually walk away or stop talking to each other for a while
- ③ They usually argue or yell at each other
- ④ They usually throw things at each other
- ⑤ They usually push or hit each other

6. What usually happens when you have a disagreement with your parents or caregivers?

- ① We usually talk it out
- ② I usually go to my room
- ③ We usually argue or yell
- ④ Other: _____

7. How much do you agree with these statements?

- | | Strongly Agree | Agree | Disagree | Strongly Disagree |
|---|----------------|-------|----------|-------------------|
| a. I admire, look up to, or want to be like one of my parents or caregivers | 4 | 3 | 2 | 1 |
| b. I admire, look up to, or want to be like one of my siblings | 4 | 3 | 2 | 1 |
| c. I admire, look up to, or want to be like one of my other relatives | 4 | 3 | 2 | 1 |

8. How true are these statement for your family?

a. My dad or male caregiver thinks it's okay if I get into a physical fight at school

Strongly agree
Agree
Disagree
Strongly Disagree
④ ③ ② ①

b. My dad or male caregiver thinks it's okay for me to solve my arguments by fighting

④ ③ ② ①

c. My mom or female caregiver thinks it's okay if I get into a physical fight at school

④ ③ ② ①

c. My mom or female caregiver thinks it's okay for me to solve my problems by fighting

④ ③ ② ①

9. My parents or caregivers feel its okay for me to:

a. drink beer, wine or hard alcohol

Strongly agree
Agree
Disagree
Strongly Disagree
④ ③ ② ①

b. smoke cigarettes

④ ③ ② ①

c. smoke marijuana or take other drugs

④ ③ ② ①

d. steal

④ ③ ② ①

e. disobey my teachers

④ ③ ② ①

f. get suspended from school

④ ③ ② ①

g. hit someone

④ ③ ② ①

10. How often do your parents or caregivers do the following:

a. use drugs

A lot
Sometimes
A little
Never
④ ③ ② ①

b. challenge someone to a physical fight

④ ③ ② ①

c. threaten to seriously hurt someone

④ ③ ② ①

d. steal

④ ③ ② ①

e. hit someone

④ ③ ② ①

**11. How often do these things happen
in your family?**

A lot
Sometimes
A little
Never

④ ③ ② ①

a. Parents or caregivers argue?

④ ③ ② ①

b. Parents or caregivers yelling
and screaming at each other, or
one yelling or screaming at
the other?

④ ③ ② ①

c. Seen or heard your parents
or caregivers threaten to hurt
each other, or one threaten
to hurt the other?

④ ③ ② ①

d. Parents or caregivers hurt
each other physically?

④ ③ ② ①

e. How often are you afraid that
one of your brother or sisters
will hurt or try to hurt you?

④ ③ ② ①

**12. In the past year, how often have you
seen your family members do
the following things?**

A lot
Sometimes
A little
Never

④ ③ ② ①

a. Dad or male caregiver get
into a physical confrontation
or fight?

④ ③ ② ①

b. Mom or female caregiver get
into a physical confrontation
or fight?

④ ③ ② ①

c. one or more of your male relatives
(like uncles, brothers, or
grandfathers) get into a physical
confrontation or fight?

④ ③ ② ①

d. one or more of your female relatives
(like aunts, sisters, or grandmothers)
get into a physical confrontation
or fight

④ ③ ② ①

E. Questions About Your Peers & Friends:

1. How often do you do the following things when you disagree with your peers or friends?

a. get angry, but discuss the issue with them and work it out?

A lot
Sometimes
A little
Never
④ ③ ② ①

b. yell or insult them?

④ ③ ② ①

c. sulk and refuse to talk to them?

④ ③ ② ①

d. push, grab, hit or throw things at them?

④ ③ ② ①

e. other _____?

④ ③ ② ①

2. How true are the following statements for your friends?

a. Teachers approve of most of my friends

Very True
Somewhat
A little
Not true at all
④ ③ ② ①

b. My parents approve of most of my friends

④ ③ ② ①

c. Adults (like parents and teachers) think my friends are "good kids"

④ ③ ② ①

d. My friends get good grades in school

④ ③ ② ①

e. My friends are interested in school

④ ③ ② ①

3. My friends think it is alright to:

a. get into a physical fight if another students challenges them

Strongly Agree
Agree
Disagree
Strongly Disagree

4 3 2 1

b. take a weapon to school or carry a weapon

4 3 2 1

c. challenge another student to a physical fight

4 3 2 1

d. attack someone with the idea of seriously hurting them

4 3 2 1

e. skip school

4 3 2 1

f. use threats in order to have sex with someone

4 3 2 1

g. take something they want from someone even though it doesn't belong to them.

4 3 2 1

4. Think of your closest friends (Friends outside of school too- anyone you spend a lot of time with). In the past year, how often have any of them:

a. gotten in trouble for misbehaving in class, the lunchroom, or hallway?

