ABSTRACT

Title of dissertation: AGGRESSION AND PERCEPTIONS OF PARENTING AMONG URBAN PUBLIC MIDDLE SCHOOL STUDENTS

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Adolescent aggressive behavior is a major social problem in the United States and is linked to violence and violence-related injury. Understanding the relationship between parenting and early adolescent aggression provides important insights for developing prevention interventions. This study explored the relationship between parenting and early adolescent aggression in an urban low-income, predominately African American sample. The first aim was to examine whether aggression-specific parenting practices and parenting style predicted subsequent early adolescent aggression. The second aim was to examine the extent to which parenting style moderated the relationship between aggression-specific parenting practices and subsequent early adolescent aggression. The third aim was to explore the bidirectional relationship between parenting (parenting style and aggression-specific parenting practices) and early adolescent aggression. A total of 209 sixth grade early adolescents attending two Baltimore City middle schools completed questionnaires about their overt and relational aggressive behaviors at two time points. Early adolescents also reported on their perceptions of a parent or guardian's parenting style (support/behavioral control and psychological control) and aggression-specific

parenting practices (aggression-avoidance parenting practices and aggression-endorsing parenting practices). Adjusted logistic regression results indicated that early adolescents who reported having a parent who supported aggression avoidance strategies were less likely to engage in overt aggression. Study findings also showed that parent support for aggression avoidance strategies ameliorated the tendency toward aggressive behavior when parenting styles were at their least protective levels. A bidirectional relationship between parenting and early adolescent aggression was not found; however, Structural Equation Modeling results indicated significant relationships between early adolescent aggression and subsequent parenting. Early adolescent overt and relational aggression predicted declines in parenting practices and parenting styles associated with buffering early adolescents from aggression. The results of this study suggest that parenting practices and parenting styles may exert a minor influence on early adolescent aggressive behavior in an urban low-income, predominately African American sample. Future research should investigate the role of multiple environmental influences (i.e., parenting, family, peer networks, community violence exposure, school environment) in the prediction of early adolescent aggressive behavior in this population.

AGGRESSION AND PERCEPTIONS OF PARENTING AMONG URBAN PUBLIC MIDDLE SCHOOL STUDENTS

by

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

Problem Statement

In the United States, interpersonal violence has emerged as a major social problem contributing to violence-related injuries and death. Self-report data suggest that youth violence is a common occurrence despite a decline in youth arrests since 1994 (U.S. Department of Health and Human Services, 2001). Even though youth who engage in violence may target adults (e.g., parents, teachers), youth violence typically involves youth who know one another, such as peers or siblings (Lockwood, 1997).

Research reveals that aggressive behavior among U.S. adolescents is highly prevalent. A 1998 nationally representative survey found that nearly one-third of 6th through 10th grade adolescents reported either being bullied, being a target of bullying, or both (Nansel et al., 2001). The 2005 Youth Risk Behavior Surveillance Survey documented that 35.9% of U.S. high school students reported being in at least one physical fight in the previous year (Centers for Disease Control and Prevention [CDC], 2006). Furthermore, 7.9% of U.S. high school students reported being threatened or injured by a weapon (e.g., gun, knife, club) on school property one or more times in the previous year (CDC, 2006).

Involvement in aggression has serious consequences for both youth perpetrators and youth victims of aggression. Researchers suggest that aggressive behavior in childhood and early adolescence places many youth on a trajectory that involves later antisocial (e.g., truancy, substance abuse) and delinquent behaviors, including more serious forms of violence (Kupersmidt & Coie, 1990; Patterson, 1993; Petras et al., 2004). Moreover, aggressive behavior has been linked to poor academic achievement

among African American early adolescents (Wright & Fitzpatrick, 2006b). Youth victims of aggression also experience negative consequences. In addition to physical injuries, youth victims of aggression may experience a host of difficulties, including low levels of self-esteem (Donnellan et al., 2005), loneliness, depression, social anxiety (Pepler & Craig, 2005), peer rejection, withdrawal (Crick & Grotpeter, 1996), and externalizing behaviors (Phelps, 2001).

Aggression prevention is particularly needed in poor urban communities. Poor urban minority communities are characterized by high rates of youth violence and insufficient resources to ameliorate the conditions that give rise to violence and other antisocial behavior (Guerra, Huesmann, Tolan, Van Acker, & Eron, 1995; Hammond & Yung, 1991). Research reveals that children and youth from the most disadvantaged urban communities may be at a higher risk for aggression involvement compared to adolescents from communities with greater resources and less exposure to violence (Gorman-Smith, Tolan, Zelli, & Huesmann, 1996; Guerra et al., 1995; Huesmann et al., 1996). A number of researchers have identified aspects of the socio-cultural context in poor urban communities associated with youth aggression, including exposure to community and school violence, weak mechanisms of social control, and deficient social capital (e.g., Attar, Guerra, & Tolan, 1994; Brookmeyer, Henrich, & Schwab-Stone, 2005; Decoster, Heimer, & Wittrock, 2006; Warner, 2007).

Given that early aggressive behavior also places many youth at risk for later antisocial and delinquent behaviors, the development of early adolescent aggression prevention strategies for this high-risk population is a paramount issue. This study builds and elaborates upon previous studies examining factors that aid in the development of

effective aggression prevention strategies targeting early adolescents who reside in poor urban minority communities, particularly poor, urban, African American communities.

Justification for the Study

It is important to fully understand the factors that both fuel and buffer against early adolescent aggression in order to develop effective aggression prevention interventions. Numerous individuals and contextual factors within an early adolescent's social environment may affect the expression of aggression. Parents (or primary caregivers[1]) are individuals that significantly contribute to the development or the prevention of aggressive behavior (Dodge, 2002). While peers have been found to play an increasing role in shaping attitudes and behaviors as children transition to adolescence, the influence of parents on early adolescent behavior remains strong (Baumrind, 1987). Understanding how parenting behavior contributes to the expression of early adolescent aggression may provide important insights for developing early adolescent aggression interventions.

Examining the influence of parenting behavior on early adolescent aggression is a unidirectional or top-down approach to understanding the relations between parenting and early adolescent aggression. It is well-established in the child development literature that child behavior influences parent behavior, just as parenting behavior influences the child. More specifically, parents may respond to the presence or absence of their child's aggression by changing their parenting behavior (Maccoby, 1992; Stattin & Kerr, 2003). Changes in parenting behavior may in turn contribute to changes in their child's behavior that result in diminishing or increasing levels of aggression. This reciprocal interplay

[1] Some children are raised by caregivers other than biological or adoptive parents (e.g., legal guardians). For the purposes of this paper, the term parent denotes the person(s) with the primary responsibility of raising a child and thus includes caregivers who essentially act as a child's parent.

between parent and child behavior is referred to as bidirectional effects. Child development researchers affirm that examining bidirectional relations is a superior approach to understanding child behavior outcomes than examining only parent influence on child behavior (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000; Grusec, 2002). Nonetheless, the literature on the bidirectional relations between parenting and child behavior outcomes, aggression in particular, is sparse. Thus, this study contributes to the literature examining the bidirectional relations between parenting behavior and early adolescent aggression.

Information on African American parenting in the child and early adolescent aggression literature is also limited. A study exploring African American parenting and aggression is important given the high risk for aggression involvement among African American early adolescents, particularly those who reside in poor urban communities (Gorman-Smith et al., 1996; Guerra et al., 1995; Huesmann et al., 1996). The risk factors for aggression involvement among suburban early adolescents, for example, may differ for urban, African American early adolescents living in a socio-cultural context where the presence of gangs seems to sanction the legitimacy of aggression. Thus, more research involving an urban, predominately African American sample may add significantly to our understanding of the relations between parenting and aggression in this population. This study contributes to the body of knowledge on parenting and early adolescent aggression in urban, predominately African American populations.

Additionally, this study informs the work of program planners and researchers engaged in efforts to achieve the Healthy People 2010 Objectives directly related to adolescent violence: Reduce physical assaults (15-37); Reduce physical fighting by

adolescents (15-38); Reduce weapon carrying by adolescents on school property (15-39); and Reduce homicides (15-32). These four Healthy People 2010 objectives speak to the enormity of the problem of violence in the United States and the necessity for prevention efforts. Parenting plays an important role in the web of influences contributing to aggression and subsequent violence; therefore, it is important to examine the relations between parenting and early adolescent aggression (U.S. Department of Health and Human Services, 2000).

Study Overview

This study explored the relations between parenting and early adolescent aggression in an urban, low-income, predominately African American sample. Aggression is a type of antisocial behavior in which one deliberately aims to harm another person, persons, or objects (Dodge, 1991). Parenting may influence the frequency and expression of early adolescent aggression. The first aim of this study was to examine the extent to which two kinds of parenting, aggression-specific parenting practices and parenting style, predicted subsequent early adolescent aggression. Aggression-specific parenting practices are parenting behaviors employed to socialize a child about issues specifically related to aggression involvement. More specifically, aggression-specific parenting practices represent what parents convey to their children about the appropriate behavioral responses to interpersonal conflict (Darling & Steinberg, 1993). Some parents may use aggression-specific parenting practices to convey to their children that aggression avoidance strategies are the appropriate response to interpersonal conflict, while other parents may convey that aggressive behavior is the appropriate response to interpersonal conflict. Two kinds of aggression-specific parenting practices

were examined in this study: aggression-avoidance parenting practices and aggression-endorsing parenting practices.

In contrast to aggression-specific parenting practices, parenting style is parenting behavior used across all socialization domains (e.g., academic engagement, alcohol use involvement, aggression; Darling & Steinberg, 1993). Parenting style represents the general context of parenting. Three dimensions of parenting style were examined in this study: parent support, parent behavioral control, and parent psychological control. Parent support is behavior characterized by the provision of warmth, acceptance, responsiveness, and affection (Barber, 1997). Parent behavioral control is parenting characterized by regulation, monitoring, supervision, and management of a child's daily activities (Barber, Olsen, & Shagle, 1994). The third dimension of parenting style, psychological control, is parenting behavior that involves love withdrawal, guilt induction, invalidation of children's feelings, and restriction of children's independent expression. Psychological control is considered a risk factor for problem behaviors like aggression, while support and behavioral control are regarded as protective factors against the development or escalation of problem behaviors (Barber et al., 1994 ; Barber, 1996). Preliminary data analyses revealed that the parent support and parent behavioral control items emerged as one dimension among this sample of youth (see Chapter 3). Thus, in this study, two parenting style variables were examined: parent support/behavioral control and parent psychological control. This study explored the independent effect of each of the parenting style dimensions on subsequent early adolescent aggression.

The second aim of this study was to examine whether each of the parenting style dimensions moderated the relation between aggression-specific parenting practices and Time 2 early adolescent aggression. The conceptual model for this aim was an adapted version of the Darling and Steinberg (1993) contextual model of parenting style.

The third aim of this study was to explore the bidirectional relations between parenting (parenting style and aggression-specific parenting practices) and early adolescent aggression. The transactional model (Sameroff, 1975) provided a useful framework for assessing bidirectional parent-child relations in this study. The transactional model posits that child outcomes are a function of interactions between a child and individuals or conditions in the child's social environment. Thus, in the context of parent and child interactions, child outcomes are the result of the interactions between a child and parent, and not the result of parenting alone (Maccoby, 1992; Sameroff & Mackenzie, 2003). Examining both the influence of parenting on early adolescent aggressive behavior and the influence of early adolescent aggressive behavior on parenting may enhance understanding of the processes that give rise to adolescent aggression.

The three aims of this study were addressed by utilizing longitudinal data from the Johns Hopkins University Steppin' Up aggression study. Steppin' Up was a randomized, controlled experiment testing the impact of a school-based violence prevention curriculum and parent involvement on early adolescent aggressive behavior.

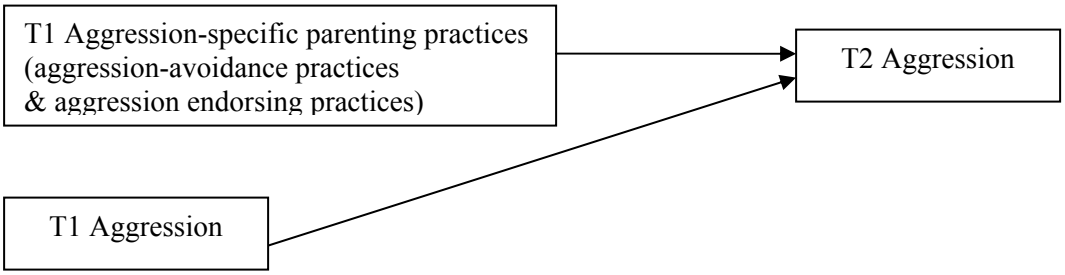
Research Questions and Hypotheses

This section presents the research questions and hypotheses for this study. The analytic method used for each research question is also provided.

Research Question 1

Do early adolescent perceptions of aggression-specific parenting practices at Time 1 predict early adolescent aggression approximately 3 months later in a low-income, predominately African American population when Time 1 aggression is controlled for?

Figure 1.1: Relationships Examined in Research Question 1



Analytic Method

Binary logistic regression was used to address this research question.

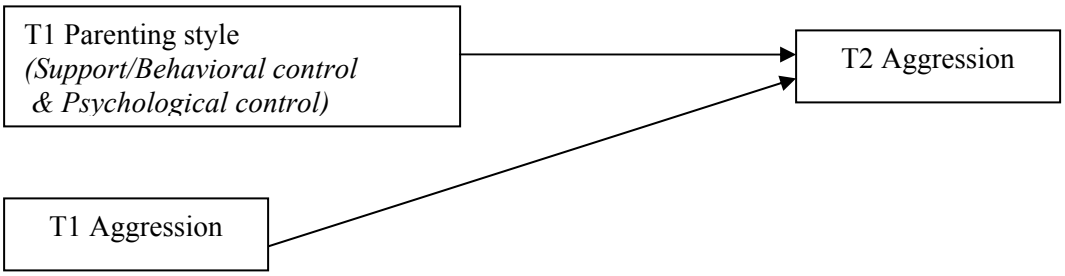
Research Hypothesis

a) High levels of aggression-avoidance parenting practices at Time 1 will decrease the likelihood of engaging in aggression at Time 2 while controlling for Time 1 aggression. b) Low levels of aggression-endorsing parenting practices at Time 1 will decrease the likelihood of engaging in aggression at Time 2 while controlling for Time 1 aggression.

Research Question 2

Do early adolescent perceptions of parenting style (i.e., level of support/behavioral control, level of psychological control) at Time 1 predict early adolescent aggression approximately 3 months later in a low-income, predominately African American population when Time 1 aggression is controlled for?

Figure 1.2: Relationships Examined in Research Question 2



Analytic Method

Binary logistic regression was used to address this research question. Each parenting style variable was analyzed independently.

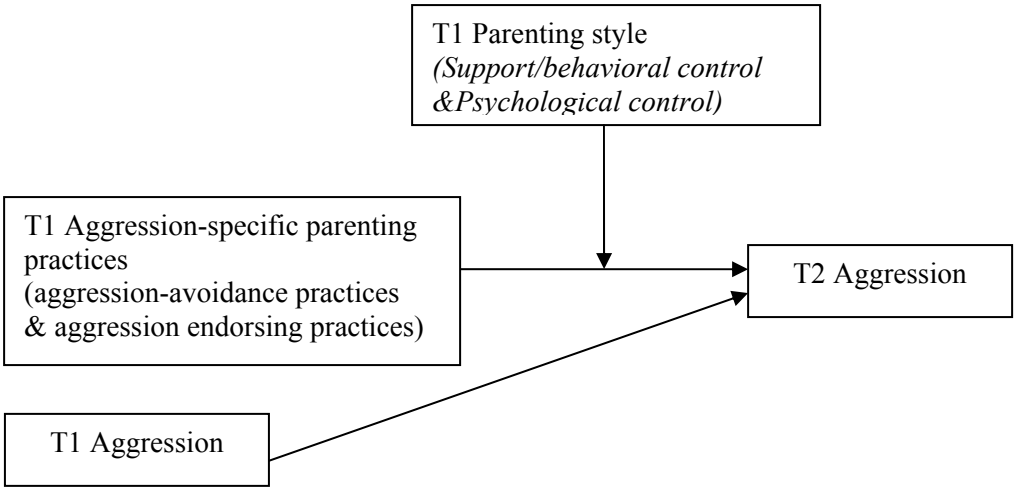
Research Hypothesis

Higher levels of Time 1 parent support/behavioral control and lower levels of Time 1 parent psychological control will each independently decrease the likelihood of engaging in aggression at Time 2 while controlling for Time 1 aggression.

Research Question 3

Do early adolescent perceptions of Time 1 parenting style moderate the relationship between Time 1 aggression-specific parenting practices and Time 2 early adolescent aggression in a low-income, predominately African American population when Time 1 aggression is controlled for?

Figure 1.3: Relationships Examined in Research Question 3



Analytic Method

Multivariate logistic regression was used to address the potential moderating role of each parenting style variable for this research question. Each parenting style variable was tested in a separate model.

Research Hypothesis

Each Time 1 parenting style will interact with Time 1 aggression-specific parenting practices such that higher levels of protective parenting styles and higher levels of protective parenting practices decrease the likelihood of engaging in Time 2 aggression. Specifically:

a. Higher levels of support/behavioral control combined with higher levels of aggression-avoidance parenting practices will independently decrease the likelihood of engaging in Time 2 aggression relative to low levels of support/behavioral control combined with low levels of aggression-avoidance parenting practices.

b. Higher levels of support/behavioral control combined with lower levels of aggression-endorsing parenting practices will decrease the likelihood of engaging in Time 2 aggression relative to low levels of support/behavioral control combined with high levels of aggression-endorsing parenting practices.

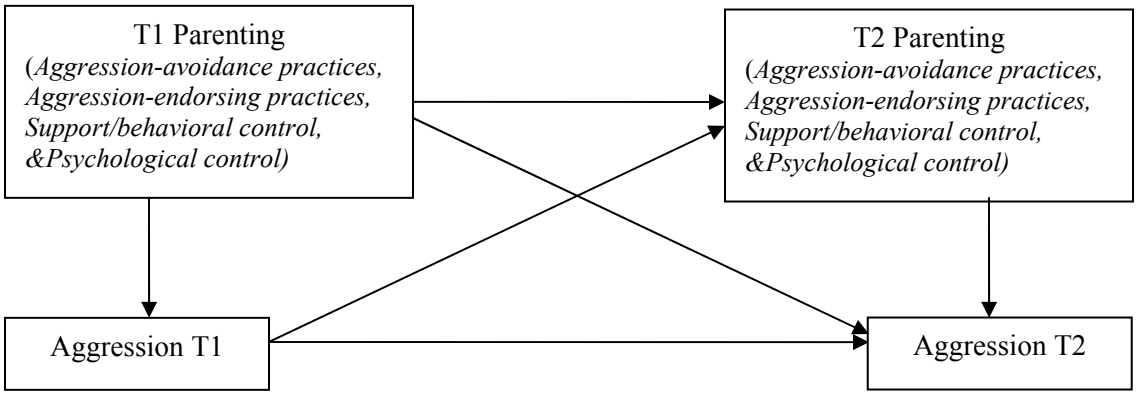
c. Lower levels of psychological control combined with higher levels of aggression-avoidance parenting practices will decrease the likelihood of engaging in Time 2 aggression relative to high levels of psychological control combined with low levels of aggression-avoidance parenting practices.

d. Lower levels of psychological control combined with lower levels of aggression-endorsing parenting practices will decrease the likelihood of engaging in Time 2 aggression relative to high levels of psychological control combined with high levels of aggression-endorsing parenting practices.

Research Question 4

Is there a bidirectional relationship between early adolescent perceptions of parenting behavior and early adolescent aggressive behavior in a low-income, predominately African American population overtime?

Figure 1.4: Relationships examined in research question 4



Analytic Method

Structural Equation Modeling was used to address this research question.

Research Hypotheses

Time 1 Parenting is related to aggression at Time 2 (a). Time 1 aggression is related to Time 2 parenting (b) (See Figure 1.4).

CHAPTER 2: LITERATURE REVIEW

Overview

Chapter 2 describes the conceptual framework and provides a review of the extant literature regarding the relations between early adolescent aggression and parenting. This chapter is organized into four sections. The content within each of the four sections is described below.

The first section of chapter 2 details the social-cultural context experienced by the early adolescent study participants. This section also explains the contextual model of parenting style, describes the different ways parenting style is determined in the literature, and reviews literature that has utilized the contextual model of parenting style. Next, the transactional model is described, followed by a review of the literature that has utilized the transactional model approach to studying early and late adolescent outcomes. Furthermore, this section defines child and adolescent aggression in detail and explains the ways that child and adolescent aggression has been conceptualized in the literature. This overview of aggression provides essential information to facilitate an understanding of the conceptual framework for this study. The first section concludes with a description of the conceptual framework of this study.

The second section of chapter 2 begins with a discussion on the significance of parenting in general and more specifically, the significance of parenting in developmental context. Next, the second section presents a review of the literature on the relations between parenting (i.e., parent support, parent behavioral control, parent psychological control, aggression-specific parenting practices) and early adolescent aggression. The third section provides a review of the literature on the influences of early adolescent

aggression on parenting behavior as well as the literature on reciprocal relations between parent and youth behavior that result in early adolescent aggression and similar problem behaviors. The fourth and final section of chapter 2 summarizes important issues documented in the literature that impact the study of early adolescent aggression in an urban, low-income, predominately African American population.

Conceptual Framework

The Socio-Cultural Context: Overview

A unique aspect of this study is its focus on public middle school students living in an urban environment. Before explaining the conceptual framework of this study and reviewing the relevant literature, it is important to describe the social and cultural context facing the early adolescents who participated in this study. This social and cultural context is largely shaped by the economic, structural, and social conditions characteristic of U.S. urban environments, particularly disadvantaged or low-income urban communities. Research reveals that children and youth from the most disadvantaged urban communities are at a higher risk for aggression involvement compared to adolescents from communities with greater resources (Guerra et al., 1995; Hammond & Yung, 1993). A large body of research on 20th century urban economic and structural trends helps to inform us about why youth from disadvantaged urban communities are at a greater risk for aggression involvement. First, in the early part of the 20th century, persistent overt employment and housing discrimination meant that the large numbers of African Americans migrating to U.S. cities were relegated to segregated communities highly vulnerable to economic downturns. Federal housing policies, particularly urban redevelopment programs, fostered further spatial concentration of African Americans.

Beginning in the 1970s, a dying urban manufacturing economy contributed to a spiral of economic adversity within these communities, resulting in drastic increases in poverty, unemployment, and community disinvestment. Lackluster public schools were generally unable to provide students with the skills necessary for high-paying jobs in the new service-sector dominated urban economy. A slow dismantling of discriminatory housing policies and practices facilitated the flight of middle-class African Americans to more affluent communities. Consequently, poor, urban, African Americans were increasingly contained in communities segregated along both race and class lines. The hyper-segregation of poor African Americans in U.S. cities like Baltimore has given rise to social conditions and norms that amplify aggression and violence in these communities (Massey & Denton, 1993).

Violence-Entrenched Communities

Violent crime is one social condition that contributes to the higher risk for early adolescent aggression involvement in poor, urban, African American communities. Poor, urban, African American communities are characterized by higher rates of poverty, unemployment, and high-school incompletion compared to more advantaged communities. Despite limited opportunities to achieve economic prosperity through employment and educational attainment, the acquisition of social status and material goods remain important aspirations. According to Fraser (1996), economic conditions in poor urban communities cultivate an "illegitimate opportunity structure" that fuels a sub-culture of street violence and crime (Fraser, 1996, p. 352). Consequently, children and youth residing in poor communities are more likely to witness violence due to the high levels of violence, particularly violent crime, in these communities. Researchers indicate

that witnessing community violence is positively related to aggression and violence among urban children and both early and late adolescents (Brookmeyer, et al., 2005; Miller, Wasserman, Neugebauer, Gorman-Smith, & Kamboukos, 1999; Singer, et al., 1999; Gorman-Smith & Tolan, 1998). Research further reveals that children living in the most disadvantaged urban neighborhoods are exposed to more stressful life events, like exposure to violence, than children in better-off neighborhoods (Attar et al., 1994). While exposure to stressful life events predicted aggression among youth living in highly disadvantaged neighborhoods, stressful life events has not been found to predict aggression among children in better-off economic circumstances (Attar et al., 1994; Guerra et al., 1995).

Insufficient Social Control

Insufficient community social control in poor urban communities is another factor that enhances risk for early adolescent aggression involvement. Social control theory posits that the lack of cohesion among adult neighbors in urban communities, characterized by disadvantage and high residential mobility, weakens informal mechanisms of community control (Warner, 2007). For example, neighbors who lack cohesive relationships may be less likely to discourage neighborhood youth from engaging in aggression and other antisocial behaviors. In addition, some argue that fearful residents may prefer to remain removed from neighborhood involvement rather than participate in individual or community-level mobilization measures aimed at reducing antisocial behavior (e.g., Sampson & Groves, 1989). Insufficient social control is a catalyst for increased violence in poor communities, which in turn amplifies the opportunities for children and youth to witness community violence.

Social Isolation

Youth in poor urban communities may not only experience high levels of violence exposure, but have more opportunity to interact with individuals involved in the illegitimate opportunity structure. The hyper-concentration of poor African Americans in segregated communities means that community members are socially isolated from other groups, including middle-class African Americans who traditionally facilitated connections to economic and educational opportunities (e.g., job leads, youth programs, knowledge about navigating public school and other government bureaucracies, trade school/college information, linkages to influential people; Massey & Denton, 1993). Instead, low-income African American youth are more likely to belong to social networks with weak sources of social capital deficient for obtaining information and resources that help one move up the conventional ladder to success. On the other hand, low-income African American youth are likely to live in neighborhoods with exceptional sources of social capital to facilitate ones participation in aggression and violence (e.g., easy access to firearms, knowledge gained from personal experience with violent victimization, knowledge gained from witnessing crime; Decoster et al., 2006). This is because the social networks of poor, urban youth may include peers and adults involved in illegal enterprises, gangs, and other unconventional activities that endorse the legitimacy of aggression and violence (Fraser, 1996). Researchers theorize that the beliefs, ambitions, norms, and behaviors of adolescents are in part shaped by their interactions with non-parental adults and peers in their community.

Pervasive "Code of the Street"

A number of researchers suggest that the social isolation and dismal economic

conditions experienced in hyper-segregated, poor African American communities have contributed to the development of a set of specific beliefs and attitudes referred to as the "code of the street" (Stewart, 2006, p. 427). The "code of the street" is relevant to this examination of the social-cultural context that fuels aggression and violence in these communities. The code of the street stresses the value of getting and maintaining respect and, as such, adherents to the code use violence or violent posturing as a tool to maintain respect. Getting disrespected or "dissed" may mean the loss of social status and a heightened vulnerability to victimization. Given the incentives to abide by the code of the street, poor urban youths may adopt normative beliefs that endorse the legitimacy of aggression to a greater extent than youths from more advantaged communities. There is evidence that beliefs that endorse aggression are associated with aggressive behavior. Researchers have found that African American children's and early adolescents' beliefs in the legitimacy of aggression were positively related to aggressive behavior (Cotten et al., 1994; Erdley & Asher, 1998; Guerra et al., 1995; Huesmann & Guerra, 1997; Huesmann, Guerra, & Zelli, 1992). Researchers suggest that norms-endorsing aggression may also be more easily adopted by children and early adolescents in violence-entrenched urban settings in order to protect themselves from victimization (Guerra, Huesmann, & Hanish, 1994; Wright & Fitzpatrick, 2006b).

The code of the street may be the byproduct of broader cultural norms shaped by past and present economic and structural realities in urban American. Scholars on the African American experience (e.g., Cross, 1995; Majors & Billson, 1992; Fordham & Ogbu, 1986) explain that feelings of hopelessness regarding the inability to achieve the "American Dream" have resulted in a rejection (or the appearance of rejection) of

mainstream values. Attitudes, aspirations, and behaviors in opposition to prevailing conventions and reinforced through social isolation cultivate norms that further entrench violence in poor, urban, African American communities. For example, school engagement, a potentially protective factor for aggression involvement, is thwarted by student attitudes that deemphasize the value of education. According to Fordham and Ogbu (1986), African American youths' rejection of participation in the wider society involves identifying genuinely Black attitudes and behaviors, (e.g., clothing styles, social aspirations, body language) and then distinguishing them from stereotypical White attitudes and behaviors. "If Whites are perceived to act one way, Black identity is its reverse. If to study and achieve is White, then to be Black is to resist being successful (that is, to fail)..." (Cross, 1995, p. 191). Thus, when an African American student takes a serious approach to educational responsibilities, she/he may be negatively labeled as "acting White" (Majors & Bilson, 1992).

Other broader cultural norms are more directly relevant to attitudes that endorse aggression and violence. In a number of U.S. cities, including Baltimore, some in the illegitimate opportunity structure have initiated a movement – "Stop Snitching" – that discourages community residents from cooperating with the police. While some insist that Stop Snitching campaigns are in reaction to an unfair criminal justice system that benefits paid police informants and criminals who "rat out" their partners in crime, residents who witnesses crime have also been warned to not "snitch" (Hampson, 2006). In 2004, a stop snitching DVD was created and distributed in inner-city Baltimore City. In the DVD, individuals used threats of violence to scare citizens away from reporting crimes to the police. A professional basketball celebrity and east Baltimore native

appeared in this DVD. While the player insists that he had no knowledge about the DVD's purpose, his appearance may have further legitimatized the stop snitching movement (Woestendiek, 2005). In sum, the stop snitching code is gaining foothold as a community norm and, as such, dampens community social control by keeping witnesses and victims of crime silent.

Study Participants' Communities

Demographic and crime statistics indicate that the kinds of social and cultural factors described heretofore influence neighborhoods in which the study participants reside. First, these communities are hyper-concentrated along racial and class lines. The participants in this study live in four predominately African American communities on the east side of Baltimore City[2]. In 2004, the Racial Diversity Index[3] for each of these four communities ranged between 14% and 31% (Baltimore Neighborhood Indicators Alliance [BNIA], 2006). Also, relative to the Baltimore City average, these four communities have below average incomes and substantial levels of poverty (between 24% - 47%; Baltimore City Data Collaborative [BCDC], 2007). In three of these communities, unemployment rates (17% -19%) are much higher than the City average (11.4%). The youth in these areas have ample opportunity to witness violent crime with rate ranges between 22 per 1,000 population and 33 per 1,000 population (BNIA, 2006). The homicide rates in these communities exceed the overall homicide rate for Baltimore City. For example, in Madison/East End neighborhood, part of the Dunbar Middle School catchment area, the homicide rate was 107.0 per 100,000 population, as compared to the City homicide rate of 43.7 per 100,000 population (BCDC, 2007).

[2] Madison East-End, Perkins Middle East, Jonestown/Oldtown, and
[3] Percent chance that two people picked at random will be of a different race/ethnicity (BNIA, 2006).

There is also evidence of high levels of youth participation in and exposure to peers involved in the illegitimate opportunity structure. In 2004, the number of juvenile arrests for drug-related offenses in the four communities ranged between 69 and 103 per 1,000 youth ages 10-17, well above the City average (50.86 per 1,000; BNIA, 2006). While juveniles are not necessarily arrested in the communities in which they live, it is clear that the study participants who live in these communities have opportunity to witness juvenile crime and/or interact with juvenile delinquents.

Study Participants' School Environment

The youth participants in this study also had ample opportunity to witness aggression and violence in their schools. While school violence is a national problem (Schonfeld, 2006), the level of violence in the two middle schools part of this study was particularly egregious. Highlandtown Middle School and Dunbar Middle School, have been regarded as two of the most dangerous Middle Schools in Baltimore City (Maryland State Department of Education [MSDE], 2004). It is difficult for urban schools like Dunbar and Highlandtown to curtail intensifying aggression and violence on school grounds. Baltimore's school system, like many other urban school systems, has been unable to secure the level of public funding necessary to implement effective violence reduction and behavior management solutions. At the root of the problem are state-level education funding policies that penalize urban schools for being located in jurisdictions with lower tax bases relative to more affluent counties (Kozol, 1991). As a result, Baltimore is unable to meet basic needs (e.g., new text books, certified teachers), much less fund solutions to address growing violence problems. Jurisdictions in more affluent areas enjoy greater levels of funding while typically serving students protected from the

kinds of neighborhood risks that students face in poor, urban neighborhoods. For example, Baltimore City per pupil expenditures in 2006 ($9,603) were less than the per pupil expenditures in more affluent surrounding counties including Howard County ($982 less) and Montgomery County ($2,137 less; MSDE, 2006a). Little federal funding is available to help schools like Dunbar and Highlandtown through No Child Left Behind, the federal government's chief education policy. The current funding opportunity for persistently dangerous schools is a competitive grant that will only provide awards for an estimated 13 persistently dangerous schools nationwide (U.S. Department of Education, 2007).

Moreover, poor and working class families often feel powerless to influence change within their children's schools. In turn, school administration and teachers often resist sharing power with these parents, justifying their actions by invoking negative stereotypes about these parents (e.g., they don't care about their children's education; Abrams & Gibbs, 2002; Garcia & Guerra, 2004; Lott, 2003). Failure to effectively address problems of school violence means these schools become part of the problem by perpetuating an environment that reinforces norms endorsing aggression and violence (Lorion, 1998).

Furthermore, violence-entrenched schools may diminish students' school engagement. School disengagement in early and late adolescence has been associated with school climates characterized by aggression and violence (see review in Bowen & Bowen, 1999). Aggressive and violent behaviors affect the learning environment by "creating disruption and an atmosphere of physical intimidation" for both students and teachers (Wright & Fitzpatrick, 2006a, p. 1436). Persistent school aggression and

violence means that teachers focus more on behavioral management than instruction (Bowen & Bowen, 1999). The quality of instruction is further frustrated due to the inability to attract and retain talented and credentialed teachers (Smith & Smith, 2006). In addition, students feel unsafe in dangerous schools. Studies reveal that perceptions of school danger predict poor school attendance patterns among early and late adolescents (e.g. cutting class, skipping an entire day of school; Bowen & Bowen, 1999; Malek, Chang, & Davis, 1998). Poor student school engagement contributes to the problem by fostering a climate that fails to facilitate the education process.

Community Assets

A wide range of community assets exist in poor, urban, African American communities. These community assets are one conduit through which youth and family strengths can be optimized to build adolescent resiliency. Through the programs and services offered (e.g., community-based human service organizations, after-school programs, faith institutions), youth have opportunities to become engaged in activities that foster pro-social attitudes and behaviors. Indeed, religious involvement, organized sports/recreation involvement, youth development programs, and connections with positive and supportive adults have been linked to early and late adolescent resiliency (Aspy, 2004; Wallace & Forman, 1998). In the four communities that surround the study schools, numerous organizations operate programs and offer services that promote resiliency. The 2003 Baltimore City Kids Count Databook indicates that across these four neighboring communities, numerous organizations offered an array of services including family support services (26), teenage pregnancy prevention services (17), substance abuse programs (8), Head Start programs (5), and child mental health services

(3). Recreation and youth services were also available including after school programs (22), Police Athletic Leagues (2), and recreation centers (2) (Advocates for Children and Youth, 2003).

It is beyond the scope of this study to evaluate the accessibility, capacity, utilization, and sustainability of these programs. However, the substantial number of human service assets in these communities is an indicator of a thriving human service infrastructure. By working on solutions to address crime, grime, and community disinvestment, neighborhood associations and block clubs are also important community assets. In 2004, there were 60 block clubs and neighborhood associations across the four study participant communities (BNIA, 2006). Community assets are an integral component of the early adolescent study participants' social ecology, and may both directly and indirectly influence their involvement in aggression.

Family Assets

The family is another critical asset for youth in poor, urban, African American communities. Hill (1997) argues that African American families embody particular strengths that help to mitigate the affects of negative economic and social conditions. Hill points out that characteristics such as high educational expectations, strong work orientation, flexible family roles, and strong extended family networks are common features of African American families. These strengths, particularly flexible family roles and extended family networks, have helped to smooth adaptation to conditions antagonistic to youth adjustment (Hill, 1997; Staples & Johnson, 1993). Single parents, for example, are likely to have a safety net available to them, including extended family members and fictive kin. The children of single parents may benefit from the

instrumental and emotional support provided by family members who, in effect, fill the role of a second parent (Hill, 1997).

Primary caregivers, typically the mother and/or father, are the family members most proximal to a child. The strengths of parents or other primary caregivers are particularly important to building resiliency in early adolescence. The social ecological context described above highlights the myriad factors that influence aggression and violence outcomes. A singular focus on parenting, however, permits an understanding of how different parenting behaviors are associated with early adolescent aggressive behavior. The following section describes the two models that are the foundation of the conceptual framework for this study and describes the study conceptual framework. The study conceptual framework emphasizes the potential pathways through which different kinds of parenting behavior contribute to early adolescent aggression outcomes.

Contextual Model of Parenting Style

The Darling and Steinberg (1993) contextual model of parenting style is the foundation of the conceptual framework for this study. The following discussion on the Darling and Steinberg (1993) contextual model of parenting style describes the impetus for the model's development, the assumptions and components of the contextual model of parenting style, and the relationship between the components of this model. The contextual model of parenting style explains the mechanisms through which parents socialize their children to achieve specific socialization goals (e.g., academic achievement, cooperation with peers, responsible romantic relationships). Socialization involves behaviors that help a child to learn and exhibit specific skills, behaviors and characteristics like independence and self-regulation. Darling and Steinberg argue that

both parenting style and parenting practices are essential to understanding how parents socialize their children to influence child outcomes. The contextual model of parenting style was developed to distinguish between parenting style and parenting practices, two conceptualizations of parenting often applied inconsistently in the literature. In addition, this model was developed to delineate the process through which parenting style interacts with parenting practices to influence child outcomes.

Darling and Steinberg define parenting practices as behaviors targeted to specific, circumscribed socialization domains like aggression or academic engagement. Thus, parenting practices in the context of the socialization domain of academic achievement might involve helping a child acquire specific abilities such as reading comprehension and encouraging certain behaviors, such as completing homework and paying attention in class. Such domain-specific parenting practices are a direct reflection of particular parent socialization goals (e.g., perform well in school, avoid cigarette smoking), as well as parent values. Parenting style behaviors, on the other hand, are expressed no matter what the socialization goal a parent aims to achieve. Darling and Steinberg assert that parenting style behaviors provide the *context* of parent socialization and parenting practices provide the *content* of parent socialization. That is, parenting style behaviors are conveyed generally, while parenting practices are targeted to specific areas like aggression involvement. Another important distinction between parenting style and parenting practices is that "parenting style conveys to the child the parent's attitude toward the child, rather than toward the child's behavior" (Darling & Steinberg, 1993, p. 493).

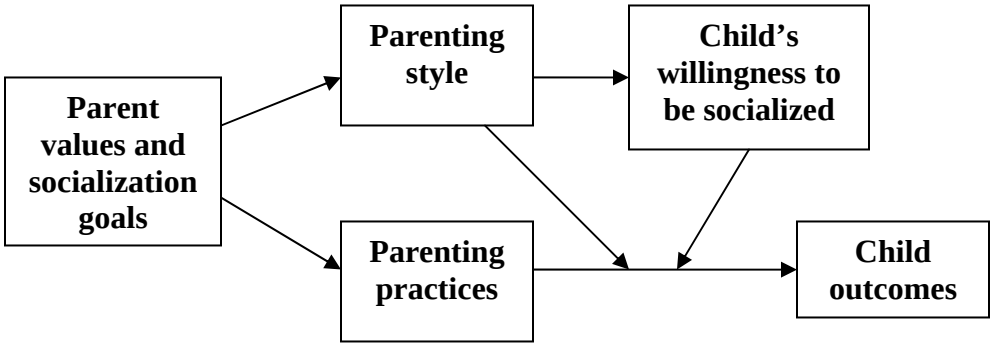
Several key assumptions drive the contextual model of parenting style. One central assumption is that parenting behavior influences child behavior. It is assumed that parenting practices and parenting style are two distinct parenting behaviors that influence child outcomes, but do so through different processes. Darling and Steinberg also indicate that parenting practices and parenting style can be distinctly operationalized (i.e., parenting style and parenting practices do not have overlapping concepts). Another assumption of this model is that these parenting behaviors are determined by the values and the socialization goals parents have for their children.

The contextual model of parenting style includes five components. The first component, *parent values and socialization goals*, represents parent beliefs and socialization aims related to the behavioral domain of interest. The next component, *parenting style*, represents behaviors parents use to socialize their children in general (i.e., across all behavioral domains). The third component, *parenting practices*, represents strategies parents use to socialize their children (i.e. help their children acquire skills or behaviors) specific to a behavioral domain. The fourth component, *child's willingness to be socialized,* is the degree to which the child is open to acquiring the skills or behaviors the parent aims for the child to learn and exhibit. The last component, *child outcomes*, represents the child or developmental outcomes that are specific to a behavioral domain (Darling & Steinberg, 1993).

Figure 2.1 illustrates how the model components (i.e., parent values and socialization goals, parenting style, parenting practices, child's willingness to be socialized, adolescent/child outcomes) are related. Parent values and socialization goals directly influence parenting style and parenting practices. Parenting practices directly

influence child behavior. Parenting style indirectly influences child behavior in two ways. First, parenting style moderates the degree to which parenting practices affect the child's behavior by influencing the effectiveness of parenting practices (Darling & Steinberg, 1993). For example, an adolescent with a parent who exhibits a supportive parenting style and maintains parenting practices that endorse responsible driving may, according to this model, drive more responsibly compared to an adolescent whose parent emphasizes responsible driving but has an unsupportive parenting style. Thus, the influence of parenting practices on a child outcome is moderated by the level of parenting style the child receives.

Figure 2.1: Contextual model of parenting style



It should be noted that a variety of relationships between parenting practices, parenting style, and child outcomes may exist. For example, it is plausible that parenting style may mediate, rather than moderate, the relationship between parenting practices and a child outcome. If parenting style were a mediator, the influence of parenting practices on a child outcome would be expressed through parenting style. It is also plausible that parenting practices could mediate or moderate the relationship between parenting style

and child outcomes. While a variety of relationships between parenting practices, parenting style, and child outcomes may exist, the hypothesized relationship among these variables as articulated in the Darling and Steinberg contextual model of parenting style is the conceptual model for this study. Darling and Steinberg argue that parenting style is a contextual variable because parenting style "alters the parents' capacity to socialize their children by changing the effectiveness of their parenting practices" (Darling & Steinberg, 1993, p. 493). Accordingly, the best way to test this hypothesized relationship is by designating parenting style as the moderator and parenting practices as the focal independent variable directly influencing child outcomes.

Next, parenting style also influences child behavior by first directly influencing the child's willingness to be socialized. The child's willingness to be socialized construct in turn moderates the relationship between parenting practices and child outcomes. A child with a low degree of willingness to be socialized may lower the effectiveness of parenting practices aimed at enhancing academic achievement. It is unclear how the "child's willingness to be socialized" construct should be operationalized because Darling and Steinberg do not offer a detailed explanation of this concept.

In summary, parenting style and parenting practices are the central components of the Darling and Steinberg contextual model of parenting style. The model emphasizes how these two parenting behaviors interact to influence adolescent outcomes. While Darling and Steinberg acknowledge that other environmental factors influence child outcomes, the contextual model of parenting style centers around parenting and, in particular, how parenting style and parenting practices interact to influence child outcomes (Darling & Steinberg, 1993). Parenting style may be determined using

different methods. The following discussion explains the two main approaches researchers use to determine parenting style. It is important to describe both of these approaches in order to facilitate understanding of the role of parenting style in predicting child and adolescent outcomes in the empirical literature.

Approaches to Determining Parenting Style

This portion of the literature review describes how parenting style is determined in the child and adolescent literature. Researchers use two approaches to determine parenting style: the typological approach and the dimensional approach. In both approaches, parenting behaviors are measured to assess parenting style, but the procedures used to determine a particular parenting style differ. These two approaches are explained in a historical context by tracing the evolution of parenting style conceptualizations. The typological approach is described first, followed by a description of the dimensional approach.

The typological approach was popularized through the pioneering parenting research of Diane Baumrind (1967, 1971). In Baumrind's early work on parenting styles, parents were classified as having one of three parenting style types (authoritative, authoritarian, and indulgent-permissive) based upon a qualitative configuration of various parenting behaviors. Authoritative parenting was viewed as the most optimal parenting style type, as it embodied parenting behaviors most associated with positive measures of child adjustment. Authoritative parenting behaviors include behaviors that are responsive to a child's needs, promote open communication, and encourage a child's autonomy while still enforcing rules and standards (Maccoby & Martin, 1983, p. 45). Both authoritarian and indulgent-permissive parents were found to predict child

maladjustment. The authoritarian parenting style is characterized by attempts to control the behavior and emotions of children using inflexible criteria; discouraging parent-child verbal reciprocity; and valuing respect for authority, obedience, and preservation of order (Maccoby & Martin, 1983, p. 40). Indulgent-permissive parenting is defined as parenting that provides too few rules, restrictions, and maturity demands on children (Maccoby & Martin, 1983, p. 44).

In recent decades, the typological approach has been employed quite differently from Baumrind's initial work. Parenting style dimensions, rather than qualitative configurations of parenting behaviors, are used to classify parents into one of four parenting style types. Parenting style dimensions are orthogonal, linear constructs. Parenting style type is determined by how a parent scores on two or more parenting style dimensions. The dimensions of demandingness and responsiveness are commonly used parenting style dimensions in child and adolescent research. The conceptualization of the demandingness and responsiveness parenting style dimensions emerged as a result of Baumrind's later parenting style research in the early 1980s (Maccoby & Martin, 1983). Maccoby and Martin (1983), however, first suggested that these two orthogonal, linear dimensions could be used to quantitatively classify parents into one of four parenting style types.

Demandingness is parental control that facilitates the child's integration into the family. Demandingness is determined by the extent to which parents supervise, monitor, discipline, and demand maturity from their children. Responsiveness is parenting behavior that involves the provision of sensitivity, warmth, and support. Responsive parents promote individuality, self-regulation, and self-assertion by being responsive to

their child (Baumrind, 1991, pp. 62-63). Using dimensions like demandingness and responsiveness in the typological framework involves quantitative assessments of each dimension that, when aggregated, define a particular parenting style type. Parents high on both demandingness and responsiveness are categorized as authoritative; authoritarian parents are high on demandingness and low on responsiveness; indulgent parents are low on demandingness and high on responsiveness; and neglecting parents are low on both demandingness and responsiveness. The neglecting style was not a parenting style classification in Baumrind's original tripartite typology. Neglecting parents are characterized as indifferent toward their children and uninvolved in their children's daily lives (Maccoby & Martin, 1983, p. 39). Researchers use the parenting style dimensions they believe to be important ways that parents socialize their children (Darling & Steinberg, 1993). Thus, the dimensions used to determine parenting style vary from study to study. In sum, the use of dimensions in the typological approach indicates that the joint effect of each dimension is taken into account in order to determine parenting style.

In contrast to the typological approach, some researchers determine parenting style by examining each parenting style dimension individually (i.e., without using a combination of dimensions to determine a particular parenting style type). This method of determining parenting style is referred to as the dimensional approach. Using the dimensional approach, the effect of each dimension – demandingness and responsiveness, for example – on a child outcome is assessed independent of the other dimensions studied. Thus, parents with high levels of responsiveness would be labeled as having a responsive parenting style. As mentioned above, researchers select parenting style

dimensions to study based upon their own hypotheses about what parent behaviors are important to study. Numerous parenting style dimensions have been studied in the child and adolescent literature. Behavioral control, support, and psychological control are examples of other parenting behaviors used in the dimensional approach parenting style studies. Moreover, each dimension studied represents parenting style, rather than a typological label (i.e., authoritative, authoritarian, indulgent, neglecting).

The dimensional approach to determining parenting style provides the advantage of allowing researchers to understand how each dimension affects child outcomes independent of other dimensions. The typological approach has been criticized for preventing an understanding of how each dimension contributes to a particular parenting style classification (Bean, Barber, & Crane, 2006; Galambos, Barker, & Almeida, 2003). The next discussion reviews a study that uses the Darling and Steinberg contextual model of parenting style. The approaches to determining parenting style described above may be used as a guide to understanding parenting style in the study reviewed, as well as the other parenting style research studies reviewed in this chapter.

Empirical Literature Applying the Contextual Model of Parenting Style

One study has been found that applies the contextual model of parenting style in order to understand the relations between parental values and socialization goals, parenting style, domain-specific parenting practices and child outcomes. Spera (2006) adapted the contextual model of parenting to examine whether parenting style moderates the relation between parenting practices and early adolescent outcomes in a sample of urban and suburban seventh and eighth grade school students (N=184). Specifically, Spera examined whether early adolescents' perceptions of parenting style

(demandingness and responsiveness) moderated the relation between early adolescents' perceptions of parenting practices (involvement in schoolwork, involvement in school functions, and monitoring of after-school activities) and five student educational outcomes (e.g., grades, interest in school; Spera, 2006).

The operationalization of the parenting style and parenting practices constructs are important to understanding how Spera adapted the Darling and Steinberg contextual model of parenting style. First, this researcher employed Baumrind's (1991) conceptualization of the demandingness and responsiveness parenting style dimensions. Demandingness is the degree to which parents insist their child exhibit certain behaviors through maturity demands, monitoring, supervision, and disciplinary actions. Responsiveness is the degree to which parents provide sensitivity, warmth, and support to their children (Baumrind, 1991, pp. 62-63; Spera, 2006, p. 465). Demandingness was assessed using a measure of early adolescents' perceptions of their parents' rules and disciplinary strategies. Responsiveness was assessed using a responsiveness scale and a child centeredness scale. The study offers no information about the similarities and differences between the two scales assessing responsiveness. Also, the responsiveness construct is called child centeredness in the results and discussion sections of this study; however, it is unclear why the responsiveness construct was relabeled.

In terms of parenting practices, one measure assessed early adolescents' perceptions of both parent involvement with schoolwork at home and parent involvement in school functions. A second measure assessed early adolescent' perceptions of their parents' monitoring knowledge (i.e., awareness of their whereabouts outside of school). Spera indicates that parent involvement with schoolwork at home, parent involvement in

school functions, and monitoring knowledge are conceptualized as parenting practices specific to school-related adolescent behaviors. However, several monitoring knowledge items are not specific to school-related early adolescent behavior. For example, two of the six monitoring scale items asked adolescent respondents: "How much do your parents try to know where you are at night?" and "How much do your parents try to know what you do with your free time?" (Spera, 2006, pp. 467-468). These monitoring questions are arguably not representative of the Darling and Steinberg (1993) notion of parenting practices, while others are, e.g., "How often do your parents typically check whether you do your homework?" (Spera, 2006, p. 468). The later item is more clearly an example of a parenting practice as it represents a behavior targeted to the specific, circumscribed socialization domain of school involvement.

In addition to parenting style and parenting practices, Spera (2006) also investigated the role of ethnicity in explaining parental goals, values, and aspirations, and additionally, examined the extent to which parental goals, values, and aspirations predicted parenting practices. This model lastly examined socioeconomic status as an additional contextual factor moderating the relationship between parental goals, values and aspirations and parenting practices. Child's willingness to be socialized was not examined in this study.

Hierarchical regression results provide support for the moderating role of parenting style in this study. Grades was the only outcome variable in which significant interactions between parenting style and parenting practices were found. First, Spera (2006) found significant interactions between parental child centeredness (parenting style) and parental involvement in schoolwork (parenting practice) in the prediction of

grades. Post hoc analysis of these interactions revealed that when child centeredness was low, involvement in schoolwork was significantly related to students' grades. However, when child centeredness was high, involvement in schoolwork was not related to students' grades. Spera also found significant interactions between parental child centeredness and parental monitoring (parenting practice) in the prediction of students' grades. Exploration of the monitoring interactions revealed that parental monitoring was related to students' grades when parental child centeredness was high. When parental child centeredness was low, monitoring was not related to students' grades. An interaction involving demandingness and parental involvement in school functions was not a significant predictor of students' grades. Although only one of the parenting style dimensions (child centeredness) moderated the relation between parenting practices and students' grades, this study provides empirical evidence that the contextual model of parenting style is a suitable tool for studying early adolescent outcomes. In particular, this study provides evidence that the contextual model of parenting style is a useful model for demonstrating how parenting style and parenting practices interact to effect particular early adolescent outcomes.

The study is limited by the cross-sectional design, which prevents an understanding of the temporal relations among the parenting and outcome variables. Another weakness of the study is the use of parent monitoring as a parenting practice variable. Several of the parents monitoring items were not parenting practices, i.e., behaviors targeted to the specific, circumscribed socialization domain of school involvement. A modified parent monitoring variable should have been used that only included the items specifically related to school involvement. This study has several

strengths, including the use of multiple measures of parenting practices that represent specific academic/school engagement socialization domains and multiple measures of child educational outcomes. Also, the study sample was relatively diverse, with approximately 45% of participants representing minority groups (i.e., African American, Hispanic, Asian American, American Indian). The findings in support of the contextual model of parenting style as well as the strengths and weakness of the study design all point to the need for further study of parenting using the contextual model of parenting style as a framework. This study provides useful guidance for adapting the contextual model of parenting style for this study. In addition to the contextual model of parenting style, the transactional model has been incorporated into the conceptual framework of this study. The following discussion describes the transactional model and reviews the empirical literature that reflects the transactional approach.

Transactional Model

An important element of the conceptual framework involves potential bidirectional relations between early adolescent aggression and parenting (i.e., parenting practices and parenting style). The transactional model (Sameroff, 1975) offers an approach to assessing child development that emphasizes the role of interactions between a child and the child's social context. First described in Sameroff's (1975) seminal study, "Early Influences on Development: Fact or Fancy," the transactional model is highly regarded in child development research. In fact, Sameroff's seminal 1975 study has been highlighted as one of the 20 studies that revolutionized the field of child psychology (Dixon, 2002).

According to the transactional model, child outcomes are a function of interactions between a child and the most proximal individuals in his or her ecological system, such as parents and peers. The notion of bidirectional parent-agent relationships is an essential element of the transactional model. In the context of the parent-child relationship, bidirectional effects result because children provide stimuli to which parents respond and parents provide stimuli to which the child responds. It is these parent-child interactions that determine child outcomes overtime, not parenting alone (Maccoby, 1992; Sameroff & Mackenzie, 2003). No specific constructs are associated with the transactional model. This "model" is best understood as an approach to studying child developmental outcomes that explicitly involves the investigation of bidirectional relations between measures of child behavior and elements within the child's social context (e.g., parents). Bidirectional effects are also referred to as reciprocal effects in the literature.

Other models and theories have been proposed that explain bidirectional or reciprocal effects between parents and their children including the coercion theory (Patterson, 1982), control system theory (Bell & Harper, 1977), and the interactional theory of delinquency (Thornberry, 1987). In contrast to these models, the transactional model is a broader conceptualization of bidirectional effects between the child and all actors in his or her social context (e.g., parents, peers). Other bidirectional or reciprocal influence theories are applied to specific behaviors, focus exclusively on the parent-child relationship, and/or involve specified constructs. For example, the coercion theory and the interactional theory solely aim to explain the development of childhood aggression and delinquency respectively. The transactional approach, on the other hand, can be

applied to explore bidirectional effects across a wide range of behavioral areas (Sameroff & Mackenzie, 2003).

The transactional approach has been used to examine dynamic adolescent-parent interactions in several adolescent problem behavior areas. The next discussion reviews the empirical literature incorporating a transactional approach to examining adolescent outcomes.

Empirical Literature Applying the Transactional Model

Despite the impact of the transactional model on the child psychology field, the body of literature examining bidirectional parent-child effects is relatively small. This fact is noted by Sameroff and Mackenzie (2003) in their review of representative child development studies that incorporate the transactional approach. The studies reviewed here are those that have used a transactional approach to studying adolescent problem behaviors including alcohol use, poor psychological functioning, and sexual risk behavior. The studies using aggression and similar behavior outcomes are reserved for review in section three since this later section focuses on bidirectional adolescent-parent effects and aggression outcomes.

Adolescent problem behavior researchers using the transactional model have found support for bidirectional adolescent-parent effects on behavioral outcomes. First, Stice and Barrera (1995) examined the effect of both perceived parental support and perceived parental control on early adolescent alcohol use in a sample of White and Hispanic 10-15 year olds. Parental support (affection and companionship) and parental control (consistency, enforcement, and monitoring) were hypothesized to be protective against alcohol use. These researchers found that both perceived parental support and

perceived parental control predicted adolescent alcohol use. Using two measurement waves, the study findings revealed that insufficient parental control and support contributed to higher levels of early adolescent alcohol use 1 year later. Similarly, these researchers found that early adolescent baseline alcohol use predicted lower levels perceived parental support and perceived parental control 1 year later. Through this study, Stice and Barrera (1995) were able to demonstrate that early adolescent behavior influenced two kinds of parenting strategies 1 year later. High levels of early adolescent alcohol use contributed to a decline in the quality of parenting overtime.

Henrich, Brookmeyer, Shrier, and Shahar (2005) also used the transactional approach to examine the bidirectional relations between adolescent sexual risk behavior and parenting in a sample of White (including Hispanic), African American, Asian, and American Indian early and late adolescents. Two parenting constructs, parent connectedness and mother-child communication, were examined. Data were collected at two time points 1 year apart. Henrich et al. (2005) found that parent connectedness was associated with a decreased likelihood of adolescent sexual risk behavior for boys and girls 1 year later. For girls, mother-child communication was also related to a decreased likelihood of adolescent sexual risk behavior 1 year later. The study also revealed that adolescent behavior affects parenting behavior 1 year later. Higher levels of adolescent sexual risk behavior were related to a lower likelihood of parent connectedness 1 year later. Mother-child communication was not tested in this model. These findings reveal reciprocal effects between the adolescents and parents in this study. Higher levels of mother-child communication and parent connectedness were related to lower levels of adolescent sexual risk behavior, while sexual risk behavior was related to decreasing

parent connectedness. Similar to the Stice and Barrera study, this study revealed that adolescent problem behavior contributes to declines in the quality of parenting over time. Moreover, these researchers demonstrated that a 1 year interval is sufficient time to observe adolescent-parent bidirectional effects.

In their study of 11- and 12-year-old White early adolescents, Brody and Ge (2001) tested two longitudinal transactional models of reciprocal parent and early adolescent influences using three time points and 1 year intervals. The first model used alcohol use as the early adolescent outcome and the second model used psychological functioning (depressive symptoms, hostility, and self-esteem) as the early adolescent outcome. In both models, two constructs were studied: harsh-conflicted parenting and nurturant-responsive parenting. In the first model, Brody and Ge (2001) examined the relations between (a) Time 1 child self-regulation and Time 2 parenting, and (b) Time 2 parenting and Time 3 child psychological functioning (i.e., levels of depressive symptoms, hostility, self-esteem). In the second model, Brody and Ge (2001) examined the relations between (a) Time 1 early adolescent self-regulation and Time 2 parenting, and (b) Time 2 parenting and Time 3 early adolescent alcohol use.

The results of both models revealed that high levels of baseline early adolescent self-regulation were related to a lower likelihood of harsh-conflicted parenting 1 year later. Next, harsh-conflicted parenting in year 2 was associated with negative child psychological functioning, while harsh-conflicted parenting was not significantly associated with alcohol use 1 year later. A different pattern of findings emerged for the nurturant-responsive constructs. Early adolescent self-regulation at baseline was not significantly related to nurturant-responsive parenting the following year in both models.

Nurturant-responsive parenting at Time 2 was also not significantly associated with psychological functioning or alcohol use 1 year later. Through this study, Brody and Ge (2001) were able to demonstrate that low levels of early adolescent self-regulation contributed to an increase in harsh-conflicted parenting 1 year later, and harsh-conflicted parenting, in turn, contributed to an increase poor psychological functioning 1 year later. In particular, this study shows that early adolescent problem behavior more strongly contributed to a change in ineffective parenting behaviors (harsh-conflicted) rather than supportive parenting behaviors (nurturant-responsive). Overall, the study results provide further evidence for transactional processes in parent-child relationships.

The studies reviewed reveal that a transactional model is useful for detecting reciprocal effects between adolescents and their parents. More specifically, these studies demonstrate that higher levels of adolescent problem behavior amplified negative forms of parenting (i.e., harsh-conflicted parenting) in all three studies and related to declines in protective parenting (i.e., support, connectedness, control) in two of the studies. One weakness across these studies is the lack of racial/ethnic diversity in the study samples. In all three studies, a majority or the entire study sample was White. Most of these studies, however, did include economically heterogeneous samples. Participants represented a range of measurement of socio-economic status (SES) from low SES/working class to middle class. Future research should also include more racially/ethnically diverse samples in order to empirically demonstrate the prevalence of bidirectional influences in non-White groups.

Overall, these studies demonstrate the value of using a transactional approach when investigating early adolescent problem behavior outcomes; two of the three studies

used early adolescent samples (Brody & Ge, 2001; Stice & Barrera, 1995). The conceptual framework for this study incorporates a transactional model in order to examine parent-early adolescent bidirectional influences. The conceptual framework also incorporates the Darling and Steinberg contextual model of parenting style. Before explaining this conceptual framework, the outcome variables – overt aggression and relational aggression- are described in detail. It is important to describe overt aggression and relational aggression to facilitate an understanding of the conceptual framework.

Aggression: Forms and Functions

Overt aggression and relational aggression are the two outcome variables used in this study. This discussion describes the major ways researchers have characterized child and adolescent aggression. Particular emphasis is placed upon distinguishing between overt aggression and relational aggression, the two main forms of aggressive behavior.

Forms

Aggression is a type of antisocial behavior in which one deliberately aims to harm another person, persons, or objects (Dodge, 1991). Interpersonal aggression – aggression between two or more persons – is the focus of this study. One way researchers characterize interpersonal aggressive behavior is in terms of the form or type of aggressive behavior one exhibits. Three kinds of aggression have been observed: physical aggression, verbal aggression, and relational aggression. Physical aggression is aggressive behavior characterized by punching, hitting, slapping, kicking, scratching, and similar actions intended to do physical harm. The other observed types of aggression – verbal and relational aggression - do not involve physical harm and are more common as

children acquire enhanced verbal and social sophistication (Cairns, Cairns, Neckerman, Ferguson, & Gariepy, 1989).

Verbal aggression involves face-to-face encounters in which one harms another person or persons through malicious teasing, name calling, insults, threats, or other similar behavior (Pepler & Craig, 2005). Relational aggression refers to manipulative behavior intended to harm social relationships or damage social status. Relational aggression fundamentally involves the manipulation of relationships and may or may not involve a confrontation between the victim(s) and the perpetrator(s). For example, a perpetrator may engage members of the social community in covert gossiping, withdrawing of friendship, rejecting, or revealing the secrets of a victim (Crick & Nelson, 2002; Crick & Grotpeter, 1993; Little, Henrich, Jones, & Hawley, 2003b). Relational aggression may also involve the damaging of relationships through direct relational aggression, i.e., confrontational strategies like "threatening to withdraw friendship or affection, and excluding someone from an activity by telling him/her directly that he or she is not welcome" (Xie, Farmer, & Cairns, 2003, p. 358). Relational aggression has also been labeled indirect aggression (Björkqvist, Osterman, & Kaukiainen, 1992) and social aggression (Cairns et al., 1989; Galen & Underwood, 1997) in the literature. These terms are often used interchangeably as they represent the same general underlying construct with minimal distinctions. For example, social aggression refers to non-confrontational, concealed forms of social exclusion and ostracism while relational is broader including both non-confrontational and direct relational aggression tactics (Underwood, Scott, Galperin, Bjornstad, & Sexton, 2004; Xie et al., 2003).

Prior to the introduction of the relational/social/indirect aggression concepts, adolescent aggression studies focused solely on physical and/or verbal aggression. Since the emergence of these concepts, researchers have conceptualized two dominant forms of aggression reflecting the generally overt and covert manifestations of aggression. Physical and verbal aggression are referred to as overt aggression because both involve direct, unconcealed aggressive behavior. Relational aggression has been identified as the second dominant form of aggression. Although some relationally aggressive behavior may involve direct relational tactics, relational aggression is distinguished from overt aggression in that relational aggression involves the use of relationship-based aggression strategies.

Functions

Researchers have also characterized aggressive behavior as having a function that aids the aggressor in attaining particular goals or aims. Two main functions of aggression have been observed: reactive and instrumental. Reactive aggression is a retaliatory or defensive behavior made in response to provocation or social thwarting (Little et al., 2003b). Instrumental aggression on the other hand is behavior exhibited in expectation of some self-serving outcome (Little et al., 2003b). For example, an early adolescent may display instrumental aggressive behavior by verbally demeaning ostracized peers in order to gain popularity in the wider peer group. The functions of aggression, according to Little et al., represent the central reason aggressive behaviors occur.

Little and colleagues developed a typology intended to characterize aggressive behavior by both its form and function. Little et al. (2003b) refer to overt and relational

aggression as the "whats" of aggression because each represents the kind of aggressive behavior that is taking place. These forms of aggression are distinguished from the functions or "whys" of aggression, i.e., reactive and instrumental aggression. These authors argue that both the form and function of aggression must be assessed in order to comprehensively understand adolescent aggression. Little, Brauner, Jones, Nock, & Hawley, (2003a) established the internal validity of a measurement system that confirmed four discrete dimensions of aggression that reflect the different combinations of forms and functions aggressive adolescents employ: overt and instrumental, overt and reactive, relational and instrumental, & relational and reactive in a sample of early adolescents (Little et. al., 2003a). The forms and functions typology is a useful heuristic for understanding the complexity and multi-dimensionality of aggression. For instance, an early adolescent may employ relationally aggressive tactics as an angry response to provocation (reactive) or as a calculated, planned out proactive maneuver to accomplish some self-serving outcome (instrumental). Similarly, an early adolescent may employ overt aggressive tactics as an angry response to provocation (reactive) or as a calculated, planned out proactive maneuver to accomplish some self-serving outcome (instrumental).

Examining the forms (relational and overt) and functions (reactive and instrumental) of aggression outside of the forms and functions typological framework is also informative. This study will examine the influence of parenting behavior on early adolescent overt aggression and relational aggression. The Darling and Steinberg (1993) contextual model of parenting style provides a framework to examine these relations. In addition, the study will examine the bidirectional relations between parenting and early adolescent overt aggression and relational aggression using two time points. The

transactional model provides a framework to examine these bidirectional relations. The ways in which both the contextual model of parenting style and the transactional model have been incorporated into the conceptual framework are described in the following discussion on the conceptual framework.

Conceptual Framework: Application of the Contextual Model of Parenting Style and the Transactional Model

The following description of the conceptual framework for this study concludes section one of the literature review. Two models provide the foundation for this conceptual framework: the Darling and Steinberg (1993) contextual model of parenting style and the transactional model (Sameroff, 1975). The contextual model of parenting style has been adapted in order to understand the relations between parenting style and parenting practices in predicting early adolescent overt aggression and relational aggression. The transactional model has been adapted in order to understand the bidirectional relations between parenting behavior (parenting style and parenting practices) and early adolescent behavior (overt aggression and relational aggression). The contextual model of parenting style as adapted for this study is explained first, followed by an explanation of the transactional model as applied to this study.

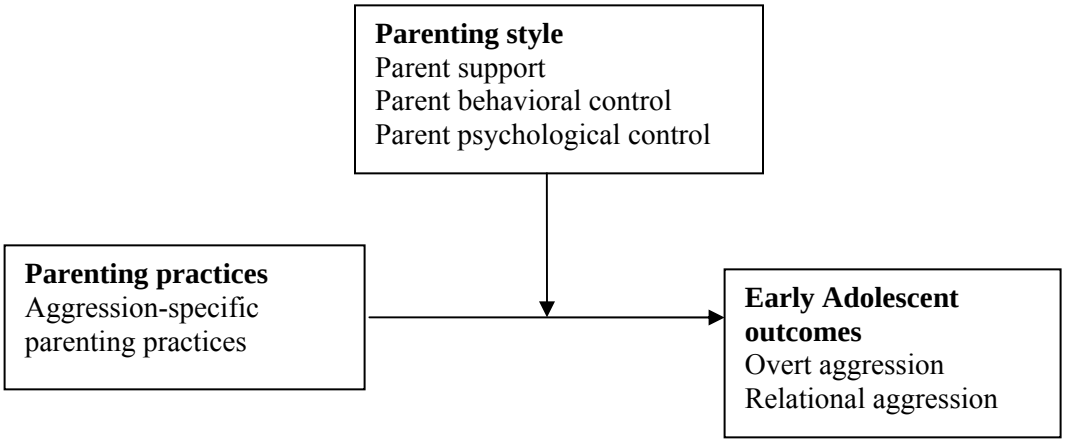
Application of the Contextual Model of Parenting Style

Consistent with the contextual model of parenting style, the conceptual framework of this study asserts that parenting practices and parenting style are distinct parenting behaviors that effect early adolescent aggression outcomes in different ways. Aggression-specific parenting practices are those behaviors parents use to socialize their early adolescents specifically regarding aggression involvement. As previously discussed, these aggression-specific parenting practices may represent a parent's

endorsement of aggression-avoidance behaviors or endorsement of aggression. Parenting style is defined in this study as behaviors parents use to socialize their early adolescents across all socialization domains. Thus, parenting style behaviors are conveyed when a parent socializes her early adolescent around aggression as well as when a parent is attempting to socialize her early adolescent around other issues like academic engagement.

Using the contextual model of parenting style as a foundation, the conceptual framework first indicates that aggression-specific parenting practices directly influence early adolescent aggression outcomes (Figure 2.2). Next, the conceptual framework indicates that parenting style indirectly influences early adolescent aggression by moderating the relationship between aggression-specific parenting practices and aggression outcomes (Figure 2.2.).

Figure 2.2: Conceptual framework model - parenting style as moderator



Parenting style was chosen as a moderating variable because, according to Darling and Steinberg, parenting style influences the effectiveness of parenting practices. As previously discussed, it is theoretically plausible that parenting style could mediate

the relationship between parenting practices and a child outcome i.e., early adolescent aggression. However, Darling & Steinberg's view of parenting style as a contextual factor in the parent-child relationship makes the use of parenting style as a moderator most suitable for this model (Darling & Steinberg, 1993).

The three dimensions of parenting style examined were: parent support, parent behavioral control, and parent psychological control. The dimensional approach to determining parenting style was utilized in this study. As previously noted, preliminary data analyses revealed that the parent support and parent behavioral control items emerged as one dimension among the sample of early adolescents in this study (see Chapter 3). Thus, two parenting style dimensions, parent support/behavioral control and parent psychological control, were examined in this study. For the purposes of the current discussion, however, it is useful to describe the three parenting style dimensions distinctly.

Support, behavioral control, and psychological control reflect the three dimensions of parenting behaviors identified through Schaefer's (1965a) influential parent behavior factor analysis study. Each parenting style dimension reflects parenting behaviors that distinguish them from one another. Parent support is characterized by parental warmth, acceptance, responsiveness, and affection (Barber, 1997). Parent behavioral control involves attempts to control a child's behavior through regulation, monitoring, rule-setting, supervision, and behavior management (Barber et al., 1994). Parent psychological control refers to parenting that prohibits the healthy development of a child's autonomy. Psychologically controlling parenting (e.g., guilt induction, love withdrawal) impedes the development of a child's independence, efficacy and worth

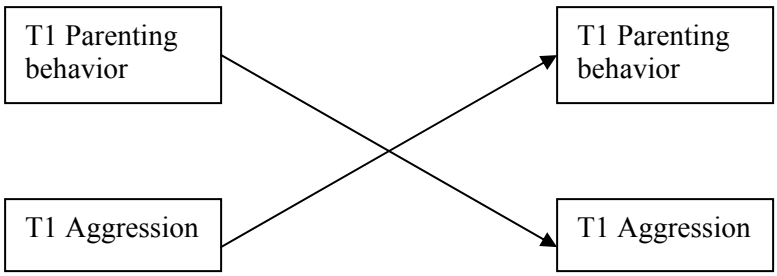
(Barber, 1997, p. 7). Psychological control is regarded as a risk factor for maladaptive child behavior. The absence of psychological control, on the other hand, represents a parent's respect for his or her child's psychological autonomy. A high level of psychological autonomy is regarded as a contributor to positive child outcomes. Psychological control is essentially the pejorative label for psychological autonomy/control measures. There is no conceptual distinction between measures of psychological control and psychological autonomy; both assess the degree to which parents promote (or impede) the development of their child's autonomy (Barber, 1996).

A child's willingness to be socialized is one component of the Darling and Steinberg contextual model of parenting style that is not part of this conceptual framework. Spera (2006), when applying the contextual model of parenting style, did not include a child's willingness to be socialized construct. Nonetheless, Spera was able to demonstrate that parenting style (child centeredness and demandingness) moderated the relationship between parenting practices and a child outcome variable. Another reason for not including a child's willingness to be socialized construct in this conceptual framework is that the available youth report parenting data from the Steppin' Up project only includes the four parenting variables part of this study. While the adapted contextual model of parenting style examines how parenting relates to aggression, the transactional model is used to examine the reciprocal relations between parenting (parent practices and parenting style) and early adolescent aggression. The following discussion describes how the transactional model has been applied to this study.

Application of the Transactional Model

This study examined the bidirectional influences of parenting and early adolescent aggression to enhance understanding of early adolescent aggression outcomes. Using the transactional model as a framework, parenting behavior and early adolescent aggressive behavior were linked across two time points. The pathways linking the parenting behavior and early adolescent behavior constructs are illustrated in the model below (Figure 2.3). Parenting behavior at Time 1 directly influences early adolescent aggressive behavior at Time 2. Next, early adolescent aggressive behavior at Time 1 directly influences parenting behavior at Time 2.

Figure 2.3: Parent-child bidirectional influences model



Aggression-specific parenting practices and parenting style (parent support/behavioral control and parent psychological control) represent the parenting behaviors assessed using this model. Each parenting behavior was examined individually rather than jointly. Similarly, overt aggression and relational aggression were treated as independent outcomes. For example, one model was an examination of the bidirectional effects of parent support/behavioral control and early adolescent overt aggression. High levels of overt aggression at Time 1 may relate to an increase in parent support/behavioral control at Time 2. Continuing with this example, high levels of parent

support/behavioral control at Time 1 may relate to decreasing levels of early adolescent overt aggression at Time 2. An individual examination of each parenting behavior will permit an understanding of the unique influence of parenting behavior on subsequent early adolescent behavior and conversely, the unique influence of early adolescent aggressive behavior on subsequent parenting behavior.

Parenting Predictors of Aggression

Overview

This section of the literature review evaluates the empirical research on parenting predictors of adolescent aggression. First, this section describes the significance of parenting in general, and more specifically, the significance of parenting during the early adolescence developmental stage. Next, the two conceptualizations of parenting that are the focus of this study (parenting style and parenting practices) are explained with particular emphasis on the parenting style dimensions of support, behavioral control, and psychological control. Lastly, this section provides a review of the empirical literature on parenting predictors of aggression. This review is organized by the parenting style dimensions (support, behavioral control, and psychological control) and the parenting practices (aggression-specific parenting practices) relevant to this study.

The Significance of Parenting

As previously discussed, numerous social and environmental factors play a role in influencing the expression of early adolescent aggressive behavior. Research suggests that the influence of parenting behavior on early adolescent aggression is important to examine. First, research reveals that parents influence their child's behavior by passing on genetic traits that may influence the expression of behaviors like aggression (Dodge,

2002; Vierikko, 2004). Next, it has been argued that parents are children's primary and most influential socialization agents (Kuczynski & Grusec, 1997). Given the large amount of time children spend with their parents, parents have enduring relationships with their children and socialize children in the context of these relationships. Moreover, parents are the individuals primarily responsible for supervising and monitoring their child's daily activities, thus influencing their child's socialization through these mechanisms (Kuczynski & Grusec, 1997). Through socialization, parents aid their children in acquiring the skills and behaviors necessary to function as a member of society. Socialization determines a child's: (1) self-regulation of emotion, thinking, and behavior; and (2) acquisition of cultural standards, attitudes, and values (Grusec, 2002, p. 143). The role of parenting behavior, then, in the child socialization process is crucial to understanding the degree to which a child expresses aggressive behaviors.

Parenting in Developmental Context: Early Adolescence

It is important to note that parenting occurs within a developmental context. Since this study focuses upon the relationship between parenting and early adolescent aggression, it is critical to describe parenting during the early adolescent developmental stage. Early adolescence, roughly the period between 10 and 15 years of age, is a time of tremendous transition for children (Baumrind, 1987). Major biological, cognitive, and social organization (e.g., attending middle school) changes occur at this time for both females and males (Paikoff & Brooks-Gunn, 1991). One of the most easily observed changes that occur in early adolescence is physical growth and physiological changes associated with the reproductive maturation process. The reproductive maturation process, or puberty, facilitates breast growth, genital maturation, and pubic hair growth in

girls and testicular growth, spermarche, and pubic hair growth in boys. Early adolescence is also marked by enhanced cognitive abilities that facilitate integration of "abstract information about the self and social relationships into a unified, internally consistent system of knowledge…" (Paikoff & Brooks-Gunn, 1991, p. 56) and "enables adolescents to conceive of themselves as individuated and self-regulated beings" (Baumrind, 1987, p.116). Identity development is a key cognitive-related developmental task in early adolescence, and is linked to an increased desire for social competence with peers and adherence to peer norms (Simmons & Blyth, 1987).

The transition to middle school is a hallmark social organization change that attends the early adolescence period. Compared to elementary school, middle schools are typically larger in terms of their physical size, student body, and bureaucracy. These more impersonal school environments may present challenges to early adolescents as they attempt to establish a sense of connectedness and create new friendships and peer networks. Furthermore, middle schools demand more of early adolescents academically (i.e., more classes and homework; Hill, Bromell, Tyson, & Flint, 2007; Seidman, Allen, Aber, Mitchell, & Feinman, 1994; Seidman, Lambert, Allen, & Aber, 2003). For early adolescents who live in communities and attend middle schools with high levels of violence, their transition to middle school may be further frustrated. As pointed out earlier in this chapter, adolescent perceptions of school violence and safety have been found to be associated with diminished school engagement (Bowen & Bowen, 1999; Malek et al., 1998). There is also evidence that attending a resource-poor urban school may thwart adjustment to middle school for predominately low-income African American, White, and Latino early adolescents (Seidman et al., 1994).

Because of the biological, cognitive, and middle school changes that attend early adolescents, parents face unique challenges at this developmental stage. For example, both biological and cognitive developmental changes contribute to an adolescent's increasing desire for independence from their parents and an accompanying resistance to one-sided parental decision-making (Hill, et al., 2007). Consequently, parenting in early adolescence is characterized by the increased number and intensity of conflicts between parents and their early adolescents (Allison & Shultz, 2004; Hill, et al., 2007; Paikoff & Brooks-Gunn, 1991. Another major challenge parents face at this developmental stage is that parents spend less time with their early adolescents at a time when their early adolescents tend to reveal less information about their daily activities. Early adolescents also spend increasing amounts of time with friends and peers, and as a result, may aspire to conform to peer values and behavioral norms (Hill et al., 2007; Paikoff & Brooks-Gunn, 1991).

The realities of early adolescent development described above may increase the likelihood of an early adolescent's involvement in such risk behaviors as violence. Parents may find it necessary to develop new strategies and shift parenting priorities in order to address new challenges that emerge in early adolescence. For example, given that adolescents may feel increasing internal and external pressure to fit in and gain acceptance with peers, increasing parent support may emerge as a top parenting priority. This is particularly important for parents raising early adolescents in communities that place youth at high risk for such risk behaviors as violence. That is, the socio-cultural context and the developmental context may interact synergistically to place youth at an even higher risk for aggression and violence involvement.

The following review of the literature describes the findings of early adolescent studies that have examined the relationship between aggression and parenting behavior. Before reviewing the literature on parenting style and parenting practices predictors of early adolescent aggression, it is useful to highlight inconsistencies in the early adolescent literature regarding the conceptualizations of these parenting behaviors. In light of this shortcoming in the extant literature, the rationale for the organization of the literature review is explained.

Inconsistent Use of Parenting Style and Parenting Practices in the Early Adolescent Literature

Parenting style and parenting practices have been conceptualized inconsistently in the literature. As a result, measures labeled "parenting style" in some studies have been labeled "parenting practices" in other studies. The inconsistent use of parenting style and parenting practices was the impetus for the Darling and Steinberg (1993) contextual model of parenting style. By tracing the evolution of the parenting style construct, these researchers argued that parenting style and parenting practices are distinct concepts that influence child outcomes through different pathways. As previously discussed, parenting style is viewed as a contextual parenting behavior. That is, parenting style represents parent behavior that occurs across all domains of socialization (Darling & Steinberg, 1993). Parenting practices, on the other hand, are strategies parents use to socialize their children about specific, narrowly defined behaviors. In this study, parenting practices in the context of aggression are referred to as aggression-specific parenting practices.

The Darling and Steinberg's conceptualization of parenting style and parenting practices offers a useful paradigm for classifying parenting behavior; however, this

paradigm has not been widely adapted. In the early adolescent problem behavior literature, the inconsistent use of parenting style and parenting practices is easily observed. For example, a number of studies use measures of support, behavioral control, and/or psychological control that are either labeled parenting styles or described as the three central dimensions of parenting styles (Barber, Maughan, & Olsen, 2005; Galambos, et al., 2003; Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998; Pettit, Laird, Dodge, Bates, & Criss, 2001; Pittman & Chase-Lansdale, 2001; Mounts, 2002; Spera, 2006). In other studies, the term "parenting practices" is employed as a global label to describe measures of support, behavioral control, and/or psychological control (Gorman-Smith, Henry, & Tolan, 2004; Griffin, Botvin, Scheier, Diaz, & Miller, 2001; Hill, et al., 2007; Prelow, Bowman, Weaver, & Scott, 2007; Simons-Morton, Hartos, & Haynie, 2004; Smetana, Crean, & Daddis, 2002). The reason why researchers have not widely applied the Darling and Steinberg definition of parenting style and parenting practices is unknown. It is possible that researchers have benignly overlooked the import of consistent nomenclature for these parenting behaviors. It is also plausible that researchers find it difficult to ascertain whether a particular measure best conceptually represents parenting practices or parenting styles.

For the purpose of this literature review, it was important to establish a framework for organizing the literature in a way that distinguished parenting style and parenting practices. Because the Darling and Steinberg contextual model of parenting style was an integral part of the conceptual framework for this study, Darling and Steinberg's definition of parenting style and parenting practices was used to guide how parenting constructs were organized in the literature review. For example, some researchers have

labeled support as a "parenting practice." According to the Darling and Steinberg definitions of style and practices, support is a contextual rather than a domain-specific parenting behavior because support represents the parent's attitude toward the child (parenting style) as opposed to the parent's attitude toward the child's behavior (domain-specific parenting practices; Darling & Steinberg, 1993). Thus, studies that labeled support as a parenting practice were reviewed in the parenting style section of the literature review.

The next section provides a review of the literature on parenting style, parenting practices, and early adolescent aggression. First, the three parenting style dimensions (support, behavioral control, and psychological control) that are the focus of this study are described, followed by a review of the literature on each dimension. Lastly, this section provides a review of the literature on aggression-specific parenting practices and early adolescent aggression.

Parenting Style and Aggression

Parent support, parent behavioral control, and parent psychological control have been regarded as the three central dimensions of parenting behavior (Barber et al., 1994; Barber, 1996; Steinberg, Lamborn, Dornbusch, & Darling, 1992). Parent support, behavioral control, and psychological control were identified through Schaefer's (1965a, 1965b) influential research on the discrete components of parenting behavior. In particular, Schaefer's (1965a) seminal parenting behavior factor analysis study revealed three distinct dimensions of parenting that correspond to support, behavioral control, and psychological control.

Schaefer's parenting framework is notable because it identified two different forms of parent control: behavioral control and psychological control. This framework is a departure from other parenting research that emphasizes one dimension of parent control without disaggregating these two forms of control. Parent behavioral control is parenting characterized by regulation, monitoring, supervision and management of a child's daily activities (Barber et al., 1994). Behavioral control involves parent control of a child's behavior and is regarded as a contributor to positive child outcomes. Psychological control involves parental control of a child's psychological state and is regarded as parenting that negatively affects child development. Psychological controlling parenting impedes the development of a child's independence, efficacy, and worth (Barber, 1997, p. 7). Psychological control may involve such behaviors as love withdrawal, guilt induction, invalidation of children's feelings, and restriction of children's independent expression.

Examining these two kinds of parent control, behavioral control and psychological control, is important to understanding aggression outcomes. Research has revealed that psychological control and behavioral control have different implications for early and late adolescent outcomes (Barber et al., 1994; Barber, 1996). Unlike behavioral control and psychological control, support is a dimension that has been consistently a part of other parenting behavior frameworks. Researchers have used other labels to identify supportive parent behaviors including responsiveness, connection, and acceptance. While the labels may differ, the underlying notion of parent support as behavior characterized by the provision of parental nurture, warmth, affection, acceptance, and responsiveness is consistent across studies (Barber, 1997). In the following review of the

parenting style and literature, the literature on support dimension is described first, followed by a review of the literature on behavioral control, and finally, a review on the psychological control literature.

Parent Support

Parent support is regarded as an essential feature in child development. Parent support involves the provision of warmth, affection, responsiveness, and acceptance. The presence of parent support facilitates a child's connection to his or her parent. According to Barber (1997), connection with adults like parents "equips children with important social skills as well as a sense that the world is safe, secure, and predictable." (Barber, 1997, p. 7). As previously noted, researchers have referred to support using conceptually analogous constructs like responsiveness, nurturance, and acceptance (Barber, 1997; Locke & Prinz, 2002). The literature on parent support and aggression in early adolescence (ages 10-15) is reviewed below. For each study, the construct and/or measure that assesses support is described prior to describing study findings. This facilitates the reader's understanding of how a particular label used corresponds to the concept of support.

The literature on parenting and early adolescent aggression includes relatively few studies that examine parent support and similar constructs. The existing literature reveals that high levels of parent support are associated with low levels of early adolescent aggression. First, Simons-Morton et al. (2004) longitudinally examined the influence of parenting and peers on early adolescent aggressive behavior among sixth graders. Parent support was not explicitly defined in this study; however, the measurement items were provided. Respondents were asked whether their parent/guardian, for example, "helps,"

"gives care and attention," "is easy to talk to," and "really listens." (Simons-Morton et al., 2004, p. 25). This study revealed that parent support was negatively and significantly correlated with early adolescent aggression at baseline and 1 year later. Thus, high levels of parent support were associated with low levels of aggression at both time points. In addition to parent support, three other parenting variables were measured: parent monitoring, parent expectations, and parent-teen conflict. Path analysis revealed that a parenting behavior latent variable (composed of all four parent variables) was directly and negatively associated with early adolescent aggression 1 year later. The authors did not provide findings on the unique effect of parenting support on subsequent aggression. The unique effect of parenting support has been examined in other early adolescent aggression studies. Brookmeyer et al. (2005) investigated the role of parent support as a protective factor for committing violence (i.e., physical fights) in a sample of urban, African American early adolescents. Using a longitudinal design, these researchers found that parent support was negatively related to committing subsequent acts of violence. The interaction between parent social support, witnessing violence, and gender was also explored. Regression results revealed that parent support was protective against committing violence among males who had witnessed community violence. This finding was not found for females (Brookmeyer, et al., 2005).

Jackson and Foshee (1998) examined the cross-sectional relations between parent responsiveness and early adolescent fighting behavior in a sample of African American and White 9th and 10th grade high school students. These researchers provided examples of responsive parenting characteristics, including "being affectionate and accepting," "providing comfort and support," and "recognizing children's achievements" (Jackson &

Foshee, 1998, p. 345). This description of responsiveness indicates that this parenting style dimension, as conceptualized in this study, parallels the concept of support. Responsiveness was measured through a youth report of perceived mother responsiveness and a youth report of perceived father responsiveness scale. Bivariate results revealed that both high mother and father responsiveness were associated with a smaller proportion of adolescent reported peer fighting and peer weapon threats. In multivariate analyses, the mean mother and father responsiveness scores were computed in order to create one single parent responsiveness variable. The mother and father responsiveness scores were too highly correlated for individual treatment in the multivariate model. Multivariate results revealed a significant inverse relationship between parent responsiveness and early adolescence violence-related behaviors. Specifically, as parent responsiveness decreased, peer weapon threats increased. Also, as parent responsiveness decreased, peer fighting increased. However, this later relationship was only significant for girls (Jackson & Foshee, 1998). While this study provided the benefit of learning about the different influence that mothers' and fathers' responsiveness might have on early adolescent aggressive behaviors, in this sample, youth's perceptions of responsiveness were highly correlated.

Using the typological approach to determine parenting style, Miller, DiIorio, and Dudley (2002) investigated the concurrent relations between parenting and aggression attitudes in a sample of African American early adolescents. The dimensions of involvement and control were used to categorize parents into one of three parenting style classifications: authoritative, authoritarian, and permissive parenting. Involvement was not described in detail; however, an example item from the Involvement scale was

provided: “When you do something your mother likes, she praises you, or gives you a smile, hug or kiss.” This sample item provides indication that involvement, as used in this study, is analogous to the concept of support. This cross-sectional study revealed that adolescents of permissive parents reacted more negatively to hypothetical situations that could result in conflict and violence. Specifically, compared to early adolescents of authoritative and authoritarian parents, early adolescents of permissive parents were more likely to indicate they would react to the hypothetical situations using somewhat violent (yelling and/or cursing) or extremely violent (physically fighting and/or using a weapon) responses. This study suggests that authoritative parenting and authoritarian parenting styles may be protective factors in this sample of adolescents. Most notably, this study revealed that the mean reactions to situations that could result in conflict and violence reported by early adolescents of authoritarian parents were not significantly different from the mean reactions reported by early adolescents of authoritative parents. Because the typological approach was employed, it is not possible to discern the unique effect that involvement had on impacting the study findings.

While the Miller et al. (2002) study does not reveal the independent effect of involvement, the Simons-Morton et al. (2004) and the Jackson and Foshee (1998) studies clearly reveal that early adolescent aggression and support (and conceptually similar constructs) are negatively related. These findings are consistent with findings in the child aggression literature that reveal that measures of support are negatively related to aggressive behavior among pre-school children (Hart, et al., 1998). The broader problem behavior also provides evidence that support is negatively related to early and late adolescent delinquency (Barber et al., 1994; Pittman & Chase-Lansdale, 2001; Bean et

al., 2006), disruptive behavior (Rueter & Conger, 1998), and externalizing problems (Prelow et al., 2007). Findings in the early adolescent problem behavior literature indicating that support (and analogous constructs) failed to emerge as a significant predictor of problem behavior are rare (McCabe, Clark, & Barnett, 1999; Galambos et al., 2003).

One strength of the studies reviewed is that all included some or all African American participants. Thus, these studies suggest that parent support is protective in this population. Only two of the studies (Simons-Morton et al., 2004; Brookmeyer et al., 2005) included a longitudinal design. The cross-sectional designs of the remaining studies reviewed prevent an understanding of whether parent support predicts early adolescent aggression across time. Additional support and early adolescent aggression research using longitudinal designs is needed. Given the overall small number of parent support and early adolescent aggression studies, future research on aggression and parenting should incorporate support constructs.

In contrast to the literature on parent support, the body of literature on parent behavioral control is much larger. The following discussion reviews the literature examining the relations between parent behavioral control and early adolescent aggression.

Behavioral Control

Parent behavioral control is parenting characterized by attempts to control a child's behavior through regulation, monitoring, supervision and behavior management (Barber et al., 1994). Some researchers studying behavioral control use conceptually equivalent constructs like demandingness and restrictiveness (Barber, 1997). These

constructs have different names, but reflect the same underlying conceptual meaning of behavioral control. The following literature review describes the aggression and parent behavioral control literature, with particular attention to the voluminous literature on the monitoring knowledge aspect of behavioral control.

The operationalization of behavioral control is not uniform across studies on adolescent outcomes. This review of the behavioral control literature has revealed that behavioral control is most frequently operationalized as parent monitoring knowledge in the early adolescent aggression literature and the broader adolescent problem behavior literature. In fact, most of the aggression studies reviewed incorporated measures of parent monitoring knowledge. One reason monitoring knowledge is frequently used in the early adolescent aggression literature is the recognition that adolescents spend increasing amounts of time unsupervised by parents and other adults (Dishion & McMahon, 1998). In this view, behavioral control of an early adolescent fundamentally involves parental monitoring activities including surveillance and tracking of a child's whereabouts. Monitoring is typically measured by the degree to which parents are aware of their adolescent's whereabouts, activities, and who the adolescent is spending time with when away from his/her parents (Stattin & Kerr, 2000b). This assessment of monitoring is viewed as the end result of parent's active efforts to control their child's behavior (i.e., where they are and who they are with when not with parents) and is now commonly referred to as monitoring knowledge. Stattin and Kerr (2000a, 2000b) have challenged the use of monitoring knowledge as a measure of parents' monitoring efforts. These researchers empirically demonstrated that a child's free disclosure of information was more predictive of child outcomes than measures of monitoring knowledge (Stattin

& Kerr, 2000a, 2000b). Despite these findings, the early adolescent aggression literature and the broader adolescent problem behavior literature provide strong evidence that monitoring knowledge is highly predictive of problem behaviors including aggression.

The early and late adolescent problem behavior literature has consistently revealed negative relations between parental monitoring knowledge and various types of antisocial behaviors including externalizing behaviors (Krishnakumar, Buehler, & Barber, 2003), deviance (Forehand, Miller, Dutra, & Watts Chance, 1997), problem behaviors (i.e., drug/alcohol use, gang involvement; Lamborn, Dornbusch, & Steinberg,1996; Gray & Steinberg, 1999; Mason, Cauce, Gonzales, & Hiraga, 1996) and delinquency (Barber et al., 1994; Barber, 1996; Bean et al., 2006; Cheng, 2004; Gray & Steinberg, 1999; Petras et al., 2004; Patterson & Stouthamer-Loeber; 1984; Patterson, Forgatch, Yoeger, & Stoolmiller, 1998; Pettit, et al., 2001; Reid & Patterson, 1989). This body of research reveals that high parental monitoring knowledge is protective against the development and escalation of problem behaviors in early and late adolescence.