A lot
Sometimes
A little
Never

4 3 2 1

b. been suspended from school for fighting?

4 3 2 1

c. carried a weapon?

4 3 2 1

d. been arrested?

4 3 2 1

e. tried to steal anything?

4 3 2 1

f. screamed or swore at a teacher?

4 3 2 1

g. hit someone because they were angry?

4 3 2 1

h. skipped classes without an excuse?

4 3 2 1

F. Community Questions:

1. How much do you agree with these statements?

a. There are many abandoned houses or other buildings in my neighborhood or community.

Strongly Agree
Agree
Disagree
Strongly Disagree
④ ③ ② ①

b. There is a lot of writing and other graffiti on the houses and other buildings in my neighborhood or community.

④ ③ ② ①

c. There is a lot of litter on the ground in my neighborhood or community.

④ ③ ② ①

d. There are a lot of alcoholics and/or drug abusers in my neighborhood or community

④ ③ ② ①

e. I'm afraid that someone will challenge me to a fight or attack me while I'm out walking or hanging out in my neighborhood or community.

④ ③ ② ①

2. How well does each of these statements describe your neighborhood or community?

a. It is easy for me to tell a stranger in my neighborhood or community from somebody who lives there

Very True
Somewhat True
A little
Not True
④ ③ ② ①

b. The adults in my neighborhood or community seem to like the kids that live there

④ ③ ② ①

c. People in my community or neighborhood know each other

④ ③ ② ①

d. It is fairly safe to walk in my neighborhood or community at night

④ ③ ② ①

e. Neighbors take care of each others' plants, pets, or children if needed (if someone goes out of town)

④ ③ ② ①

f. Neighbors feel like a family

④ ③ ② ①

g. Adults in my neighborhood know the names of the kids who live there

④ ③ ② ①

3. How many gangs do you think there are in your community

A lot
Some
A few
None
④ ③ ② ①

4. How often do people your age who live in your neighborhood:

a. use tobacco?

A lot
Sometimes
A little
Never
④ ③ ② ①

b. use alcohol?

④ ③ ② ①

c. use drugs?

④ ③ ② ①

d. buy or sell drugs?

④ ③ ② ①

5. On average, how often do the adults in your community do any of the following?

a. use drugs?

A lot
Sometimes
A little
Never
④ ③ ② ①

b. steal?

④ ③ ② ①

c. hit someone?

④ ③ ② ①

6. Do you think the adults in your community like or trust the police?

② Yes

① No

7. Do you like or trust the police?

② Yes

① No

8. Do you think the police you see in your community are there to help people?

② Yes

① No

9. Are there any adults in your community that you admire or would like to be like when you grow up?

② Yes

① No

10. It is easy to get a handgun in my community

Strongly Agree
Agree
Disagree
Strongly Disagree
④ ③ ② ①

11. How easy would it be for you to get a handgun?

Very Easy
Easy
Somewhat Difficult
Difficult
④ ③ ② ①

12. How often do these things happen?

a. On the average, how often do the adults in your community carry a weapon?

A lot
Sometimes
A little
Never
④ ③ ② ①

b. On average, how often do you watch television shows that contain violence?

④ ③ ② ①

c. On average, how often do you watch movies that contain violence?

④ ③ ② ①

Thank you for participating in this survey! Please bring your survey to us when you're finished. We will discuss the survey with you and answer any questions you may have when everyone has finished. We will also share the results of the survey with you at a later date.

APPENDIX B

Significant Findings of Study
After Application of Family-Wise Bonferroni Adjustments

Overall Risk

t-test	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Gender – Overall Risk	.000	.05	3	.02	Yes
Urban/Rural – Overall Risk	.031	.05	2	.03	Yes-1 tailed test
Race/Ethnicity Overall Risk	.079	.05	1	.05	No

Individual Risk

t-test	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Gender – Individual Risk	.000	.05	3	.02	Yes
Urban/Rural – Individual Risk	.000	.05	2	.03	Yes
Race/Ethnicity Individual Risk	.023	.05	1	.05	Yes

Family Risk

t-test	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Gender – Family Risk	.042	.05	3	.02	No
Urban/Rural – Family Risk	.091	.05	2	.03	No
Race/Ethnicity Family Risk	.133	.05	1	.05	No

Peer Risk

t-test	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Gender – Peer Risk	.000	.05	3	.02	Yes
Urban/Rural – Peer Risk	.108	.05	2	.03	No
Race/Ethnicity Peer Risk	.733	.05	1	.05	No

School Risk

t-test	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Gender – School Risk	.000	.05	3	.02	Yes
Urban/Rural – School Risk	.091	.05	2	.03	No
Race/Ethnicity – School Risk	.358	.05	1	.05	No

Community Risk

t-test	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Race/Ethnicity Community Risk	.096	.05	3	.02	No
Gender – Community Risk	.122	.05	2	.03	No
Urban/Rural – Community Risk	.713	.05	1	.05	No