With few exceptions, the early adolescent aggression literature also provides evidence that parent knowledge of an adolescent's whereabouts is related to lower levels of aggression. Much of the literature examining monitoring knowledge and adolescent aggression involves predominately urban, African American samples. This literature provides support for a negative relationship between parent monitoring knowledge and aggression in this population. For example, Wright and Fitzpatrick (2006b) found that parent monitoring knowledge significantly predicted lower levels of aggression in a sample of African American early adolescents. Parent monitoring knowledge was only one of three parenting variables that significantly predicted aggression in this cross-

sectional study. Richards, Viegas Miller, O'Donnell, Wasserman, and Colder (2004) investigated the direct and mediational effects of parental monitoring knowledge in their study of urban, African American early adolescents and their parents. Using a cross-sectional design, these researchers found an inverse relation between parental monitoring knowledge and aggression. Results further indicated that parent monitoring knowledge mediated the relationship between sex and aggression. Specifically, parents were more aware of girls' whereabouts than boys' whereabouts, despite the significantly higher prevalence of male aggression. These findings may indicate that parents monitor girls more than boys because they perceive girls as more prone to victimization. This was the only study reviewed that indicated a gender interaction with parent monitoring knowledge.

Simons-Morton et al. (2004) also found that parental monitoring knowledge was significantly and negatively associated with aggression among sixth graders. This longitudinal, multi-ethnic study revealed that parental monitoring knowledge was negatively associated with aggression concurrently and at a second time point. Also, path analysis revealed that a Time 1 parenting behavior latent variable (composed of monitoring knowledge and three other parent variables) was directly and negatively associated with aggression 1 year later. The unique effect of Time 1 parenting monitoring knowledge on early adolescent aggression 1 year later could not be determined. Only one other study was identified that utilized a longitudinal design. Wu et al. (2003) investigated the impact of an HIV early and late adolescent risk-reduction intervention at 6 months and 12 months post-intervention. This study of urban, African American youth and their parents included two treatment groups. One group received the

youth intervention only, and the second group received both a youth and parent intervention. At 6 months, parent monitoring knowledge was significantly higher among participants in the youth and parent intervention group compared to the youth-only group. However, the rates of fighting behavior in the youth and parent intervention group were not significantly different from the rates in the youth-only group.

Another study provides evidence that increased parental monitoring knowledge is unrelated to early adolescent aggression. Griffin et al. (2000) found that parental monitoring knowledge was not significantly related to aggressive behavior in a predominantly African American sample of sixth graders. Conversely, monitoring knowledge was the most predictive parenting variable for the other problem behavior dependent variables (smoking cigarettes, alcohol use, and delinquency) in this study. These findings suggest that aggression was more normative in this study population since higher levels of monitoring knowledge failed to impact aggressive behaviors but did impact more serious problem behaviors.

Schiff and McKernan McKay (2003) also found that monitoring was not significantly related to aggressive behavior among a sample of African American early adolescents and their mothers. These authors obtained data on parents' efforts to control their early adolescent's behavior and whereabouts, rather than monitoring knowledge. Two example items provided were: On a school night, "I expect my child to be in bed by a certain time" and "My child can go out after school without asking me" (Schiff & McKernan McKay, 2003, p. 521). These findings may suggest that monitoring efforts are not as strong a predictor of early adolescent aggression as monitoring knowledge.

Orpinas et al. (1999) used both measures of monitoring efforts and monitoring knowledge in their investigation of parenting predictors of aggression in a middle school sample. These researchers used two items to measure behavioral control in their multiethnic investigation examining the relations between parenting and early adolescent aggression. The first item measured monitoring knowledge, while the second item measured restrictiveness e.g., "Do your parents let you come and go as you please" (Orpinas et al., 1999, p. 777). This study revealed that as the levels of behavioral control declined, adolescent involvement in fighting increased. Moreover, a frequency of aggressive acts variable was also related to parent behavioral control. Frequency of aggression was nearly three times lower among students with very high parent behavioral control compared to students with very low parent behavioral control.

Jackson and Foshee (1998) examined parent demandingness in their study on the predictors of early adolescent fighting behavior. These researchers provided examples of the characteristics of demanding parenting including "parental control of a child's behavior," "setting and enforcing clear standards of behavior," "actively monitoring and supervising a child's activities," and "maintaining structure and regimen in a child's daily life" (Jackson & Foshee, 1998, p. 345). This description indicates that demandingness is analogous to behavioral control as both concepts embody similar kinds of parenting behaviors. Demandingness was measured through a youth report of perceived mother demandingness scale and a youth report of perceived father demandingness scale. Bivariate results revealed that both high perceived mother and father demandingness were associated with a smaller proportion of adolescent reported peer fighting and peer weapon threats. Due to multicollinearity, the mean perceived mother and father

responsiveness scores were computed in order to create one parent demandingness variable in the multivariate analyses. Results revealed a significant inverse relationship between perceived parent demandingness and early adolescent violence-related behaviors. Specifically, as parent demandingness decreased, peer weapon threats increased and peer fighting increased for both boys and girls.

Miller et al. (2002) investigated the relationship between parenting and aggression attitudes in a sample of African American early adolescents. The dimensions of involvement and control were used to categorize parents into one of three parenting style classifications: authoritative, authoritarian, or permissive parenting. Control was not described in detail; however, an example item from the Control scale was provided: "Your mother allows you to date" (Miller et al., 2002, p. 465). As previously described, this study revealed that adolescents of permissive parents reacted more negatively to hypothetical situations that could result in conflict and violence compared to adolescents of authoritative and authoritarian parents. This study suggests that authoritative parenting and authoritarian parenting styles may be protective factors in this sample of early adolescents. However, the unique effect of control on early adolescent hypothetical responses to conflict is not discerned because the parenting style typology aggregates both control and involvement scores.

In the majority of the studies reviewed, behavioral control was negatively related to aggression. High levels of monitoring knowledge, a frequent way that behavioral control is operationalized, in particular was found to contribute to lower levels of early adolescent aggression. Only two reviewed studies (Griffin et al., 2000; Wu et al., 2003) revealed that monitoring knowledge was not significantly related to early and late

adolescent aggression. All the studies reviewed included predominately urban, African American or all urban, African American research samples. This is a major strength in this body of literature given the high risk for aggression among urban, African American youth. It is also important to note that all of the behavioral control studies reviewed, except the Wu et al. (2003) study, included early adolescent samples, which makes this body of research applicable to the early adolescent sample in this study. One major shortcoming in this body of adolescent aggression literature is the lack of longitudinal design studies. As a result, it is unclear whether behavioral control influences early adolescent aggressive behavior over time. Only two of the studies reviewed (Simons-Morton et al., 2004; Wu et al., 2003) utilized a longitudinal research design. Future research examining behavioral control and aggression should include more longitudinal studies. The literature on behavioral control is clearly more prominent than the literature on psychological control, the second form of parental control identified by Schaefer. The following discussion reviews the literature on psychological control.

Psychological Control

Parent psychological control refers to parenting that prohibits the healthy development of a child's independence, efficacy, and self-worth. Psychologically controlling parents use such behaviors as guilt induction and love withdrawal to control their child's psychological state (Barber, 1997, p. 7). While first articulated by Schaefer (1965a, 1965b) over 40 years ago, the psychological control dimension has not been widely used in child and adolescent development research. In the 1990s, Barber and colleagues revived interest in psychological control as an important contributor to early and late adolescent problem behavior outcomes (Barber et al., 1994; Barber, 1996).

Despite this renewed interest in psychological control, the literature on psychological control and problem behaviors including aggression remains scant. Only three studies have been found that examine the relations between parent psychological control and aggression. These three studies focus on child aggression rather than early or late adolescent aggression. In order to provide insight into how parent psychological control influences adolescent behavior outcomes, this review of the empirical literature first briefly describes studies on the relationship between parent psychological control and early and late adolescent problem behaviors. Next, the three studies on parent psychological control and child aggression are reviewed.

A number of studies in the adolescent problem behavior literature provide evidence that psychological control is positively related to early and late adolescent delinquency. As previously discussed, Barber and colleagues conducted several studies to validate the psychological control construct. These studies confirmed the researchers' hypothesis that psychological control, rather than behavioral control, would be more predictive of early and late adolescent internalizing problems (e.g., depression). In two studies, researchers also found that psychological control was related to early and late adolescent delinquency. Findings from one cross-sectional data set and one longitudinal data set revealed that psychological control was significantly and positively related to early and late adolescent delinquency outcomes (Barber et al., 1994; Barber, 1996). Other research has revealed statistically significant relations between psychological control and early adolescent problem behaviors. In their multiethnic study of early adolescent problem behavior, Pettit et al. (2001) found that early adolescent-reported parent psychological control was positively associated with delinquent behavior for girls.

This relation was not significant for boys. Galambos et al. (2003) also found that parent psychological control predicted early adolescent externalizing problems (e.g., school misconduct, substance use, antisocial behavior). However, this relation to externalizing problems was only significant when parents reported both higher levels of psychological control and behavioral control. According to the study authors, this finding suggests that parents may use both forms of control in reaction to earlier expressions of externalizing behavior. More specifically, parents may increase their use of both psychological control and behavioral control in order to curtail their early adolescent's externalizing behaviors.

In their longitudinal study of African American early adolescents, Mason et al. (1996) found that Time 1 parent psychological control predicted Time 2 problem behavior (e.g., stealing, drug use, fighting). Moreover, this study revealed a significant quadratic interaction between parent psychological control and peer problem behavior. Among early adolescents with high levels of peer problem behavior, a curvilinear relationship was found: low levels of psychological control and high levels of psychological control both predicted high levels of problem behaviors, whereas moderate levels of psychological control predicted lower levels of problem behaviors. This study supports the notion of moderate psychological control as a protective factor when early adolescents have problem behaving peers. Another study revealed a negative association between psychological control and adolescent problem behavior. In their study of African American families, Bean et al. (2006) found that youth report of paternal psychological control was negatively correlated with early and late adolescent delinquency. While the multivariate results did not reveal significant relations between delinquency and maternal and paternal psychological control, the bivariate results

indicated that high levels of psychological control was related to lower levels of delinquency.

Similar to the problem behavior and psychological control literature, the small body of literature exploring the relations between parent psychological control and child aggression provides evidence that psychological control is related to aggression. The three studies on aggression and psychological control reviewed represent the research of Nelson and colleagues. These researchers have focused upon understanding the extent to which parent psychological control predicts relational and overt forms of aggression among children. Even though these studies do not include adolescent participants, they enhance understanding of the strengths and weaknesses in the psychological control literature. First, Nelson and Crick (2002) examined the relations between aggression and psychological control in an ethnically/racially diverse U.S. sample of third grade students. These authors hypothesized that parent psychological control would predict relational aggression, but not physical aggression. Both father and mother report of psychological control was obtained in this study. Relational and physical aggression were measured using peer nomination ratings. Study findings revealed that psychological control did not contribute to relational or physical aggression for boys. Psychological control, however, contributed to girls' aggression. Father psychological control predicted girls' relational aggression and mother psychological control predicted girls' physical aggression. These findings provide evidence that parent psychological control predicts both relational and overt forms of aggression in girls.

Nelson, Hart, Yang, Olsen, and Jin (2006) found similar results in their study of Chinese preschoolers and their parents. Nelson et al. (2006) also examined the effects of

both parents by obtaining mother and father reports of psychological control. Study findings revealed that the more fathers were psychologically controlling, the more girls were relationally aggressive. Mothers' psychological control was not related to aggression for either boys or girls. Moreover, this study also revealed that the more Chinese mothers and fathers jointly engaged in psychological control, the more physical and relational aggression was manifested among their daughters.

In a study involving Russian preschool children and their parents, Hart et al. (1998) found that psychological control was related to child overt aggression. Study findings revealed that higher levels of mother reported psychological control was associated with more overt child aggression. Neither maternal nor paternal psychological control, however, was correlated with relational aggression. Multivariate model results revealed that mother and father psychological control were not significant predictors of relational or overt aggression. Given that psychological control was only significantly associated with overt aggression in the bivariate analyses, this study provides limited support for the relations between psychological control and aggression.

In all three aggression studies reviewed, parent psychological control was positively related to aggression. These studies demonstrate that psychological control predicts both relational and overt aggression as early as the preschool years. The findings of these studies are generally consistent with findings in the adolescent problem behavior studies reviewed. Psychological control was found to be positively associated with such early and late adolescent behaviors as delinquency, externalizing behaviors (e.g., school misconduct, substance use), and problem behaviors (e.g., stealing, drug use, fighting). However, in two problem behavior studies (Bean et al., 2006; Mason et al., 1996)

involving African American adolescent research samples, psychological control was found to be negatively related to behavior. These findings underscore the need for research on aggression and psychological control that includes African American study participants. This pattern of negative relations between parent psychological control and problem behaviors among African American adolescents merits further study.

Across the three aggression and psychological control studies, several additional limitations highlight the need for additional research that examines the relations between psychological control and adolescent aggression. First, the cross-sectional design of the three aggression studies prevents understanding of whether the effects of psychological control in the preschool and early elementary school years persist into adolescence. Future research on young children should involve longitudinal designs that follow participants into adolescence. Moreover, only one of the studies involved a U.S. sample. The findings from the Chinese and Russian psychological control investigations may not be generalizable to a U.S. population. Future research on parent psychological control is needed that involves U.S. populations, ethnically/racially diverse samples in particular. Lastly, the general absence of literature on psychological control and early adolescent aggression underscores the necessity of new research that examines these relationships. As the next discussion on aggression-specific parenting practices reveals, the literature on aggression-specific parenting practices is also scant. The following review describes the two studies identified that investigate the relationship between aggression-specific parenting practices and early adolescent aggression.

Aggression-Specific Parenting Practices and Aggression

This portion of the literature review describes studies that have examined the influence of aggression-specific parenting practices on early adolescent aggression outcomes. Aggression-specific parenting practices represent those parenting behaviors that are focused around socializing an early adolescent about aggression involvement. Only two studies have been found that explore the ways parents socialize their children regarding aggression. In both studies, the aggression-specific parenting practices studied were not termed "aggression-specific" parenting practices by the study authors. However, these practices reflect the Darling and Steinberg (1993) conceptualization of domain-specific parent socialization practices. For both studies, the measure that assesses aggression-specific parenting practices is described in depth prior to discussing the study findings. This discussion concludes with a description of the strengths and weakness of both studies.

The first study in this review, Orpinas et al. (1999), explored the influence of parenting on aggression and weapon carrying among urban middle school students. Perceived parent support for fighting was one of the parenting influence variables examined by these researchers. In order to assess perceived parent support for fighting, these researchers used a perception of parental attitudes toward fighting measure. This 10-item scale assessed early adolescents' perceptions of what their parents would want them to do in various conflict situations. Early adolescent respondents were asked "What do your parents tell you about fighting?" and were instructed to respond "yes" or "no" to the 10 scale items. Five of these items are parent sayings that endorse fighting in conflict situations (e.g., "If someone hits you, hit them back"). The remaining five items are

parent sayings that advocate peaceful alternatives to conflicts (e.g., "If someone calls you names, ignore them"; Orpinas et al., 1999, p. 777). Through the use of this measure, Orpinas et al. obtained reports on early adolescents' perceptions of what their parents communicate to them about aggression involvement. Parent communication about aggression is one way in which parents may socialize their children about aggression. Thus, the parent support for fighting construct in this study represents aggression-specific parenting practices.

Orpinas et al. (1999) found a strong and significant bivariate association between aggressive behavior and perceived parent support for fighting. Multiple linear regression was used to analyze the effect of perceived parent support for fighting, monitoring, parent relationship quality, family structure, and gender on early adolescent aggression. All of these variables had a significant main effect on aggression; however, parent support for fighting explained most of the variance in this model. Additional analysis revealed that early adolescents who perceived parent support for fighting were 1.17 as likely to engage in fighting (CI 1.1- 1.2) than participants who perceived parent support for peaceful alternatives to fighting. This study provides strong support for perceived parent support for fighting as a predictor of early adolescent aggression.

A second study has been found that examined the effect of aggression-specific parenting practices on child and early adolescent attitudes about aggression. Nathanson (1999) explored the relationship between parental mediation of violent TV viewing and aggression in a sample of second through sixth graders. While violent TV viewing is the context in which parenting behavior was studied, child aggression attitudes were the outcome variable. Three parental mediation activities, active mediation, restrictive

mediation, and coviewing, were the focus of this investigation. These mediation activities are aggression-specific parenting practices because they represent parenting behavior employed to socialize youth about issues specifically related to aggression.

Nathanson's conceptualization of these parent mediation behaviors demonstrate how these behaviors may be viewed as aggression-specific parenting practices. First, the definitions of the parent mediation behaviors provided by this author show a connection between these behaviors and child socialization around aggression. A parent's active mediation of violent TV viewing is defined as talking to a child about violent TV content. Restrictive mediation is a parent's establishing of rules or regulations about violent TV viewing for his/her child. Finally, parent coviewing is watching violent content TV programs with a child. The relations that Nathanson hypothesizes to exist between parent mediation behaviors and aggression also demonstrate how these behaviors may be viewed as aggression-specific parenting practices. Nathanson contends that active mediation and restrictive mediation parenting behaviors socialize children to consider violent TV as "relatively unimportant, not useful for learning and not worthy of their attention" (Nathanson, 1999, p. 128). In particular, negative active mediation, i.e., a parent's expression of negative attitudes about violent content, makes children less influenced by violent messages and thus, exhibit less aggressive tendencies. Nathanson also hypothesizes that coviewing socializes children to regard violent TV as important and worthy of their attention and, therefore, would also predict aggression tendencies.

In this study, parents were surveyed regarding the frequency of their violent TV mediation and coviewing behaviors for three genres of TV that usually contain violence.

Parents reported how frequently they used several kinds of negative active mediation in each of the three genres:

> "When your child watches [action adventure programs, realistic action cartoons, classic cartoons], how often do you… tell your child not to imitate what the characters do or say?" "…tell your child that what happens on the show wouldn't happen in real life?" "…tell your child that you don't like how the characters behave?" and "…encourage your child to think about how the victims of violence might feel?" (Nathason, 1999, p. 124)

In addition to the frequency of restrictive mediation behaviors, parents also indicated how strict they are in enforcing rules about violent TV viewing. The child and early adolescent participants reported on their attitudes about aggression and then one week later completed a similar questionnaire assessing their aggression attitudes after viewing a violent content cartoon was viewed. The second questionnaire was administered in order to measure a second aggression outcome, TV-induced aggressive attitudes.

Results of this study indicate that both active mediation and restrictive mediation parenting were associated with less aggressive attitudes and less TV-induced aggressive attitudes. While parent coviewing was not associated with general aggressive attitudes, this construct was associated with greater TV-induced aggressive attitudes. These results held for children and early adolescents who were both heavy and light viewers of the three genres of violent TV examined (Nathanson, 1999). Overall, the study findings reveal that aggression-specific parenting practices are related to child and early adolescent aggression attitudes. In particular, a parent talking to a child about violent TV content and establishing rules that regulate violent TV viewing were associated with less aggressive attitudes among children and early adolescents.

In summary, Orpinas et al. and Nathanson share the conclusion that the aggression-specific parenting practices studied are related to aggressive behavior and aggression attitudes, respectively. The cross-sectional design of theses studies is a limitation; longitudinal study designs would be particularly helpful in elucidating the strength of these relations over time. Also, both studies only use one reporter for the parent and aggression outcome measures. In the Orpinas et al. study, youth report on their perception of parenting behavior as well as their own behavior. Consequently, the youth report of parenting behavior is used as a predictor of the youths' own behavior. This presents the problem of common method variance, which may inflate the measurement error. For example, aggressive youth may have been likely to perceive their parents as aggressive or justify their behavior by reporting that their parents endorse aggression. Although Nathanson used parent and child reporters, youth only reported about youth attitudes and parents only reported about their parenting behavior. Parent and youth assessments of both youth attitudes and parenting behavior would have strengthened this measurement scheme. Given that only two studies have been found that utilized aggression-specific parenting practices, additional research is needed to understand how aggression-specific parenting practices influence early adolescent aggression.

Parenting Predictors of Aggression Summary

This discussion on aggression-specific parenting practices concludes section two, the review of the literature about parenting style dimensions (support, behavioral control, and psychological control) and parenting practices (aggression-specific parenting practices). The literature on parenting and aggression largely reveals that high levels of

support and behavioral control are related to lower levels of early adolescent aggression. High levels of psychological control, on the other hand, are generally related to higher levels of child aggression. There is also some evidence that higher levels of psychological control are related to lower levels of problem behavior among African American early adolescents. Furthermore, aggression-specific parenting practices that endorse aggression-avoidance are associated with lower levels of child and early adolescent aggressive behavior and attitudes.

Although abundant research on behavioral control is available, the adolescent aggression research involving parent support, parenting psychological control, and aggression-specific parenting practices constructs is limited. In fact, no studies were found that investigate the relations between psychological control and aggression in early adolescence. Relatively few studies were found that examined the relations between early adolescent aggression and support or aggression-specific parenting practices. Therefore, it is important that future research exploring parent influences on early adolescent aggression include such parenting constructs. Additional research would enhance understanding of the ways parenting style and parenting practices influence early adolescent aggression. As previously noted, adolescent aggression is also fueled by the ways early adolescents' influence their parents. Section three below presents a review of the empirical literature exploring the degree to which early adolescent behavior influences subsequent parenting.

Influence of Adolescent Aggression on Parenting Behavior

A number of researchers have argued that an examination of parenting influences on adolescent behavior does not fully capture how parenting influences adolescent

behaviors like aggression (Maccoby, 1992). In the context of early adolescent aggression, parent-child interactions, rather than parenting alone, influence the development, maintenance, and escalation of aggression over time. Despite the widespread acceptance of the reciprocal nature of parent-child relationships, only a small number of studies have explored the reciprocal associations between parenting and early adolescent aggression and other problem behaviors. As previously discussed, research has revealed that such early and late adolescent problem behaviors as poor psychosocial functioning (Brody & Ge, 2001), alcohol use (Brody & Ge, 2001; Stice & Barrera, 1995), and sexual risk behaviors (Henrich et al., 2005) predict parenting deficits. In turn, parenting deficits predicted higher levels of subsequent adolescent problem behavior. This pattern of associations is also evident in the literature on aggression and related behaviors as shown in the review of the literature below.

Patterson and colleagues conducted the earliest studies of reciprocal parent-child interactions and the effect of these dynamic interactions on the development of aggression over time (Patterson, 1982; Patterson, Reid, & Dishion, 1992; Reid & Patterson, 1989). Using moment-by-moment analyses of observational data, these researchers found that harsh verbal exchanges between an aggressive child and a parent using ineffective discipline skills initiated a cycle of coercive parent-child interactions. This cycle of coercion transpired as follows: During coercive conflicts with parents, aggressive children used aversive tactics to terminate the coercive interchange with their parent. Reoccurring coercive parent-child interactions fueled ineffective parental disciplinary measures. Ineffective parent discipline, in turn, reinforced child aggressive behavior (Patterson, 1982; Patterson, Reid, & Dishion, 1992; Reid & Patterson, 1989).

This cycle of reciprocal coercive child and parent behavioral processes is the basic description of Patterson's coercion model. Patterson and colleagues found that this cycle of parent-child behavior initiates in early childhood and contributes to the escalation of aggressive behavior in adolescence. Reid and Patterson (1989) assert that the coercive exchanges between parents and their aggressive children provide "a rich training ground for the development of antisocial behaviour patterns" (Reid & Patterson, 1989, p. 110). Thus, equipped with this early training, a child more frequently expresses aggression within the context of other relationships (i.e., relationships with siblings, peers, teachers) as he or she moves into adolescence (Dishion, Patterson, & Griesler, 1994; Reid & Patterson, 1989).

Vuchinich, Bank, and Patterson (1992) extended the early work of Patterson and colleagues through their investigation of parent discipline practices and pre- and early adolescent antisocial behavior. These researchers tested several bidirectional models to understand the development of antisocial behavior among male youths (9-10 years of age). This multi-method, multi-informant study included models that assessed data collected at two distinct time intervals: data collected 2 years apart at times 1 and 2 (cross-lagged model) and data collected approximately 2-3 months apart at Time 2 (cross-sectional model). In both the cross-lagged and cross-sectional models, Vuchinich et al. (1992) found that positive parent discipline practices predicted subsequent declines in antisocial behavior, and antisocial behavior predicted a subsequent decline in the quality of parent discipline practices. The cross-sectional model provided stronger evidence for bidirectional parent-child influences than the cross-lagged model. However, the cross-sectional findings should be interpreted with caution as the temporal ordering of

the Time 2 measures was not specified in the model. Despite the limitations of the cross-sectional findings, this study provided an important contribution to the literature by demonstrating that antisocial behavior at one time point predicted parenting behavior at subsequent time points (i.e., 2 months later and 2 years later).

Another study examined the bidirectional relations between ineffective parent discipline practices and child behavior (temperament and externalizing behaviors) in a multi-ethnic sample of pre- and early adolescents (Lengua, 2006). This study by Lengua (2006) revealed that initial levels of three measures of child temperament (fear, irritability and effortful control) were related to pre- and early adolescent behavior 1 year later. Specifically, higher initial child irritability predicted higher levels of parental rejection and inconsistent discipline. Conversely, higher initial child fear and effortful control predicted declines in parent rejection. Higher initial fear solely predicted declines in parent inconsistent discipline. These findings indicate that children with higher initial fear and effortful control (i.e., self-regulation) were less likely to evoke negative, ineffective parenting behaviors 1 year later. Study findings further revealed that Time 1 and Time 2 parent rejection and inconsistent discipline were related to increases in adolescent externalizing behaviors 2 years following Time 1 and 1 year following Time 2. Similar to Vuchinich et al. (1992), Lengua's study demonstrates that child and early adolescent behavior can predict ineffective parenting. The design of this study provides an important enhancement over the Vuchinich et al. study. By using 3 time points, Lengua demonstrates bidirectional adolescent-parent relationships and their subsequent influence on a problem behavior outcome. The study also reveals how pre- and early adolescent temperament at Time 1 relates to parenting 1 year later (Time 2), and how

parenting at Time 2, in turn, relates to pre- and early adolescent problem behavior 1 year later (Time 3).

The Lengua (2006) study also provides an important contribution to the literature as it focuses on temperament in pre- and early adolescence; nearly all studies on temperament focus on infants and preschool children (Lengua, 2006). It should be noted that studies on infant and preschool children's temperament have found that temperament changes parenting behavior over time. For example, Lee & Bates (1985) found that mothers of 2 year olds with difficult temperaments (i.e., high levels of crying and fussing) predicted more parent-child conflict compared to mothers of children with average or easy temperaments. Further, mothers of children with difficult temperaments were more likely to respond to their child's behavior with negative, power-assertive forms of control compared to mothers of children with average or easy temperaments (Lee & Bates, 1985). These studies show that difficult temperament is associated with higher levels of parenting behaviors that may fuel coercive interactions between children and parents. It is these reciprocal coercive interactions between parents and their children that, according to the coercion model, greatly contribute to the development of aggression.

Rueter and Conger (1998) investigated early adolescent and parent behaviors that may give rise to coercive interactions between parents and their early adolescents. These researchers investigated the bidirectional effects of disruptive adolescent problem solving and two parenting behaviors (harsh, inconsistent parenting and nurturant parenting) in a sample of White families. Disruptive adolescent problem solving was defined as disruptive, inflexible, or defiant behavior during a parent-child problem-solving task.

Disruptive adolescent problem solving was hypothesized to catalyze coercive cycles of parent-child interaction that reinforce early adolescent aggression. Three time points were used and measurements were conducted at 1- and 2-year measurement intervals. The study findings revealed that harsh, inconsistent parenting was related to increasing levels of disruptive adolescent problem solving 1 year later and again, 3 years later. Nurturant parenting had the opposite effect. Nurturant parenting was related to declining levels of disruptive adolescent problem solving 1 year later and 3 years later. Disruptive adolescent problem solving behavior was related to both increasing levels of harsh, inconsistent parenting and decreasing levels of nurturant parenting 1 year later and 3 years later (Reuter & Conger, 1998). The study findings show that adolescent problem behavior contributed to changes in the levels of both ineffective parenting (harsh, inconsistent parenting) and protective parenting (nurturant parenting). Moreover, Rueter and Conger (1998) were able to demonstrate that the 2-year measurement interval (Time 1 to Time 3) provided stronger support for bidirectional effects compared to the 1-year measurement interval (Time 1 to Time 2) findings.

The studies reviewed reveal strong evidence for the existence of bidirectional relations between problem behavior and parenting. In particular, these studies show that early and late adolescent aggression and other antisocial behaviors, as well as characteristics like temperament, have been found to predict parenting over time. With the exception of the Reuter and Conger (1998) study, which examined nurturant parenting, all of the studies reviewed investigated a parenting behavior that represented a form of parenting positively associated with risky adolescent behavior (i.e., ineffective parenting, harsh parenting, and inconsistent discipline). Aggression and other related

behaviors were found to increase ineffective parent discipline behaviors (e.g., ineffective parent discipline). Additional research is necessary to enhance understanding of the bidirectional processes that occur for diverse kinds of parenting behaviors, including those that are the focus of this study (i.e., parent support/behavioral control, parent psychological control).

It is instructive to compare the research design of these studies. In particular, the choice of measurement time intervals is an important design issue that has implications for the detection of bidirectional effects. The central challenge is choosing a measurement interval that provides enough time to observe parent and adolescent behavior change, but not too much time such that bidirectional effects are unobserved. In the studies reviewed above, time lags were as short as 2-3 months (Vuchinich et al., 1992) and as long as 2 years (Rueter & Conger, 1998). The Rueter and Conger (1998) study included both 1-year and 2-year measurement intervals. These researchers found that the 2-year measurement interval yielded stronger, more consistent support for bidirectional effects compared to the findings for the 1-year measurement interval findings. Vuchinich et al., on the other hand, found more robust findings for the 2-3 month time interval model versus the 2 year time interval model. Despite these researchers' inability to specify the temporal order of the Time 2 measures in this model, this study provides some evidence that very short time intervals are sufficient to observe bidirectional behavior changes. In sum, the most appropriate time interval to use has not been determined.

One major limitation in this body of literature is the absence of investigations including non-White study participants. Future research on adolescent-parent

bidirectional effects should include more diverse study samples in order to demonstrate the extent to which bidirectional effects emerge in non-White racial/ethnic groups. Given the dearth of research in this area, additional research is needed in general to improve the understanding of how bidirectional effects influence early adolescent aggression outcomes.

The next section of chapter 2 describes the relevance of the parenting literature reviewed in enhancing our understanding of aggression among African American adolescents living in low-income communities.

Parenting and Early Adolescent Aggression in Low-income African American Populations

This study will involve an urban, low-income, African American study sample. A study exploring African American parenting and early adolescent aggression is important given the high risk for aggression involvement among African American adolescents who reside in poor urban communities (Huesmann et al., 1996; Gorman-Smith et al., 1996; Guerra et al., 1995). Studies involving low-income, African American study samples shed light on the risk and protective factors that are most relevant to this study population. For example, a study may reveal that the risk factors for aggression involvement among low-SES, White early adolescents differ for low-SES, African American early adolescents. This section describes the relevance of the parenting literature reviewed in enhancing our understanding of aggression among African American early adolescents in general, and more specifically, low-income African American early adolescents. This section is organized by the parenting behaviors examined in this literature review.

Most of the studies reviewed on parent influences on early and late adolescent aggressive behavior included African American study participants. This is particularly true for the behavioral control and early adolescent aggression literature reviewed. One-third of these studies was multi-racial/ethnic and included less than 20% African American participants. The remaining behavioral control and early adolescent aggression studies involved predominately African American (more than 85%) or all African American study samples. Within each of the multi-racial/ethnic parent behavioral control studies, comparisons of study findings by race/ethnicity were not presented. Such comparisons would have provided useful insights into the similarities and differences of parenting effects across racial/ethnic groups. In the behavioral control studies involving predominately or all African American samples, such comparisons are not possible due to the insufficient numbers of participants in the non-African American racial/ethnic groups. Comparing behavioral control findings across studies is possible, however. A cross-study comparison reveals that behavioral control is protective against aggression among African American early adolescents. Approximately, two-thirds of the studies found that high levels of parent behavioral control contributed to lower levels of aggression for African American early adolescents (Jackson & Foshee, 1998; Miller et al., 2002; Orpinas et al., 1999; Richards et al., 2004; Simons-Morton et al., 2004; Wright & Fitzpatrick, 2006b).

A different picture emerges when examining the behavioral control studies reviewed that explicitly indicate using a low-income African American sample. Five studies provide information on the income or SES of the study population (Griffin et al., 2000; Miller et al., 2002; Richards et al., 2004; Schiff & McKernan McKay, 2003; Wu et

al., 2003). All of these studies reported involving low-income or low-SES research participants. Three of these studies (Griffin et al., 2000; Schiff & McKernan McKay, 2003; Wu et al., 2003) revealed that behavioral control was not significantly associated with adolescent aggression. Caution should be taken before concluding that behavioral control may not significantly contribute to lower aggression levels among low-income, African American early adolescents. Nearly one-half of the behavioral control studies provided no information about the income of the study sample (Jackson & Foshee, 1998; Orpinas et al., 1999; Simons-Morton et al., 2004; Wright & Fitzpatrick, 2006b). These studies revealed negative and significant relations between behavioral control and early adolescent aggression. This situation highlights the need for researchers to include detailed information about the SES/income of the study sample.

The three studies reviewed on parent support and aggression provided evidence that parent support is negatively related to early and late adolescent aggression. All of these studies involved African American participants to some extent. Two studies (Jackson & Foshee, 1998; Simons-Morton et al., 2004) were multi-ethnic studies with less than 20% African American participants. In both studies, no information on the income levels of the study sample was provided. Also, neither study provided findings by race/ethnic group. Thus, it is not possible to ascertain the effect of parent support on African American adolescents in these studies. While the third study (Miller et al., 2002) was entirely composed of a low-income, African American sample, the independent effect of parent support could not be determined. Miller et al. employed the typological approach to determining parenting styles which hampers an understanding of the independent effects of individual parenting dimensions like support. In sum, these

studies provide insufficient information to establish whether support is protective against aggression, specifically among low-income, African American early adolescents.

Only one of the three parent psychological control studies (Nelson & Crick, 2002) involved multi-racial/ethnic samples that included African American participants. The researchers indicated that the participants ranged from low SES to high SES with no other details provided. Findings by race or SES were also not presented. Three of the studies reviewed on psychological control in the broader problem behavior literature involved African American study participants (Bean et al., 2006; Mason et al., 1996; Pettit et al., 2001). One of these studies (Bean et al., 2006) indicated involving a mostly low-income, 100% African American study sample. The remaining other two studies indicated involving primarily working-class African American (Mason et al., 1996) and middle-class multi-racial (Pettit et al., 2001) study samples. The study involving the middle-class, multi-racial sample (Pettit et al., 2001) found that high levels of psychological control significantly predicted higher levels of early adolescent problem behaviors. Conversely, the psychological control study involving the working class African American sample (Mason et al., 1996) found that moderate levels of psychological control were related to lower levels of early adolescent problem behaviors. In addition, the study involving the all African American, mostly low-income sample (Bean et al., 2006) revealed that higher levels of psychological control predicted lower levels of early and late adolescent delinquency. These latter two studies suggest that psychological control may be protective against problem behavior. However, it should be noted that none of these studies examined early adolescent samples. Thus, parent psychological control research involving primarily low-income, African American *early*

adolescent samples is needed to understand whether psychological control is a risk factor for or protective against problem behavior in this age group. There are presently no aggression studies to make this determination.

Only one of the two aggression-specific parenting practices studies (Orpinas et al., 1999) involved multi-racial/ethnic samples that included African American early adolescent participants. Too little information was provided to determine the SES or income level of the study participants. The second aggression-specific parenting practices study (Nathanson, 1999) indicated that the sample was middle-income, but provided no information about the racial/ethnic composition. Thus, these studies provide inadequate information to determine whether aggression-specific parenting practices are predictors of aggression in a low-income, African American early adolescent population. Similarly, the literature examining bidirectional effects does not provide evidence of bidirectional relations between parents and early adolescent aggressive behavior in a low-income, African American population. No early adolescent-parent bidirectional effects aggression studies have been found that included African American research participants. Indeed, the studies reviewed solely involved White research participants.

The review of the literature on early adolescent aggression and parenting behaviors clearly shows that important gaps related to the study of race and SES/income exist. Even when African American early adolescents are included in studies involving diverse samples, many researchers do not present results by race or SES/income, making cross group comparisons impossible. Further, many researchers include too few details about the SES/income of the study participants, while others that indicate inclusion of specified SES/income groups do not present SES-related results. Future aggression and

parenting studies should not only involve more low-income, African American early adolescent participants, but also present findings in ways that permit an understanding of how parenting differs by race and/or SES. In sum, this discussion provides additional evidence that this study, which includes a low-income, African American early adolescent study population, would make an important contribution to the early adolescent aggression literature.

CHAPTER 3: METHODS

Introduction

This study utilized data from the Johns Hopkins University Steppin' Up aggression randomized controlled trial, implemented in Baltimore, Maryland. This research study was led by Principal Investigator Dr. Tina Cheng and supported by the National Institute of Child Health and Human Development (NICHD) contract # NO1HD23344. The Steppin' Up study was a 3-year randomized, controlled experiment testing the impact of a school-based violence prevention curriculum and increased parent involvement on early adolescent aggressive behaviors. Data from the second pilot year of the Steppin' Up study (2004-2005 academic school year) were analyzed for this study.

The aim of this study was to examine the relationship between perceptions of parenting and early adolescent aggression in a sample of predominately African American urban public middle school students. The following four research questions were addressed:

Research Question 1. Do early adolescent perceptions of aggression-specific parenting practices at Time 1 predict subsequent early adolescent aggression?

Research Question 2. Do early adolescent perceptions of parenting style (i.e., level of support/behavioral control, level of psychological control) at Time 1 predict subsequent early adolescent aggressive behavior?

Research Question 3. Do early adolescent perceptions of Time 1 parenting style moderate the relation between Time 1 aggression-specific parenting practices and Time 2 early adolescent aggressive behavior?

Research Question 4. Is there a bidirectional relation between parenting behavior and early adolescent aggressive behavior?

The following sections in this chapter describe the study schools, procedures, measures, and data analysis plan.

Study Schools

The Steppin' Up intervention was targeted to sixth graders attending two Baltimore City middle schools: Dunbar Middle School and Highlandtown Middle School. Both schools have a predominately African American student body. Also, both Dunbar and Highlandtown are located in two low-SES East Baltimore neighborhoods characterized by numerous indicators of neighborhood distress (e.g., high property and violent crime rates, high teen birth rates, vacant housing, deteriorating neighborhood infrastructure). Eighty-six percent of Dunbar and 82% of Highlandtown middle school students qualified for free/reduced school lunch during the 2004-2005 school year (Maryland State Department of Education [MSDE], 2005a; MSDE, 2005b). Also, both schools experienced high rates of student transience during the 2004-2005 school year. At Dunbar, nearly 25% of students withdrew and 24% of students transferred in or re-entered the school after the first day of school. At Highlandtown, nearly 30% of students withdrew and 25% of students transferred in or re-entered the school after the first day of school (MSDE, 2005a; MSDE, 2005b).

Moreover, Dunbar and Highlandtown middle school administrations faced severe challenges related to managing student behavior during the 2004-2005 academic school year. Both schools were on probation for classification as "persistently dangerous" under the state of Maryland's No Child Left Behind Act policy. In Maryland, schools are

placed on probation for a persistently dangerous classification when for 1 year or 2 consecutive years, expulsions or suspensions of greater than 10 days for violent offenses and related incidents equals 2.5 percent or more of the number of students enrolled in the school (MSDE, 2005c). If the above rate of expulsions or suspensions persists for a third consecutive year, then a school is formally classified as "persistently dangerous." The offenses and incidents that are included in the state of Maryland's persistently dangerous school definition include: physical attack on a student; physical attack on a school system employee; involvement in drugs; sexual assault; possession of firearms, other guns, or other weapons; and arson or fire on school grounds (MSDE, 2005c; Education Commission of the States, 2003). Dunbar achieved key benchmarks and was removed from the probation list during the 2005-2006 academic school year. Highlandtown failed to achieve key benchmarks and received the persistently dangerous school classification during the 2005-2006 academic school year. Highlandtown was closed down by the Baltimore City School Board at the end of the 2005-2006 academic school year (MSDE, 2006b). The high levels of student mobility and school safety problems suggest that the climate of these schools was characterized by misconduct and disrupted learning.

Procedures

The following discussion describes procedures that resulted in the primary data collection for the Steppin' Up study. Sixth graders were recruited from Dunbar and Highlandtown middle schools at the beginning of the 2004-2005 academic school year. Information about the study and parent consent forms were primarily distributed to students by homeroom teachers. Youth who returned signed consent forms indicating parental consent to participate in the study were randomized to either an intervention or

control condition. Youth with parental consent completed youth assent forms prior to administration of the youth baseline survey. Participating youth completed baseline and follow-up surveys, pre-intervention and post – intervention respectively, while in the sixth grade. Surveys were conducted using both a web-based and a paper/pencil-based version of the survey (one school did not have computers available at pre-test). The content of the web-based and paper/pencil-based assessments was identical. Also, staff administered both the web-based and paper-pencil based versions of the survey in the same way. Appendix A presents the youth survey measures that were used for this study. Appendix B presents the entire Steppin' Up youth survey.

Efforts were made to maximize youth participation in the survey. For example, prior to and during administration of the youth survey, study staff communicated with school administrators almost daily to ensure that measurement did not conflict with special programs, field trips, or study periods. Also, while the schools sometimes allowed students to leave classrooms unescorted during the designated measurement period, study staff routinely escorted students to the survey administration room. This extra attention meant that students would arrive to the survey administration room in a timely fashion. Youth additionally received incentives for completing the surveys. At baseline, youth received Steppin' Up t-shirts, and at follow-up, youth received Steppin' Up pens (Personal communication, Nadine Finigan, November 5, 2007.)

Parent data were also collected as part of the Steppin' Up study. Only Highlandtown Middle School parents were administered study questionnaires because the main parent intervention was implemented at this school. Attempts were made to survey Highlandtown parents via telephone-based data collection. Less than one-half of these

parents completed baseline (44%) and follow-up (19%) measurement. Parent data were not used in the current study since these data were only available for a small percentage of the study sample at one school.

Measures

Dependent Variables

Overt Aggression and Relational Aggression

The overt and relational aggression measures used in this study were derived from the six-item Frequency of Aggression measure of the Steppin' Up youth survey. This Frequency of Aggression measure was adapted from the Aggression Scale (Orpinas & Frankowski, 2001). In the Steppin' Up study, the frequency of aggression "at school" and "at home or in the neighborhood" in the last 30 days was measured for all six items. The response options were "never," "1 time," 2 times," "3 times," "4 times," and "5 or more times." Five of the six Frequency of Aggression items used in the Steppin' Up study were used in the current study (Table 3.1). These questions were selected because they specifically relate to the frequency of respondents' involvement in aggression at home and in the neighborhood.

Table 3.1: Aggression Items

Items Used in Steppin' Up Study	Items Used in Current Study
In the last 30 days, how many times did you…	*In the last 30 days, how many times did you…*
1a. Encourage someone to fight (at school)	
1b. Encourage someone to fight (at home or in the neighborhood)	2b. Push, shove, slap, or kick another student? (at home or in the neighborhood)
2a. Push, shove, slap, or kick another student? (at school)	
2b. Push, shove, slap, or kick another student? (at home or in the neighborhood)	3b. Hurt someone on purpose? (at home or in the neighborhood)
3a. Hurt someone on purpose? (at school)	
3b. Hurt someone on purpose? (at home or in the neighborhood)	4b. Threaten to hit or hurt another student? (at home or in the neighborhood)
4a. Threaten to hit or hurt another student? (at school)	
4b. Threaten to hit or hurt another student? (at home or in the neighborhood)	5b. Spread rumors or gossip? (at home or in the neighborhood)
5a. Spread rumors or gossip? (at school)	
5b. Spread rumors or gossip? (at home or in the neighborhood)	6b. Say or do something just to make someone mad? (at home or in the neighborhood)
6a. Say or do something just to make someone mad? (at school)	
6b. Say or do something just to make someone mad? (at home or in the neighborhood)	

Question 1, "Encourage someone to fight," was excluded because it does not represent youths' involvement as a perpetrator, but rather as an instigator of aggression between other individuals. Aggression "at school" questions were also excluded. Examination of the socio-cultural context literature related to urban schools provided indication that parenting may have a stronger influence in the home/neighborhood environment (see Chapter 2).

In the current study, two index variables were created to produce an overt aggression index variable and a relational aggression index variable. Using procedures described in Babbie (2004), these two index variables were created based on the sum of

the three overt aggression items and the two relational aggression items (Table 3.2). An index was selected because the items in the Aggression measure are counts of different kinds of aggressive behavior. These items do not reflect the properties of scale items (DeVellis, 2003). The overt and relational items were intended to measure the frequency of behavior rather than a latent concept.

Table 3.2: Overt Aggression and Relational Aggression Index Items

Overt Aggression Items	Relational Aggression Items
In the last 30 days, how many times did you… • Push, shove, slap, or kick another student? (at home or in the neighborhood) • Hurt someone on purpose? (at home or in the neighborhood) • Threaten to hit or hurt another student? (at home or in the neighborhood)	*In the last 30 days, how many times did you…* • Spread rumors or gossip? (at home or in the neighborhood) • Say or do something just to make someone mad? (at home or in the neighborhood)

Content validity of the overt aggression item grouping. The items in the overt aggression index were grouped together in a manner that is consistent with the literature on youth aggression. Physically and verbally aggressive behaviors have been defined as overt because both involve direct and blatant physical or verbal aggressive behavior (Little et al., 2003b). The three aggression items categorized as overt aggression involve physical and verbal modes of aggression. Furthermore, the overt aggression items are similar to questions used in the validated Little et al. (2003b) overt aggression subscale. Also, two of the overt aggression items were used in the validated Orpinas and Frankowski (2001) Aggression Scale, which, according to the authors, was created to measure frequency of overt aggression (Orpinas & Frankowski, 2001).

Content validity of the relational aggression item grouping. The items in the relational aggression index were grouped together based on the extant literature on relational aggression and consistent with other survey measurement tools of this behavior. Relational aggression generally involves more indirect, covert forms of aggression and may also involve confrontational tactics, such as strategies used to manipulate and damage peer relationships (e.g., reject a peer; Crick & Nelson, 2002; Crick & Grotpeter, 1993; Little et al., 2003b; Xie et al., 2003). In addition, the relational aggression items are similar to those used in the validated Little et al. (2003b) relational aggression subscale.

Construct validity and reliability of overt and relational aggression indices. Two of the overt aggression index items ("I pushed or shoved other students" and "I slapped or kicked someone") are used in the Aggression Scale (Orpinas & Frankowski, 2001). Orpinas and Frankowski (2001) demonstrated the construct validity of the Aggression Scale in two independent samples. The first sample (n= 253) consisted of early adolescent males and females who were Hispanic (63%), White (18%), and African American (17%). The second sample (n=8,695) also included early adolescents and was ethnically diverse including Hispanic (66%), African American (19%), White (8%), Asian (4%) and Native American (less than 1%) youth. The first sample was derived from a cross-sectional study whose results indicated that the scale was positively correlated with other measure of youth risk. Thus, as mean aggression scores increased, drinking alcohol increased, academic achievement decreased, and parental monitoring decreased. Cronbach's alpha coefficients ranged from r = .85 for African American students to r = .92 for White students.