Overall Protection

t-test	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Gender – Overall Protection	.015	.05	3	.02	Yes
Race/Ethnicity Overall Protection	.403	.05	2	.03	No
Urban/Rural – Overall Protection	.914	.05	1	.05	No

Individual Protection

t-test	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Race/Ethnicity – Individual Protection	.004	.05	3	.02	Yes
Urban/Rural – Individual Protection	.149	.05	2	.03	No
Gender – Individual Protection	.456	.05	1	.05	No

Family Protection

t-test	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Urban/Rural – Family Prot.	.032	.05	3	.02	No
Gender – Family Prot.	.074	.05	2	.03	No
Race/Ethnicity Family Prot.	.572	.05	1	.05	No

Peer Protection

t-test	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Gender – Peer Protect	.000	.05	3	.02	Yes
Urban/Rural – Peer Protect	.168	.05	2	.03	No
Race/Ethnicity Peer Protect	.653	.05	1	.05	No

School Protection

t-test	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Race/Ethnicity School Protect	.221	.05	3	.02	No
Gender – School Protect	.254	.05	2	.03	No
Urban/Rural – School Protect	.817	.05	1	.05	No

Community Protection

t-test	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Urban/Rural – Community Protection	.013	.05	3	.02	Yes
Race/Ethnicity Community Protection	.110	.05	2	.03	No
Gender – Community Protection	.142	.05	1	.05	No

2-Way Interactions

Which protective factors buffer overall risks?

2-way	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Overall risk by individual protection	.005	.05	5	.01	Yes
Overall risk by community protection	.070	.05	4	.01	No
Overall risk by school protection	.197	.05	3	.02	No
Overall risk by family protection	.246	.05	2	.03	No
Overall risk by peer protection	.266	.05	1	.05	No

Which protective factors buffer individual risks?

2-way	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Indiv risk by indiv protection	.008	.05	5	.01	Yes
Individual risk by school protection	.056	.05	4	.01	No
Individual risk by peer protection	.245	.05	3	.02	No
Indiv risk by family protection	.520	.05	2	.03	No
Indiv risk by comm protection	.936	.05	1	.05	No

Which protective factors buffer family risks?

2-way	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Family risk by individual protection	.008	.05	5	.01	Yes
Family risk by family protection	.059	.05	4	.01	No
Family risk by community protection	.371	.05	3	.02	No
Family risk by peer protection	.518	.05	2	.03	No
Family risk by school protection	.685	.05	1	.05	No

Which protective factors buffer peer risks?

2-way	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Peer risk by indiv protection	.100	.05	5	.01	No
Peer risk by family protection	.136	.05	4	.01	No
Peer risk by peer protection	.181	.05	3	.02	No
Peer risk by comm. Protection	.241	.05	2	.03	No
Peer risk by school protection	.714	.05	1	.05	No

Which protective factors buffer school risks?

2-way	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
School risk by individual protection	.037	.05	5	.01	No
School risk by school protection	.193	.05	4	.01	No
School risk by community protection	.458	.05	3	.02	No
School risk by family protection	.708	.05	2	.03	No
School risk by peer protection	.850	.05	1	.05	No

Which protective factors buffer community risks?

2-way	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Community risk by individual protection	.021	.05	5	.01	No
Community risk by school protection	.102	.05	4	.01	No
Community risk by peer protection	.137	.05	3	.02	No
Community risk by family protection	.275	.05	2	.03	No
Community risk by community protection	.811	.05	1	.05	No

Three-way interactions: Individual Protection

3-way	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Urban/rural by risk by individual protection	.009	.05	3	.02	Yes
Race/Ethnicity by Risk by Individual Protection	.292	.05	2	.03	No
Gender by Risk by Individual Protection	.996	.05	1	.05	No

Three-way interactions: Community Protection

3-way	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Race/Ethnicity by Risk by Community Protection	.020	.05	3	.02	trend
Gender by Risk by Community Protection	.050	.05	2	.03	No
Urban/Rural by Risk by Community Protection	.359	.05	3	.05	No

Three-way interactions: Family Protection

3-way	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Urban/Rural by Risk by Family Protection	.098	.05	3	.02	No
Gender by Risk by Family Protection	.694	.05	2	.03	No
Race/Ethnicity by Risk by Family Protection	.840	.05	1	.05	No

Three-way interactions: Peer Protection

3-way	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Gender by Risk by Peer Protection	.239	.05	3	.02	No
Race/Ethnicity by Risk by Peer Protection	.309	.05	2	.03	No
Urban/Rural by Risk by Peer Protection	.553	.05	1	.05	No

Three-way interactions: School Protection

3-way	Obtained Significance	Original Alpha	Divisor	New Alpha	Sig?
Gender by Risk by School Protection	.291	.05	3	.02	No
Urban/Rural by Risk by School Protection	.319	.05	2	.03	No
Race/Ethnicity by Risk by School Protection	.412	.05	1	.05	No

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