The second sample from Orpinas and Frankowski (2001) was derived from a longitudinal study. In the second sample, as mean aggression scores increased, drinking alcohol increased, marijuana use increased, parental monitoring decreased, and academic achievement decreased. Cronbach's alphas for the second sample ranged from r = .86 and r =.88. This analysis was repeated for various sub-groups (by sex, ethnic group, and grade level) the following year. The alphas remained adequate, with scores ranging between r =.86 and r =.88. Paired *t*-tests revealed no mean differences between the year 1 and year 2 measures of internal consistency (Orpinas & Frankowski, 2001).

Further validation for the overt and relational aggression indices comes from previous work conducted by Little et al. (2003b) in the development of their aggression subscale measures. In Little et al., two overt aggression items ("I'm the kind of person who hits, kicks, or punches others," and "I'm the kind of person who threatens others") are similar to items used in the present study. Also, one of the Little et al. relational aggression items ("I'm the kind of person who gossips or spreads rumors") is similar to an item used in this study. Little et al. used multiple linear regression models to distinguish between overt and relational forms of aggression in a sample of 5th through 10th graders (n=1,723) in Berlin, Germany. Criterion-related outcome measures (frustration intolerance, hostility, victimization, social influence, and social competence) were associated with both overt aggression and relational aggression in the expected directions. Thus, Little et al. demonstrated that overt and relational aggression differentially related to the criterion outcome measures. The relational aggression Cronbach's alpha coefficient was r = .62 and the overt aggression Cronbach's alpha coefficient was r = .79.

Current study factor analysis results: overt and relational aggression items.

Finally, a principal components factor analysis with Varimax rotation was conducted to explore inter-correlations among the overt and relational index items used in the present study. The index items failed to fully load on the two factors in a pattern consistent with an overt aggression grouping and a relational aggression grouping (Table 3.3). The overt aggression and relational aggression variables assess behavior, rather than a latent concept. Researchers suggest that index items do not have to be intercorrelated to compose an index (DeVellis, 2003). Thus, the factor analysis results did not warrant modifying the composition of these indices.

Table 3.3: Frequency of Aggression Index – Rotated Factor Loadings Using Varimax Procedures (N=183)[a]

Item [c]	Factor [b]	
	1	**2**
O Push, shove, slap, or kick another student? (at home or in the neighborhood)	**.918**	.210
O Hurt someone on purpose? (at home or in the neighborhood)	**.634**	.377
O Threaten to hit or hurt another student? (at home or in the neighborhood)	**.633**	**.452**
R Say or do something just to make someone mad? (home or in the neighborhood)	.277	**.932**
R Spread rumors or gossip? (at home or in the neighborhood)	.381	.387

Note. [a] The number of participants with complete data for all aggression items. [b] Factor loadings of .40 or greater are in bold. [c] Index groupings coded as follows, O= overt aggression; R= relational aggression.

Independent Variables

Aggression-Specific Parenting Practices

In the current study, aggression-specific parenting practices was the focal independent variable studied. The aggression-specific parenting practices measures used in this study were derived from an adapted version of the Parental Support for Fighting

scale (Orpinas et al., 1999) of the Steppin' Up youth survey. This scale included 10 items, adapted from the original measure, and an additional two items developed by the Steppin' Up study PIs. The adapted Parent Support for Fighting scale items are listed in Table 3.4 and Appendix A. The two items developed by the Steppin' Up PIs are indicated with an asterisk.

Table 3.4: Adapted Parental Support for Fighting Scale Items

My parent/guardian wants me to…

1. Ignore someone if he or she calls me a name.
2. Tell a teacher or another adult if someone asks me to fight.
3. Try to talk my way out of it if someone asks me to fight.
4. Think a problem through, calm myself, and then talk the problem out with my friend.
5. Find other ways to solve my problems because fighting is no good.
6. Hit someone back if s/he hits me.
7. Hit someone if s/he calls me names.
8. Call someone names back if s/he calls me names first.
9. Take the first swing if someone asks me to fight.
10. Solve problems by fighting if they can't be solved by talking.
* 11. Stay and fight instead of walking away so I won't be a coward or a "chicken."
* 12. Stay and fight so I won't get "picked on" even more.

The adapted Parent Support for Fighting scale has a 10-point Likert response scale from 1 (*Strongly Disagree*) to 10 (*Strongly Agree*). The higher the response number, the more the child perceives her parent/guardian wants her to avoid aggressive behavior/get along with others. Lower scores indicate more perceived parent endorsement of aggressive behavior. Five of the scale items reflect statements about parent endorsement of aggression-avoidance behavior. Seven of the scale items reflect parent endorsement of aggressive behavior.

Operationalization of aggression-specific parenting practices. In the context of the present study, the adapted Parent Support for Fighting scale was used to

operationalize "aggression-specific parenting practices." These items address an early adolescent's perception of whether his or her parent supports aggression-avoidance solutions or aggression-endorsing solutions to conflicts. This relates to ways an early adolescent's parent/guardian socializes the early adolescent specifically about aggression involvement. It should be noted that fighting is not the only behavior in this scale. Two of the scale items specify non-fighting behaviors ("Call someone names back if s/he calls me names first" and "Ignore someone if he or she calls me a name").

Validity and reliability of aggression-specific parenting practices measure. Orpinas et al. (1999) tested the reliability of the 10-item Parent Support for Fighting scale measure. In their study of Hispanic (66%), African American (19%), White (8%), and Asian/other (7%) middle school students, Orpinas et al. found that the internal consistency of this scale was r = .81. Studies on the validity of the measure have not been published by Orpinas et al. However, researchers from the Multisite Violence Prevention Project (MVPP) study performed a confirmatory factor analysis on their pretest data to determine whether the Parent Support for Fighting scale represented one or two factors (Multisite Violence Prevention Project [MVPP], 2006). It was expected that the scale may have two subscales and thus two factors, one representing the five scale questions indicating support for aggressive solutions to conflict and a second representing the five scale questions indicating support for non-aggressive solutions to conflict. The confirmatory factor analysis revealed that the data best fit a two-factor model. As a result of these findings, the MVPP determined that two scales were justified and each would be scored separately. The alpha for the Parent Support for Aggressive Solutions scale was r = .62. The alpha for the Parent Support for Non-Aggressive Solutions scale was r = .66

(MVPP, 2006). Respondents surveyed in this pretest data set were middle school students. No further information about the participants surveyed was provided.

Current study factor analysis results: aggression-specific parenting practices items. A principal components factor analysis was performed to confirm the presence of one factor representing an aggression-specific parenting practices dimension. Given the findings of the MVPP (2006) study, a two factor solution was thought to also be plausible. A two factor extraction was employed and the Varimax factor rotation was used. Results revealed that the factor loadings failed to confirm the existence of one factor representing aggression-specific parenting practices. The total variance explained after rotation results indicated that the first factor explained 24% of the total variance and the second factor explained 20% of the total variance. Cumulatively, this two factor model explained 44% of the total variance. The rotated component matrix indicated that the seven items representing parent endorsement of aggression loaded on factor 1 (Table 3.5). The five items that represent parent endorsement of aggression-avoidance solutions loaded on factor 2 (Table 3.5). For each scale item, the factor loadings adequately discriminated between both factors. The factor analysis findings show that these data yielded two sub-scales: parent endorsement of aggression-avoidance behavior and parent endorsement of aggressive behavior.

Table 3.5: Aggression-Specific Parenting Practices – Rotated Factor Loadings Using Varimax Procedures (N=158)[a]

Item (item #)	Factor[b]	
	1	2
Factor 1: Aggression-endorsing parenting practices		
Call someone names back if s/he calls me names first (7)	**.714**	-.088
Stay and fight so I won't get "picked on" (11)	**.711**	-.177
Solve problems by fighting if can't be solved by talking (9)	**.689**	.076
Stay and fight instead of walking away (10)	**.684**	-.098
Hit someone back if s/he hits me (5)	**.638**	.162
Hit someone if s/he calls me names (6)	**.506**	-.133
Take the first swing if someone asks me to fight (8)	**.414**	-.088
Factor 2: Aggression-avoidance parenting practices		
Tell a teacher or another adult if someone asks me to fight (2)	-.248	**.753**
Try to talk my way out of it if someone asks me to fight (3)	-.085	**.719**
Ignore someone if he or she calls me a name (1)	-.119	**.701**
Think a problem through, calm myself, and then talk the problem out with my friend (4)	.029	**.679**
Find other ways to solve my problems because fighting is no good (12)	.035	**.448**

Note. [a] The number of participants with complete data for all parenting practices items. [b] Factor loadings of .40 or greater are in bold.

Based on the factor analysis findings, two sub-scales were employed in the study: aggression-avoidance parenting practices and aggression-endorsing parenting practices. The Cronbach's alpha for both subscales was adequate at both time 1 and Time 2. The aggression-avoidance parenting practices sub-scale had an alpha of r = .73 at time 1 and r = .80 at Time 2. The aggression-endorsing parenting practices sub-scale had an alpha of r = .78 at Time 1 and r = .84 at Time 2. The two factor structure of this variable is consistent with the confirmatory factor analysis findings of the MVPP study described above.

Parenting Style (Support, Behavioral Control, Psychological Control)

Support. Parent support is defined as the provision of parental warmth, acceptance, responsiveness, and affection (Barber, 1997). As described in Chapter 2, affection is viewed as conceptually analogous to support. The Acceptance subscale from

the revised Child Report of Parent Behavior Inventory (CRPBI; Schaefer, 1965b; Schludermann & Schludermann, personal communication, 1988, as cited in Barber et al., 1994) was used as the parent support measure in the Steppin' Up study. The Acceptance subscale has 10 items and these items were measured on a five-point response scale (1= S*trongly Disagree*, 5= *Strongly Agree*). The Acceptance subscale items are listed in Table 3.6 and Appendix A.

Table 3.6: Acceptance Subscale Items

I have a parent/guardian who…

1. Makes me feel better after talking over my worries with him or her.
2. Is able to make me feel better when I am upset.
3. Is easy to talk to.
4. Believes in showing her/his love for me.
5. Cheers me up when I am sad.
6. Gives me care and attention.
7. Makes me feel like most important person.
8. Enjoys doing things with me.
9. Often praises me.
10. Smiles at me often.

Validity and reliability of the acceptance subscale. Schaefer (1965b) demonstrated that a parent acceptance sub-scale representing the concepts of positive evaluation, sharing, expression of affection, and emotional support discriminated among two criterion groups - delinquent and non-delinquent seventh grade males. In that validation study, composed of White and African American males, Schaefer (1965b) found that the non-delinquent and the delinquent males significantly differed in their levels of perceived parent affection. The internal consistency score for the scale representing affection was r = .84 (Schaefer, 1965b). The results of this study validated an affection subscale that Schaefer incorporated into the CRPBI questionnaire.

Behavioral control. The presence of parent behavioral control indicates that parents provide adequate control of the child's behavior through monitoring, supervision, and regulation (Barber et al., 1994). These parenting behaviors promote parental knowledge of their child's whereabouts, companions, and activities when away from parents. The monitoring scale (Brown, Mounts, Lamborn, & Steinberg, 1993) was used as the behavioral control measure in the Steppin' Up study. The monitoring scale has five items and these items were measured on a five-point response scale (1= *Strongly Disagree*, 5= *Strongly Agree*). The monitoring scale items are listed in Table 3.7 and Appendix A.

Table 3.7: Monitoring Scale Items

I have a parent/guardian who…

1. Really knows who my friends are.
2. Really knows where I am after school.
3. Really knows what I do with my free time.
4. Really knows how much I spend money.
5. Really knows where I go at night.

Validity and reliability of the monitoring scale. In several studies, Barber and colleagues demonstrated that behavioral control and psychological control were distinct constructs. Psychological control, widely regarded as a risk factor for youth problem behavior, is parenting that involves love withdrawal, guilt induction, invalidation of children's feelings, and restriction of children's independent expression (Barber, 1996; Barber et al., 1994). In two of these studies (Barber, 1996), the monitoring scale was used as the behavioral control measure. The first study revealed that measures of behavioral control and psychological control were differentially associated with early and late adolescent internalizing and externalizing behavior. Study findings indicated that

behavioral control was negatively associated with delinquency and depression and psychological control was positively associated with depression and delinquency. However, behavioral control explained significantly more unique variance in delinquency than psychological control and psychological control explained significantly more unique variance in depression (the indicator of internalizing problem behavior) compared to behavioral control. The study sample included both male and female students in the 5th, 8th, and 10th grades. The sample also consisted of White (approximately 75%) and African American (approximately 25%) students from both middle-income and low-income backgrounds. Internal consistency based on the Cronbach's alpha for the monitoring scale in the full sample was r = .81. Internal consistency for sub-samples ranged from r = .75 (African American females) to r = .82 (middle-income males) (Barber, 1996).

Using the same methods as the first study, Barber (1996) later demonstrated the predictive validity of the behavioral control construct, but to a lesser extent than the first. In this study, the monitoring scale was used to assess early adolescent perceptions of both mother and father behavioral control. These study findings revealed that behavioral control was inversely associated with delinquency and psychological control was positively associated with both delinquency and depression. However, behavioral control was more uniquely associated with delinquency than psychological control. The study sample included both male and female student in the fifth and eighth grades. The sample also consisted of 71% White (16% Hispanic), 84% middle income, and 46% Mormon students. For mothers' monitoring, the internal consistency (Cronbach's alpha) ranged from r = .64 for Hispanic females to r = .80 for eighth grade males. For fathers'

monitoring, alphas ranged from r = .81 (Mormon males) to r = .90 (low-income males). Internal consistency for the monitoring scale in the full sample was not provided (Barber, 1996).

Psychological control. Psychological control is characterized by behaviors that "constrain, invalidate, and manipulate a child's psychological and emotional experience and expression" (Barber, 1996, p. 3316). Psychologically controlling parents evoke such behaviors as love withdrawal, guilt induction, invalidation of children's feelings, and restriction of children's independent expression as ways to control their children. Psychological control poses a risk for youth internalizing and externalizing behaviors like aggression (Barber et al., 1994). The Psychological Control Scale – Youth Self-Report (Barber, 1996) was the measure of psychological control used in the Steppin' Up study. The Psychological Control Scale has eight items and these items were measured on a five-point response scale (1= S*trongly Disagree*, 5= *Strongly Agree*). The Psychological Control Scale items are listed in Table 3.8 and Appendix A.

Table 3.8: Psychological Control Scale Items

I have a parent/guardian who…

1. Is always trying to change how I feel or think about things.
2. Changes the subject whenever I have something to say.
3. Is less friendly with me if I do not see things his/her way.
4. Brings up past mistakes when he/she criticizes me.
5. If I have hurt feelings, stops talking to me until I please her/him again.
6. Often interrupts me.
7. Blames me for other family members problems
8. Will avoid looking at me when I have disappointed her/him.

Validity and reliability of the psychological control scale. As discussed above, Barber and colleagues demonstrated the validity of the behavioral control and psychological control constructs in several studies. In two studies, Barber (1996) used

items from the psychological control scale employed in the Steppin' Up study. In the first study (Barber, 1996), psychological control was assessed using the early adolescent report 10-item psychological control subscale from the revised CRPBI. Early adolescents reported on perceived mother psychological control and father psychological control. Because this study was primarily concerned with validating the psychological control construct, the psychological control scale was factor analyzed for the entire sample and several demographically based sub-samples. Six items loaded adequately (.50 or above) on a single factor and accordingly, these six items were retained to form the psychological control scale for this study. This study revealed that psychological control explained significantly more unique variance in depression than behavioral control and behavioral control explained significantly more unique variance in delinquency than psychological control. The study sample included male and female students in the 5th, 8th, and 10th grades. In addition, the students were White (approximately 75%) and African American (approximately 25%) from both middle-income and low-income backgrounds. Internal consistency (Cronbach's alpha) for the psychological control scale in the full sample was r = .80 (son report on mother psychological control), r = .79 (daughter report of mother), r = .79 (son report of father), and r = .77 (daughter report of father). No overall internal consistency score was provided.

Barber's second study (Barber, 1996) replicated the first study, but involved a different study population. This study included both male and female students in the fifth and eighth grades. The sample also consisted of 71% White (16% Hispanic), 84% middle income, and 46% Mormon students. In this second study, the factor analysis of the 10-item psychological control scale from the revised CRPBI yielded eight items that

adequately loaded on one factor. Early adolescents again reported on both mother and father psychological control behaviors. As previously discussed, study 2 findings revealed that behavioral control was more uniquely associated with delinquency than psychological control and psychological control was associated with both early adolescent delinquency and depression. Internal consistency (Cronbach's alpha) for the psychological control scale in the full sample was r = .83 (son report on mother psychological control), r = .83 (daughter report of mother), r = .80 (son report of father), and r = .83 (daughter report of father). No overall internal consistency score was provided. The 8-item psychological control scale developed using the study 2 data is the Psychological Control Scale – Youth Self-Report measure utilized in the Steppin' Up study. Perhaps this eight-item scale was selected by Barber because the higher alphas in the second study, as compared to the first study, indicate that the eight-item scale is more reliable.

Current study factor analysis results: support, behavioral control, and psychological control items. Principal components factor analyses were performed to determine whether the parenting style items loaded on factors consistent with the support, behavioral control[4], and psychological control parenting style scheme. The factor analyses of the parenting style scale items included two-, three-, and four-factor solution models. The results were compared to determine which factor extraction level yielded factor loadings that most clearly distinguished between the components. Overall, the factor analysis results failed to confirm a three-factor structure representing three distinct parenting style dimensions. In the three-factor solution model, the behavioral control

[4] One behavioral control item was excluded from the analysis because data on this item was not collected at Time 2 of youth survey.

items did not conform to a factor distinct from the support items. The psychological control items, however, loaded onto one factor alone. These findings were similarly observed in the four-factor solution model. The behavioral control items and support items did not consistently load on one respective factor, while the psychological control items loaded on one factor alone factor. The two-factor solution model provided the clearest solution (Table 3.9).

Table 3.9: Support, Behavioral Control [A], and Psychological Control – Rotated Factor Loadings Using Varimax Procedures (N=137) [a]

		Factor [b]	
	Item [c]	**1**	**2**
Factor 1: Parent support/behavioral control			
S	Believes in showing her/his love for me	**.763**	-.034
S	Is able to make me feel better when I am upset	**.739**	-.091
S	Cheers me up when I am sad	**.719**	-.032
S	Is easy to talk to	**.719**	-.003
S	Gives me care and attention	**.713**	-.024
S	Makes me feel like most important person	**.683**	-.052
S	Enjoys doing things with me	**.637**	.062
B	Really knows who my friends are	**.595**	-.021
B	Really knows how I spend my free time	**.578**	.009
S	Often praises me	**.556**	-.019
S	Makes me feel better after talking	**.532**	.029
S	Smiles at me often	**.474**	.036
B	Knows where I am after school	**.399**	-.082
B	Really knows how much I spend money	.325	.070
P	Always trying to change how I feel/think	.303	.210
Factor 2: Parent psychological control			
P	Brings up past mistakes	.077	**.683**
P	Stops talking to me if feelings hurt	.050	**.668**
P	Often interrupts me	-.095	**.654**
P	Less friendly if I don't see things her way	.038	**.652**
P	Blames me for others' problems	-.258	**.639**
P	Avoids looking at me when disappointed	.149	**.544**
P	Changes the subject when I talk	-.063	**.483**

Note. [a] The number of participants with complete data for all parenting style items. [b] Factor loadings of .40 or greater are in bold. [c] Parenting style items coded as follows: S= parent support, P=parent psychological control, and B= parent behavioral control.

The principal components factor analysis results indicated that the first factor explained 25% of the total variance and the second factor explained 13% of the total

variance (Table 3.9). Cumulatively, this two-factor solution model explained 38% of the total variance. The rotated factor analysis results revealed that parent support items and most behavioral control items loaded onto factor one. The psychological control items loaded onto factor two. Based on these results, the first factor seemed to reflect a support/behavioral control dimension, while the second factor reflected a psychological control dimensions and both factors were labeled as such.

The finding that support and behavioral control were not distinct factors is inconsistent with the findings of other researchers (Steinberg et al., 1992; Baumrind, 1991; Schaefer, 1965a). However, in this sample, creating separate support and behavioral control subscales could not be justified, given the factor analysis results. Indeed, the Cronbach's alphas for the parent support/behavioral control and parent psychological control scales that emerged from the factor analysis were acceptable. The Cronbach's alpha for the new parent support/behavioral control scale was adequate at both Time 1 (r =.85) and Time 2 (r = .86). The Cronbach's alpha for the new parent psychological control scale was also adequate at both Time 1 (r = .71) and Time 2 (r = .81). Based on the factor analysis and reliability results, two parenting style variables were used in this study: support/behavioral control and psychological control.

Primary Data Collection Strategy

Recruitment, Randomization, and Data Collection Procedures

As previously described, data from this study represents the second cohort of the Steppin' Up youth aggression study. This study was a 3-year randomized, controlled experiment testing the impact of a violence prevention curriculum and increased parent involvement on early adolescent aggression. Sixth graders and their parents/guardians

were recruited from Dunbar and Highlandtown middle schools at the beginning of the 2004-2005 academic school year. Information about the study and parental consent forms were distributed through a variety of venues including homeroom classes, Back-to-School Nights, and Parent Teacher Association (PTA) meetings. Homeroom class recruitment efforts were the most fruitful, due to the generally low parent turn-out for the Back-to-School Nights, PTA meetings, and similar parent activities. Also, classroom teachers were offered incentives for their recruitment efforts. More specifically, those who managed to get at least 80% of the signed (either consenting or refusing) forms back were provided with an individual incentive valued at $20, and the homeroom class was provided a donut breakfast.

Recruitment occurred during the first several weeks of the academic school year prior to the start of the intervention in late-October. After signed consent forms indicating parental consent to participate in the study were received, students were randomized to either the control or intervention condition. Thus, student was the unit of randomization. Because Steppin' Up was a school-based study, randomization procedures were implemented separately for each school. Furthermore, at each school, intervention parents and youth were randomized to either the fall or spring intervention group.

The primary data collection strategy involved surveying both youth and parent participants. Intervention youth randomized to the fall group were administered the baseline study survey in September and October of 2004 and the follow-up study survey post intervention in January of 2005. Fall group parent baseline surveys were also administered prior to the parent intervention in December 2004 and January of 2005 and

the follow-up survey was administered following the intervention in winter 2005. Surveys were administered via a telephone-based data collection protocol. Interviewers attempted to contact parents up to 10 times. Interviewers encountered considerable response barriers (e.g., refusals, language barriers), the most notable of which were wrong phone numbers and disconnected phone numbers.

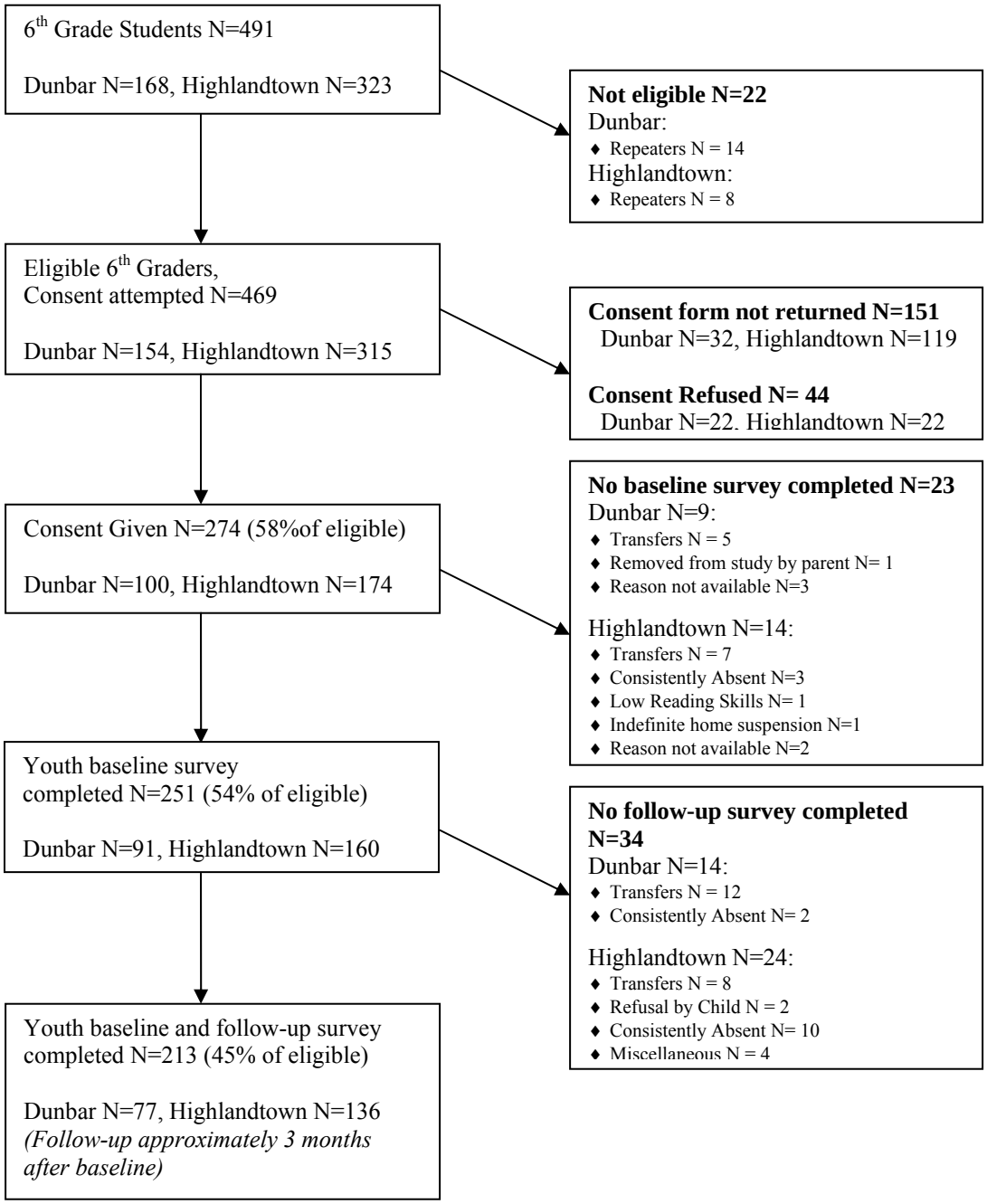
Intervention youth randomized to the spring group were administered the baseline survey in February of 2005 and the follow-up survey post intervention in April and May 2005. Spring group parent baseline surveys were also administered via telephone winter 2005 prior to the parent intervention in April of 2005 and the follow-up survey was administered May –July 2005. Parent surveys were again administered via a telephone-based data collection protocol. More intensified efforts were made to obtain up-to-date contact information from study participants through intervention facilitators and homeroom teachers. Despite these efforts, the overall parent response rate was very low: 44% of all parent participants completed the baseline survey and 19% of all parent participants completed the follow-up survey. The low survey response rate was indicative of the low parent participation in the main parent intervention, a 1 hour parenting skills session, offered twice for the fall group and once for the spring group. Less than five parents participated.

Steppin' Up Study Recruitment Yield

The sampling frame for cohort 2 of the Steppin' Up study was the eligible sixth graders attending two Baltimore City public middle schools. In the fall of the 2004-2005 school year, 168 sixth graders were enrolled at Dunbar Middle School and 323 sixth graders were enrolled at Highlandtown Middle School. Eligibility criteria included the

following: 1) first-time sixth grader (not repeating the sixth grade) and, 2) not in self-contained special education classes. A total of 469 students were eligible to participate and thus represented the sampling frame (see Figure 3.1). As both Dunbar and Highlandtown had predominately African American student bodies, it should be noted that the sampling frame was predominately African American. Two-hundred and seventy-four students (58% of eligible students), returned consent forms indicating parent consent to participate in the study. The low level of parent consent to participate is largely attributed to the fact that eligible Highlandtown students either did not return their parent consent form (38%) or their parent/guardian did not consent to their participation in the study (7%). A combination of transfers, absences, suspensions, and other miscellaneous reasons prior to and during survey administration resulted in 251 (54% of eligible students) students completing the baseline survey. Transfers, absences, and child refusals contributed to attrition at follow-up. Of the 251 students who completed the baseline survey, 213 participants completed the follow-up survey. Thus, the response rate for the second cohort of the Steppin' Up study at follow-up was 45%.

Figure 3.1: Study Recruitment Yield Flow Chart



Secondary Data Collection Strategy

All youths who completed baseline and follow-up were targeted for inclusion in the current study. Of the 213 participants who completed both Time 1 and Time 2 surveys, four were excluded from this study due to an excessive level of missing data. Therefore, the current study sample consisted of 209 sixth graders.

Study Sample Characteristics

Sample Characteristics

Table 3.10 shows the socio-demographic characteristics of the sample by school and for the overall sample. The majority of the sample was male (54%) and the mean age was 12 years. The racial breakdown of the sample was 96% African American, followed by 1.4% White and 2% other racial groups (i.e., 1.4% American Indian/Alaskan, 1% Asian, and .5% more than one race). Approximately 13% of the sample was Hispanic or Latino. Twenty-nine percent of participants lived in single-parent households (one biological parent), 62% lived in two-parent households (one biological parent and at least one other adult), and the remaining 9% lived in other household configurations such as households headed by one or two grandparents. None of the sample demographic characteristics were significantly different by school (see Table 3.10).

Table 3.10: Sample Demographic Characteristics by School (N=209)

Demographic Variables	Dunbar Participants (N=74)	Highlandtown Participants (N=135)	Total
Sex			
Females	43% (32)	48% (65)	97 (46%)
Males	57% (42)	52% (70)	112 (54%)
Race			
African American	97% (72)	95% (128)	96% (200)
White	0	2.2% (3)	1.4% (3)
other	3% (2)	2.9% (4)	2% (6)
Hispanic or Latino ethnicity	13.5% (10)	13% (18)	13.5% (28)
Mean age	11.9	12.0	12.0
Household composition			
Single-parent HH	30% (22)	29% (38)	29% (60)
Two-parent HH	57% (42)	64% (87)	62% (129)
Other HH configurations	13% (10)	7% (10)	9% (20)

Participants and Non-participants

Study participants represented 45% of the eligible sixth graders. Data on non-participants are unavailable. Thus, a comparison of participants versus non-participants is not feasible; however, the study participants' demographic data and school demographics have reasonably similar profiles (Table 3.11).

Table 3.11: Participant Demographic Characteristics and Study School Demographic Profiles [a], 2004-2005 School Year

Demographic Variables	Dunbar Study Participants (N=74)	Dunbar School Population (N=477)	Highlandtown Study Participants (N=135)	Highlandtown School Population (N=1,112)
Sex				
Females	43% (32)	49% (236)	52% (70)	46% (511)
Males	57% (42)	51% (241)	48% (70)	54% (601)
Race[b]				
African American	97% (72)	99.7% (446)	95% (128)	93% (128)
White	0	0	2.2% (3)	4% (3)
other	3% (2)	0.03% (1)	2.9% (4)	1% (4)
Hispanic or Latino	13.5% (10)	0	13% (18)	3% (18)

Note: [a] School profile information is only available at the school level, grade level data not available. School data Race categories differ from study Race categories in the following ways: 1) White only includes non-Hispanic Whites; 2) Hispanic or Latino is a Race category, rather than a separate ethnicity category.

Study Attrition

Fifteen percent (N=38) of the youth who completed the baseline survey did not complete the follow-up survey. Participants who only completed the baseline survey were not significantly different from participants who completed both baseline and follow-up surveys by sex, race, ethnicity, age, household composition, and treatment status (i.e., in the larger Steppin' Up randomized controlled trial) (see Table 3.12).

Table 3.12: Participants and Participants Lost to Follow-up

Demographic Variables	Completed baseline only (N=38)[a]	Completed follow-up only (N=213)
Sex		
Females	49% (18)	46% (98)
Males	51% (19)	54% (115)
Race		
African American	95% (35)	96% (204)
White	5% (2)	1.4% (3)
other	0% (0)	2.8% (6)
Ethnicity		
Hispanic/Latino	8% (3)	14% (30)
Not Hispanic/Latino	92% (33)	86% (183)
Mean age	12.4	12.0
Household composition		
Single-parent HH	38% (14)	29% (62)
Two-parent HH	49% (18)	62% (131)
Other HH	13% (5)	9% (20)
RCT Treatment Status		
Intervention	66% (23)	51% (108)
Control	34% (12)	49% (105)

Note: [a] There is differential missing data for the completed baseline only group.

Analyses

Power and Effect Size

Given a sample of 209, an effect size was computed based on these parameters: power = .80 and α= .05. The effect size was also computed based on the assumption that the standard deviation (SD) of the aggression-avoidance parenting practices independent variable is 2.41 and the SD of the overt aggression variable is 3.59. Results indicated that the study will detect a statistically significant relationship between the aggression and independent variables when a 29% change in aggression occurs (Schoenfield, 2007).

Missing Data Procedures

The Multiple Imputation (MI) method was used to address missing data in this study.[5] Imputation is the general terminology used to describe missing data procedures that replace missing values (i.e., 'impute' a missing value) with plausible values. MI is a multi-stage imputation procedure that involves the imputation of missing values with a *set* of plausible values. Other imputation procedures involve the imputation of a single plausible value and as a result, fail to account for missing data uncertainty. MI is regarded as the most rigorous way to handle missing data because it best represents missing data uncertainty. Thus, MI provides the advantage of providing more precise parameter estimates (e.g., Beta coefficients) when compared to datasets with missing values imputed one time (Schaefer, 1999). Implementation of MI in this study is described below, followed by an explanation of the implications for data analysis procedures.

Handling Missing Data

First, the data used in the current study was evaluated to ensure that the MI assumption of missing at random (MAR) was met. MAR refers to missing values that are missing by chance rather than systematically missing. More specifically, the MAR condition means that participants with missing data on a particular variable are not likely to have significantly lower (or higher) values on that variable than participants with data present, controlling for other variables in the analysis (Allison, 2000). The assumption of MAR was met. Next, the level of missing data was inspected to ensure the following condition for implementing MI were met: Less than a 15% rate of missing data across

[5] The Principal Investigators of the Steppin' Up study chose the Multiple Imputation method to address missing data across the entire dataset.

scale or index scores (Personal Communication, Rajeshwari Sundaram, May 25, 2007). The rate of missing data across scales or indices (5%-10%) was acceptable.

Missing scale and index scores were targeted for imputation in order to yield a more efficient imputation process. More specifically, the imputation of missing scale and index score values involved less data to impute compared to the imputation of missing item values and, relatedly, less imputation associated error (Personal Communication, Rajeshwari Sundaram, May, 2007). For each study participant, variable scale scores were calculated by computing a mean score i.e., the items were summed and divided by the total number of scale items. Index scores were created by adding each question response to create a summative score. Scores were calculated only if a participant provided a response for all the items. Scale/index scores with missing items were not calculated and thus, represented missing values. Missing scale or index values were imputed using the PROC MI procedure in SAS 9.1.

Next, the multiple imputation procedure used the existing values of selected variables (variables measuring similar concepts and behaviors) in the entire dataset to simulate the missing values for each study variable's missing scale or index score. First, a maximum likelihood approach (EM algorithm) utilized the means and standard deviations of the available scale scores to generate initial parameter estimates. These initial parameter estimates were used to start a Markov Chain Monte Carlo process, which involved simulation of score distributions through numerous iterations. These iterations converged to represent the one distribution that has a high probability of representing the most probable value for a missing score. This process was repeated multiple times (hence, the name multiple imputation) in order to produce a range of

probable estimates for the missing scale and index values. This range of probable estimates better represents missing data uncertainty relative to single imputation methods (Yuan, 2000; Schaefer, 1999; Rubin, 1987).

Five multiply (pronounced multiplee) imputed data sets were generated in SAS. Five falls within the recommended range of the number of data sets that will produce precise parameter estimates (Yuan, 2000; Schafer, 1999). The MI procedure resulted in complete study variable data for 209 of the 213 participants who completed both baseline and follow-up measures. Four participants had excessive missing data on the variables used to impute missing values; therefore these four cases are not included in the study analyses.

The results of the five datasets were "combined" to produce a single set of parameter estimates and associated standard errors. Combining the data analysis results meant: 1) averaging the parameter estimates to produce a single parameter estimate, and 2) applying Rubin's (1987) formula to produce a single standard error (see Appendix C). Rubin's formula estimates the variance within each data set and between the five datasets to yield a single standard error. The combined parameter estimate and combined standard error are then used to determine statistical significance. Calculation of Rubin's formula is unnecessary for analyses that do not involve hypothesis testing or confidence intervals (Allison, 2003).

Currently, no software program has the capability to combine chi-square test statistics across multiply imputed datasets. Allison (2002) developed a formula for combining chi-square statistics in multiply imputed datasets. Allison's formula estimates the chi-square variance between the five datasets and incorporates the chi-square degrees

of freedom to yield a single *F* statistic. Allison also proposed a formula that calculates the denominator degrees of freedom using the chi-square variance and chi-square degrees of freedom (see Appendix C). The *F* statistic, denominator degrees of freedom, and chi-square degrees of freedom (numerator degrees of freedom) were used to determine statistical significance.

Statistical Software Used for Analyses

The SAS 9.1 statistical software program was used to perform the univariate, bivariate, and binary logistic regression data analyses (SAS Institute, 2003). Structural Equation Modeling (SEM) analyses were conducted with AMOS 7.0 (Arbuckle, 2006). Rubin's formula for determining statistical significance of parameter estimates was calculated within SAS MIANALYZE and calculated manually for the analyses done in AMOS 7.0.

Univariate Analyses

Variable means, standard deviations, ranges, and frequencies were generated. Paired *t*-tests were conducted to determine whether variable means were statistically significant between Time 1 and Time 2. The graphical depictions of variable distributions including histograms and box plots were also reviewed to assess normality. Logistic regression was chosen as the multivariate analytic strategy due to the skewed distribution of key variables. All variables were recoded as categorical variables.

Bivariate Analyses

Cross-tabulations were generated to examine whether either dependent variable (overt aggression or relational aggression) was statistically different by sex, school, age, or treatment status. Unadjusted logistic regression odds ratios and 95% confidence

intervals were generated to determine statistical significance. When a difference was detected, the variable was controlled for in the multivariate models. Sex was controlled for in multivariate models given past evidence for sex and early adolescent aggression associations (e.g., Orpinas et al., 1999; Simons-Morton et al., 2004). Moreover, extant research suggests that physical aggression is highly prevalent among girls in urban minority populations (Xie et al., 2003; Griffin, Botvin, Scheier, Doyle, & Williams, 2003; Schiff & McKernan McKay, 2004) and self-reports of levels of indirect forms of aggression (e.g., relational aggression) among boys are often equal to girls (Björkqvist, 1994). Thus, there was no need to stratify by gender.

Next, Spearman correlation coefficients were used to detect potential associations among the independent variables: parenting practices (aggression-avoidance and aggression-endorsing) and parenting style (support/behavioral control and psychological control). Cross-tabulations were also computed to examine relations between the independent and dependent variables. Unadjusted logistic regression odds ratios and 95% confidence intervals were computed to determine statistical significance.

Multivariate Analyses

The logistic regression analyses are described first, followed by a description of the path analyses methods. Parallel models were tested for both overt and relational aggression. In addition to other socio-demographic variables, Time 1 aggression was controlled for in models involving the prediction of Time 2 aggression.

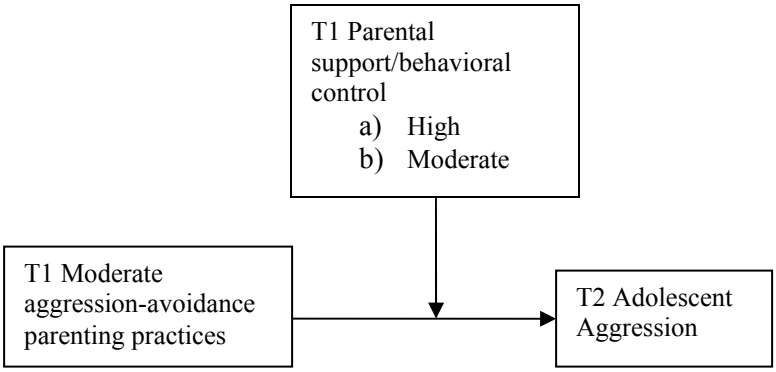
Binary Logistic Regression Analyses

Binary logistic regression was chosen because this analytic technique is suitable for multivariate analyses involving 2-level categorical dependent and multiple-level

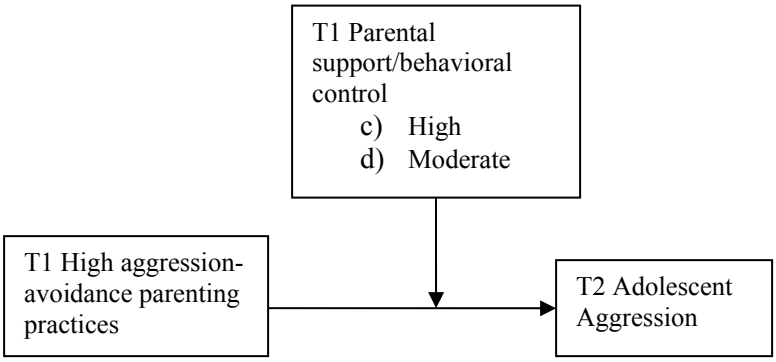
independent variables. In each model, control variables were entered first, followed by the independent variable. First, the relations between Time 1 aggression-specific parenting practices and Time 2 early adolescent aggression were examined. Second, the relationship between Time 1 parenting styles and Time 2 early adolescent overt aggression were examined. Next, the extent to which parenting style moderated the relationship between aggression-specific parenting practices (the focal independent variables) and early adolescent aggression was assessed. Four interaction effects models were tested to examine the potential moderating role of the parenting style variables in the prediction of early adolescent aggression. To test for interactions, product terms were created in which levels of the focal independent variable were multiplied by levels of the moderator variable.

The first interaction effects model tested whether Time 1 parent support/behavioral control moderated the relationship between Time 1 aggression-avoidance parenting practices and Time 2 early adolescent aggression. The control variables were entered into the model, followed by aggression-avoidance parenting practices, and then support/behavioral control. Finally, the parent support/behavioral control and aggression-avoidance parenting practices interaction product terms were entered into the model. The interaction tested whether or not the effect of aggression-avoidance parenting practices on aggression differs depending on the level of support/behavioral control. More specifically, the interaction examined the effect on the likelihood of youth aggression at Time 2 for each of the different combinations of levels of perceived parental support/behavioral control and aggression-avoidance compared to those in either reference group (Figure 3.2).

Figure 3.2: Model 1 Interactions



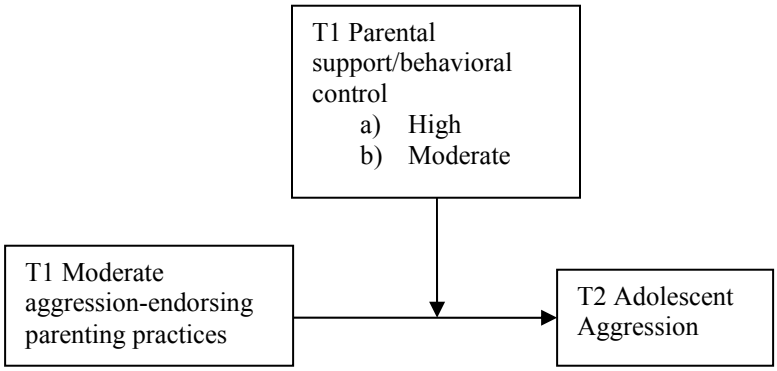
a) Moderate Aggression-avoidance x High support/behavioral control
b) Moderate Aggression-avoidance x Moderate support/behavioral control



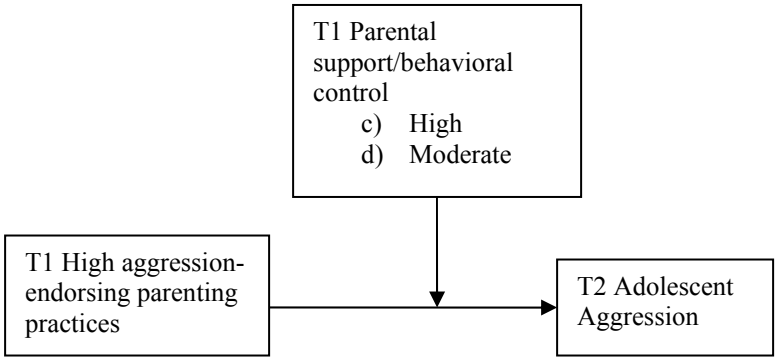
c) High Aggression-avoidance x High support/behavioral control
d) High Aggression-avoidance x Moderate support/behavioral control

The second model tested whether Time 1 parent support/behavioral control moderated the relationship between Time 1 aggression-endorsing parenting practices and Time 2 aggression. This model was examined in the same manner as the first interaction effects model. In this model, the interaction tested whether or not the effect of aggression-endorsing parenting practices on aggression differs depending on the level of support/behavioral control (Figure 3.3).

Figure 3.3: Model 2 Interactions



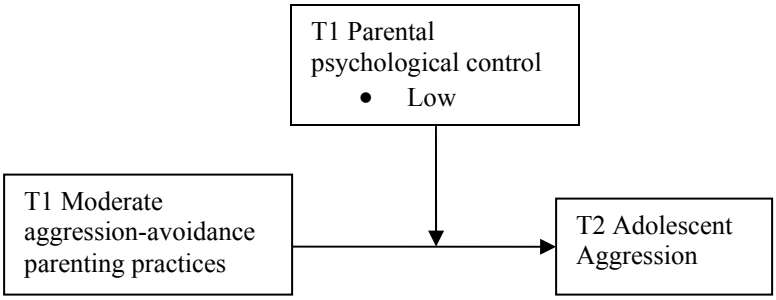
a) Moderate Aggression-endorsing x High Parent support/behavioral control
b) Moderate Aggression-endorsing x Moderate Parent support/behavioral control



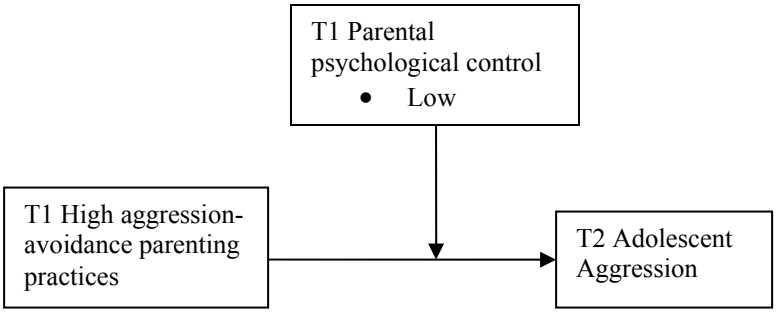
c) High Aggression-endorsing x High Parent support/behavioral control
d) High Aggression-endorsing x Moderate Parent support/behavioral control

The third model tested whether Time 1 parent psychological control moderated the relation between Time 1 aggression-avoidance parenting practices and Time 2 early adolescent aggression. This model was examined in the same manner as the previous interaction effects models. In this model, the interaction tested whether or not the effect of aggression-avoidance parenting practices on aggression differs depending on the level of psychological control (Figure 3.4).

Figure 3.4: Model 3 Interactions



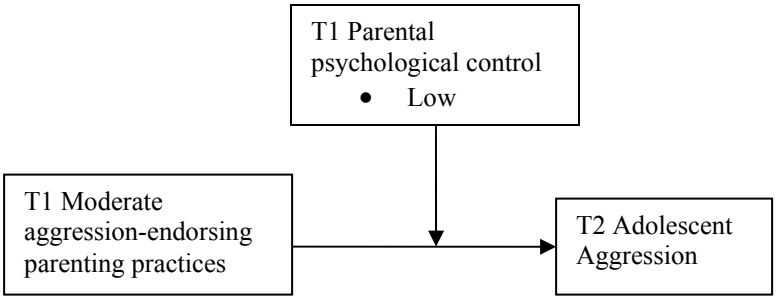
- Moderate Aggression-avoidance x Low Psychological control



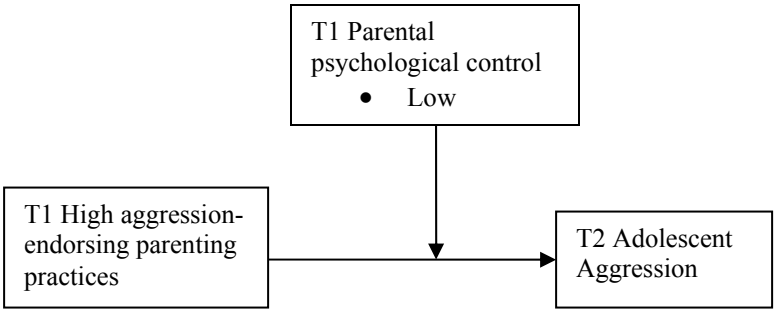
- High Aggression-avoidance x Low Psychological control

The fourth model tested whether Time 1 parent psychological control moderated the relationship between Time 1 aggression-endorsing parenting practices and Time 2 early adolescent aggression. This model was also examined in the same manner as the previous interaction effects models. In this model, the interaction tested whether or not the effect of aggression-endorsing parenting practices on aggression differs depending on the level of psychological control (Figure 3.5).

Figure 3.5: Model 4 Interactions



- Moderate Aggression-endorsing x Low Psychological control



- High Aggression-endorsing x Low Psychological control

Interpretation of main effects in the interaction effects models. As described above, an interaction effects model includes the independent focal variable (aggression-specific parenting practices), the moderator variable (parenting style), and the interaction between the focal variable and the moderator variable. In the case where the moderator variable (X_2) is the reference level of the variable (reference group equals 0), the interaction term (X_1X_2) is then zero (see Equation 3.1).

Equation 3.1

$$Y = a + B_1X_1 + B_2X_2 + B_3X_1X_2$$

Therefore, the main effect of the focal variable (X_1) is interpreted as the interaction between the focal variable and the reference level of the moderator variable.

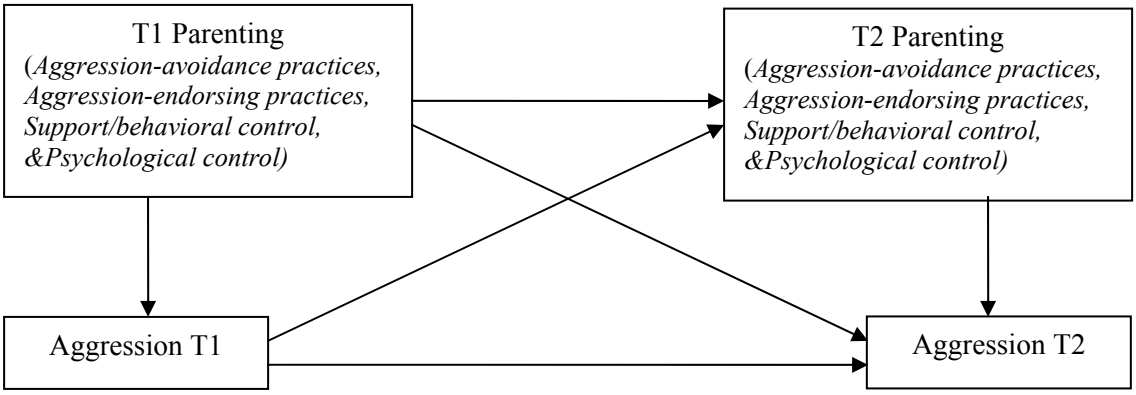
Consider the example where an interaction model includes the focal variable aggression-avoidance parenting practices and the moderator support/behavioral control. Both variables have three levels (high, moderate, and low), and low is the reference group for both variables (reference group equals 0). Both aggression-avoidance parenting practices (X_1) and support/behavioral control (X_2) are components of the interaction term (X_1X_2) as shown in Equation 3.1.

When support/behavioral control is "low," the interaction term is then zero. Thus, the main effect of high levels of aggression avoidance parenting practices is interpreted as the interaction between high aggression avoidance and low support/behavioral control. In other words, the interaction between high aggression-avoidance and low support/behavioral control is accounted for by the main effect of high aggression-avoidance (X_1) on aggression. As a result, a separate product term for high aggression-avoidance parenting practices and low support/behavioral control would not appear in the interaction model analyses output.

Structural Equation Modeling (SEM). The final multivariate analyses assessed whether bidirectional relations existed between early adolescent aggression and parenting (See Figure 3.6). Compared to the logistic regression strategy, SEM provides the advantage of both examining independent and dependent variables simultaneously.

Consequently, SEM procedures help control for Type I error, i.e., falsely rejecting the null hypothesis when it is true (Buhi, Goodson, & Neilands, 2007). Other path model analytic strategies, like the cross-lagged panel correlation, estimate each path in a separate regression rather than estimating all paths at once. This may lead to finding statistical significance when the results are actually attributed to chance. The study sample size of 209 is regarded as acceptable for SEM (Buhi et al., 2007).

Figure 3.6: Model of Bidirectional Effects



SEM process. Separate Time 1 and Time 2 measurement models were examined to test if the observed parenting variables (aggression-avoidance parenting practices, aggression-endorsing parenting practices, support/behavioral control, and psychological control) could be combined to create a latent parenting variable. The Time 1 and Time 2 aggression-dependent variables were included as observed variables. The measurement model exhibited poor model fit. More specifically, the measurement model results indicated that the shared variance resulting from the covariances among the observed parenting variables was insufficient to justify a common latent variable. Therefore, path models were examined to test the relation between aggression and the four observed

parenting variables. Each parenting variable was examined in a separate model. Path models consistent with the conceptualized bidirectional relations model (Figure 3.6) were examined first. If the data fit the model well, the following steps were undertaken to achieve the most parsimonious model: 1) Path coefficients were assessed to identify significant and non-significant paths; 2) Non-significant paths were removed and the resulting new path model was evaluated for goodness of fit. These two steps were repeated until a well fitting, parsimonious model was achieved (Schreiber, Stage, King, Nora, & Barlow, 2006). Finally, the strength and magnitude of statistically significant path coefficients in the final model were assessed to determine which paths indicated the strongest and weakest relations.

SEM model fit criteria. Path models were evaluated based upon goodness-of-fit statistics and measures. Several indicators of goodness-of-fit were evaluated to determine overall model fit: the chi-square statistic, the Tucker-Lewis Index (TLI), the Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA). Chi-square statistics were combined by employing Allison's (2002) formula for combining Chi-squares in multiply imputed datasets. According to this formula, a non-significant *F* statistic, analogous to a non-significant chi-square statistic, is an indication of good model fit (Allison, 2003; Allison, 2002).

Additional indicators of adequate model fit included fit index values close to .95 or higher for the TLI and CFI and close to .06 or lower for the RMSEA (Hu & Bentler, 1999). The RMSEA fix index is also evaluated through significance testing and has an associated 95% confidence interval. In this study, Rubin's formula (see Appendix C) was used to combine the RMSEA results in order to derive a confidence interval.

Because the TLI and CFI do not involve hypothesis testing or confidence intervals to make statistical inferences, application of the Rubin formula was unnecessary. These measures were averaged across the five datasets to produce a single TLI and CFI measure (Allison, 2003; Rajeshwari Sundaram, Personal Communication September, 27, 2007).

The use of cut-off criteria for model fit indexes has been criticized as arbitrary and exhibiting insufficient statistical justification (Marsh, Hau, & Wen, 2004). As an alternative to using restrictive cut-off criteria for assessing model fit, Buhi et al. (2007) suggest that "values further away from the recommended cutoff points indicate potential inconsistency between the model and sample data, whereas values near the recommendations suggest that the model might be useful" (Buhi et al., 2007, p. 81). These alternative guidelines were also considered in the evaluation of model fit, and interpretation of results.

CHAPTER 4: RESULTS

Introduction

The aim of this study was to examine the relationship between perceptions of parenting and early adolescent aggression in a sample of predominately African American urban public middle school students. This chapter presents the results of the data analyses performed to address the four research questions of this dissertation:

Research Question 1. Do early adolescent perceptions of aggression-specific parenting practices at Time 1 predict subsequent early adolescent aggression?

Research Question 2. Do early adolescent perceptions of parenting style (i.e., level of support/behavioral control and level of psychological control) at Time 1 predict subsequent early adolescent aggressive behavior?

Research Question 3. Do early adolescent perceptions of Time 1 parenting style moderate the relationship between Time 1 aggression-specific parenting practices and Time 2 early adolescent aggressive behavior?

Research Question 4. Is there a bidirectional relationship between parenting behavior and early adolescent aggressive behavior?

The first section of chapter 4 describes the sample characteristics. The next section provides the univariate results for each study variable and includes the variable recoding results. The third section presents results of the bivariate analyses. The final section presents the results of the multivariate analyses and is organized by research question.

Univariate Results

Dependent Variables

The univariate statistics of the Time 1 and Time 2 aggression variables are presented in Table 4.1. The Time 1 overt aggression variable had M of 3.46 and SD of 3.59. The Time 2 overt aggression variable had M of 3.96 and SD. of 2.97. Both Time 1 and Time 2 overt aggression were highly positively skewed indicating that the number of reported overt aggressive acts in the last 30 days was relatively low. Approximately 50% of early adolescents reported three or less overt aggressive acts in the last 30 days (Time 1 median = 2.5, Time 2 median = 3). Similarly, the Time 1 and Time 2 relational aggression variables were highly positively skewed. The Time 1 relational aggression variable had M of 2.12 and SD of 2.65. The Time 2 relational aggression variable had M of 2.37 and SD of 2.66. Approximately 65% of early adolescents reported one or more relational aggressive acts in the last 30 days (Time 1 and Time 2 median = 1). The prevalence of both overt and relational aggression slightly increased between Time 1 and Time 2, but Time 1 levels were not statistically significant different from Time 2 levels.

Table 4.1: Descriptive Statistics for Study Variables (N=209)

	Time 1			Time 2			
Variables	Range	M	SD	Range	M	SD	Mean Difference
Dependent							
Overt aggression	0-15	3.46	3.59	0-15	3.96	3.97	.50
Relational aggression	0-10	2.12	2.65	0-10	2.37	2.66	.25
Independent							
Aggression-avoidance parenting practices	1-10	6.73	2.41	1-10	6.65	2.67	-.08
Aggression-endorsing parenting practices	1-10	4.30	2.21	1-10	4.50	2.47	.20
Parent support/ behavioral control	1-5	4.04	.83	1-5	4.19	.80	.15
Parent psychological control	1-5	2.82	1.01	1-5	2.49	1.08	.33***

*** Indicates significance at $p < .001$.

Independent Variables

Aggression-Specific Parenting Practices

The univariate statistics of the Time 1 and Time 2 aggression-specific parenting practices variables are presented in Table 4.1. The Time 1 aggression-avoidance parenting practices variable had M of 6.73 and SD of 2.41. The Time 2 aggression-avoidance parenting practices variable had M of 6.65 and SD of 2.67. Both Time 1 and Time 2 aggression-avoidance parenting practices were negatively skewed indicating relatively high levels of early adolescent perceptions of aggression-avoidance parenting practices. The median score at Time 1 and Time 2 was 7 and 6.8 respectively. Both Time 1 and Time 2 aggression-endorsing parenting practices exhibited less skew. The central tendency was toward the middle score values. The Time 1 aggression-endorsing parenting practices variable had M of 4.30 and SD of 2.21. The Time 2 aggression-

endorsing parenting practices variable had M of 4.50 and SD of 2.47. The median score at Time 1 and Time 2 was 4.2 and 4.5 respectively. Between Time 1 and Time 2, aggression-avoidance parenting practices slightly decreased and aggression-endorsing parenting practices increased, but these differences were not statistically significant.

Parenting Style

The univariate statistics of the Time 1 and Time 2 parenting style variables are also presented in Table 4.1. The Time 1 parent support/behavioral control variable had M of 4.04 and SD of .83. The Time 2 parent support/behavioral control variable had M of 4.19 and SD of .80. Both Time 1 and Time 2 parent support/behavioral control were negatively skewed indicating high levels of early adolescent perceptions of parent support/behavioral control. The median score at Time 1 and Time 2 was 4.16 and 4.38 respectively. Both Time 1 and Time 2 parent psychological control exhibited less skew. The central tendency was toward the middle score values. The Time 1 parent psychological control variable had M of 2.82 and SD of 1.01. The Time 2 parent psychological control variable had M of 2.49 and SD of 1.08. The median score at Time 1 and Time 2 was 2.71 and 2.37 respectively. Early adolescents reported significantly higher levels of parent psychological control at Time 2, $t(142) = 3.60$, $p < .000$, $d = .33$, compared to Time 1 (see Table 4.1).

Examination of Variables: Outliers and Normality

For each variable, boxplots revealed a small number of outliers. Investigation of these outliers did not reveal a pattern among these outliers that would justify the deletion of any cases. Examination of each variable's histogram, expected normal probability

plots, and detrended expected normal probability plots[6] revealed that several variables failed to satisfy the assumption of normality at Time1 and Time 2: overt aggression, relational aggression, parent support/behavioral control, and aggression-avoidance parenting practices. Given the nature of these variable distributions, logistic regression was chosen as the multivariate analytic strategy as it does not require normally distributed outcome variables.

Variable Recoding

Dependent Variables

The response options for both the relational and overt aggression variables were: "never" = 0, "1 time" = 1, "2 times" = 2, "3 times" = 3, "4 times" = 4, and "5 or more times" = 5. These variable response options were recoded into two binary categories: "never" = 0 and "ever" = 1 (Table 4.2). The "never" category included respondents who reported never engaging in aggression over the last 30 days and the "ever" category represents respondents who indicated engaging in aggression 1 or more times over the last 30 days. The "never" category was the designated reference group.

Table 4.2: Dependent Variable Categories (N=209)

Variables	"Never"= 0 Frequency (N)	"Ever" = 1 Frequency (N)
T1 Overt aggression	25% (51)	75% (158)
T2 Overt aggression	23% (47)	77% (162)
T1 Relational aggression	36% (76)	64% (133)
T2 Relational aggression	33% (68)	67% (141)

[6] Detrended plots are a display of the observed variable values plotted against the deviations from the expected values. If data plots are not evenly distributed above and below the horizontal line, then this indicates non-normality (Tabachnick & Fidell, 2006).

Independent Variables

The four independent parenting variables were also recoded into categorical variables. This study utilized a strengths framework that aimed to highlight how particular perceptions about parenting protect against youth engagement in risk behavior. The independent variable recoding scheme attempted to highlight the role of protective parenting rather than the role of parental dysfunction. The parenting variable categories were intended to contrast high levels of protective parenting and low levels of protective parenting. Each parenting variable was coded such that an odds ratio < 1 would indicate a protective effect. Rather than subjectively determining a cut-off value(s) to create variable categories, a criteria was developed that included both data-driven and conceptual elements. Conceptually, the aim was to create categories that contrasted high levels of protective parenting and low levels of protective parenting. An examination of each variable's distribution was used to determine whether a median split or tertile split would most appropriately contrast higher levels of protective parenting and low levels of protective parenting.

Aggression-specific Parenting Practices

The response options for the parenting practices (aggression-avoidance and aggression-endorsing) variables ranged between 1 and 10, with 1 being "Strongly Disagree" and 10 being "Strongly Agree" (See Table 3.4, p. 104 for list of items). For aggression-avoidance parenting practices, the higher the response number, the more the child perceives her parent/guardian wants her to avoid aggressive behavior/get along with others. Lower scores indicate less perceived parent support for avoiding aggressive behavior/getting along with others. For aggression-endorsing parenting practices, the

higher the response number, the more the child perceives her parent/guardian endorses aggressive behavior. Lower scores indicate less perceived parent support for aggressive behavior.

In regards to aggression-avoidance parenting practices, it was anticipated that high levels of aggression-avoidance parenting practices would be associated with a lower likelihood of youth aggressive behavior. Thus, high levels of aggression-avoidance parenting practices were regarded as protective parenting. "High levels" of aggression-avoidance parenting practices was characterized as a scale score that was approximately the scale response midpoint value of 5 or higher. Given this definition, the distribution of the aggression-avoidance parenting practices variable was examined to determine whether a tertile split or median split would more adequately categorize high and low levels of protective parenting.

At Time 1, the aggression-avoidance parenting practices variable was negatively skewed toward "Strongly Agree" and the median was 7.0. Given a median of 7.0, it was determined that a median split would create a low group that included youth who reported higher levels of aggression-avoidance parenting practices according to the above definition. A tertile split approach was employed instead as this strategy ensured that youth who reported higher levels of aggression-avoidance parenting practices were not classified into the low group.

A tertile split was used to create high, moderate, and low categories for the aggression-avoidance parenting practices variable. The aggression-avoidance parenting practices categories were coded as follows: "high" = 2, "moderate" = 1, and "low" = 0. Both the "high" and "moderate" groups represented higher levels of aggression-

avoidance parenting practices (i.e., high levels of protective parenting), while the "low" group represented low levels of aggression-endorsing parenting practices (i.e., low levels of protective parenting). The low category was the designated reference group for aggression-avoidance parenting practices. Table 4.36 presents the range of scale scores included in each category and the associated frequencies for the aggression-endorsing practices variable.

Table 4.3: Aggression-Specific Parenting Practices Variable Categories (N=209)

Variables	"Low" Score Range (%)	"Moderate" Score Range (%)	"High" Score Range (%)
T1 Aggression-avoidance parenting practices	1-5.40 (34%)	5.41-8.1 (30%)	8.11-10 (36%)
T1 Aggression-endorsing parenting practices	1-3.29 (34%)	3.30-5.14 (31%)	5.15-10 (35%)

In regards to aggression-endorsing parenting practices, it was anticipated that low levels of aggression-endorsing parenting practices would be associated with a lower likelihood of youth aggressive behavior. Thus, low levels of aggression-endorsing parenting practices were regarded as protective parenting. "Low levels" of aggression-avoidance parenting practices was characterized as a scale score that was approximately the scale response midpoint value of 5.5 or lower. Given this definition, the distribution of the aggression-avoidance parenting practices variable was examined to determine whether a tertile split or median split would more adequately categorize high and low levels of protective parenting.

At Time 1, the aggression-endorsing parenting practices variable had a median of 4.3. Given a median of 4.3, it was determined that a median split would create a high group that included youth who reported low levels of aggression-endorsing parenting

practices. A tertile split approach was employed instead as this strategy ensured that youth who reported low levels of aggression-endorsing parenting practices, according to the above definition, were not classified into the high group.

A tertile split was used to create high, moderate, and low categories for the aggression-endorsing parenting practices variable. The aggression-endorsing parenting practices variable was coded as follows: "high" = 0, "moderate" = 1, and "low" = 2. Both the "low" and "moderate" groups represented lower levels of aggression-endorsing parenting practices (i.e. high levels of protective parenting), while the "high" group represented high levels of aggression-avoidance parenting practices (i.e. low levels of protective parenting). The high category was the designated reference group for aggression-endorsing parenting practices. Table 4.3 presents the range of scale scores included in each category and the associated frequencies for the aggression-avoidance practices variable.

Parenting Style

The response options for the parenting style (support/behavioral control and psychological control) variables ranged between 1 and 5, with 1 being "Strongly Disagree" and 5 being "Strongly Agree" (See Table 3.9, p. 114 for list of items). For parent support/behavioral control, the higher the response number, the more the child perceives her parent/guardian as 1) providing high levels of support (i.e., affection, acceptance, etc.) and 2) having high levels of knowledge about her whereabouts and activities when not under parental supervision. Lower scores indicate less perceived parent provision of support and knowledge of whereabouts and activities. For parent psychological control, the higher the response number, the more the child perceives her

parent/guardian as providing high levels of psychological control (i.e., love withdrawal, guilt induction, restriction of independence, invalidation of feelings). Lower scores indicate less perceived parent psychological control.

In regards to parent support/behavioral control, it was anticipated that high levels of parent support/behavioral control would be associated with a lower likelihood of youth aggressive behavior. Thus, high levels of parent support/behavioral control were regarded as protective parenting. "High levels" of parent support/behavioral control was characterized as a scale score that was approximately the scale response midpoint value of 3 or higher. Given this definition, the distribution of the parent support/behavioral control variable was examined to determine whether a tertile split or median split would more adequately categorize high and low levels of protective parenting.

At Time 1, the support/behavioral control variable was negatively skewed toward "Strongly Agree" and had a median of 4.04. Given a median of 4.04, it was determined that a median split would create a low group that included youth who reported high levels of parent support/behavioral control. A tertile split approach was employed instead as this strategy ensured that youth who reported high levels of parent support/behavioral control, according to the above definition, were not classified into the low group.

A tertile split was used to create high, moderate, and low categories for the parent support/behavioral control variable. The parent support/behavioral control categories were coded as follows: "high" = 2, "moderate" = 1, and "low" = 0. Both the "high" and "moderate" groups represented higher levels of parent support/behavioral control (i.e., high levels of protective parenting), while the "low" group represented low levels of parent support/behavioral control (i.e., low levels of protective parenting). The low

category was the designated reference group for parent support/behavioral control. Table 4.4 presents the range of scale scores included in each category and the associated frequencies for the parent support/behavioral control.

Table 4.4: Parenting Style Variable Categories (N=209)

Variables	"Low" Score Range (%)	"Moderate" Score Range (%)	"High" Score Range (%)
T1 Parent support/ behavioral control	1-3.77 (33%)	3.78-4.54 (23%)	4.55-5 (34%)
T1 Parent psychological control	1-2.71 (53%)	N/A	2.72-5 (47%)

In regards to parent psychological control, it was anticipated that low levels of parent psychological control would be associated with a lower likelihood of youth aggressive behavior. Thus, low levels of parent psychological control were regarded as protective parenting. "Low levels" of parent psychological control was characterized as a scale score that was approximately the scale response midpoint value of 3 or lower. Given this definition, the distribution of the parent psychological control variable was examined to determine whether a tertile split or median split would more adequately categorize high and low levels of protective parenting. At Time 1, the parent psychological control variable had a median of 2.71. Given a median of 2.71, it was determined that a median split would adequately categorize high and low levels of protective parenting. The high category was the designated reference group for parent psychological control.

A median split was used to create high and low categories for the parent psychological control variable. The parent psychological control variable was coded as follows: "high" = 0 and "low" = 1. The "low" group represented low levels of parent

psychological control (i.e., high levels of protective parenting), while the "high" group represented high levels of parent psychological control (i.e., low levels of protective parenting). The high category was the designated reference group for parent psychological control. Table 4.4 presents the range of scale scores included in each category and the associated frequencies for the parent psychological control variable.

Parent Variable Coding Summary

Table 4.5 presents a summary of the variable coding for the parenting variables utilized in this study. The levels categorized as "protective parenting" are those levels hypothesized to be more associated with less risk of aggression.

Table 4.5: Parent Variable Coding Summary

Variables	Protective Parenting	Least Protective Parenting
Aggression-avoidance parenting practices	High & Moderate levels	Low levels
Aggression-endorsing parenting practices	Low & Moderate levels	High levels
Parent support/behavioral control	High & Moderate levels	Low levels
Parent psychological control	Low levels	High levels

Bivariate Results

Associations among Parenting Variables

First, the bivariate relations among the parenting variables were examined to detect significant associations (Table 4.6). Spearman correlation results indicated that several Time 1 parenting variables were significantly related. At Time 1, aggression-avoidance parenting practices was positively associated with parent support/behavioral

control (0.19, p<.01). Also, aggression-endorsing parenting practices was positively associated with Time 1 parent psychological control (0.15, p<.05).

At Time 2, aggression-avoidance parenting practices was positively associated with both aggression-endorsing parenting practices (0.16, p<.05) and support/behavioral control (0.30, p< .01). Additionally at Time 2, parent psychological control was positively associated with both aggression-endorsing parenting practices (0.20, p< .01) and support/behavioral control (0.38, p<.01). Only two significant longitudinal associations were found. Time 1 support/behavioral control was positively associated with both Time 2 aggression-avoidance parenting practices (0.18, p<.01) and Time 2 parent psychological control (0.14, p<.05).

Table 4.6: Correlations among Independent Variables (N=209)

Variables	1.	2.	3.	4.	5.	6.	7.	8.
1. T1 Aggression-avoidance parenting practices	1							
2. T1 Aggression-endorsing parenting practices	.13	1						
3. T1 Parent support/ behavioral control	.19**	-.06	1					
4. T1 Parent psychological control	.13	.15*	.11	1				
5. T2 Aggression-avoidance parenting practices	.13	.06	.18**	.009	1			
6. T2 Aggression-endorsing parenting practices	.12	.20**	-.04	.05	.16*	1		
7. T2 Parent support/ behavioral control	.08	.05	.22**	.04	.30**	.06	1	
8. T2 Parent psychological control	-.03	.08	.14*	.29**	.05	.20**	.38**	1

*Indicates significance at p< .05; **p< .01.

Associations among Dependent and Control Variables

The relations between the dependent variables and the potential control variables (sex, age, school, and treatment status) were examined using univariate logistic regression. First, the coding scheme is described. Sex was coded as "male" = 1 and "female" = 0. Age was dichotomized using a median split: "Less than 12 years old" = 1 and "12 or older" = 0. There was no conceptual rationale for risk related to age, thus age was coded arbitrarily. School was coded as "Highlandtown" = 1 and "Dunbar" = 0. Finally, treatment status was coded as "treatment" = 1 and "control" = 0. Results indicated that the relations between early adolescent overt aggression and the potential control variables (sex, age, school, and treatment status) were not statistically significant at Time 1 and 2 (Table 4.7). Early adolescent relational aggression was significantly associated with age at Time 1 (OR=0.70, CI: 0.51 – 0.97) indicating that respondents who were less than 12 years of age were less likely to engage in Time 1 relational aggression. Relational aggression was also significantly associated with treatment status at Time 2 (OR=1.35, CI: 1.01 – 1.80). Intervention group respondents were more likely to engage in Time 2 youth relational aggression (Table 4.7).

Table 4.7: Relationship between Early Adolescent Aggression and Sex, Age, School, and Treatment Status at Time 1 and Time 2 (N=209)

Variables	Time 1		Time 2	
	Overt Aggression	Relational Aggression	Overt Aggression	Relational Aggression
	Odds Ratio (95% CI)	Odds Ratio (95% CI)	Odds Ratio (95% CI)	Odds Ratio (95% CI)
Sex				
Male	1.35 (0.97-1.89)	1.01 (0.75-1.36)	0.97 (0.70-1.34)	0.87 (0.65-1.16)
Female	1.00	1.00	1.00	1.00
Age				
< 12.0	.78 (0.53-1.15)	0.70 (0.51-0.97)*	0.77 (0.54-1.10)	0.81 (0.60-1.11)
12.0 or <	1.00	1.00	1.00	1.00
School				
Highlandtown	0.84 (0.55-1.29)	0.76 (0.54-1.07)	0.99 (0.70-1.39)	0.97 (0.72-1.32)
Dunbar	1.00	1.00	1.00	1.00
Treatment				
Intervention	0.99 (0.68 -1.44)	0.77 (0.56-1.06)	1.25 (0.90-1.73)	1.35 (1.01-1.80)*
Control	1.00	1.00	1.00	1.00

Note: The last category was the reference group. * Indicates significance at p<.05.

Cross-tabulations were also performed in order to examine, in a preliminary way, associations between the dependent and independent variables. Table 4.8 presents the concurrent associations between Time 1 parenting and aggression variables. No significant relations were found between Time 1 early adolescent aggression (overt and relational) and any of the parenting variables.

Table 4.8: Prevalence and Unadjusted Odds Ratios for Early Adolescent Aggression by Level of Parenting Practices and Parenting Style at Time 1 (N=209)

	T1 Overt Aggression		T1 Relational Aggression	
T1 Parenting Variables	Prevalence (%)	OR (95% CI)	Prevalence (%)	OR (95% CI)
Aggression-avoidance parenting practices				
High	42 (20%)	0.97 (0.55-1.69)	36 (17%)	1.03 (0.63-1.67)
Moderate	57 (27%)	0.87 (0.51-1.48)	45 (22%)	0.76 (0.44-1.30)
Low	59 (28%)	1.00	52 (25%)	1.00
Aggression-endorsing parenting practices				
Low	44 (20%)	0.63 (0.38-1.05)	43 (20%)	1.06 (0.59-1.90)
Moderate	53 (26%)	1.04 (0.64-1.68)	39 (19%)	0.73 (0.47-1.14)
High	61 (29%)	1.00	51 (24%)	1.00
Parent support/ behavioral control				
High	47 (22%)	0.69 (0.39-1.22)	45 (22%)	1.11 (0.68-1.81)
Moderate	55 (26%)	1.03 (0.59-1.78)	45 (22%)	0.98 (0.58-1.66)
Low	57 (27%)	1.00	43 (20%)	1.00
Parent psychological control				
Low	69 (33%)	0.89 (0.56-1.18)	62 (30%)	1.01 (0.74-1.36)
High	88 (42%)	1.00	71 (34%)	1.00

Note: The last category was the reference group.

Cross-tabulations were also performed to examine Time 2 concurrent relations. Table 4.9 presents the associations between Time 2 parenting and Time 2 aggression. Results indicated that early adolescents reporting high levels of Time 2 aggression-avoidance parenting practices were nearly 55% less likely to report engaging in aggression at Time 2 (OR=0.53, CI: 0.33 – 0.83) compared to early adolescents reporting low levels of aggression-avoidance parenting practices. In addition, early adolescents reporting low levels of Time 2 aggression-endorsing parenting practices had a decreased likelihood of engaging in aggression at Time 2 (OR=0.42, CI: 0.26 – 0.69) compared to early adolescents reporting high levels of aggression-endorsing parenting practices.

Table 4.9: Prevalence and Unadjusted Odds Ratios for Early Adolescent Aggression by Level of Parenting Practices and Parenting Style at Time 2 (N=209)

	T2 Overt Aggression		T2 Relational Aggression	
T2 Parenting Variables	Prevalence (%)	OR (95% CI)	Prevalence (%)	OR (95% CI)
Aggression-avoidance parenting practices				
High	43 (20%)	0.53 (0.33-0.83)**	44 (21%)	0.93 (0.61-1.42)
Moderate	59 (27%)	1.21 (0.73-1.98)	45 (21%)	0.77 (0.51-1.77)
Low	61 (29%)	1.00	54 (25%)	1.00
Aggression-endorsing parenting practices		Aggression-endorsing parenting practices		
Low	44 (20%)	0.42 (0.26-0.69)***	43 (20%)	0.74 (0.49-1.11)
Moderate	60 (28%)	1.13 (0.66-1.92)	52 (24%)	1.16 (0.76-1.79)
High	60 (28%)	1.00	47 (22%)	1.00
Parent support/ behavioral control		Parent support/ behavioral control		
High	54 (26%)	0.73 (0.44-1.20)	48 (22%)	0.82 (0.53-1.25)
Moderate	45 (21%)	0.86 (0.51-1.46)	36 (17%)	0.71 (0.46-1.12)
Low	64 (30%)	1.00	59 (28%)	1.00
Parent psychological control		Parent psychological control		
Low	85 (40%)	0.81 (0.58-1.13)	71 (33%)	0.76 (0.54-1.05)
High	79 (37%)	1.00	72 (34%)	1.00

Note: The last category was the reference group. ** Indicates significance at p<.01, *** p<.001.

Table 4.10 presents the associations between Time 1 parenting and Time 2 aggression. Results indicated that early adolescents reporting moderate levels of Time 1 aggression-avoidance parenting practices were nearly 60% less likely to report engaging in Time 2 aggression (OR=0.57, CI: 0.35 – 0.93) compared to early adolescents reporting low levels of aggression-avoidance parenting practices. Also, early adolescents reporting low levels of Time 1 aggression-endorsing parenting practices had a decreased likelihood of engaging in Time 2 aggression (OR=0.62, CI: 0.39 – 0.98) compared to early adolescents reporting high levels of aggression-endorsing parenting practices. Finally,

early adolescents reporting high levels of Time 1 support/behavioral control were nearly 60% less likely to engage in aggression at Time 2 (OR=0.59, CI: 0.36 – 0.96) compared to early adolescents reporting low levels of support/behavioral control.

Table 4.10: Prevalence and Unadjusted Odds Ratios for Early Adolescent Aggression at Time 2 by Level of Parenting Practices and Parenting Style at Time 1 (N=209)

	T2 Overt Aggression		T2 Relational Aggression	
T1 Parenting Variables	Prevalence (%)	OR (95% CI)	Prevalence (%)	OR (95% CI)
Aggression-avoidance parenting practices				
High	46 (22%)	1.18 (0.69-2.02)	38 (18%)	0.98 (0.61-1.58)
Moderate	53 (26%)	0.57 (0.35-0.93)*	46 (22%)	0.67 (0.44-1.03)
Low	63 (30%)	1.00	57 (27%)	1.00
Aggression-endorsing parenting practices				
Low	45 (22%)	0.62 (0.39-0.98)*	49 (23%)	1.17 (0.74-1.84)
Moderate	56 (27%)	1.17 (0.69-1.98)	45 (22%)	0.87 (0.54-1.40)
High	61 (29%)	1.00	47 (22%)	1.00
Parent support/ behavioral control				
High	47 (22%)	0.59 (0.36-0.96)*	41 (20%)	0.71 (0.45-1.11)
Moderate	55 (26%)	0.87 (0.49-1.56)	49 (23%)	1.02 (0.65-1.60)
Low	61 (29%)	1.00	51 (24%)	1.00
Parent psychological control				
Low	76 (37%)	1.07 (0.76-1.50)	62 (30%)	0.88 (0.66-1.19)
High	86 (41%)	1.00	78 (37%)	1.00

Note: The last category was the reference group. *Indicates significance at p<.05.

Multivariate Results

This section presents the results of the binary logistic regression models and the path models. Results are organized by the four research questions of this study.

Results: Research Question 1

Research question 1 examined whether early adolescent perceptions of aggression-specific parenting practices at Time 1 predicted subsequent early adolescent aggression. Higher levels of aggression-avoidance parenting practices at Time 1 were

hypothesized to decrease the likelihood that early adolescents would have engaged in aggression at Time 2 after Time 1 aggression and socio-demographics were controlled for in the analyses. In addition, low levels of aggression-endorsing parenting practices at Time 1 were hypothesized to decrease the likelihood that early adolescents would have engaged in aggression while controlling for Time 1 aggression and socio-demographics.

First, the relations between Time 1 aggression specific parenting practices and Time 2 overt aggression were examined using binary logistic regression models. Variables were entered into the model in the following order: sex, Time 1 overt aggression, Time 1 aggression-avoidance parenting practices. Aggression-endorsing parenting practices were examined in a second model. Again, variables were entered into the model in the following order: sex, Time 1 overt aggression, Time 1 aggression-endorsing parenting practices. Parallel models were tested for relational aggression and these models included sex, age, and treatment status as control variables.

Table 4.11 shows the logistic regression results for the Time 1 aggression-avoidance parenting practices models for both overt and relational aggression. Moderate levels of Time 1 aggression-avoidance parenting practices was associated with a decreased likelihood that early adolescents would have engaged in overt aggression at Time 2 (OR=0.57, CI: 0.34 – 0.96) relative to the low aggression-avoidance parenting practices group. High levels of aggression-avoidance parenting practices was associated with an increased likelihood that early adolescents would have engaged in overt aggression at Time 2, however, these results were not statistically significant (OR=1.22, CI: 0.70 – 2.12). Moderate levels of aggression-avoidance parenting practices and Time 2 relational aggression was also associated with a decreased likelihood that early

adolescents would have engaged in relational aggression at Time 2 (OR=0.61, CI: 0.37 – 0.99) relative to the low aggression-avoidance parenting practices group. High levels of Time 1 aggression-avoidance parenting practices was unrelated to Time 2 early adolescent relational aggression (OR=1.13, CI: 0.68 – 1.90).

Table 4.11: Multiple Logistic of Early Adolescent Reports of Aggression at Time 2: Aggression-Avoidance Parenting Practices (N=209)

	Overt Aggression T2	Relational Aggression T2
	Odds Ratio (95% CI)	Odds Ratio (95% CI)
Model 1		
Sex	0.92 (0.65-1.30)	0.87 (0.63-1.20)
Age	n/a	0.89 (0.63-1.25)
Treatment status	n/a	1.49 (1.08-2.07)*
T1 Aggression	2.03 (1.37-3.03)***	1.81 (1.22-2.68)**
Model 2		
Sex	0.91 (0.64-1.31)	0.85 (0.61-1.18)
Age	n/a	0.89 (0.63-1.26)
Treatment Status	n/a	1.62 (1.15-2.29)**
T1 Aggression	2.04 (1.35-3.08)***	1.77 (1.19-2.64)**
Aggression-avoidance - High	1.22 (0.70-2.12)	1.13 (0.68-1.90)
Aggression-avoidance - Moderate	0.57 (0.34-0.96)*	0.61 (0.37-0.99)*
Aggression-avoidance - Low	1.00	1.00

Note: n/a means not significant at bivariate level. *Indicates significance at p<.05, **p<.01, ***p<.001. The last category was the reference group.

Table 4.12 shows the logistic regression results for the Time 1 aggression-endorsing parenting practices models. No significant relations were found. Low levels of Time 1 aggression-endorsing parenting practices were unrelated to Time 2 early adolescent overt aggression (OR=0.68, CI: 0.42 – 1.10) and moderate levels of aggression-endorsing practices was unrelated to Time 2 early adolescent overt aggression (OR=1.16, CI: 0.67 – 2.00). Aggression-endorsing parenting practices were also not significantly related to youth relational aggression (Table 4.12). Low levels of Time 1 aggression-endorsing parenting practices was unrelated to Time 2 youth relational

aggressive behavior (OR=1.27, CI: 0.79 – 2.05) and moderate levels of aggression-endorsing practices was unrelated to in Time 2 youth relational aggression (OR=0.85, CI: 0.51 – 1.42).

Table 4.12: Multiple Logistic of Early Adolescent Reports of Aggression at Time 2: Aggression-Endorsing Parenting Practices (N=209)

	Overt Aggression T2	Relational Aggression T2
	Odds Ratio (95% CI)	Odds Ratio (95% CI)
Model 1		
Sex	0.92 (0.65-1.30)	0.87 (0.63-1.20)
Age	n/a	0.89 (0.63-1.25)
Treatment status	n/a	1.49 (1.08-2.07)*
T1 Aggression	2.03 (1.37-3.03)***	1.81 (1.22-2.68)**
Model 2		
Sex	0.90 (0.63-1.28)	0.88 (0.64-1.22)
Age	n/a	0.88 (0.62-1.24)
Treatment Status	n/a	1.51 (1.09-2.09)*
T1 Aggression	1.98 (1.31-2.97)***	1.79 (1.19-2.71)**
Aggression-endorsing - Low	0.68 (0.42-1.10)	1.27 (0.79-2.05)
Aggression-endorsing - Moderate	1.16 (0.67-2.00)	0.85 (0.51-1.42)
Aggression-endorsing - High	1.00	1.00

Note: n/a means not significant at bivariate level. *Indicates significance at p<.05, **p<.01, ***p<.001. The last category was the reference group.

Results: Research Question 2

Research question 2 examined the extent to which early adolescent perceptions of parenting style (i.e., support/behavioral control and psychological control) at Time 1 predicted subsequent early adolescent aggression. Higher levels of Time 1 parent support/behavioral control and lower levels of Time 1 parent psychological control were hypothesized to independently decrease the likelihood that youth would have engaged in aggression at Time 2 after Time 1 aggression and socio-demographics were controlled for in the analyses.

The relationship between Time 1 parenting style and Time 2 overt aggression was examined using binary logistic regression models. In the support/behavioral control model, variables were entered into the model in the following order: sex, Time 1 overt aggression, Time 1 support/behavioral control. In the psychological control model, variables were entered into the model in the following order: sex, Time 1 overt aggression, Time 1 parent psychological control. Parallel models were tested for relational aggression and included sex, age, and treatment status as control variables.

Table 4.13 shows the logistic regression results for the parent support/behavioral control parenting style models. Logistic regression results indicated that Time 1 support/behavioral control failed to predict Time 2 early adolescent overt aggressive behavior while controlling for Time 1 overt aggression and sex (Table 4.13). Both high and moderate levels of support/behavioral control were unrelated to Time 1 youth aggression. More specifically, the relationships between Time 2 early adolescent overt aggression and high support/behavioral control (OR=0.63, CI: 0.37 – 1.07) and moderate support/behavioral control (OR=0.86, CI: 0.47 – 1.56) were not significant. The relationships between Time 2 early adolescent relational aggressive behavior and high support/behavioral control (OR=0.65, CI: 0.40 – 1.06) and moderate support/behavioral control (OR=1.05, CI: 0.66 – 1.65) were not significant as well.

Table 4.13: Multiple Logistic of Early Adolescent Reports of Aggression at Time 2: Parent Support/behavioral Control (N=209)

	Overt Aggression T2	Relational Aggression T2
	Odds Ratio (95% CI)	Odds Ratio (95% CI)
Model 1		
Sex	0.92 (0.65-1.30)	0.87 (0.63-1.20)
Age	n/a	0.89 (0.63-1.25)
Treatment status	n/a	1.49 (1.08-2.07)*
T1 Aggression	2.03 (1.37-3.03)***	1.81 (1.22-2.68)**
Model 2		
Sex	0.91 (0.64-1.30)	0.85 (0.61-1.17)
Age	n/a	0.89 (0.63-1.26)
Treatment Status	n/a	1.54 (1.10-2.14)*
T1 Aggression	1.97 (1.32-2.94)***	1.86 (1.22-2.83)**
Parent Support/behavioral Cntl. - High	0.63 (0.37-1.07)	0.65 (0.40-1.06)
Parent Support/behavioral Cntl. - Moderate	0.86 (0.47-1.56)	1.05 (0.66-1.65)
Parent Support/behavioral Cntl. - Low	1.00	1.00

Note: n/a means not significant at bivariate level. *Indicates significance at p<.05, **p<.01, ***p<.001. The last category was the reference group.

Table 4.14 shows the logistic regression results for the parent psychological control parenting style models. Logistic regression results indicated that Time 1 psychological control failed to predict Time 2 youth aggression. Specifically, low levels of parent psychological control were unrelated to early adolescent overt (OR=1.14, CI: 0.79 – 1.66) and relational aggressive behavior (OR=0.86, CI: 0.63 – 1.19).

Table 4.14: Multiple Logistic of Early Adolescent Reports of Aggression at Time 2: Parent Psychological Control (N=209)

	Overt Aggression T2	Relational Aggression T2
	Odds Ratio (95% CI)	Odds Ratio (95% CI)
Model 1		
Sex	0.92 (0.65-1.30)	0.87 (0.63-1.20)
Age	n/a	0.89 (0.63-1.25)
Treatment status	n/a	1.49 (1.08-2.07)*
T1 Aggression	2.03 (1.37-3.03)***	1.81 (1.22-2.68)**
Model 2		
Sex	0.92 (0.65-1.31)	0.85 (0.62-1.18)
Age	n/a	0.89 (0.63-1.25)
Treatment Status	n/a	1.62 (1.15-2.29)*
T1 Aggression	2.07 (1.38-3.10)***	1.77 (1.19-2.64)**
Parent Psychological Cntl. - Low	1.14 (0.79-1.66)	0.86 (0.63-1.19)
Parent Psychological Cntl. - High	1.00	1.00

Note: n/a means not significant at bivariate level. *Indicates significance at p<.05, **p<.01, ***p<.001. The last category was the reference group.

Results: Research Question 3

Research question 3 examined the degree to which early adolescent perceptions of Time 1 parenting style moderated the relationship between Time 1 aggression-specific parenting practices and Time 2 early adolescent aggression. Four models were tested to examine the potential moderating role of the parenting style variables in the prediction of early adolescent overt aggression. In each model, the control variables, sex and Time 1 overt aggression, were entered into the model first. Next, the parenting practice variable was entered into the model, followed by the parenting style variable. Finally, the parenting practices and parenting style interaction product terms were entered into the model. Parallel models were tested for early adolescent relational aggression. The relational aggression models also included age and treatment status as control variables.

Model 1: Aggression-Avoidance Practices and Support/Behavioral Control

The first model tested whether Time 1 parent support/behavioral control moderated the relationship between Time 1 aggression-avoidance parenting practices and Time 2 early adolescent aggression. Higher levels of aggression-avoidance parenting practices (high or moderate) combined with higher levels of support/behavioral control (high or moderate) were hypothesized to decrease the likelihood that youth would have engaged in aggression at Time 2 relative to low levels of aggression-avoidance parenting practices combined with low levels of support/behavioral control. Multivariate logistic regression results indicated that this hypothesis was not supported. However, another interactive relationship between parenting practices and parenting style was found.

As shown in the final model of Table 4.15, moderate levels of aggression-avoidance parenting practices were found to decrease the likelihood that early adolescents would have engaged in overt aggression at Time 2 (OR=0.55, CI: 0.31 – 0.97). As explained in Chapter 3, in an interaction effects model, this result is interpreted as the odds ratio comparing moderate levels of aggression-avoidance to low levels of aggression-avoidance only for early adolescents who are in the support/behavioral control reference group (i.e., early adolescents reporting low levels of support/behavioral control). Rather than representing a main effect, this point estimate represents the interaction between moderate levels of aggression-avoidance parenting practices and low support/behavioral control. That is, early adolescents reporting moderate levels of aggression-avoidance parenting practices and low parental support/behavioral control were 55% less likely to report engaging in Time 2 overt aggression compared to early adolescents reporting low aggression-avoidance parenting practices and low parental

support/behavioral control. The interaction between moderate aggression-avoidance parenting practices and low levels of support/ behavioral control was not, however, related to Time 2 early adolescent relational aggression (OR=0.60, CI: 0.35 – 1.00).

Table 4.15: Relationships between Early Adolescent Reports of Time 2 Aggression and Time 1 Aggression-Avoidance Parenting Practices and Parent Support/behavioral Control (N=209)

	Overt Aggression T2	Relational Aggression T2
	Odds Ratio (95% CI)	Odds Ratio (95% CI)
Model 1		
Sex	0.92 (0.65-1.30)	0.87 (0.63-1.20)
Age	n/a	0.89 (0.63-1.25)
Treatment status	n/a	1.49 (1.08-2.07)*
T1 Aggression	2.03 (1.37-3.03)***	1.81 (1.22-2.68)**
Model 2		
Sex	0.91 (0.64-1.31)	0.85 (0.61-1.18)
Age	n/a	0.89 (0.63-1.26)
Treatment status	n/a	1.62 (1.15-2.29)**
T1 Aggression	2.04 (1.35-3.08)***	1.77 (1.19-2.64)**
Aggression-avoidance - High	1.22 (0.70-2.12)	1.13 (0.68-1.90)
Aggression-avoidance - Moderate	0.57 (0.34-0.96)*	0.61 (0.37-0.99)*
Aggression-avoidance - Low	1.00	1.00
Model 3		
Treatment status	n/a	1.64 (1.16-2.33)**
T1 Aggression	2.01 (1.32-3.05)**	1.82 (1.21-2.75)**
Aggression-avoidance - High	1.33 (0.76-2.34)	1.17 (0.69-1.98)
Aggression-avoidance - Moderate	0.59 (0.34-1.00)	1.02 (0.64-1.62)
Aggression-avoidance - Low	1.00	1.00
Support/behavioral Cntl. - High	0.68 (0.38-1.20)	0.70 (0.43-1.14)
Support/behavioral Cntl. - Moderate	0.82 (0.44-1.53)	1.02 (0.64-1.62)
Support/behavioral Cntl. - Low	1.00	1.00
Model 4		
Treatment status	n/a	1.72 (1.20-2.46)**
T1 Aggression	2.04 (1.32-3.17)**	1.87 (1.18-2.96)**
Aggression-avoidance - High	1.32 (0.68-2.55)	1.17 (0.69-1.98)
Aggression-avoidance - Moderate	0.55 (0.31-0.97)*	0.60 (0.35-1.00)
Aggression-avoidance - Low	1.00	1.00
Support/behavioral Cntl. - High	0.62 (0.36-1.08)	0.63 (0.37-1.08)
Support/behavioral Cntl. - Moderate	0.84 (0.45-1.59)	1.05 (0.65-1.70)
Support/behavioral Cntl. - Low	1.00	1.00
Aggression-avoidance-High x Sup/BehCntl-High	0.92 (0.28-2.96)	0.80 (0.29-2.17)
Aggression-avoidance-High x Sup/BehCntl-Mod.	1.32 (0.47-3.68)	1.01 (0.48-2.13)
Aggression-avoidance-Mod. x Sup/BehCntl-High	1.44 (0.59-3.53)	1.65 (0.80-3.40)
Aggression-avoidance-Mod. x Sup/BehCntl-Mod.	0.97 (0.45-2.08)	0.81 (0.41-1.61)
Aggression-avoidance-Low x Sup/BehCntl-Low	1.00	1.00

Note: n/a means not significant at bivariate level. *Indicates significance at p<.05, ** p < .01, ***p<.001
The last category was the reference group. Sex and age not shown after step 3, these control variables were not significant at these steps.

Other aggression-avoidance parenting practices and support/behavioral control interactions were not predictive of Time 2 early adolescent aggression. The high aggression-avoidance and high support/behavioral control interaction product term was not related to early adolescent overt aggressive behavior (OR= 0.92, CI: 0.28 – 2.96) or relational aggressive behavior (OR= 0.80, CI: 0.29 – 2.17). The high aggression-avoidance and moderate support/behavioral control interaction product term was not related to early adolescent overt (OR= 1.32, CI: 0.47 – 3.68) or relational aggression (OR= 1.01, CI: 0.48 – 2.13). Next, the moderate aggression-avoidance and high support/behavioral control product term was unrelated to early adolescent overt (OR = 1.44, CI: 0.59 – 3.53) and relational aggression (OR = 1.65, CI: 0.80 – 3.40). The moderate aggression-avoidance and moderate support/behavioral control product term was not related to early adolescent overt (OR= 0.97, CI: 0.45 – 2.08) or relational aggressive behavior (OR= 0.81, CI: 0.41 – 1.61) as well.

Moreover, high aggression-avoidance parenting practices, which indicated early adolescents who reported having a parent who they perceived provided both greater support for aggression avoidance strategies and low support/behavioral control, was unrelated to early adolescent overt (OR= 1.32, CI: 0.68 – 2.55) or relational aggression (OR= 1.17, CI: 0.69 – 1.98). Similarly, the high support/behavioral control variable, which indicated early adolescents who reported having a parent who they perceived provided high support/behavioral control and low support for aggression avoidance strategies, was unrelated to early adolescent overt (OR=0.62, CI :0.36 – 1.08) or relational aggression (OR=0.63, CI: 0.37 – 1.08). Finally, the moderate support/behavioral control variable, which indicated early adolescents who reported

having a parent who they perceived provided moderate support/behavioral control and low support for aggression avoidance parenting strategies, was unrelated to early adolescent overt (OR=0.84, CI: 0.45 – 1.59) or relational aggression (OR= 1.05, CI: 0.65 – 1.70).

Model 2: Aggression-Avoidance Practices and Psychological Control

The second model tested whether Time 1 parent psychological control moderated the relationship between Time 1 aggression-avoidance parenting practices and Time 2 early adolescent aggression. Higher levels of aggression-avoidance parenting practices (high or moderate) combined with low levels of psychological control was hypothesized to decrease the likelihood that early adolescents would have engaged in aggression at Time 2 relative to low levels of aggression-avoidance parenting practices combined with high levels of psychological control. Multivariate logistic regression results indicated that this hypothesis was not supported. However, another interactive relationship between parenting practices and parenting style was found.

As shown in the final model of Table 4.16, moderate levels of aggression-avoidance parenting practices were found to decrease the likelihood that early adolescents would have engaged in overt aggression at Time 2 (OR=0.55, CI: 0.32 – 0.94). As previously explained, in an interaction effects model, this result is interpreted as the interaction between moderate levels of aggression-avoidance parenting practices and high psychological control. Rather than representing a main effect, this point estimate represents the interaction between moderate levels of aggression-avoidance parenting practices and high levels of parent psychological control. That is, early adolescents reporting moderate levels of aggression-avoidance parenting practices and

high parental psychological control were 55% less likely to report engaging in Time 2 overt aggression compared to early adolescents reporting low aggression-avoidance parenting practices and high parental psychological control. A similar result was found for relational aggression. That is, early adolescents reporting moderate levels of aggression-avoidance parenting practices and high parental psychological control were nearly 60% less likely to report engaging in Time 2 relational aggression (OR=0.57, CI: 0.34 – 0.97) compared to early adolescents reporting low aggression-avoidance parenting practices and high psychological control.

Table 4.16: Relationships between Early Adolescent Reports of Time 2 Aggression and Time 1 Aggression-Avoidance Parenting Practices and Parent Psychological Control (N=209)

	Overt Aggression T2	Relational Aggression T2
	Odds Ratio (95% CI)	Odds Ratio (95% CI)
Model 1		
Sex	0.92 (0.65-1.30)	0.87 (0.63-1.20)
Age	n/a	0.89 (0.63-1.25)
Treatment Status	n/a	1.49 (1.08-2.07)*
T1 Aggression	2.03 (1.37-3.03)***	1.81 (1.22-2.68)**
Model 2		
Sex	0.91 (0.64-1.31)	0.85 (0.61-1.18)
Age	n/a	0.89 (0.63-1.26)
Treatment Status	n/a	1.62 (1.15-2.29)**
T1 Aggression	2.04 (1.35-3.08)***	1.77 (1.19-2.64)**
Aggression-avoidance - High	1.22 (0.70-2.12)	1.13 (0.68-1.90)
Aggression-avoidance - Moderate	0.57 (0.34-0.96)*	0.61 (0.37-0.99)*
Aggression-avoidance - Low	1.00	1.00
Model 3		
Treatment Status	n/a	1.63 (1.14-2.31)**
T1 Aggression	2.07 (1.36-3.17)***	1.79 (1.19-2.67)**
Aggression-avoidance - High	1.20 (0.68-2.09)	1.16 (0.69-1.96)
Aggression-avoidance - Moderate	0.57 (0.33-0.96)*	0.60 (0.37-0.97)*
Aggression-avoidance - Low	1.00	1.00
Psychological Cntl. - Low	1.15 (0.78-1.70)	0.85 (0.62-1.18)
Psychological Cntl. - High	1.00	1.00
Model 4		
Treatment Status	n/a	1.68 (1.15-2.44)**
T1 Aggression	2.07 (1.34-3.20)***	1.79 (1.19-2.71)**
Aggression-avoidance - High	1.21 (0.68-2.17)	1.22 (0.70-2.15)
Aggression-avoidance - Moderate	0.55 (0.32-0.94)*	0.57 (0.34-0.97)*
Aggression-avoidance - Low	1.00	1.00
Psychological Cntl. - Low	1.11 (0.73-1.67)	0.81 (0.57-1.16)
Psychological Cntl. - High	1.00	1.00
Aggression-avoidance-High x Psych. Cntl. - Low	0.70 (0.39-1.25)	0.61 (0.31-1.21)
Aggression-avoidance-Mod. x Psych. Cntl. - Low	1.16 (0.69-1.94)	1.20 (0.69-2.10)
Aggression-avoidance-Low x Psych. Cntl. - High	1.00	1.00

Note: n/a means not significant at bivariate level. *Indicates significance at p<.05, **p<.01, ***p<.001. The last category was the reference group. Sex and age not shown after step 3, these control variables were not significant at these steps.

Other aggression-avoidance parenting practices and psychological control interaction terms were not predictive of Time 2 early adolescent aggressive behavior (Table 4.16). The high aggression-avoidance and low psychological control interaction was unrelated to overt (OR= 0.70, CI: 0.39 – 1.25) or relational aggression (OR= 0.61, CI: 0.31 – 1.21). The moderate aggression-avoidance and low psychological control interaction was unrelated to overt (OR= 1.16, CI: 0.69 – 1.94) or relational aggression (OR= 1.20, CI: 0.69 – 2.10). Furthermore, high aggression-avoidance parenting practices, which indicated early adolescents who reported having a parent who provided support for aggression avoidance strategies and high psychological control, was unrelated to early adolescent overt (OR= 1.21, CI: 0.68 – 2.17) or relational aggression (OR= 1.22, CI: 0.70 – 2.15). Finally, low psychological control, which indicated early adolescents who reported having a parent who provided low psychological control and low support for aggression avoidance strategies, was unrelated to early adolescent overt (OR=1.11, CI: 0.73 – 1.67) or relational aggression (0.81, CI: 0.57 – 1.16).

Model 3: Aggression-Endorsing Practices and Support/Behavioral Control

The third model tested whether parent support/behavioral control moderated the relationship between Time 1 aggression-endorsing parenting practices and early adolescent aggression. Lower levels of aggression-endorsing parenting practices (low or moderate) combined with higher levels of support/behavioral control (high or moderate) was hypothesized to decrease the likelihood that early adolescents would have engaged in aggression at Time 2 relative to high levels of aggression-endorsing parenting practices and low levels of support/behavioral control. Multivariate logistic regression results indicated that this hypothesis was not supported.

As shown in the final model of Table 4.17, the interaction between support/behavioral control and aggression-endorsing parenting practices was not predictive of Time 2 early adolescent aggression. The low aggression-endorsing and high support/behavioral control interaction product term was unrelated to early adolescent overt (OR= 1.32, CI: .0 – 1.37) [7] or relational aggression (OR= 1.09, CI: 0.53 – 2.26). Also, the interaction between low aggression-endorsing and moderate support/behavioral control for both overt (OR= 1.26, CI: 0 – 1.32) [8] or relational aggression (OR= 0.85, CI: 0.32 – 2.26) was not significant. The moderate aggression-endorsing and high support/behavioral interaction term was unrelated to early adolescent overt (OR = 0.43, CI: 0 – 4.71) [9] or relational aggression (OR = 0.88, CI: 0.45 – 1.73). The moderate aggression-endorsing and moderate support/behavioral control interaction term was unrelated to early adolescent overt (OR= 0.74, CI: 0 – 8.08) [10] or relational aggression (OR= 1.22, CI: 0.56 – 2.64).

[7] The upper limit of this confidence interval is raised to an exponential value greater than 25.
[8] The upper limit of this confidence interval is raised to an exponential value greater than 25.
[9] The upper limit of this confidence interval is raised to an exponential value greater than 25.
[10] The upper limit of this confidence interval is raised to an exponential value greater than 25.

Table 4.17: Relationships between Early Adolescent Reports of Time 2 Aggression and Time 1 Aggression-Endorsing Parenting Practices and Parent Support/behavioral Control (N=209)

	Overt Aggression T2	Relational Aggression T2
	Odds Ratio (95% CI)	Odds Ratio (95% CI)
Model 1		
Sex	0.92 (0.65-1.30)	0.87 (0.63-1.20)
Age	n/a	0.89 (0.63-1.25)
Treatment Status	n/a	1.49 (1.08-2.07)*
T1 Aggression	2.03 (1.37-3.03)***	1.81 (1.22-2.68)**
Model 2		
Sex	0.90 (0.63-1.28)	0.88 (0.64-1.22)
Age	n/a	0.88 (0.62-1.24)
Treatment Status	n/a	1.51 (1.09-2.09)*
T1 Aggression	1.98 (1.31-2.97)***	1.79 (1.19-2.71)**
Aggression endorsing - Low	0.68 (0.42-1.10)	1.27 (0.79-2.05)
Aggression-endorsing - Moderate	1.16 (0.67-2.00)	0.85 (0.51-1.42)
Aggression-endorsing - High	1.00	1.00
Model 3		
Treatment Status	n/a	1.55 (1.11-2.17)**
T1 Aggression	1.91 (1.26-2.88)**	1.85 (1.19-2.89)**
Aggression-endorsing - Low	0.64 (0.38-1.07)	1.28 (0.79-2.07)
Aggression-endorsing - Moderate	1.22 (0.69-2.15)	0.86 (0.50-1.48)
Aggression-endorsing - High	1.00	1.00
Support/behavioral cntl - High	0.63 (0.37-1.09)	0.64 (0.39-1.05)
Support/behavioral cntl - Moderate	0.80 (0.42-1.52)	1.09 (0.68-1.73)
Support/behavioral cntl - Low	1.00	1.00
Model 4		
Treatment Status	n/a	1.57 (1.12-2.21)**
T1 Aggression	1.92 (1.26-2.92)**	1.86 (1.15-2.99)*
Aggression-endorsing - Low	0.47 (0-4.96) [a]	1.27 (0.77-2.08)
Aggression-endorsing - Moderate	2.11 (0-2.29) [a]	0.85 (0.49-1.47)
Aggression-endorsing - High	1.00	1.00
Support/behavioral control - High	0.48 (0-5.03) [a]	0.64 (0.38-1.07)
Support/behavioral control - Moderate	0.59 (0-6.18) [a]	0.85 (0.32-2.26)
Support/behavioral cntl - Low	1.00	1.00
Aggression-endorsing - Low x Sup/BehCntl - High	1.32 (0-1.37) [a]	1.09 (0.53-2.26)
Aggression-endorsing - Low x Sup/BehCntl - Mod.	1.26 (0-1.32) [a]	0.85 (0.32-2.26)
Aggression-endorsing - Mod. x Sup/BehCntl - High	0.43 (0-4.71) [a]	0.88 (0.45-1.73)
Aggression-endorsing - Mod. x Sup/BehCntl - Mod.	0.74 (0-8.08) [a]	1.22 (0.56-2.64)
Aggression-endorsing - Low x Sup/BehCntl - Low	1.00	1.00

Note: [a] The upper limit of this confidence interval is raised to an exponential value greater than 25. n/a means not significant at bivariate level. *Indicates significance at p<.05., **p<.01, ***p<.001. The last category was the reference group. Sex and age not shown after step 3, these control variables were not significant at these steps.

Furthermore, low aggression-endorsing parenting practices, which indicated early adolescents who reported having a parent who provided low support for aggressive behavior and low support/behavioral control, was unrelated to early adolescent overt (OR= 0.47, CI: 0 – 4.96) [11] or relational (OR= 1.27, CI: 0.77 – 2.08) aggression. Also, moderate aggression-endorsing parenting practices, which indicated early adolescents who reported having a parent who provided moderate support for aggressive behavior and low support/behavioral control, was unrelated to early adolescent overt (OR= 2.11, CI: 0 – 2.29) [12] or relational (OR= 0.85, CI: 0.49 – 1.47) aggression. Next, high support/behavioral control, which indicated early adolescents who reported having a parent who provided high support/behavioral control and high support for aggressive behavior, was unrelated to early adolescent overt (OR= 0.48, CI: 0 – 5.03) [13] or relational aggression (0.64, CI: 0.38 – 1.07). Finally, moderate support/behavioral control, which indicated early adolescents who reported having a parent who provided moderate support/behavioral control and high support for aggressive behavior, was not associated with early adolescent overt (OR= 0.59, CI: 0 – 6.18) [14] or relational aggression (0.85, CI: 0.32 – 2.26).

Model 4: Aggression-Endorsing Practices and Psychological Control

The fourth model tested whether Time 1 parent psychological control moderated the relation between Time 1 aggression-endorsing parenting practices and Time 2 early adolescent aggression. Lower levels of aggression-endorsing parenting practices (low or moderate) combined with low levels of psychological control was hypothesized to

[11] The upper limit of this confidence interval is raised to an exponential value greater than 25.
[12] The upper limit of this confidence interval is raised to an exponential value greater than 25.
[13] The upper limit of this confidence interval is raised to an exponential value greater than 25.
[14] The upper limit of this confidence interval is raised to an exponential value greater than 25.

decrease the likelihood that early adolescents would have engaged in aggression at Time 2 relative to high levels of aggression-endorsing parenting practices combined with high levels of psychological control. Multivariate logistic regression results indicated that this hypothesis was not supported.

The interaction between psychological control and aggression-endorsing parenting practices was not predictive of Time 2 early adolescent aggression (Table 4.18). The low aggression-endorsing and low psychological interaction was unrelated to early adolescent overt (OR= 0.95, CI: 0.50 – 1.81) or relational aggression (OR= 1.18, CI: 0.73 – 1.90). In addition, the moderate aggression-endorsing and low psychological control interaction was unrelated to early adolescent overt (OR= 0.76, CI: 0.40 – 1.44) or relational aggression (OR= 0.86, CI: 0.49 – 1.50). Furthermore, low aggression-endorsing parenting practices, which indicated early adolescents who reported having a parent who provided low support for aggressive behavior and high psychological control, was unrelated to early adolescent overt (OR= 0.62, CI: 0.37 – 1.04) or relational aggression (OR= 1.31, CI: 0.81 – 2.11). Also, moderate aggression-endorsing parenting practices, which indicated early adolescents who reported having a parent who provided moderate support for aggressive behavior and high psychological control, was unrelated to early adolescent overt (OR= 1.09, CI: 0.61 – 1.94) or relational aggression (OR= 0.85, CI: 0.48 – 1.48). Finally, low psychological control, which indicated early adolescents who reported having a parent who provided low psychological control and high support for aggressive behavior, was unrelated to early adolescent overt (OR=1.23, CI: 0.80 - 1.88) or relational aggression (0.84, CI: 0.61 – 1.17).

Table 4.18: Relationships between Early Adolescent Reports of Time 2 Aggression and Time 1 Aggression-Endorsing Parenting Practices and Parent Psychological Control (N=209)

	Overt Aggression T2	Relational Aggression T2
	Odds Ratio (95% CI)	Odds Ratio (95% CI)
Model 1		
Sex	0.92 (0.65-1.30)	0.87 (0.63-1.20)
Age	n/a	0.89 (0.63-1.25)
Treatment Status	n/a	1.49 (1.08-2.07)*
T1 Aggression	2.03 (1.37-3.03)***	1.81 (1.22-2.68)**
Model 2		
Sex	0.90 (0.63-1.28)	0.88 (0.64-1.22)
Age	n/a	0.88 (0.62-1.24)
Treatment Status	n/a	1.51 (1.09-2.09)*
T1 Aggression	1.98 (1.31-2.97)***	1.79 (1.19-2.71)**
Aggression-endorsing - Low	0.68 (0.42-1.10)	1.27 (0.79-2.05)
Aggression- endorsing - Moderate	1.16 (0.67-2.00)	0.85 (0.51-1.42)
Aggression- endorsing - High	1.00	1.00
Model 3		
Treatment status	n/a	1.51 (1.09-2.09)*
T1 Aggression	2.01 (1.32-3.05)**	1.81 (1.19-2.75)**
Aggression-endorsing - Low	0.66 (0.40-1.07)	1.33 (0.82-2.15)
Aggression-endorsing - Moderate	1.16 (0.67-1.99)	0.84 (0.50-1.43)
Aggression-endorsing - High	1.00	1.00
Psychological Cntl. - Low	1.20 (0.82-1.74)	0.84 (0.60-1.16)
Psychological Cntl. - High	1.00	1.00
Model 4		
Treatment status	n/a	1.53 (1.10-2.13)*
T1 Aggression	2.00 (1.30-3.08)**	1.79 (1.17-2.75)**
Aggression-endorsing - Low	0.62 (0.37-1.04)	1.31 (0.81-2.11)
Aggression-endorsing - Moderate	1.09 (0.61-1.94)	0.85 (0.48-1.48)
Aggression-endorsing - High	1.00	1.00
Psychological cntl - Low	1.23 (0.80-1.88)	0.84 (0.61-1.17)
Psychological cntl - High	1.00	1.00
Aggression-endorsing - Low x Psych. Cntl. - Low	0.95 (0.50-1.81)	1.18 (0.73-1.90)
Aggression-endorsing - Mod. x Psych. Cntl. - Low	0.76 (0.40-1.44)	0.86 (0.49-1.50)
Aggression-endorsing - Low x Psych. Cntl. - Low	1.00	1.00

Note: n/a means not significant at bivariate level. *Indicates significance at p<.05, **p<.01, ***p<.001. The last category was the reference group. Sex and age not shown after step 3, these control variables were not significant at these steps.

Results: Research Question 4

Research question 4 examined whether a bidirectional or recursive relationship between parenting behavior and early adolescent aggressive behavior existed. It was hypothesized that early adolescent perceptions of parenting at Time 1 would be related to aggression at Time 2 and Time 1 early adolescent aggression would be related to early adolescent perceptions of parenting at Time 2. To examine this research question, structural equation modeling (SEM) was conducted.

The available SEM software does not generate model fit results for models with categorical data involving three or more levels, i.e., high, moderate, and low aggression-specific parenting practices. Thus, continuous, rather than dichotomous or tertile, parenting practices and parenting style variables were used in these analyses. The dichotomized overt and relational aggression variables were used as dummy variables because they were highly skewed. For both overt and relational aggression, the following dummy coding was employed: "never" = 0 and "ever" = 1. The "never" category was the designated reference group; this dummy coding is consistent with the literature on bidirectional relations. Coding in this way permits us to more effectively compare the results of the current study with the results of previous studies on bidirectional relations.

SEM Measurement Model

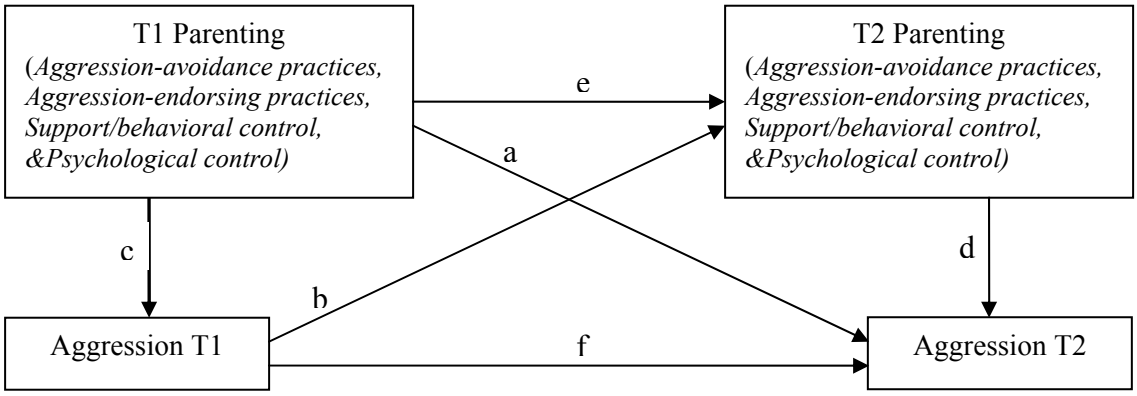
Separate Time 1 and Time 2 measurement models were examined to test if the observed parenting variables (aggression-avoidance parenting practices, aggression-endorsing parenting practices, support/behavioral control, and psychological control) could be combined to create a latent parenting variable. The Time 1 and Time 2 aggression dependent variables were included as observed variables. For overt

aggression, both the Time 1 and Time 2 measurement model exhibited poor model fit. Similarly, for relational aggression, both the Time 1 measurement model and the Time 2 measurement model exhibited poor model fit.

Path Models: Overview

Given the measurement model results, path models were examined to test the relationship between aggression and the four observed parenting variables. Each parenting variable (aggression-avoidance parenting practices, aggression-endorsing parenting practices, support/behavioral control, and psychological control) was examined in a separate model. For each parenting variable, a path model consistent with the conceptualized bidirectional relations model was examined first. This model is referred to as the full bidirectional model (see Figure 4.1). The following paths were hypothesized to have a relation: 1) Time 1 parenting and Time 2 aggression (a) and, 2) Time 1 aggression and Time 2 parenting (b). Also examined were the paths from Time 1 parenting to Time 1 aggression (c); Time 2 parenting to Time 2 aggression (d), Time 1 parenting to Time 2 parenting (e); and Time 1 aggression to Time 2 aggression (f). Furthermore, path models included an error term variable that was associated with each observed variable. The error term variable estimates the measurement error associated with the observed variable. In the SEM analysis, the measurement error is estimated and removed, and as a result, only the common variance among the observed variables is examined (Tabachnick & Fidell, 2006). Overt aggression path models were examined first followed by the relational aggression path models.

Figure 4.1: Full Bidirectional Model



Overt Aggression Path Models

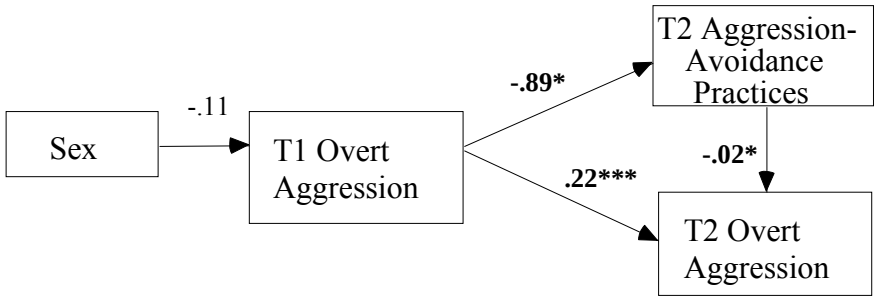
Aggression-Avoidance Parenting Practices and Overt Aggression Path Model

The aggression-avoidance parenting practices path model was tested first. The full bidirectional path model exhibited good model fit (χ^2 = .55, p=.90; .99, p=.80; .34, p=.95; .60, p=.89; .36, p=.94; Tucker Lewis Index (TLI) =1.30; Comparative Fit Index (CFI) =1.00, root mean squared error of approximation (RMSEA) = 0, CI: 0 -.05). Allison's formula for combing chi-square statistics from multiply imputed datasets yielded a non-significant *F* statistic (*F*= .07, 3,465, p= .97). This non-significant *F* is analogous to a non-significant χ^2 indicating that the model exhibits good model fit. Examination of the path coefficients revealed that the following paths were not significant: Time 1 aggression-avoidance and Time 2 aggression-avoidance (.14, p>.05); Time 1 aggression-avoidance and Time 1 aggression -.009, p>.05); Time 1 aggression-avoidance and Time 2 aggression (-.05, p>.05); and Time 2 aggression-avoidance and Time 2 aggression (-.01, p>.05). These paths were removed from the model and the resulting new path model was evaluated for goodness of fit.

The resulting path model exhibited poor model fit (χ^2 = 6.5, p=.08; χ^2 = 5.54, p=.13; χ^2 = 5.54, p=.13; χ^2 = 5.44, p=.14; χ^2 = 4.05, p=.25; TLI=.80; CFI=.89, RMSEA= 0, CI: 0 -.14). Allison's formula for combing chi-square statistics from multiply imputed datasets yielded a significant *F* statistic (*F*= 4.87, 3, 10, p= .02). This significant *F* is analogous to a significant χ^2 indicating that the model exhibits poor model fit. It was decided that one path would be replaced to determine if model fit improved. The Time 2 parenting and Time 2 aggression path was chosen because it is the only path that would make this a recursive model i.e., all of the variables (except sex) had one path leading to it and one path leading to another variable. When this path was added back to the model, the result was an adequate model fit (χ^2 = .10, p=.95; χ^2 = .50, p=.77; χ^2 = .95, p=.62; χ^2 = .31, p=.85; χ^2 = .52, p=.77; TLI=1.18; CFI=1.00, RMSEA= 0, CI: 0 -.08). Allison's formula for combing chi-square statistics from multiply imputed datasets yielded a non-significant *F* statistic (*F*= .07, 2, 302, p= .93).

Figure 4.2 shows the final path model. The model revealed a significant Time 1 aggression and Time 2 aggression path (.22, p< .000). The model also revealed a significant Time 1 aggression and Time 2 aggression-avoidance parenting path (-.89, p< .05). Finally, the model indicated a significant path for Time 2 aggression-avoidance and Time 2 overt aggression (-.02, p< .05). The bidirectional model hypothesis was partially supported in this model. Time 1 overt aggression significantly predicated Time 2 aggression-avoidance parenting practices.

Figure 4.2: Early Adolescent Reports of Aggression-Avoidance Parenting Practices and Overt Aggression Path Model (N=209)



*Indicates significance at *p<.05, ** p< .01, *** p< .001

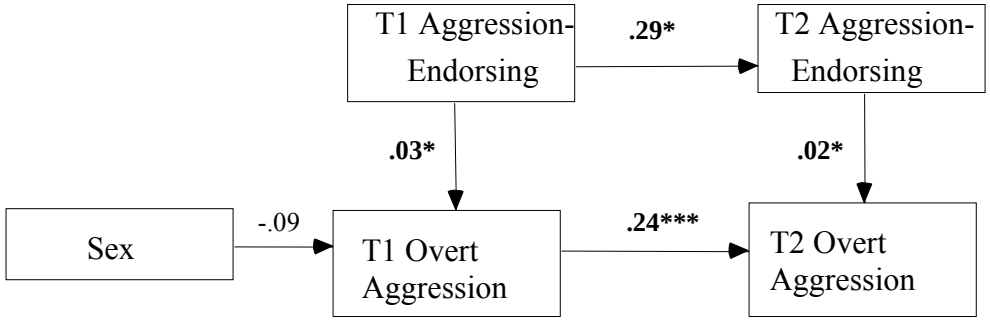
Aggression-Endorsing Parenting Practices and Overt Aggression Path Model

Next, the aggression-endorsing parenting practices path model was tested. The full bidirectional path model exhibited good model fit (χ^2 = 1.72, 3.62, 2.93, 1.36, 3.37, p>.30; TLI=1.02; CFI=.99, RMSEA= .01, CI: .08-.10). Allison's formula for combing chi-square statistics from multiply imputed datasets yielded a non-significant *F* statistic (*F*=.77, 3, 8, p=.54). Examination of the path coefficients revealed that the following paths were not significant: Time 1 aggression-endorsing parenting practices and Time 2 aggression (.01, p>.05) and Time 1 aggression and Time 2 aggression-endorsing parenting practices (.66, p>.05). These paths were removed from the model and the resulting new path model was evaluated for goodness of fit.

The resulting path model yielded a good model fit (χ^2 = 4.89, p=.42; 7.44, p=.19; 7.42, p=.19; 7.34, p=.19; 7.80, p=.16; TLI=.91; CFI=.95, RMSEA= .03, CI: 0-.11). Allison's formula for combing chi-square statistics from multiply imputed datasets yielded a non-significant *F* statistic (*F*=3.31, 5, 4, p=.13). Figure 4.3 shows the final path model. The model revealed a significant Time 1 aggression-endorsing and Time 1 overt

aggression path (.03, p<.05). In addition, the model resulted in a significant path for the Time 2 aggression-endorsing and Time 2 overt aggression path (.02, p<.05). The Time 1 overt aggression and Time 2 overt aggression path (.24, p<.001) and the Time 1 aggression-endorsing and Time 2 aggression-endorsing path (.29, p<.05) were also significant. The bidirectional model hypothesis was not supported in this model. Time 1 overt aggression failed to predict Time 2 aggression-endorsing parenting practices and Time 1 aggression-endorsing parenting practices failed to predict Time 2 aggression.

Figure 4.3: Early Adolescent Reports of Aggression-endorsing Parenting Practices and Overt Aggression Path Model (N=209)



*Indicates significance at *p<.05, ** p< .01, *** p< .001

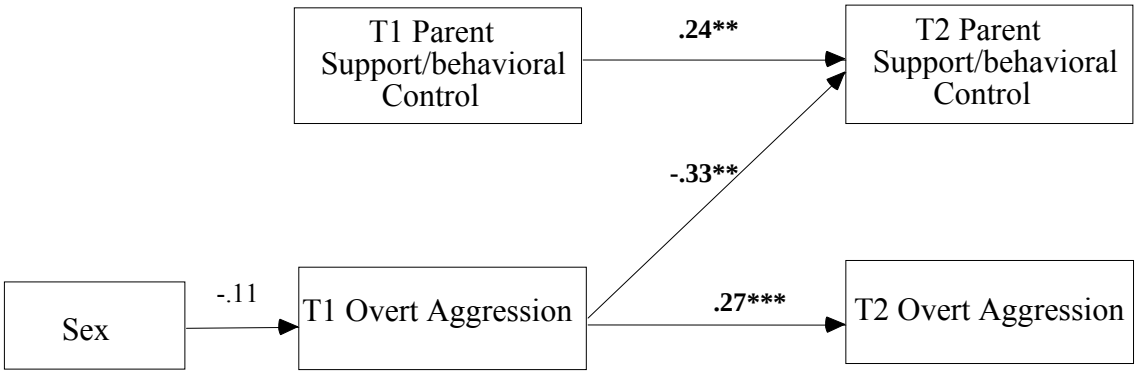
Parent Support/Behavioral Control and Overt Aggression Path Model

A parent support/behavioral control path model was also tested. The full bidirectional path model exhibited good model fit (χ^2 = 2.23, p=.52; 1.37, p=.71; 1.77, p=.62; 1.89, p=.84; .82, p=.84; TLI=1.10; CFI=1.00, RMSEA= .00, CI: 0 – .08). Allison's formula for combing chi-square statistics from multiply imputed datasets yielded a non-significant *F* statistic (*F*=.53, 3, 38, p=.66). Examination of the path coefficients revealed that the following paths were not significant: Time 1

support/behavioral control and Time 1 aggression (-.10, p>.05); Time 1 support/behavioral control and Time 2 aggression (-.04, p>.05); and Time 2 support/behavioral control and Time 2 aggression (-.04, p>.05). These paths were removed from the model and the resulting new path model was evaluated for goodness of fit. The resulting path model exhibited a good model fit (χ^2 = 8.43, p=.20; 7.97, p=.24; 9.31, p=15; 11.17, p=.08; 10.68, p=.09; TLI=.86; CFI=.91, RMSEA= .05, CI: 0 - .11). Allison's formula for combing chi-square from multiply imputed datasets yielded a non-significant *F* statistic (*F*=4.17, 6, 3, p=.13).

Figure 4.4 shows the final path model. The model revealed a significant Time 1 overt aggression and Time 2 support/behavioral control path (-.33, p<.001). In addition, a significant path from Time 1 support/behavioral control and Time 2 support/behavioral control emerged (.24, p<.001). Finally, the model resulted in a significant path for Time 1 overt aggression and Time 2 overt aggression (.27, p<.001). The bidirectional model hypothesis was partially supported in this model. Time 1 overt aggression predicted Time 2 parent support/behavioral control.

Figure 4.4: Early Adolescent Reports of Parent Support/behavioral Control and Overt Aggression Path Model (N=209)



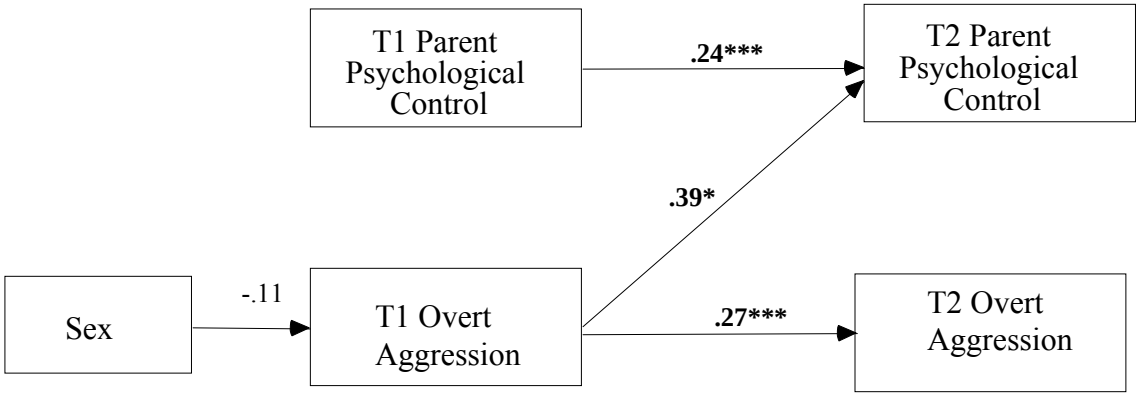
*Indicates significance at *p<.05, ** p< .01, *** p< .001

Parent Psychological Control and Overt Aggression Path Model

A parent psychological control path model was the final overt aggression model tested. The full bidirectional path model exhibited good model fit (χ^2 = 3.0 p=.39; 3.03, p=.38, .90, p=.82; 1.63, p=.65; 3.47, p=.327; TLI=1.04; CFI=.99, RMSEA= 0, CI: 0 - .10). Allison's formula for combing chi-square from multiply imputed datasets yielded a non-significant *F* statistic (*F*=.54, 3, 7, p=.66). Examination of the path coefficients revealed that the following paths were not significant: Time 1 psychological control and Time 1 aggression (.05, p>.05); Time 1 psychological control and Time 2 aggression (-.005, p>.05); and Time 2 psychological control and Time 2 aggression (.03, p>.05). These paths were removed from the model and the resulting new path model was evaluated for goodness of fit. The resulting path model exhibited good model fit (χ^2 = 7.78, p=.25; 10.87, p=.09; 4.88, p=55; 7.35, p=.28; 10.24, p=.11; TLI=.90; CFI=.93, RMSEA= .03, CI: 0 - .11). Allison's formula for combing chi-square from multiply imputed datasets yielded a non-significant *F* statistic (*F*=.93, 6, 2, p=.60).

Figure 4.5 shows the final path model. The model revealed a significant Time 1 overt aggression and Time 2 psychological control path (.39, p<.05). In addition, a significant path from Time 1 psychological control and Time 2 psychological control emerged (.24, p<.001). Finally, the model resulted in a significant path for Time 1 overt aggression and Time 2 overt aggression (.27, p<.001). The bidirectional model hypothesis was partially supported in this model. Time 1 overt aggression predicted Time 2 parent psychological control.

Figure 4.5: Early Adolescent Reports of Parent Psychological Control and Overt Aggression Path Model (N=209)



*Indicates significance at *p<.05, ** p< .01, *** p< .001

Relational Aggression Path Models

Aggression-Avoidance Parenting Practices and Relational Aggression Path Model

The aggression-avoidance parenting practices path model was tested first. The full bidirectional path model exhibited an overall inadequate model fit (χ^2 = 17.13, p=.14; 15.85, p=.19; 13.4, p=.34; 12.03, p=.44; 17.71, p=.12; TLI=.55; CFI=.80, RMSEA= .02, CI: 0 -.08). While Allison's formula for combing chi-square statistics from multiply imputed datasets yielded a non-significant *F* statistic (*F*= 1.84, 12,1, p= .52) and the RMSEA is below .05, the TLI and CFI indices were far below the recommended criterion values of .90 and .95 respectively. Based on the results, the model was determined to have a poor model fit. This finding indicates that the hypothesized bidirectional relationship between parenting and relational aggression was not supported in this model.

Aggression-Endorsing Parenting Practices and Relational Aggression Path Model

Next, the aggression-endorsing parenting practices path model was tested. The full bidirectional path model exhibited good model fit (χ^2 = 2.05, p=.56; 3.49, p=.32; 3.60, p=.30; 1.57, p=.66; 3.68, p=.29; TLI=1.00; CFI=.98, RMSEA= .01, CI: 0 -.11). Allison's formula for combing chi-square statistics from multiply imputed datasets yielded a non-significant *F* statistic (*F*= 1.03, 3, 8, p= .42). Examination of the path coefficients revealed that none of the paths testing relations between parenting and aggression were statistically significant: Time 1 aggression-endorsing and Time 1 aggression (.01, p>.05); Time 1 aggression-endorsing and Time 2 aggression (-.01, p>.05); Time 1 aggression and Time 2 aggression-endorsing (.53, p>.05); and Time 2 aggression-endorsing and Time 2 aggression (.01, p>.05). These finding indicate that the hypothesized bidirectional relationship between parenting and relational aggression was not supported in this model.

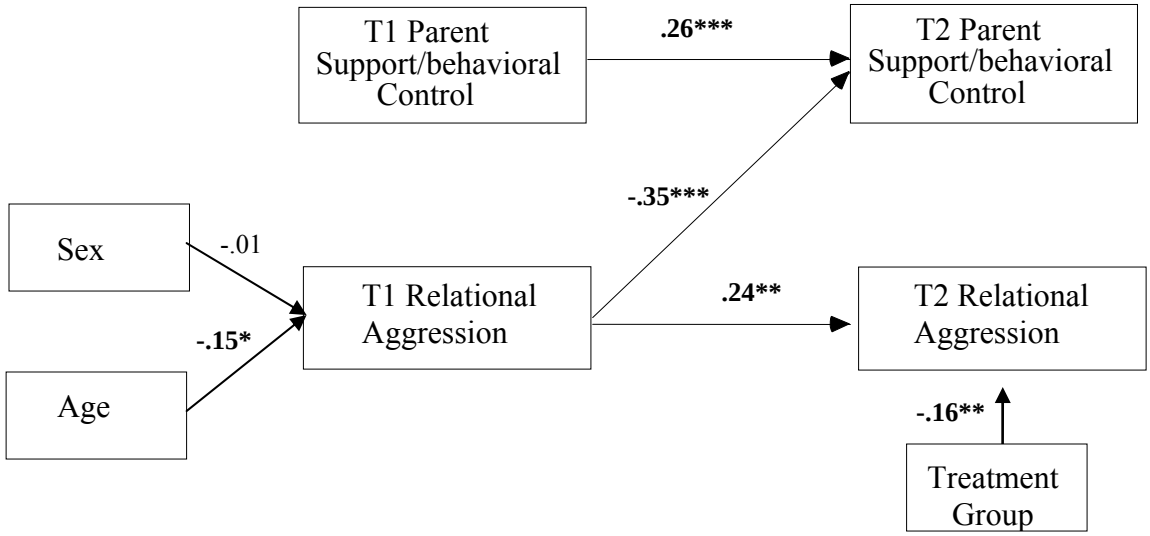
Parent Support/Behavioral Control and Relational Aggression Path Model

A parent support/behavioral control path model was also tested. The full bidirectional path model exhibited good model fit (χ^2 = 13.14, p=.35; 13.89, p=.30; 10.53, p=.56; 9.87, p=.62; 12.16, p=.43; TLI=1.00; CFI=.98, RMSEA= .01, CI: 0 -.06). Allison's formula for combing chi-square statistics from multiply imputed datasets yielded a non-significant *F* statistic (*F*= 2.17, 12, 2, p= .35). Examination of the path coefficients revealed that the following paths were not significant: Time 1 support/behavioral control and Time 1 aggression (.01, p>.05); Time 1 support/behavioral control and Time 2 aggression (-.04, p>.05); and Time 2 support/behavioral control and Time 2 aggression (-.05, p>.05). These paths were

removed from the model and the resulting new path model was evaluated for goodness of fit. The resulting path model exhibited a good model fit (χ^2 = 17.92, p=.26; 21.28, p=.12; 15.01, p=.45; 15.98, p=.38; 17.26, p=.30; TLI=.91; CFI=.93, RMSEA= .04, CI: -.03 - .07). Allison's formula for combing chi-square statistics from multiply imputed datasets yielded a non-significant *F* statistic (*F*=2.02, 15, 1, p=.50).

Figure 4.6 shows the final parent support/behavioral control and relational aggression path model. The model revealed a significant Time 1 aggression and Time 2 support/behavioral control path (-.35, p<.001). In addition, a significant path from Time 1 support/behavioral control and Time 2 support/behavioral control emerged (.26, p<.001). Finally, the model resulted in a significant path for Time 1 relational aggression and Time 2 relational aggression (.24, p<.01). The bidirectional model hypothesis was partially supported in this model. Time 1 relational aggression predicted Time 2 parent support/behavioral control.

Figure 4.6: Early Adolescent Reports of Parent Support/behavioral Control and Relational Aggression Path Model (N=209)



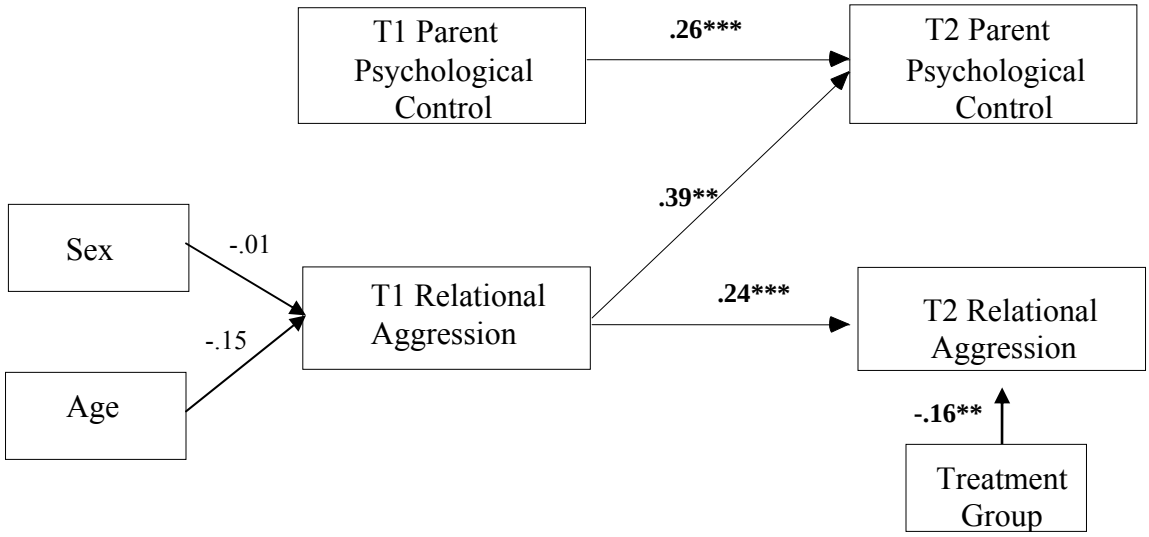
*Indicates significance at *p<.05, ** p< .01, *** p< .001

Parent Psychological Control and Relational Aggression Path Model

A parent psychological control path model was the final relational aggression model tested. The full bidirectional path model exhibited good model fit (χ^2 = 13.30 p=.34; 15.50, p=.21, 9.16, p=.68; 8.78, p=.72; 14.56, p=.26; TLI=.96; CFI=.95, RMSEA= .01, CI: 0 - .07). Allison's formula for combing chi-square from multiply imputed datasets yielded a non-significant *F* statistic (*F*=.43, 12, 1, p=.84). Examination of the path coefficients revealed that the following paths were not significant: Time 1 psychological control and Time 1 aggression (.0008, p>.05); Time 1 psychological control and Time 2 aggression (.01, p>.05); and Time 2 psychological control and Time 2 aggression (.05, p>.05). These paths were removed from the model and the resulting new path model was evaluated for goodness of fit.

The resulting path model exhibited adequate model fit (χ^2 = 17.96, p=.26; 19.30, p=.20; 13.89, p=.53; 11.86, p=.69; 22.15, p=.10; TLI=.87; CFI=.91, RMSEA= .04, CI: -.03 - .08). Allison's formula for combing chi-square from multiply imputed datasets yielded a non-significant *F* statistic (*F*=.30, 15, 1, p=.91). The final path model is illustrated in Figure 4.7. The model revealed a significant Time 1 relational aggression and Time 2 psychological control path (.39, p<.01). In addition, a significant path from Time 1 psychological control and Time 2 psychological control emerged (.26, p<.001). Finally, the model resulted in a significant path for Time 1 relational aggression and Time 2 relational aggression (.24, p<.01). The bidirectional model hypothesis was partially supported in this model. Time 1 relational aggression predicted Time 2 parent psychological control.

Figure 4.7: Early Adolescent Reports of Parent Support/behavioral Control and Relational Aggression Path Model (N=209)



*Indicates significance at *p<.05, ** p< .01, *** p< .001

Summary of Research Results

This section provides a summary of the study findings. The goal of this study was to examine the relationship between parenting and early adolescent aggression in an urban low-income, predominately African American sample. Four research questions were addressed to achieve the study goal. The summary of study findings presented below is organized by research question.

Research Question 1 Study Findings

The first research question assessed whether early adolescent perceptions of aggression-specific parenting practices at Time 1 predicted subsequent early adolescent aggression. It was hypothesized that high levels of aggression-avoidance parenting practices at Time 1 would decrease the likelihood of engaging in early adolescent aggression at Time 2 while controlling for Time 1 aggression and socio-demographics. It

was also hypothesized that low levels of aggression-endorsing parenting practices at Time 1 would decrease the likelihood of engaging in aggression at Time 2 while controlling for Time 1 aggression and socio-demographics. The study results indicated that early adolescents who reported having a parent who provided moderate levels of support for aggression-avoidance strategies were less likely to engage in overt aggression in the ensuing months compared to adolescents who reported low levels of parent support for aggression-avoidance strategies. The study findings also indicated that early adolescents who reported having a parent who provided moderate levels of support for aggression-avoidance strategies were less likely to engage in relational aggression in the ensuing months compared to adolescents who reported low levels of parent support for aggression-avoidance strategies. Aggression-endorsing parenting practices were found to be unrelated to overt or relational early adolescent aggression. In sum, these findings indicated partial support for the hypothesized relationships between aggression-specific parenting practices and early adolescent aggression.

Research Question 2 Study Findings

The second research question assessed whether early adolescent perceptions of parenting style (i.e., level of support/behavioral control and level of psychological control) at Time 1 predicted subsequent early adolescent aggression. It was hypothesized that high levels of parent support/behavioral control at Time 1 would decrease the likelihood of engaging in aggression at Time 2 while controlling for Time 1 aggression and socio-demographics. It was also hypothesized that low levels of parent psychological control at Time 1 would decrease the likelihood of engaging in aggression at Time 2 while controlling for Time 1 aggression and socio-demographics. Study

findings did not support the hypothesized relationships between parenting style and early adolescent aggression. Parent support/behavioral control was found to be unrelated to overt or relational early adolescent aggression. Similarly, parent psychological control was found to be unrelated to overt or relational early adolescent aggression.

Research Question 3 Study Findings

The third research question assessed whether early adolescent perceptions of Time 1 parenting style moderated the relationship between Time 1 aggression-specific parenting practices and Time 2 early adolescent aggressive behavior. It was hypothesized that Time 1 parenting style would interact with Time 1 aggression-specific parenting practices such that higher levels of protective parenting styles and higher levels of protective parenting practices would decrease the likelihood of engaging in Time 2 aggression. This hypothesis was not supported. However, another interaction relationship between parenting practices and parenting style was found in the aggression-avoidance parenting practices models. First, early adolescents reporting moderate levels of aggression-avoidance parenting practices and low parental support/behavioral control were less likely to report engaging in Time 2 overt aggression compared to early adolescents reporting low aggression-avoidance parenting practices and low parental support/behavioral control. Next, early adolescents reporting moderate levels of aggression-avoidance parenting practices and high parental psychological control were less likely to report engaging in both Time 2 overt and relational aggression compared to early adolescents reporting low aggression-avoidance parenting practices and high parental psychological control.

Research Question 4 Study Findings

The fourth research question assessed whether there is a bidirectional relationship between parenting behavior and early adolescent aggressive behavior. It was hypothesized that Time 1 parenting would be related to aggression at Time 2, and Time 1 aggression would be related to Time 2 parenting. A bidirectional relationship between parenting and early adolescent aggression was not found; however, path model results indicated significant associations between Time 1 early adolescent aggression and subsequent parenting. For both overt and relational aggression, aggressive behavior at Time 1 predicted lower levels of parent support/behavioral control at Time 2 and higher levels of parent psychological control at Time 2. Results also revealed that overt aggressive behavior at Time 1 was negatively related to parent support for aggression-avoidance strategies at Time 2.

The study findings are discussed in Chapter 5. In addition, the study limitations are identified and discussed. Chapter 5 concludes with a discussion on the implications of this study for future research and public health practice.

CHAPTER 5: DISCUSSION

Discussion of Study Results

Middle school aggression places early adolescents at risk for increasing engagement in violence and delinquency in late adolescence and early adulthood. Understanding the etiology of aggression facilitates the development of effective interventions to prevent and mitigate the escalation of aggressive behaviors. Parents (i.e., youths' primary caregivers) have been found to play an integral role in the development, maintenance, and escalation of aggressive behaviors. The aim of this study was to examine the relationships between various measures of parenting practices and styles and early adolescent aggression in a sample of predominately African American, urban public middle school students.

Parenting Practices

One central finding was that early adolescents who reported having a parent who they perceived would want them to avoid aggressive behaviors were less likely to engage in aggression in the ensuing months. In addition, cross-sectional path model findings indicated that parent endorsement of aggressive solutions to conflicts was positively associated with early adolescent overt aggressive behavior. This finding is consistent with that of Malek et al. (1998), who found that seventh grade White, African American, and Latino students who reported parent support for fighting were more frequently involved in fighting. Orpinas et al. (1999) similarly found that an aggression-specific parenting practice i.e., parent support for fighting, was related to fighting behavior among a sample of Hispanic, African American, White, and Asian urban middle school early adolescents. The extant literature on aggression-specific parenting practices has

exclusively examined the relationship between parent support for aggressive solutions to conflicts and youth fighting behavior. Thus, the present study represents one of the first studies to report on the effect of a protective aggression-specific parenting practice, support for aggression-avoidance strategies, on early adolescent aggressive behavior.

Parenting Style

Parenting style was not significantly related to early adolescent aggression in this sample. These findings run counter to studies among similar samples. Parent support and parent behavioral control have been inversely associated with aggression in samples consisting of urban, African American early adolescents. For example, Wright & Fitzpatrick (2006b) and Richards et al. (2004) found that parental knowledge of their early adolescents' whereabouts (an example of behavioral control) significantly predicted lower levels of youth aggression. Likewise, other researchers (e.g., Brookmeyer et al., 2005; Jackson & Foshee, 1998) have found that measures of parent support were inversely related to aggression in urban, African American early adolescent samples.

The finding in this study indicating no relation between parental psychological control and youth aggression contrasts with the psychological control findings from other studies that have examined youth psychological control. Specifically, researchers have found that psychological control was related to problem behaviors, though the direction of this relationship differs across studies. For example, Pettit et al. (2001) found that high levels of psychological control significantly predicted higher levels of early adolescent problem behaviors in a middle-class multi-racial sample. On the other hand, Bean et al. (2006) found that higher levels of psychological control were positively correlated with

lower levels of delinquency in an African American, mostly low-income early adolescent sample.

Some researchers have postulated that psychological control may be protective among African American adolescents living in high-risk environments (see review in McBride Murry, Bynum, Brody, Willbert, & Stephens, 2001). It has been suggested that African American parents, particularly those in high-risk environments, may exert higher levels of psychological control in order to protect their children from involvement in antisocial activity (e.g., Lamborn et al., 1996). In response to the demands of living in a high-risk, urban environment, and a society that may dole more severe consequences for problem behaviors among African American youth, parents may adopt parenting strategies characterized by controlling and autonomy-limiting behavior, consistent with the psychological control construct (Hill et al., 2007; McBride Murry et al., 2001). Given the non-significant findings for psychological control in the current study, it could not be determined whether psychological control was positively or negatively associated with early adolescent aggressive behavior in this sample.

Parenting Style as a Moderator of Parenting Practices

Another central finding was that early adolescents who reported having a parent that supported aggression avoidance strategies but provided little support/behavioral control were less likely to have engaged in overt aggressive behavior at Time 2, relative to early adolescents who reported both a lack of parental aggression avoidance strategies and support/behavioral control. Similarly, early adolescents who reported having a parent that supported aggression-avoidance strategies and exerted high levels of psychological control were less likely to have engaged in both overt and relational

aggression at Time 2, relative to early adolescents who reported having a parent that provided little support for aggression-avoidance strategies and exerted high levels of psychological control. These findings indicate that parent support for aggression-avoidance strategies ameliorated the tendency toward aggression when parenting style dimensions were at their least protective levels. Thus, this study demonstrated that an aggression-specific parenting practice moderated the relationship between parenting style and aggression. While parenting practices as moderator between parenting style and aggression was an unanticipated finding, this finding is noteworthy and merits discussion.

This finding is inconsistent with the Darling and Steinberg's (1993) contextual model of parenting style. The contextual model of parenting style was the foundation of the conceptual framework for this study. The contextual model of parenting style proposes that parenting practices directly influence child behavior, while parenting style indirectly influences child behavior. That is, the parenting aimed to socialize a child around a specific domain of socialization like aggression (parenting practices) directly influences behavior, while the general context of parenting (parenting style) indirectly influences behavior. More specifically, parenting style is seen to moderate the degree to which parenting practices affect the child's behavior by influencing the effectiveness of parenting practices (Darling & Steinberg, 1993). In this study, however, rather than parenting style emerging as a moderator, aggression-avoidance parenting practices influenced the effectiveness of both parent support/behavioral control and psychological control on Time 2 aggressive behavior. The contextual model of parenting style, as adapted in this study, did not include the construct *child's willingness to be socialized*, a key component of the original model. The inability to incorporate this construct in the

study may help explain why the parenting style as moderator models findings were not significant.

The suitability of the contextual model of parenting style in delineating the ways in which parenting style and parenting practices interact was more impressively demonstrated by Spera (2006). Spera found significant interactions between parental child-centeredness (a measure of parenting style) and parental involvement in schoolwork (a measure of parenting practice) in the prediction of grades among a sample of urban and suburban middle school students. Significant interactions between parental child-centeredness (parenting style) and parental monitoring (parenting practice) in the prediction of students' grades were also found. The current study findings fail to demonstrate the suitability of the contextual model of parenting style in this predominately African American sample of urban public middle school students. Additional research is needed to elucidate the relationship between parenting style, parenting practices, and early adolescent aggression in this population.

Moderate Versus High Parent Support for Aggression Avoidance Strategies

It is important to point out that moderate levels of parent support for aggression-avoidance strategies emerged as a significant predictor of early adolescent aggression, while high levels of parent support for aggression-avoidance strategies were not a significant predictor. These findings suggest that a moderate level of protective parenting was sufficient to result in a lower likelihood of engaging in aggressive behavior in this sample. This finding mirrors the results of a study conducted by Mason et al. (1996), which examined the influence of parenting among urban African American early adolescents. More specifically, these researchers investigated the influence of parental

monitoring and psychological control at varying levels of peer problem behavior. When early adolescents reported having many problem-behaving peers, moderate levels of parent behavioral control (i.e., monitoring) were protective against early adolescent problem behavior (e.g., fighting, gang activity, drug use, truancy). In contrast, high levels of behavioral control and low levels of behavioral control were associated with increased early adolescent problem behavior. These findings suggest that low levels of behavioral control were insufficient for parents to reduce youth problem behavior, while high levels of behavioral control represented increased parent efforts to counteract their early adolescent's problem behavior.

There is indication that a similar curvilinear relationship between parenting and behavior may have been demonstrated in the current study. A consistent, though non-significant, finding across study models was that early adolescents who reported high levels of parent support for aggression-avoidance strategies were *more* likely to have engaged in overt or relational aggression at Time 2 relative to early adolescents who reported low levels of aggression-avoidance strategies. Thus, like the Mason et al. study, high levels of protective parenting were positively associated with early adolescent aggressive behavior. It is possible that the current study finding represents parents' attempt to curtail early adolescent aggressive behavior by increasing their communication about aggression-avoidance strategies. The path analysis results, however, do not provide support for this theory. Early adolescent overt aggressive behavior at Time 1 was related to lower levels of parent support for aggression-avoidance strategies at Time 2. This finding indicates that early adolescent overt aggressive behavior, rather than increase protective parenting, was instead associated with diminished protective

parenting at Time 2. Because high and moderate levels of parenting strategies were not disaggregated in the path analysis model, it is possible that the curvilinear relationship postulated in the logistic regression analyses cannot be observed in the path analysis model.

Early Adolescent Behavior: Influence on Parenting Practices and Parenting Style

As mentioned above, early adolescent overt aggressive behavior at Time 1 predicted parent support of aggression avoidance strategies at Time 2. Other path model results indicated significant relationships between aggression at Time 1 and parenting at Time 2. For both overt and relational aggression, early adolescent aggressive behavior at Time 1 was negatively related to parent support/behavioral control at Time 2. Similarly, early adolescent aggressive behavior at Time 1 was positively related to parent exertion of psychological control at Time 2. These path model findings provide partial support for the transactional model. The transactional model was the conceptual framework that guided the investigation of bidirectional parent-child influences in this study. In the context of this study, the transactional model posits that early adolescent outcomes are a function of interactions between the early adolescent and the most proximal individuals in his or her ecological system (i.e., parents). Bidirectional effects result because early adolescents provide stimuli to which parents respond and parents provide stimuli to which the early adolescent responds. The results of this study provided evidence that parents respond to their early adolescent's behavior in ways that may increase risk for engagement in aggression.

The path model findings of this study are consistent with findings in previous studies that have employed a transactional approach to investigate early and late

adolescent problem behavior. These studies suggest that adolescent problem behaviors such as antisocial behavior (Vuchinich et al., 1992), alcohol use (Brody & Ge, 2001; Stice & Barrera, 1995), externalizing behaviors (Stice & Barrera, 1995), sexual risk behaviors (Henrich et al., 2005), disruptive adolescent problem solving (Rueter & Conger, 1998), and poor psychosocial functioning (Brody & Ge, 2001) predict parenting strategies associated with an increased risk of problem behavior. For example, Rueter and Conger (1998), in their longitudinal study, found that disruptive early adolescent problem solving at Time 1 was related to lower levels of supportive parenting at two subsequent time points. Similarly, Henrich et al. (2005) in their longitudinal study found that higher levels of early and late adolescent engagement in sexual risk behavior at Time 1 were related to a lower likelihood of parent connectedness at Time 2. In their longitudinal study, Stice and Barrera (1995) found that both early adolescent externalizing behaviors (e.g., disobeying authority at school, starting fights) and substance use at Time 1 predicted lower levels of parent support and parent control (i.e., consistency, enforcement, monitoring) at Time 2. In the current study, path models indicated that Time 1 early adolescent aggression predicted lower levels of Time 2 support/behavioral control. It is important to stress that the support/behavioral control variable represents a combination of support and behavioral control concepts. Therefore, the support and behavioral control constructs used in previous studies are only partially analogous to the support/behavioral control measure in the present study. Nonetheless, this study offers additional evidence that early adolescent aggressive behavior contributes to declines in parenting behaviors associated with buffering youth from involvement in aggression.

In contrast to these studies, Brody and Ge (2001) did not find a longitudinal association between early adolescent behavior (self-regulation) at Time 1 and supportive parenting at Time 2. These researchers, however, reported that low levels of early adolescent self-regulation were related to an increase in harsh-conflicted parenting. In that study, harsh-conflicted parenting was conceptualized as a form of parenting that increases risk for youth problem behavior. Other studies have indicated that higher levels of maladaptive adolescent behavior, such as poor self-regulation and irritability, predicted other forms of parenting like harsh, inconsistent parenting (Rueter & Conger, 1998), rejection, and inconsistent discipline (Lengua, 2006), associated with increased risk for youth problem behavior. Consistent with these studies, the path model results of the current study indicated that both overt and relational early adolescent aggressive behavior predicted increases in psychological control. The current study, thus, provides additional evidence that early adolescent problem behavior predicts parenting associated with increased risk for problem behavior such as aggression.

Because a bidirectional relationship between early adolescent aggression and parenting was not found, the results of the present study differ from these previous studies. Nonetheless, this study provides an important contribution to the problem behavior literature. No previous early adolescent aggression studies have been found that examined early adolescent overt or relational aggression as a predictor of parenting. In addition, none of the existing problem behavior investigations of bidirectional relationships studied a sample consisting of urban, predominately African American youth. Thus, these findings shed light on the ways in which African American parents respond to their early adolescents' risk behavior. These findings further provide evidence

of a relationship between aggressive behavior and subsequent parenting among low-income African American families living in urban communities with excessive levels of violence. This context may mean that parents must be even more vigilant in responding to early adolescent behavior in order to promote resiliency among their children. Finally, the present study represents one of the first studies to report on the connection between early adolescent aggressive behavior and subsequent parent support for aggression avoidance strategies.

Study Limitations

Limitations Related to the Study Sample

Study findings should be interpreted in light of several limitations. First, attrition between the baseline and follow-up surveys presents a threat to the internal validity of the study. It is possible that the relationships found between parenting and early adolescent aggression were influenced by the fact that a small percentage of youth dropped-out of the study. It is possible that there were systematic differences between those who remained in the study and those who did not. In addition, there are several threats to external validity related to the study sample that influence the degree to which the findings of the study can be generalized to the reference population. First, during the time participants were surveyed, the schools participating in this study were considered two of the most dangerous middle schools in Baltimore City. Because the levels of violence at the study schools exceeded the norm, the study findings should not be generalized to all predominately African American urban public middle school

environments. The behavior of early adolescents attending the study schools as well as their parents' behavior may have been influenced by the unique characteristics of the school environment as well as the proximal neighborhood.

Given the low response rate of the broader Steppin' Up study, it is possible that the current study sample is not representative of the sampling frame. For example, significant differences in family structure among the participants and non-participants may mean that these two groups had substantially different perceptions of parent behavior. Because this was a predominately African American sample living in a low-income urban area, it is also important to point out that these results should not be generalized to other racial/ethnic and income groups.

The low response rate of the Steppin' Up study may have contributed to a Type II error. As described in Chapter 3, given a sample size of 209 and power of .80, the effect size computed for this study was 29%. If a significant relationship indeed existed, a power of .80 may not have provided sufficient power to detect statistically significant relationships when the effect size was less than 29%. It is possible that given a larger sample size, more statistically significant relationships would have been found.

Time Frame of Reporting

This study offers the advantage of having two measurement time points, which permits an examination of longitudinal relationships. The period between Time 1 and Time 2 was approximately 3 months. A 3-month time interval was a sufficient time period to observe significant relationships among Time 1 aggressive behavior and Time 1 parenting. However, given the lack of significant findings between Time 1 parenting and Time 2 early adolescent aggression, a 3-month time interval may have not provided

sufficient time to observe these relationships. Previous bidirectional studies provide some indication that a longer time interval may have been needed to find additional associations between Time 1 parenting and Time 2 aggressive behavior. In these studies, time lags were typically 1 year or 2 years (e.g., Henrich et al., 2005; Rueter & Conger, 1998), with only one study having a time lag as short as 2-3 months (Vuchinich et al., 1992).

Developmental models of aggression aid in understanding why parenting effects on aggression were not found in this study. In their empirical work examining the progression from childhood aggression to early adulthood delinquency, Patterson and Yoerger (2002) defined two developmental pathways: the early starters and the late starters. The early starters, as the name implies, exhibit a consistent pattern of problem behaviors (i.e., conduct problems, aggression) as early as toddlerhood. Harsh and inconsistent parental discipline of an aggressive or noncompliant child initiates coercive parent-child interactions that, without intervention, largely contribute to escalating levels of aggressive behavior (Reid & Patterson, 1989; Patterson, 1982). As early starters progress in age, problem behaviors increase in severity, and the child may begin to associate with antisocial peers. On the other hand, late starters are more socially competent then early starters in early childhood, and their aggressive and other antisocial behaviors emerge during adolescence. In the late starter pathway, peer networks play a prominent role in influencing the development and maintenance of aggressive behavior, but this influence begins in adolescence (Dishion & Patterson, 1999; Patterson, 1993). In general, friendships in adolescence are characterized by intensified levels of intimacy and conformity, which may facilitate positive or negative peer pressure. Because early

starters associate with problem-behaving peers prior to adolescence, this peer pressure may more likely be negative in nature (Hill et al., 2007).

Moffitt developed an analogous pathway model, the life-course persistent versus adolescence limited model. Both the Patterson and Moffitt models indicate that parent behavior has a differential impact on aggression outcomes depending on a child's developmental pathway (Moffitt, 1993). Patterson's research has found that, without intervention, the harsh and inconsistent discipline of early-starter parents is a strong predictor of adolescent and early adult antisocial behavior (Dishion & Patterson, 1999; Patterson, 1993). Thus, protective parenting strategies, such as monitoring, used to curtail the aggressive behavior of late starters may be more effective because a stable pattern of aggressive behavior has not yet been established.

A developmental perspective has been used to interpret the parent and early adolescent risk behavior findings in a bidirectional study among a sample of Hispanic and White early adolescents aged 10-15 years. Stice & Barrera (1995) found that a 1-year time interval was sufficient to observe bidirectional associations among parenting and early adolescent substance use behavior. However, a bidirectional relationship was not found among parenting and early adolescent externalizing behaviors (e.g., disobeying authority at school, starting fights) over the 1-year interval in that study. Similar to the current study, early adolescent externalizing behavior predicted subsequent parenting behavior, but parenting failed to predict subsequent early adolescent externalizing behavior. Based on evidence from the child aggression literature (e.g., Patterson, 1992), these authors assert that externalizing behaviors are commonly demonstrated in early childhood, and by adolescence, the effects of parenting have a diminished effect. Stice &

Barrera suggested that early adolescent externalizing behaviors may have been "so stable that parenting has a relatively minimal effect, whereas because substance use is just emerging [in adolescence], parenting is able to exert an effect on this behavior." (Stice & Barrera, 1995, p.185).

In the current study, whether an aggressive early adolescent was an early or late starter could not be determined. Given the study findings, it is plausible that a sufficient number of youth had longstanding patterns of aggressive behavior, such that parenting effects on aggression were generally not found in the sample. It is also plausible that parenting influence on aggressive behavior was a short term effect that was not sustained over the 3-month period of time. This may be particularly true in this sample because the sixth grade participants were transitioning to a middle school environment characterized by high levels of violence. The norms of the school environment, as well as an early adolescent's new middle school peer group, may have fostered a late-starter pattern of aggressive behavior while simultaneously undermining parental efforts to reduce aggressive behaviors. In this scenario, a time interval shorter than 3 months may have perhaps demonstrated parent effects on early adolescent behavior. Clearly, additional research is needed to determine the interval of time that is most appropriate for this population, given the relevant developmental and contextual factors identified in this discussion.

Limitations of Early Adolescent Self-Report

Another study limitation is related to the use of early adolescents' report of their own behavior and their parent/guardians' behavior. It is widely recognized that a multi-informant strategy is the best way to demonstrate the validity of adolescent behavior

measures (Lorenz, Conger, Simon, Whitebeck, & Elder, 1991). Nonetheless, a substantial number of early adolescent aggression and problem behavior studies use early adolescent self-report for measures of both early adolescent and parenting behaviors (e.g., Brookmeyer et al., 2005; Cotten et al., 1994; Orpinas et al., 1999). Generally, these researchers concede that the sole use of early adolescent self-report measures is a limitation. Two major issues emerge: Are youth reliable reporters of their own behavior, and are youth reliable reporters of their parents' practices and parenting style?

Early Adolescent Self-Report of Their Own Risk Behaviors

It is possible that early adolescents in this study were not reliable reporters of their own aggressive behavior. Previous study findings suggest that adolescents are reliable and valid reporters of their own risk behavior; however, much of this research examined samples of youth in grades 7 and above. For example, Akers, Massey, Clarke, & Lauer (1983) used bogus pipeline procedures to demonstrate the validity of adolescent self-report of deviant behaviors in a sample of adolescents in grades 7 through 12. A small number of studies have directly assessed the level of concordance between parent and youth measures of risk behavior. Howard, Cross, Li, and Huang (1999) found that parents underestimated their adolescent's involvement in violence perpetration (e.g., physically attacked someone, threatened to hurt someone, carried a weapon for protection) among a sample of African American adolescents ages 9-15 years and a parent/caregiver. Richards et al. (2000) similarly found a lack of concordance between early adolescent and parent report of risk behavior. In their sample of fifth through eighth grade African American youth, these researchers found that parents underestimated their early adolescent's involvement in delinquency. Other researchers

have found that parents considerably underestimated their adolescent's involvement in sexual risk behaviors (Stanton et al., 2000) and alcohol use behavior (Beck, Shattuck, & Raleigh, 2001; Haynie, Beck, Crump, Shattuck, & Simons-Morton, 1999); however, these studies did not include early adolescents in their samples. Findings regarding the lack of concordance between parent and adolescent reports are difficult to interpret. It is possible that parents were less aware of their adolescent's level of engagement in risk behavior, but it is also possible that adolescents inflate their involvement in risk behavior. Another source of low parent-adolescent concordance is that parents and adolescents label engagement in risk behavior and experiences involving risk behavior differently (Lorenz et al., 1991).

Some early adolescent problem behavior researchers employing a multi-informant strategy used only early adolescent self-reports of their own behavior and parent self-report of parenting behavior (Griffin et al., 2000; Schiff & McKernan McKay, 2003; Galambos et al., 2003). This approach to incorporating multi-informant measurement strategies supports the notion that early adolescents may be valid reporters of their own behavior. A myriad of problem behavior studies have solely used adolescent self-report of their own behavior as well as their parent's behavior. A number of these studies have examined early adolescent middle school grade adolescent samples (Brookmeyer et al., 2005; Cotton et al., 1994; Orpinas et al., 1999; Simons-Morton et al., 2004), while others have examined early and late adolescents in a wider range of grades from approximately 5th to 10th grade (Bean et al., 2006; Gorman-Smith, 2005; Krishnakumar et al., 2003; Lambert & Cashwell, 2004; Miller et al., 2002; Pittman & Chase-Lansdale, 2001; Smith, Flay, Bell, & Weissberg, 2001; Wright & Fitzpatrick, 2006b). These studies did not

speculate whether age or grade level played a role in the degree to which the adolescent reporters reliably responded to survey questions. Nevertheless, given that cognitive functioning and memory capacity are related to age, this is a relevant consideration in determining the validity of early and late adolescent self-report (de Leeuw, Borgers, & Strijbos-Smits, 2002). The findings in this study should be interpreted in light of the fact that the participants in this study were early adolescents in the sixth grade.

Early Adolescent Report of Parent/Guardian's Behavior

The use of early adolescent reports of both parenting behavior and their own behavior is a limitation in this study. The use of a one-informant measurement strategy presents the problem of common method variance, which may bias study results (Lorenz et al., 1991). For example, highly aggressive early adolescents may justify their behavior by reporting that their parents endorse aggressive strategies to conflict situations. Indeed, a number of studies employing both parent and early adolescent measures of parenting behavior indicate a lack of congruence between parent and early adolescent report of parenting (Richards et al., 2004; Pettit et al., 2001; Laird, Petit, Dodge, & Bates, 2003). Rather than suggest that the early adolescent report of parenting is less valid than the parent report, researchers have emphasized the value of both reporters and indicated that the lack of concordance reflects differences in parent and early adolescent perspectives (Laird et al., 2003; Richards et al., 2004). What these different perspectives may represent was not articulated in these studies. Lorenz et al. (1991) suggest that a survey respondent's appraisal of themselves and others is shaped by their dispositions, personality traits, and attributional style. These individual characteristics may influence respondents' judgments such that a parent and his or her early adolescent may perceive

reality differently. Furthermore, attachment theory (Bowlby, 1982) suggests that early adolescents' mental representations of their parents, or internal working models, drive how early adolescents perceive and respond to parenting behavior. Getting the view of both early adolescent and parent seems to be the least biased method of measuring parenting behavior.

One early adolescent problem behavior study has been found that revealed that parent and early adolescent reports on parenting were highly correlated (Forehand et al., 1997). Despite such findings, the absence of parent self-report in the current study stands as a limitation. It is important to note, however, that parent self-report of parenting behavior also has potential drawbacks. Some research indicates that parents are likely to provide socially desirable responses regarding their parenting behaviors (Callan & Noller, 1986; Gonzales, Cauce, & Mason, 1996). This source of bias has been demonstrated in a sample similar to this study sample. In their study of low-income early adolescent African American females and their mothers, Gonzales et al. (1996) examined the validity of mother and daughter reports of maternal control, maternal support, and parent-adolescent conflict using independent observers as criterion. Compared to their mothers, the daughters were found to provide more valid reports on measures of maternal control and parent-adolescent conflict. Mothers and daughters were found to both provide valid reports of mother support (Gonzales et al., 1996).

Next, given that the study participants lived in diverse household configurations, an important question arises: Who exactly are the early adolescents reporting about in the self-report parenting measures? As previously stated, 29% lived in single-parent households (one biological parent), 62% lived in two-parent households (one biological

parent and one other adult(s)), and the remaining 9% lived in other household configurations such as households led by one or two grandparents. The early adolescent self-report of parenting measures instruct participants to report on the behavior of their parent or guardian. While the intent is to understand the behavior of one of the child's parents or guardians, early adolescents may have different conceptions of "parent" or "guardian." Because over 70% of the youth participants in this study lived in households with one biological parent and at least one other adult, it is possible that diverse interpretations of "parent" or "guardian" exist in this urban, low-income, predominately African American sample.

Youth may even have multiple caregivers within their family and home environment. This scenario may be very common in this sample for two reasons. First, informal kinship care is a prominent characteristic among African American families in general (Hill, 1997). Second, low–income, African American households may contract and expand in response to economic hardships and opportunities (Howard, 1996). For instance, a youth may live with her mother, but spend her weekdays at her grandmother's home because the mother works two jobs during the week. If the youth responds to questions about parental after school monitoring by reporting perceptions of her mother's behavior, are these responses valid? The potential bias that results from such multiple caregiver contexts means that the data analysis results should be interpreted with caution. Descriptions of measures that specifically instruct adolescents to report about a parent or guardian are frequently provided in studies of early and late adolescent behavior, including studies involving urban, low-income, African American populations (e.g., Mason et al., 1996; Stanton et al., 2000; Wright & Fitzpatrick, 2006b); however, there

has not been a systematic discussion of the implications for the potential bias that such measures engender.

The diversity of parents and guardians that the early adolescents reported about in this study is another source of potential bias. It is possible that parenting behavior significantly differs based upon parent/caregiver characteristics. For example, parenting behavior by a young mother may differ from parenting behavior of a grandfather due differences related to age, gender, and relationship of the caregiver to the child. Having this level of detail would enhance interpretation of the findings and non-findings in this study. That is, perhaps with additional demographic and other information about parents, findings may have indicated that particular parenting profiles differentially influenced early adolescent aggression.

Measurement Related Limitations: Inadequate Distinction between Parenting Style and Parenting Practices

Another limitation is related to the conceptualization of parenting style and parenting practices in this study. As discussed in chapter 2, measures labeled "parenting style" in some studies have been labeled "parenting practices" in other studies. In this study, the Darling and Steinberg conceptualization of parenting style and parenting practices was utilized. Accordingly, parenting style was viewed as a contextual parenting behavior. That is, parenting style in this study was conceptualized as parent behavior that occurs across all domains of an early adolescent's socialization (Darling & Steinberg, 1993). Parenting practices was conceptualized as strategies parents use to socialize their early adolescents about specific, narrowly defined behaviors like aggression. The Darling and Steinberg conceptualization of parenting practices and parenting style has

not been widely adapted by researchers investigating parenting influences on early adolescent outcomes. As a result, "parenting practices" and "parenting style" are conceptualized and labeled differently across studies in the child and adolescent literature. This inconsistency in the scientific literature limits the ease in which the findings of this study can be compared with the findings of other parenting behavior studies. In order to compare across studies, one must focus on the operationalization of the parenting behavior (i.e., survey measures/scale items used), rather than the label given that parenting behavior (i.e., practices or styles).

It is also important to point out that the Darling and Steinberg conceptualization of parenting style and parenting practices may be difficult to apply in practice. As mentioned in chapter 2, it is plausible that researchers find it difficult to ascertain whether a particular measure conceptually represents parenting practices or parenting styles. For example, in early adolescent and adolescent aggression studies, behavioral control constructs that are operationalized as parental monitoring or monitoring knowledge are often labeled as parenting practices rather than parenting style (e.g., Griffin et al., 2001). More specifically, parental monitoring and monitoring knowledge may be viewed as a domain-specific socialization strategy used by parents to prevent their children's involvement in aggression. However, in particular developmental or socio-cultural contexts, behavioral control may be more appropriately conceptualized as a parenting style variable. In this study, though operationalized as parent monitoring knowledge, behavioral control was viewed as a parenting style variable. Given the participants' socio-cultural context and their developmental stage (early adolescence), it is speculated that parental monitoring knowledge represented parents' attempts to protect their early

adolescents from a variety of risks, not solely aggression (e.g., alcohol or substance use, violence victimization, early sexual debut, teenage pregnancy). Thus, behavioral control was conceptualized as parenting style instead of an aggression-specific parenting practice. Furthermore, the conceptualization of behavioral control as parenting style is in line with the investigations of Steinberg and colleagues. These researchers have consistently categorized behavioral control as parenting style and operationalized behavioral control using parental monitoring knowledge (e.g., Steinberg, Mounts, Lamborn, & Dornbusch, 1991; Steinberg et al., 1992).

Inadequate Validity of the Behavioral Control Measure

As reported in chapter 3, the factor analysis results of the behavioral control measure revealed that the behavioral control items failed to load on a single factor. Instead, three of the five behavioral control items loaded on a factor with support items. There is empirical evidence that behavioral control and support are closely linked. Stattin and Kerr (2000a, 2000b) found that much of parental monitoring knowledge is the result of the adolescent's free disclosure of information about his or her unsupervised time. Kerr, Stattin, Biesecker, and Ferrer-Wreder (2002) suggested that adolescent trust may be the factor underlying the adolescent's willingness to freely disclose information about unsupervised time to one or more parent. A strong, positive parent-child relationship characterized by high parent support may enhance trust and consequently, foster an adolescent's free, willing disclosure of information to her/his parent about whereabouts. Thus, parent support may facilitate greater parental knowledge about who the child's friends are, how much money the child spends, where the child spends his or her free time, and where the child is after school. In this study, it is plausible that early adolescent

perceptions of parent support were predictive of early adolescent perceptions of parent behavioral control. More specifically, when respondents reported on their perceptions of their parent/guardian's behavioral control strategies they may have been also providing an indication of the perceived quality of support obtained by their parent/guardian.

Although the validity and reliability of behavioral control has been demonstrated in studies involving early adolescents, the samples studied were not comparable to the current study sample. For example, Barber (1996) found that the monitoring scale was reliable among the fifth graders in two study samples; however, these samples are not highly comparable to the current study sample in regards to the percentage African American and low-income, urban early adolescents included in Barber's studies. In part, the differences in income levels and location (i.e., large city verses a mid-west suburban locale) has a bearing on the quality of the public education and, relatedly, levels of academic proficiency. One characteristic that may differ between these two samples is the reading skill level. Approximately 70% of sixth graders at both middle schools tested at the basic reading level, meaning that "students at this grade level were unable to adequately read and comprehend grade appropriate literature and informational passages" (MSDE, 2005a). Another issue is that the response categories used in this study differed from those used in other studies in which the monitoring scale was found to be reliable. Other researchers (Krishnakumar et al., 2003; Pettit et al., 2001; Barber, 1996) have measured early and late adolescent self-report of parent monitoring with the monitoring scale using a three-point response scale (e.g., 1=don't know, 2=know a little, 3=know a lot). In this study, five response categories were used, ranging from strongly disagree to disagree.

The way behavioral control was operationalized in this study may have also contributed to the poor reliability and validity of the behavioral control measure. The monitoring scale, a measure of parental monitoring knowledge, was used to capture the concept of behavioral control in this sample of sixth grade early adolescents. One reason that monitoring knowledge is frequently used in the early adolescent and adolescent aggression literature is the recognition that adolescents spend increasing amounts of time unsupervised by parents and other adults (Dishion & McMahon, 1998). It is possible, however, that parents of sixth grade early adolescents living in environments with high levels of risks for violence involvement may not permit their children to spend increasing amounts of time unsupervised by parents and other adults due to their desire to keep their children safe. Thus, alternative operationalizations of behavioral control may be more relevant to parenting a sixth grade early adolescent in this context. For example, parental demandingness measures the degree to which parents insist their child exhibit certain behaviors through maturity demands, monitoring, supervision, and disciplinary actions. Not only are monitoring and supervision captured through demandingness, but "parental control of a child's behavior," "setting and enforcing clear standards of behavior," and "maintaining structure and regimen in a child's daily life" are captured as well (Jackson & Foshee, 1998, p. 345). The use of parental monitoring knowledge measures is a fragmented approach to understanding parental behavioral control of sixth grade early adolescents living in high violence communities. Given the ubiquitous nature of parental monitoring knowledge measures in the early adolescent aggression literature, this measurement approach is not only a limitation in this study, but a major limitation in the field.

General Psychometric Issues

The mean age in this sample was 12. As alluded to in previous limitations sections, age may have played a role in the degree to which these early adolescents accurately reported their own behaviors, as well as the behaviors of their parents. Age may also affect the ability of children to answer survey questions because their cognitive and communicative skills are still developing. According to de Leeuw et al. (2002), cognitive growth and memory development have important implications for the question-answer process in survey research. In their cognitive and social development conceptual framework for surveying children, de Leeuw et al. indicate that by age 11, the cognitive functioning (e.g., formal thinking and logic) and memory capacity are well developed. On the other hand, language skills are not fully developed and reading skills have only recently emerged. Thus, at this age in early adolescence, question wording and question clarity become paramount issues in survey research and has implications for data quality. Even clearly worded questions may have been challenging for a significant proportion of the early adolescent study sample. As discussed above, the majority of the sixth graders at both study schools were not reading at grade level. Thus, reading level may have played a prominent role in the ability of children to understand survey questions.

The Likert response scale format may have also contributed to difficulty in responding to survey questions among the early adolescents in this sample. Weber (1994) recommends that Likert scale response formats as well as using negative response category statements (e.g., strongly disagree) should be avoided when constructing surveys for early adolescents. It is plausible that the Likert scaling and negative statements rendered the survey questions too complex for participants to fully

comprehend. Item ambiguity may have also contributed to poor question comprehension among early adolescents. It can be argued that the stem of the monitoring scale item questions ("I have a parent or guardian who *really knows*") was problematic for the respondents. "Really knows" may be ambiguous wording in this sample of sixth graders. Although research reveals that early adolescents interpret ambiguously worded questions better than younger children, question ambiguity is nonetheless problematic for early adolescents (de Leeuw et al., 2002). This may be particularly problematic in the current sample due to the low levels of reading proficiency within the sampling frame.

Implications and Future Directions for Research

Implications for Research

Study findings suggest that both parenting practices and parenting style had a minor influence on early adolescent aggression in this sample. These findings highlight the importance of research that examines the extent to which multiple social influences relate to aggressive behavior. Indeed, early adolescent development researchers have indicated that a myriad of social influences, including parents, peer networks, neighborhood characteristics, school climate, and the presence of a mentor, predict early adolescent outcomes. A number of early adolescent problem behavior studies, including studies of aggression, have examined such social influences as peer problem behavior, poverty, socio-economic status, and community exposure to violence in addition to parenting or family variables. Generally, however, only one or two of these influences are examined in individual studies (e.g., peer and parent influences). More research is needed that explores a wider range of economic, community, cultural, and peer influences most relevant to the study of aggressive behavior among urban, African

American early adolescents residing in low-income and under-resourced neighborhoods. For example, measures of early adolescent perceptions of school climate may be important predictors of early adolescent aggressive behavior given that school violence is a particular challenge in urban public schools.

Research, including ethnography, is recommended that explicates ways urban, low-income, African American parents living in high-risk environments implement parenting strategies to help their children avoid risk behaviors. Such research may contribute to the development of parenting constructs that reflect common parenting strategies used by African American caregivers living in disadvantaged communities. In addition, such research may improve the interpretation of findings in studies involving African American families that examine parenting such strategies as psychological control, the use of which may have different implications for African American parents living in high-risk environments. This is particularly relevant because parenting constructs and measures have been largely validated using White samples in higher SES groups. The following discussion suggests specific considerations and areas of exploration that should be undertaken to meaningfully expand the research base on African American parenting in urban, high-risk environments.

Socio-cultural Context

Future research investigating African American parenting should be understood as shaped by specific economic, cultural, and community contexts. African American parents living in disadvantaged urban communities with high rates of community violence may employ parenting strategies that differ from parents living in other neighborhood contexts and having different racial/ethnic backgrounds. These strategies

reflect parents' perceptions about the hazards and opportunities for their child in these environments. For example, some African American parents living in high-violence environments may perceive racism in the criminal justice system as a potential hazard, and in response, may demonstrate greater levels of vigilance or no nonsense parenting to foster adolescent resilience (Hill et al., 2007). Researchers suggest that African American parents may employ high levels of behavioral control and psychological control as strategies to ensure that their early adolescents avoid such hazards and, more generally, avoid involvement in risk behaviors. More research is necessary to understand the role of behavioral control and psychological control as protective factors.

Given the lack of literature on early adolescent aggression and parental psychological control especially among urban, low-income, African American samples, this is an important future direction for aggression research. Both quantitative and qualitative studies may provide valuable insights into what particular domains of psychological control are more protective versus those that are less protective against aggression among early adolescent African Americans. As a concept, psychological control captures four domains: love withdrawal, guilt induction, invalidation of a child's feelings, and restriction of independence. The measure used in the current study, the Psychological Control Scale – Youth Self-Report (Barber, 1996), measures all four of these domains. It is possible that only one or some of these domains are related to adolescent aggression in urban, African American early adolescent samples. For example, Mason et al. (1996) found that moderate levels of psychological control were protective against problem behavior involvement in a sample of urban, African American early adolescents. These researchers operationalized psychological control using a

restrictiveness scale that assessed the restriction-of-independence aspect of psychological control. Rather than the broad concept of psychological control, it is clear in that study that restriction of independence was the factor driving the relationship between the parental psychological control construct and problem behavior. Similar to the current study, Bean et al. (2006) found that parental psychological control was unrelated to delinquency in their study of 5th, 8th, and 10th grade African American youth. Also, like the current study, these researchers operationalized psychological control using Barber's psychological control measure. Perhaps the non-findings of the Bean et al. study and this study are related to the fact the psychological control measures used assessed four domains that in aggregate form do not relate to aggression and delinquency in urban, African American samples. Thus, the results of the Mason et al. study, the Bean et al. study, and the current study demonstrate the need for future research that explores early adolescent aggression and African American parenting using disaggregated psychological control measures.

In regards to the use of behavioral control among urban, low-income, African American parents, it is worthwhile to pursue research in which behavioral control is operationalized more broadly. As discussed in the limitations section, operationalizing behavioral control as monitoring or monitoring knowledge only yields information about one aspect or domain of parental behavioral control. The problem with this approach is that low-income, urban, African American parents may not permit their children to spend large amounts of time unsupervised due to their early adolescent's age and their desire to buffer their children from environmental hazards and risks. Other domains of parental behavioral control, like maturity demands, establishing standards of behavior, and

creating daily routines and structure in the early adolescent's life, may be more valuable to understanding the relationship between behavioral control and early adolescent aggression in this context. Only one early adolescent aggression study has been found that measured behavioral control more broadly, and accordingly captured aspects of behavioral control beyond monitoring or monitoring knowledge. In their study examining the extent to which responsive and demanding parenting predicted aggression among Black and White 9th and 10th grade students, Jackson and Foshee (1998) used measures of demandingness (i.e., "parental control of a child's behavior," "setting and enforcing clear standards of behavior," "actively monitoring and supervising a child's activities," "maintaining structure and regimen in a child's daily life;" Jackson & Foshee, 1998, p. 345). In this study, demandingness was found to be negatively related to fighting and threats to use a weapon. More aggression studies are needed that employ broader measures of parent behavioral control, particularly studies that examine younger early adolescents like the sixth grade sample in the current study.

Developmental Context

It is also important to use a developmental perspective when examining strategies employed by African American parents living in disadvantaged urban communities with high rates of community violence. African American parenting of early adolescents in disadvantaged urban communities with high rates of community violence may call for a higher reliance on extended family or fictive kin for assistance with supervision of their early adolescent's activities, particularly after school. This strategy may be particularly important during the transition to middle school for sixth graders because of increased academic demands (e.g., more homework) and increased opportunities to associate with

problem-behaving peers. A higher reliance on extended family or fictive kin may also provide sixth grade early adolescents, typically 12 years of age, with a sense of connectedness to others at a time when they are adjusting to larger, less personal middle school environments. A parent's reliance on extended family or fictive kin to help supervise her child may diminish as the early adolescent transitions to late adolescence. Parents may use other methods that reflect their changing cognitive expectations, increased willingness to give their late adolescent greater responsibilities, and the reduced amount of time they spend with their late adolescents. In essence, parents supervise their late adolescents less, while more intensively monitoring their whereabouts and peer affiliations.

A sense of connectedness is important, regardless of the socio-cultural environment of the early adolescent sixth grader transitioning to middle school. However, there is evidence that early adolescents living in poor, urban communities have fewer sources of connectedness during their middle school transition. Most notably, research indicates many poor urban communities are characterized by weak informal mechanisms of community social control and low collective efficacy both of which hinders the ability of cohesive bonds to develop among neighbors (Warner, 2007; Almgren, 2005). Insufficient social control and low collective efficacy fuel community violence and economic disinvestment and, as a result, limit opportunities for youth to experience connectedness to neighborhood institutions and establish strong relationships with neighbors (Almgren, 2005). One strategy to address the influence of insufficient social control and low collective efficacy is for parents to facilitate their own and their early adolescent's active participation in neighborhood groups, community-based

organizations, and religious institutions (e.g., churches). An additional benefit to linking youths with neighborhood organizations is that their social networks may expand in ways that increase social capital. Social capital that builds resiliency is often in low supply in poor, urban, African American communities due to the long history of racial and class segregation in urban housing, which has exacerbated the degree of social isolation experienced in these communities. Early adolescents transitioning to middle school in better-off communities may have access to high levels of social capital that will better prepare them for conventional avenues of success. African American parenting in poor urban neighbors may require greater efforts to link their early adolescents to organizations and resources that can provide the knowledge and socialization skills necessary to increase the likelihood their early adolescents will avoid risk behavior like aggression.

This discussion has emphasized the importance of recognizing that strategies appropriate for parenting early adolescents may differ from strategies appropriate for parenting late adolescents. In addition, because of the unique challenges that face sixth grade adolescents, different kinds of parenting strategies may be required than those required for parenting seventh or eighth graders. Data on the prevalence of aggression among early adolescent sixth graders, compared to the prevalence among seventh and eighth graders, would aid in understanding the quality and quantity of parenting strategies most appropriate at each grade level. While early adolescent aggression studies commonly describe the prevalence of aggression by gender and race/ethnicity, no studies have been found that provide prevalence rates by grade level. Therefore, it is recommended that future research on early adolescent aggression and parenting across

multiple grade or age levels provide a description of prevalence that includes grade or age prevalence data in addition to gender and race/ethnicity prevalence data. Such data would not only allow researchers to observe developmental similarities and differences, but use this information to examine the influence of parenting using a developmental perspective.

Parenting Practices and Parenting Style

Research is also recommended that further explores the findings in this study suggesting that moderate levels of support for aggression avoidance strategies are sufficient to protect youth from engagement in aggression. In particular, positive correlations between parenting behaviors considered protective against aggression and subsequent early adolescent aggressive behavior need to be explored. Such research should address a general question of whether high levels of protective parenting behaviors are in fact reactive parenting strategies intended to curb an adolescent's existing risky behaviors. Longitudinal study designs would be most informative in this regard and would simultaneously contribute to the parent-early adolescent bidirectional relationship literature, especially if parent and youth behaviors are measured at three or more time points.

Research is also needed that examines whether various combinations of parenting behaviors are more or less protective than other combinations of parenting behaviors. An example of such an investigation might consist of examining whether urban, African American parenting consisting of high levels of psychological control and high levels of behavioral control is more (or less) protective than one of the following parent behavior combinations: high psychological control and moderate behavioral control; moderate

psychological control and high behavioral control; and moderate psychological control and moderate behavioral control. This approach is similar to the typological approach in which varying degrees of different parenting strategies are combined to form a particular parenting behavior classification. While the typological approach has the disadvantage of masking the independent contribution of the parenting behavior variables investigated, this approach permits an understanding of how parenting behaviors work synergistically to affect early adolescent outcomes. This approach also allows researchers to determine the prevalence of various parenting behavior combinations. Longitudinal investigations would offer the added benefit of assessing the stability of these parenting behavior combinations over time and, perhaps, provide an indication of parenting stability and change in developmental context. Finally, such a typological approach permits an evaluation of how each parenting behavior combination correlates with early adolescent aggression and, thus, the most protective as well as the least protective combinations of parenting behaviors can be determined.

The Development of Models of African-American Parenting

An enhanced understanding of urban, African American parenting in environments that place youth at high risk for engaging in aggression and violence may furthermore inform the development of a model that specifies how parents appraise their early adolescent's risk and implement strategies to buffer them from influences (e.g., problem behaving peers) that increase risk for violence. Given that exposure to community violence places youth at greater risk for violence perpetration (Brookmeyer et al., 2005; Gorman-Smith et al., 2004), the ways that parents appraise their early adolescent's risk for and experiences with victimization and witnessing community

violence should be explicated in such a model. In light of study findings indicating that early adolescent behavior predict subsequent parenting behavior, such a model would not only specify how parents implement strategies to protect their early adolescents, but ways that parents evaluate and revise strategies in response to the early adolescent's behavior. Additional research on African American parenting is necessary to build and empirically demonstrate such a model.

Additional research on low-income, urban, African American parenting in high-risk environments may also provide valuable information to develop an adapted contextual model of parenting style better suited for studies of early adolescent aggressive behavior in samples similar to the present study. Study findings did not support the relationship between parenting practices, parenting style, and early adolescent behavior as specified in the Darling and Steinberg contextual model of parenting style (Darling & Steinberg, 1993). Researchers should reformulate the contextual model of parenting style to include such relevant environmental factors as the peer group network, level of community violence, collective efficacy, social control, social capital, extended family support, and level of school danger.

Exploration of Bidirectional Parent-Early Adolescent Relationships Effects

Despite the widespread acceptance of the bidirectional nature of parent-child relationships, only a small number of studies have explored the reciprocal associations between parenting and early adolescent problem behaviors. The current study is one of the first early adolescent aggression studies to examine bidirectional parent-adolescent relationships in a predominately urban, African American sample. Study findings underscore the importance of exploring the effects of early adolescent behavior on

parenting behavior in this population. Time interval length is an important methodological issue in investigations of bidirectional adolescent-parent relationships. Longitudinal research investigations with three or more time points are most promising in terms of yielding results that clearly demonstrate the bidirectional nature of the parent-child relationship. For example, with three time points, one can observe the extent to which Time 1 parenting is associated with Time 2 aggression and Time 2 aggression is associated with Time 3 parenting. Research that compares models tested with different time interval lengths between measurements would be very valuable in helping to understand the most suitable time interval to observe changes in either parenting or aggressive behavior.

Methodological Considerations

Some general methodological approaches are also recommended for future research on parenting and aggressive behavior among low-income, urban, African American samples. Researchers should use multiple reporters (i.e., parent and early adolescent) of parent and early adolescent aggressive behavior to minimize the bias associated with common method variance. Using both parent and early adolescent measures also permits an examination of the degree of concordance between both reporters. Researchers have reported considerable barriers to involving urban, low-income, African American parents in research. In order to improve parent response rates, it may be necessary to invest greater amounts of resources in data collection strategies (e.g., surveys administered via home visits, community advisory boards that assist with publicity and recruitment, travel assistance, child care services during survey administration or intervention).

Next, early adolescent report of parenting behavior may be enhanced by specifying whose behavior early adolescents should report about in their survey responses. As previously discussed, many urban, low-income, African American adolescents may live in multiple caregiver contexts and, thus, have diverse conceptions of "parent" or "guardian." In their study of low-income, African American adolescent girls and their mothers, Pittman and Chase-Lansdale (2001) instructed the early and late adolescent participants to identify the person "who is most like a mother to you" (Pittman & Chase-Lansdale, 2001, p. 204). The adult identified by the adolescent was then interviewed as the "mother," and, accordingly, this adult may have been a biological mother or mother figure. Similar to that study, the development of survey instruments in future research in this population could include instructions that ask the early adolescent to report about the person that is most like a parent, mother, father, guardian, etc.

Parent demographic information, such as age and relationship to the child, should also be collected because such information aids in interpreting parent behavior related study findings. As discussed previously, "parent" can encompass different profiles of individuals, from an older caregiver (e.g., grandparent) to a young mother. The frequency of particular parenting profiles may impact the prevalence of the parenting behaviors under investigation. Finally, surveys developed for urban, low-income, African American youth samples should not only take into account developmental considerations that impact cognition of the question-response processes, but also the reading skill level of the sample.

Implications for Practice

The findings of this study have implications for aggression and violence prevention interventions targeted to African American early adolescents and their parents living in environments with high levels of community violence. The Social Cognitive Theory (SCT) (Bandura, 1986 as cited in Baranowski et al., 1997) is a useful health behavior change theory upon which to base aggression and violence prevention health education interventions involving both the early adolescent and her parent. Reciprocal determinism, a guiding principle of SCT, indicates that aggressive behavior is determined by an interaction between the early adolescent, her behavior, and his or her environment. Given the limited findings indicating parent effects on early adolescent aggression, interventions that incorporate components that address the influence of other environmental influences are vital. Particularly relevant in the development of health education interventions in this population are such SCT constructs as environment, situation, behavioral capability, self-efficacy, and emotional coping responses. These constructs indicate how the environment shapes behavior (*environment* and *situation*) and how, given the environment, health behavior change can occur (*behavioral capability, self-efficacy,* and *emotional coping responses*). Applications of the SCT in intervention development may differ depending on when intervention occurs along the sequalae of aggression involvement (Baranowski et al., 1997).

Primary prevention health education interventions that include a parenting component focus upon helping parents to deter their early adolescent's involvement in aggression. Strengthening parents' *behavioral capabilities* through knowledge and skill building is a crucial intervention component. The findings of this study suggest the need

for health education interventions that chiefly assist parents in developing and honing skills around teaching youth aggression avoidance strategies and other ways to solve conflicts in a peaceful manner. Given the overwhelming evidence in previous studies indicating the importance of parenting styles in reducing youth aggression and violence, health education interventions should also incorporate components that help parents find the right balance of support, monitoring, and autonomy-granting necessary to build resiliency in their early adolescents. Monitoring strategies, in particular, are crucial skills for parents to develop as their children spend increasing amounts of time unsupervised in high-risk environments. Interventions should also provide opportunities for parents to assess their progress in applying their enhanced skills as well as recognize their strengths and successes to increase *self-efficacy*. Health educators can facilitate increased self-efficacy in group intervention settings by allowing parents to share their successful early adolescent risk-reducing strategies with other parents.

Primary prevention health education interventions targeted to African American parents of early adolescents living in urban environments with high levels of community violence should also incorporate components that address the risk and protective factors engendered by other social influences in their *environment*. In interpreting the non-significant findings in this study, one speculation is that, rather than parenting, other social environment influences (e.g., peers, school climate, community violence exposure, social disorganization, social capital) were greater predictors of aggression among this sample. In the context of strengthening parent's behavioral capabilities and self-efficacy, it is important for interventions to guide parents in developing strategies to navigate environmental influences relevant to risk reduction in disadvantaged African American,

urban communities. This might include linking parents to local resource providers, offering tools for neighborhood advocacy and community organizing (e.g., how to mobilize neighbors to advocate for community policy), and assistance with advocating for their children within the local school and broader school system. Furthermore, it is essential to provide parents with information about academic enrichment and youth development programs. After school programs and organizations that offer adult supervised activities (e.g., recreation centers) not only offer opportunities to develop self-expression and positive peer networks, but act as safe spaces where victimization and witnessing violence are unlikely to occur. Youth programs that provide opportunities for youth to develop one-on-one relationships with positive, caring adults (e.g., mentoring programs) are critical to enhancing social capital.

Research indicates that low-income, African American parents may underestimate the degree to which their adolescents are exposed to community violence and their risk for victimization (Howard et al., 1999). As previously discussed, this underestimate may have to do with the fact adolescents inflate their reports of their own risk behaviors. Another reason may be that parents are in fact unaware of the exposures and risks experienced by their adolescent. As youth transition to adolescence, they may seek to distance themselves from parents as a way to achieve greater autonomy; Communication with parents about such issues may not be important from the youth's perspective (Hill et al., 2007). Thus, it is important to make parents aware of the *situation* presented by the community and school environment in order to square their perceptions of risk with an accurate portrayal of the risks their early adolescents face. Parents may also be given tips to help them enhance communication with their early adolescents so that such

information can be successfully elicited in ways that facilitate the parent's timely response to new and emerging risks.

Behavioral capability, self-efficacy, environment, and situation intervention components are also relevant in the development of secondary and tertiary prevention programs. Study findings, however, suggest that particular skills should be emphasized when strengthening the behavioral capabilities of parents who have aggressive early adolescents. Because parents of aggressive early adolescents may respond to their children with diminished levels of protective parenting, strategies to effectively respond to their aggressive behavior may be beneficial. Thus, it is particularly important to incorporate behavioral capability components that center around effective responses to an early adolescent's aggressive behavior. Also, *emotional coping responses* may be critical to include in health education efforts for parents of aggressive early adolescents. First, parents may desire coping skills to help them deal with the stresses of everyday life and in turn facilitate their ability to effectively address their early adolescent's aggressive behavior. Second, parents can develop ways to help their early adolescent cope with emotional responses when they attempt to avoid aggressive behavior in environments hostile to aggression avoidance solutions.

Regardless of the components selected for parent interventions, recruiting, engaging, and retaining participants is a challenge faced by interventionist working with poor minority families. Such factors as work schedules, transportation, acculturation, family support for participation, and the size of the kinship network may influence the extent to which parents join and fully participate in interventions (Coatsworth, Duncan, Pantin, & Szapocznik, 2006; Hogue, Johnson-Leckrone, & Liddle, 1999). Whether a

parenting intervention occurs in a community-based, school-based, or home-based setting may also influence parent recruitment and participation. For example, if low-income parents have encountered negative experiences with school teachers and administrators, then a school-based parenting intervention may not attract substantial numbers of parents. Finally, programs that utilize a cultural competence paradigm, i.e., programs "delivered with a deep knowledge, awareness, and sensitivity to specific cultural nuances and issues of a target group" may help interventionist overcome barriers to recruitment, engagement, and retention (Coatsworth et al., 2006, p. 240).

Conclusion

The results of this study highlight the need for interventions that aim to reduce risk for aggression at multiple levels. The family, peer network, school environment, and community environment are important levels to target for intervention. Though parenting may not have a strong direct influence on early adolescent aggression, parenting may moderate the hazards that foster risk in the adolescent's social ecology. Thus, in order to effectively facilitate behavior change among low-income, urban, African American early adolescents, parents should have a prominent role in interventions to reduce risk for early adolescent aggression and violence involvement. Health practitioners and researchers should ensure that program recruitment, content, and delivery address the unique circumstances of African American parents and their early adolescents living in urban communities with high levels of violence.

Appendix A: Steppin' Up Study Youth Survey Questions Used in this Study

Frequency of Aggression Behavior Items

Choose how many times you did these behaviors in the <u>LAST 30 DAYS</u>.

In the last 30 days…	**Never**	**1 time**	**2 times**	**3 times**	**4 times**	**5 or more times**
1. How many times did you encourage other people to fight . . .						
1a. at home or in the neighborhood?	⓪	①	②	③	④	⑤
1b. at school?	⓪	①	②	③	④	⑤
2. How many times did you push, shove, slap, or kick another person . . .						
2a. at home or in the neighborhood?	⓪	①	②	③	④	⑤
2b. at school?	⓪	①	②	③	④	⑤
3. How many times did you hurt someone on purpose . . .						
3a. at home or in the neighborhood?	⓪	①	②	③	④	⑤
3b. at school?	⓪	①	②	③	④	⑤
4. How many times did you threaten to hit or hurt another person . . .						
4a. at home or in the neighborhood?	⓪	①	②	③	④	⑤
4b. at school?	⓪	①	②	③	④	⑤
5. How many times did you spread rumors or gossip . . .						
5a. at home or in the neighborhood?	⓪	①	②	③	④	⑤
5b. at school?	⓪	①	②	③	④	⑤
6. How many times did you say or do something just to make someone mad . . .						
6a. at home or in the neighborhood?	⓪	①	②	③	④	⑤
6b. at school?	⓪	①	②	③	④	⑤

Parenting Style Items
(Support (S), Behavioral control (B), and Psychological control (P), n/a=other measure scale item)

How much do you agree or disagree with the following statements about your parents or guardians.

I have a parent/guardian who	**Strongly Disagree**				**Strongly Agree**
1. Makes me feel better after taking over my worries with him/her (S)	①	②	③	④	⑤
2. Has rules that I must follow. (n/a)	①	②	③	④	⑤
3. REALLY knows who my friends are. (B)	①	②	③	④	⑤
4. Is always trying to change how I feel or think about things. (P)	①	②	③	④	⑤
5. Tells me what time I must come home. (n/a)	①	②	③	④	⑤
6. Makes rules without asking what I think. (n/a)	①	②	③	④	⑤
7. Smiles at me very often. (S)	①	②	③	④	⑤
8. Makes sure I say where I am going. (n/a)	①	②	③	④	⑤
9. REALLY knows where I go at night. (B)	①	②	③	④	⑤
10. Makes sure I go to bed on time. (n/a)	①	②	③	④	⑤
11. Is able to make me feel better when I am upset. (S)	①	②	③	④	⑤
12. Asks me what I do with friends. (n/a)	①	②	③	④	⑤
13. REALLY knows how I spend my money. (B)	①	②	③	④	⑤
14. Really knows where I am after school. (B)	①	②	③	④	⑤
15. Changes the subject whenever I have something to say. (P)	①	②	③	④	⑤
16. Checks to see if I do my homework. (n/a)	①	②	③	④	⑤
17. Knows what my grades are. (n/a)	①	②	③	④	⑤
18. Knows when I have misbehaved at school.	①	②	③	④	⑤
19. Enjoys doing things with me. (S)	①	②	③	④	⑤
20. Knows what classes I am taking. (n/a)	①	②	③	④	⑤
21. REALLY knows what I do with my free time. (B)	①	②	③	④	⑤
22. Often interrupts me. (P)	①	②	③	④	⑤
23. Cheers me up when I am sad. (S)	①	②	③	④	⑤
24. Blames me for other family members problems. (P)	①	②	③	④	⑤
25. Gives me lots of care and attention. (S)	①	②	③	④	⑤
26. Brings up past mistakes when she/he criticizes me.(P)	①	②	③	④	⑤
27. Makes me feel like the most important person in his/her life. (S)	①	②	③	④	⑤
28. Will avoid looking at me when I have disappointed her/him. (P)	①	②	③	④	⑤
29. Believes in showing her/his love for me. (S)	①	②	③	④	⑤

Parenting Style Items (continued)

30. Is less friendly with me if I do not see things his/her way. (P)	①	②	③	④	⑤
31. Often praises me. (S)	①	②	③	④	⑤
32. If I have hurt her/his feelings, stops talking to me until I please her/him again. (P)	①	②	③	④	⑤
33. Is easy to talk to. (S)	①	②	③	④	⑤

Aggression-specific parenting practices items

We want to know about how your parents think you should get along with other kids. How much do you agree with these comments about what your parent or guardian would want you to do in tough situations?

My parent/guardian wants me to…	**Strongly Disagree**									**Strongly Agree**
1. Ignore someone if s/he calls me a name.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
2. Tell a teacher or another adult if someone asks me to fight.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
3. Try to talk my way out of it if someone asks me to fight.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
4. Think a problem through, calm myself, and then talk the problem out with my friend.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
5. Hit someone back if s/he hits me.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
6. Hit someone if s/he calls me names.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
7. Call someone names back if s/he calls me names first.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
8. Take the first swing if someone asks me to fight.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
9. Solve problems by fighting if they can't be solved by talking.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
10. Stay and fight instead of walking away so I won' t be a coward or a "chicken."	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
11. Stay and fight so I won't get "picked on" even more.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
12. Find other ways to solve my problems because fighting is no good.	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

Appendix B: Steppin' Up Youth Survey
(Web formatted survey. Survey in order by section letter)

OMB NO.: 0925-0523
EXPIRATION DATE: 09/30/2006

Fall 2004
STEPPIN' UP YOUTH MEASURES

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. **An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.** Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: NIH, Project Clearance Branch, 6705 Rockledge Drive, MSC 7974, Bethesda, MD 20892-7974, ATTN: PRA (0925-0523). Do not return the completed form to this address.

School Name **Class Number**

(1) Dunbar
(2) Highlandtown

Next

Section A: **Page 1**

DEMOGRAPHICS

Your Date of Birth:

Month (Select a response from the list below)	**Day** (Select a response from the list below)	**Year** (Select a response from the list below)
(0) Select a Month	(0) Select a Day	(0) Select a Year

1. Your Gender:

- ○ Male
- ○ Female

2. Your Grade

- ○ 6th
- ○ 7th
- ○ 8th

3. What do you consider your ethnicity to be?

- ○ Hispanic or Latino
- ○ Not Hispanic or Latino

4. What do you consider your race to be? (Mark all that apply)

- ○ Black or African American
- ○ White
- ○ Asian
- ○ American Indian or Alaska Native
- ○ Native Hawaiian or Other Pacific Islander

5. Check all the people who live with you.

○ Mother	○ Stepmother	○ Grandmother
○ Aunt	○ Father	○ Stepfather
○ Grandfather	○ Uncle	○ Brother(s)/Sister(s)
○ Cousin(s)	○ Other Children	○ Other Adults

Previous | Save & Back Later | Next

Section B: **Page 2**

These are some questions about things you might do in your every day life. Think about the last month or so. How much would you agree that this is like you?

	Strongly Disagree				Strongly Agree
1. I come up with different ways to solve a problem.	○ 1	○ 2	○ 3	○ 4	○ 5
2. I think before I act.	○ 1	○ 2	○ 3	○ 4	○ 5
3. I come up with clear steps to reach a goal.	○ 1	○ 2	○ 3	○ 4	○ 5
4. When I get angry or upset, I take time to get myself under control.	○ 1	○ 2	○ 3	○ 4	○ 5
5. I think about possible consequences of different choices for what to do.	○ 1	○ 2	○ 3	○ 4	○ 5
6. I say or do things just because others are doing it.	○ 1	○ 2	○ 3	○ 4	○ 5
7. I evaluate the results of my choices.	○ 1	○ 2	○ 3	○ 4	○ 5
8. I do things because someone dared me.	○ 1	○ 2	○ 3	○ 4	○ 5
9. I use my past experience to help make good choices.	○ 1	○ 2	○ 3	○ 4	○ 5
10. I wait my turn easily.	○ 1	○ 2	○ 3	○ 4	○ 5
11. I see things from another person's point of view.	○ 1	○ 2	○ 3	○ 4	○ 5
12. I calm myself down when I get excited or wound up.	○ 1	○ 2	○ 3	○ 4	○ 5
13. I recognize how other people might be feeling.	○ 1	○ 2	○ 3	○ 4	○ 5
14. I interrupt when other people are talking.	○ 1	○ 2	○ 3	○ 4	○ 5
15. I communicate my thoughts and feelings clearly.	○ 1	○ 2	○ 3	○ 4	○ 5
16. I settle an argument without fighting or yelling.	○ 1	○ 2	○ 3	○ 4	○ 5
17. I have trouble waiting in line patiently.	○ 1	○ 2	○ 3	○ 4	○ 5
18. I respect others despite differences (like race, beliefs or abilities).	○ 1	○ 2	○ 3	○ 4	○ 5
19. I think before I speak.	○ 1	○ 2	○ 3	○ 4	○ 5
20. I help out in my community.	○ 1	○ 2	○ 3	○ 4	○ 5
21. I chose friends who avoid trouble.	○ 1	○ 2	○ 3	○ 4	○ 5
22. I have an important role model in my life.	○ 1	○ 2	○ 3	○ 4	○ 5

Previous | Save & Back Later | Next

Section C **Page 3**

Choose how many times you did these behaviors in the LAST 30 DAYS.

1. In the last 30 days... How many time did you encourage other people to fight...

	Never	1 time	2 times	3 times	4 times	5 or more times
1a. at home or in the neighborhood?	○	○	○	○	○	○
1b. at school?	○	○	○	○	○	○

2. In the last 30 days... How many times did you push, shove, slap, or kick another person...

	Never	1 time	2 times	3 times	4 times	5 or more times
2a. at home or in the neighborhood?	○	○	○	○	○	○
2b. at school?	○	○	○	○	○	○

3. In the last 30 days... How many times did you hurt someone on purpose...

	Never	1 time	2 times	3 times	4 times	5 or more times
3a. at home or in the neighborhood?	○	○	○	○	○	○
3b. at school?	○	○	○	○	○	○

4. In the last 30 days... How many times did you threaten to hit or hurt another person...

	Never	1 time	2 times	3 times	4 times	5 or more times
4a. at home or in the neighborhood?	○	○	○	○	○	○
4b. at school?	○	○	○	○	○	○

5. In the last 30 days... How many times did you spread rumors or gossip...

	Never	1 time	2 times	3 times	4 times	5 or more times
5a. at home or in the neighborhood?	○	○	○	○	○	○
5b. at school?	○	○	○	○	○	○

6. In the last 30 days... How many times did you say or do something just to make someone mad...

	Never	1 time	2 times	3 times	4 times	5 or more times
6a. at home or in the neighborhood?	○	○	○	○	○	○

PAGEBACK=pages4&PAGE=pages5&METHOD=POST&ACTION=ezs.exe ezsjava

Section D **Page 4**

The next questions ask about how you see yourself in the near future. We all think about the future at times. Sometimes we imagine what we would like to be, or aspire to, for example many students aspire to go to a good high school. Other times, we worry about having problems staying organized in middle school. These are often different from how we think we will really be.

Think about how you would like to be or what you hope to do this school year. How much do you agree you aspire to these different things in this school year?

I aspire or hope to be someone who will...	**Agree a Little Bit**				**Agree a lot**
1. Always stay out of trouble at school.	○ 1	○ 2	○ 3	○ 4	○ 5
2. Try hard to do my best at school.	○ 1	○ 2	○ 3	○ 4	○ 5
3. Have an easy time getting along with other kids.	○ 1	○ 2	○ 3	○ 4	○ 5
4. Cooperate easily with other kids.	○ 1	○ 2	○ 3	○ 4	○ 5
5. Use strategies or plans to reach a goal.	○ 1	○ 2	○ 3	○ 4	○ 5
6. Make the right choices for me.	○ 1	○ 2	○ 3	○ 4	○ 5
7. Always refuse or stay out of fights.	○ 1	○ 2	○ 3	○ 4	○ 5
8. Take responsibility for the results of things I do.	○ 1	○ 2	○ 3	○ 4	○ 5
9. Always figure out ways to solve problems or conflicts.	○ 1	○ 2	○ 3	○ 4	○ 5
10. Make the most of my life.	○ 1	○ 2	○ 3	○ 4	○ 5

Previous | Save & Back Later | Next

Section E: **Page 5**

Think about the 5 closest friends you spend time with. These can be friends from anywhere like your school or neighborhood.

How many of your 5 friends do these things:?

	Zero	One	Two	Three	Four	Five
1. Smoke cigarettes?	○	○	○	○	○	○
2. Drink alcohol (beer, wine, liquor)?	○	○	○	○	○	○
3. Talk or act disrespectfully to teachers?	○	○	○	○	○	○
4. Get into physical fights with other kids?	○	○	○	○	○	○
5. Tell his/her friends to stop liking or being friends with someone?	○	○	○	○	○	○
6. Pay attention in school?	○	○	○	○	○	○
7. Work hard in school?	○	○	○	○	○	○
8. Stay out of trouble?	○	○	○	○	○	○
9. Participate in activities that have an adult in charge (like sports teams, dance, music lessons or groups, community service, church groups)?	○	○	○	○	○	○
10. Do volunteer work?	○	○	○	○	○	○

Previous | Save & Back Later | Next

Section F: **Page 6**

How much do you agree or disagree with the following statements about your parents or guardians?

I have a parent/guardian who	**Strongly Disagree**				**Strongly Agree**
1. Makes me feel better after talking over my worries with him or her.	○ 1	○ 2	○ 3	○ 4	○ 5
2. Has rules that I must follow.	○ 1	○ 2	○ 3	○ 4	○ 5
3. REALLY knows who my friends are.	○ 1	○ 2	○ 3	○ 4	○ 5
4. Is always trying to change how I feel or think about things.	○ 1	○ 2	○ 3	○ 4	○ 5
5. Tells me what time I must come home.	○ 1	○ 2	○ 3	○ 4	○ 5
6. Makes rules without asking what I think.	○ 1	○ 2	○ 3	○ 4	○ 5
7. Smiles at me very often.	○ 1	○ 2	○ 3	○ 4	○ 5
8. Makes sure I say where I am going.	○ 1	○ 2	○ 3	○ 4	○ 5
9. REALLY knows where I go at night.	○ 1	○ 2	○ 3	○ 4	○ 5
10. Makes sure I go to bed on time.	○ 1	○ 2	○ 3	○ 4	○ 5
11. Is able to make me feel better when I am upset.	○ 1	○ 2	○ 3	○ 4	○ 5
12. Asks me what I do with friends.	○ 1	○ 2	○ 3	○ 4	○ 5
13. REALLY knows how I spend my money.	○ 1	○ 2	○ 3	○ 4	○ 5
14. REALLY knows where I am after school.	○ 1	○ 2	○ 3	○ 4	○ 5
15. Changes the subject whenever I have something to say.	○ 1	○ 2	○ 3	○ 4	○ 5
16. Checks to see if I do my homework.	○ 1	○ 2	○ 3	○ 4	○ 5
17. Knows what my grades are.	○ 1	○ 2	○ 3	○ 4	○ 5
18. Knows when I have misbehaved at school.	○ 1	○ 2	○ 3	○ 4	○ 5
19. Enjoys doing things with me.	○ 1	○ 2	○ 3	○ 4	○ 5
20. Knows what classes I am taking.	○ 1	○ 2	○ 3	○ 4	○ 5
21. REALLY knows what I do with my free time.	○ 1	○ 2	○ 3	○ 4	○ 5
22. Often interrupts me.	○ 1	○ 2	○ 3	○ 4	○ 5
23. Cheers me up when I am Sad	○ 1	○ 2	○ 3	○ 4	○ 5
24. Blames me for other family members problems.	○ 1	○ 2	○ 3	○ 4	○ 5
25. Gives me lots of care and attention.	○ 1	○ 2	○ 3	○ 4	○ 5
26. Brings up past mistakes when she or he criticizes me.	○ 1	○ 2	○ 3	○ 4	○ 5
27. Makes me feel like the most important person in his or her life.	○ 1	○ 2	○ 3	○ 4	○ 5
28. Will avoid looking at me when I have disappointed her or him.	○ 1	○ 2	○ 3	○ 4	○ 5
29. Believes in showing her or his love for me.	○ 1	○ 2	○ 3	○ 4	○ 5
30. Is less friendly with me if I do not see things his/her way.	○ 1	○ 2	○ 3	○ 4	○ 5
31. Often praises me.	○ 1	○ 2	○ 3	○ 4	○ 5

PAGEBACK=pages9&PAGE=pages10&METHOD=POST&ACTION=ezs.exe ezsjava

Section G: **Page 7**

Lots of kids say or do things to hurt other people sometimes.
These questions are about how often you do these things in different situations.

	Never ..... Almost Always									
1. When I'm hurt by someone, I fight back.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
2. I threaten others to get what I want.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
3. If others upset or hurt me, I tell my friends to stop liking them.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
4. I tell my friends to stop liking someone to get what I want.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
5. When I'm threatened by someone, I threaten back.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
6. I hit, kick, or punch others to get what I want.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
7. If others have hurt me, I keep them from being in my group of friends.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
I keep others from being in my group of friends to get what I want.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
9. If others have angered me, I hit, kick, or push them.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
10. To get what I want, I put others down.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
11. When I am upset with others, I ignore or stop talking to them.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
12. To get what I want, I ignore or stop talking to others.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
13. If others make me mad or upset, I hurt them.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
14. To get what I want, I say mean things to others.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
15. When I am mad at others, I gossip or spread rumors about them.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
16. To get what I want, I gossip or spread rumors about others.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
17. To get what I want, I hurt others.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10

Previous | Save & Back Later | Next

PAGEBACK=pages10&PAGE=pages11&METHOD=POST&ACTION=ezs.exe ezsjava

Section H1: **Page 8**

The next questions are about school. Please mark how often you do the following, where 1 equals NEVER and 5 equals VERY OFTEN.

	NEVER ..... VERY OFTEN
1. Do you take part in class discussions or activities?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
2. Do you think your schoolwork is boring?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
3. Do you put a lot of energy into what you want to do in school?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
4. Do you think the things you learn in school are worthless?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
5. Do you "doodle" or pass notes at school?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
6. Do you think your homework is fun to do?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
7. Do you present something that you've worked on to the class?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
8. Do you daydream in school?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
9. Do you just get by in school, rather than trying to do your best you can?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
10. Do you feel you want to know even more about something you learned in school?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
11. Do you put your best effort into doing your homework?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
12. Do you only feel half awake during school?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
13. Do you find yourself "clock watching" in school?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
14. Are you interested in the work your teachers give you?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
15. Do you think the facts you learn in school are of no value?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
16. Do you really pay attention to what the teacher is saying?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
17. Do you think you're assigned homework just to keep you busy?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
18. Do you do extra work on your own for your classes?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
19. Do you really enjoy this school?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5
20. Do you rush through your homework just to get it done?	○ 1 ○ 2 ○ 3 ○ 4 ○ 5

Previous | Save & Back Later | Next

PAGEBACK=pages11&PAGE=pages13&METHOD=POST&ACTION=ezs.exe ezsjava

Section J: **Page 9**

Now think about how many DAYS (0-30) you have done each of these things in the LAST 30 DAYS.
Write the number of days in the blank

How many days in the LAST 30 DAYS did you...	**Number of Days (0-30)**
1. Drink alcoholic beverages (beer, wine, liquor) not including for religious purposes?	
2. Carry a gun?	
3. Carry a weapon other than a gun or knife?	
4. Get into a physical fight (slapping, hitting or shoving) in which you tried to hurt someone but did not?	
5. Help another student with schoolwork?	
6. Get into a physical fight in which you knocked someone down or hurt him or her?	
7. Hang around with kids who get in trouble a lot?	
8. Steal something from a person worth more than $50?	
9. Sell drugs or help others sell or deliver drugs.	
10. Steal something from a store worth more than $50?	
11. Smoke a cigarette, even a puff?	
12. Use marijuana (sometimes called grass, weed, or pot)?	
13. Carry a knife?	
14. Take a day off from school when you should have been there (hooking)?	

Previous | Save & Back Later | Next

PAGEBACK=pages13&PAGE=pages14&METHOD=POST&ACTION=ezs.exe ezsjava

Section K: **Page 10**

Think about each of the classes you are taking this year. How much do you agree or disagree with the following statements, where 1 equals Strongly Disagree and 5 equals Strongly Agree?

	Strongly Disagree				Strongly Agree
MATH: 1. MATH will be useful to me in the future.	○ 1	○ 2	○ 3	○ 4	○ 5
MATH: 2. I usually pay attention.	○ 1	○ 2	○ 3	○ 4	○ 5
MATH 3: I try to do my best.	○ 1	○ 2	○ 3	○ 4	○ 5
MATH 4: I keep up with my work.	○ 1	○ 2	○ 3	○ 4	○ 5

	Strongly Disagree				Strongly Agree
LANGUAGE ARTS: 1. LANGUAGE ARTS will be useful to me in the future.	○ 1	○ 2	○ 3	○ 4	○ 5
LANGUAGE ARTS: 2. I usually pay attention.	○ 1	○ 2	○ 3	○ 4	○ 5
LANGUAGE ARTS: 3. I try to do my best.	○ 1	○ 2	○ 3	○ 4	○ 5
LANGUAGE ARTS: 4. I keep up with my work..	○ 1	○ 2	○ 3	○ 4	○ 5

	Strongly Disagree				Strongly Agree
SOCIAL STUDIES: 1. SOCIAL STUDIES will be useful to me in the future.	○ 1	○ 2	○ 3	○ 4	○ 5
SOCIAL STUDIES: 2. I usually pay attention.	○ 1	○ 2	○ 3	○ 4	○ 5
SOCIAL STUDIES: 3. I try to do my best.	○ 1	○ 2	○ 3	○ 4	○ 5
SOCIAL STUDIES: 4. I keep up with my work..	○ 1	○ 2	○ 3	○ 4	○ 5

What grade did you get on your last report card for the last quarter in the following subjects?

	91-100	81-90	71-80	61-70	60 or below
Math	○	○	○	○	○
Science	○	○	○	○	○
Language Arts	○	○	○	○	○
Social Studies	○	○	○	○	○
Reading	○	○	○	○	○

PAGEBACK=pages14&PAGE=pages15&METHOD=POST&ACTION=ezs.exe ezsjava

Section L: **Page 11**

We want to know about how your parents think you should get along with other kids. How much do you agree with these comments about what your parent or guardian would want you to do in tough situations?

My parent/guardian wants me to ...	Strongly Disagree ..... Strongly Agree									
1. Ignore someone if s/he calls me a name.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
2. Tell a teacher or another adult if someone asks me to fight.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
3. Try to talk my way out of it if someone asks me to fight.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
4. Think a problem through, calm myself, and then talk the problem out with my friend.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
5. Hit someone back if s/he hits me.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
6. Hit someone if s/he calls me names.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
7. Call someone names back if s/he calls me names first.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
8. Take the first swing if someone asks me to fight.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
9. Solve problems by fighting if they can't be solved by talking.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
10. Stay and fight instead of walking away so I won't be a coward or a "chicken".	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
11. Stay and fight so I won't get "picked on" even more.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
12. Find other ways to solve my problems because fighting is no good.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10

Previous | Save & Back Later | Next

PAGEBACK=pages15&PAGE=pages17&METHOD=POST&ACTION=ezs.exe ezsjava

Section N: **Page 12**

These are some questions about how you feel about what kinds of things other kids might do. Do you think it is OK for kids your age to do the following?

It is okay for kids my age to...	**Strongly Disagree** ..... **Strongly Agree**
1. Smoke cigarettes.	○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10
2. Drink alcohol.	○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10
3. Use illegal drugs.	○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10
4. Participate in school activities.	○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10
5. Cheat on a school test.	○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10
6. Bully/pick on other kids.	○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10
7. Disrupt class.	○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10
8. Go places that are dangerous or off-limits.	○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10
9. Spread rumors or gossip about others to hurt them.	○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10
10. Ignore or stop talking to friends to hurt them.	○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10
11. Tell their friends to stop liking or being friends with someone.	○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10
12. Keep others from being in your group.	○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10
13. Keep others from being in your group.	○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 ○ 10

Previous | Save & Back Later | Next

PAGEBACK=pages17&PAGE=pages18&METHOD=POST&ACTION=ezs.exe ezsjava

Section O: **Page 13**

Think about how you have been feeling over the last 30 days. Mark the number that goes with how often you have felt or done each of these.

How Often...(over the last 30 days)

	Never	Seldom	Sometimes	Often	Always
1. Were you very sad?	○	○	○	○	○
2. Were you grouchy or irritable, or in a bad mood?	○	○	○	○	○
3. Did you feel hopeless about the future?	○	○	○	○	○
4. Did you feel like not eating or eating more than usual?	○	○	○	○	○
5. Did you sleep a lot more or a lot less than usual?	○	○	○	○	○
6. Did you have difficulty concentrating on your school work?	○	○	○	○	○

Previous | Save & Back Later | Next

PAGEBACK=pages18&PAGE=pages19&METHOD=POST&ACTION=https://www.baltimore01.nichd.nih.go
-bin/fall2004b/ezs.exe ezsjava

Section P: **Page 14**

The next questions ask about adults in your life other than your parents or guardians. You might know these adults from school, your church or in your community. How much do you agree or disagree with the following statement?

I have an adult in my life...	**Strongly Disagree**									**Strongly Agree**
1. With whom I can talk about personal problems.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
2. Who is concerned with my well being.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
3. Who is there for me if I need help.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
4. Who encourages me often.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
5. Who is a good role model.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10
6. Who has made a positive difference in my life.	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7	○ 8	○ 9	○ 10

Previous Finish

PAGEBACK=pages19&PAGE=pages20&METHOD=POST&ACTION=ezs.exe ezsjava

Section Q1: **Page 20**

The next questions ask about how you see your self in the near future. We all think about the future at times. Sometimes we imagine what we would like to be, or aspire to, for example many students aspire to go to a good school. Other times, we worry about how we will be thinking we might have a problem staying organized in middle school. These are often different from how we think we will really be.

Think about how you would like to be or what you hope to do this school year. How much do you agree you aspire to these different things in this school year?

I aspire or hope to be someone who will...	**Agree a Little Bit**				**Agree a lot**
1. Always stay out of trouble at school.	○ 1	○ 2	○ 3	○ 4	○ 5
2. Try hard to do my best at school.	○ 1	○ 2	○ 3	○ 4	○ 5
3. Have an easy time getting along with other kids.	○ 1	○ 2	○ 3	○ 4	○ 5
4. Cooperate easily with other kids.	○ 1	○ 2	○ 3	○ 4	○ 5
5. Use strategies or plans to reach a goal.	○ 1	○ 2	○ 3	○ 4	○ 5
6. Make the right choices for me.	○ 1	○ 2	○ 3	○ 4	○ 5
7. Always refuse or stay out of fights.	○ 1	○ 2	○ 3	○ 4	○ 5
8. Take responsibility for the results of things I do.	○ 1	○ 2	○ 3	○ 4	○ 5
9. Always figure out ways to solve problems or conflicts.	○ 1	○ 2	○ 3	○ 4	○ 5
10. Make the most of my life.	○ 1	○ 2	○ 3	○ 4	○ 5

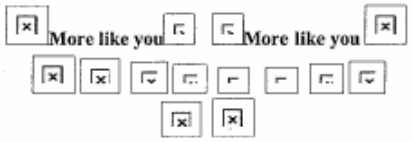
Sometimes we have concerns about what we might become or problems we might have. How much do you worry that you might be someone who does these things this school year?

I'm concerned that I could be someone who will ...	**Agree a Little Bit**				**Agree a lot**
11. Get into trouble a lot at school.	○ 1	○ 2	○ 3	○ 4	○ 5
12. Not try hard to do my best at school.	○ 1	○ 2	○ 3	○ 4	○ 5
13. Have a hard time getting along with other kids.	○ 1	○ 2	○ 3	○ 4	○ 5
14. Have trouble cooperating with other kids.	○ 1	○ 2	○ 3	○ 4	○ 5
15. Not use strategies or plans to reach a goal.	○ 1	○ 2	○ 3	○ 4	○ 5
16. Make the wrong choices for myself.	○ 1	○ 2	○ 3	○ 4	○ 5
17. Fight al the times.	○ 1	○ 2	○ 3	○ 4	○ 5
18. Blame other people or circumstances for the results of the things I do.	○ 1	○ 2	○ 3	○ 4	○ 5
19. Use my first reaction to solve problems.	○ 1	○ 2	○ 3	○ 4	○ 5

PAGEBACK=pages20&PAGE=pages21&METHOD=POST&ACTION=ezs.exe ezsjava

Section Q2: **Page 21**

The next questions ask about how you think you actually are or are likely to become. Fill in the arrow that best represents where you fall between the statements at the ends. You should fill in only one arrow. For example, if you think that you will have a messy licker your line should look like this:



Really, I think I will...

Always keep my locker clean and neat.	○	○	○	○	○	○	○	○	○	○ Never keep my locker clean and neat.

Previous | Save & Back Later | Next

PAGEBACK=pages21&PAGE=pages22&METHOD=POST&ACTION=https://www.baltimore01.nichd.nih.go
-bin/fall2004b/ezs.exe ezsjava

Section Q3: **Page 22**

Really, I think I will...

1. Always stay out of trouble atschool.	○	○	○	○	○	○	○	○	○	○	Get into trouble a lot at school.
2. Try hard to do my best at school.	○	○	○	○	○	○	○	○	○	○	Not try hard enough to do my best at school.
3. Have an easy time getting along with other kids	○	○	○	○	○	○	○	○	○	○	Have a hard time getting along with other kids.
4. Cooperate easily with other kids.	○	○	○	○	○	○	○	○	○	○	Have trouble cooperating with other kids.
5. Use strategies or plans to reach a goal.	○	○	○	○	○	○	○	○	○	○	Not use strategies or plans to reach a goal.
6. Make the right choices for me.	○	○	○	○	○	○	○	○	○	○	Make the wrong choices for me.
7. Always refuse or stay out of fights.	○	○	○	○	○	○	○	○	○	○	Fight all the time.
8. Take responsibility for the results of things I do.	○	○	○	○	○	○	○	○	○	○	Blame other people or circumstances for the results of things I do.
9. Always figure out ways to solve problems or conflicts.	○	○	○	○	○	○	○	○	○	○	Use my first reaction to solve problems.
10. Make the most of my life.	○	○	○	○	○	○	○	○	○	○	Settle for whatever happens in my life.

Previous Finish

Section R: Page 15

On most WEEKDAYS (Monday - Friday) and WEEKEND DAYS (Saturday or Sunday) how much time do you spend watching or playing...

		Less than 5 minutes	5 minutes - less than 30 minutes	30 minutes - less than 1 hour	1 hours - less than 3 hours	3 hours - less than 5 hours	5 hours or more
1. TV	a. Weekday	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
	b. Weekend day	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
2. MOVIES (videos, DVDs, movie theatre)	a. Weekday	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
	b. Weekend day	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
3. VIDEO GAMES	a. Weekday	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
	b. Weekend day	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6

Adapted from Rideout, Roberts, and Foehr (2005).

Think about the TV, MOVIES, and VIDEO GAMES you watch.

On most WEEKDAYS (Monday - Friday) and WEEKEND DAYS (Saturday or Sunday) how much time do you spend watching or playing program where someone is ...

		Less than 5 minutes	5 minutes - less than 30 minutes	30 minutes - less than 1 hour	1 hours - less than 3 hours	3 hours - less than 5 hours	5 hours or more
4. Beaten up	a. Weekday	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
	b. Weekend day	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6
5. Chased or threatened	a. Weekday	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6

	b. Weekend day	1	2	3	4	5	6
6. Robbed or mugged	a. Weekday	1	2	3	4	5	6
	b. Weekend day	1	2	3	4	5	6
7. Stabbed or shot	a. Weekday	1	2	3	4	5	6
	b. Weekend day	1	2	3	4	5	6
8. Killed	a. Weekday	1	2	3	4	5	6
	b. Weekend day	1	2	3	4	5	6

Adapted from children's Report of Exposure to Violence (CREV) scale by Cooley et. al. (1995).

Previous Save & Back Later Next

Appendix C: Multiple Imputation Formulas

Rubin's (1987) formula for combining multiply imputed datasets for M data sets:

$$\sqrt{\frac{1}{M}\sum_{k=1}^{M} s_k^2 \left(1+\frac{1}{M}\right)\left(\frac{1}{M-1}\right)\sum_{k=1}^{M}(b_k-\bar{b})^2}$$

Where b_k is the parameter estimate in replication k, and s_k is the standard error of b_k. This formula is used for virtually all applications of multiple imputation. The resulting standard errors may be used to construct confidence intervals and test statistics (Allison, 2003).

Allison's (2002) formula for combining chi-square statistics in multiply imputed datasets:

> Let d^2 be a chi-square statistic with r degrees of freedom calculated in data set k. Let d^2 be the mean of these statistics over the M data sets and let s^2 be the sample variance of the square roots of the chi-square statistics over the M data sets, that is,
>
> $$s_d^2 = \frac{1}{M-1}\sum_k (d_k - \bar{d})^2.$$
>
> The proposed test statistic is
>
> $$D = \frac{\bar{d}^2 / r - (1 - 1/M)s_d^2}{1 + (1 + 1/M)s_d^2}.$$
>
> Under the null hypothesis, this statistic has approximately an *F* distribution with r as the numerator degrees of freedom. The denominator degrees of freedom is approximated by
>
> $$\left(\frac{M-1}{r^{3/M}}\right)\left(1 + \frac{M}{(M+1/M)s_d^2}\right)^2.$$
>
> (Allison, 2002, p. 68)

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