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This is to certify that the thesis prepared by Alison Marie Kramer entitled, The Influence of Parental Verbal Messages about Fighting and Nonviolent Responses on Adolescent Aggressive and Effective Nonviolent Behavior, has been approved by her committee as satisfactory completion of the thesis requirement for the degree of Master of Science.

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THE INFLUENCE OF PARENTAL VERBAL MESSAGES ABOUT FIGHTING AND NONVIOLENT RESPONSES ON ADOLESCENT AGGRESSIVE AND EFFECTIVE NONVIOLENT BEHAVIOR

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science, Doctor of Philosophy at Virginia Commonwealth University.

by

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Abstract

THE INFLUENCE OF PARENTAL VERBAL MESSAGES ABOUT FIGHTING AND NONVIOLENT RESPONSES ON ADOLESCENT AGGRESSIVE AND EFFECTIVE NONVIOLENT BEHAVIOR

By Alison Marie Kramer, M.A.

A Thesis submitted in partial fulfillment of the requirements for the degree of Masters of Science at Virginia Commonwealth University.

Virginia Commonwealth University, 2009

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Research suggests that adolescent health requires both reducing problem behavior and promoting the development of social competence. There is strong support for the influence of parenting practices on both aggressive and competent behavior. However, there has been little research to date focused on parental messages, or the verbal communication parents provide to their children, about aggressive and effective nonviolent responses to conflict. The present study used hierarchical regression to examine parental messages supporting fighting and parental messages supporting effective nonviolent responses to problem situations in relation to adolescent aggressive and effective nonviolent behavior. These relations were expected to be moderated by adolescent gender. Additionally, the unique influence of parental messages was explored,

relative to the effects of parental behavioral modeling of antisocial and prosocial acts. Messages supporting fighting and messages supporting nonviolent responses were analyzed as distinct constructs in the current study, and were expected to produce different patterns of influence on each adolescent behavior. Discrepancies based on respondent (parent or adolescent) were also anticipated. Participants included a predominantly African American sample of 105 adolescents and a parent or caregiver, who were assessed as part of a larger project evaluating the effects of a neighborhood intervention. As hypothesized, youth reports of parental messages supporting nonviolent responses were significantly related to lower levels of youth aggression, even when controlling for parental modeling. Youth reports of parental messages supporting nonviolent responses also predicted higher levels of effective nonviolent behavior, but these effects could be better accounted for by parental modeling. Contrary to expectation, parental messages supporting fighting did not significantly predict adolescent aggression or effective nonviolent behavior, and only minimal support was found for the moderating influence of gender. As anticipated, youths' perceptions of parental messages were better predictors of their behavior than were parents' reports. Overall, the current study's findings have important implications for violence prevention efforts, and call for continued research.

Introduction

From 1983 to 1993, the United States experienced a serious upsurge in youth violence (United States Department of Health and Human Services, 2001). Although the rates of juvenile arrest and reports of victimization in the United States have been declining in recent years, adolescent reports of their own behavior indicate that their levels of aggression have not changed. According to the Centers for Disease Control and Prevention (CDC), in 2007, 36% of adolescents in grades 9 through 12 reported being in a physical fight in the past 12 months, and 12% reported being in a physical fight on school property (CDC, 2008). It has been suggested that the discrepancy between aggression and victimization reports is a reflection of the decreasing severity of aggressive encounters (due to declines in the use of weapons), but not the frequency. Youth aggression remains a serious problem, leading experts to warn that without continued intervention, the level of violence of years past could resurface.

The impact of aggression on adolescents is significant. Considering some of the immediate effects, in 2007, 6% of high school students failed to attend school on at least one occasion in the preceding 30 days because they felt unsafe either at school or on their way to or from school (CDC, 2008). Another 4% of adolescents required medical attention for violence-related injuries (CDC, 2008). Research has also shown that problem behaviors tend to cluster together and reinforce each other, meaning an

adolescent that engages in violence is more likely to engage in other risky behaviors such as substance use and other forms of delinquency (Catalano, Hawkins, Berglund, Pollard, & Arthur, 2002). On a long-term basis, the stability of aggression tends to be high, such that aggressive young children are more likely to be aggressive adults (Huesmann, 1988). Such research suggests that reducing aggression in adolescents would have far-reaching implications.

In addition to focusing on reducing levels of aggression, it is important to consider how positive behaviors can be promoted during adolescence. Positive development involves more than just the avoidance of aggression and other problem behaviors, but also includes the development of social and emotional competencies that enable children to transition successfully into adulthood (e.g. Catalano et al., 2002; Weissberg, Kumpfer, & Seligman, 2003). Programs promoting positive youth development have been shown to decrease violence, as well as reduce risky sexual activity, substance abuse, and other delinquency (Klein et al., 2006). Thus, research that informs the development of interventions that promote the development of skills and competencies has implications for adolescent health beyond violence prevention. A better understanding of the use of effective nonviolent responses to conflict is needed to improve on these interventions. Many studies simply compare aggressive and nonaggressive youth without considering the overall adjustment of those students that are nonviolent. Interventions based on these studies may be providing students only with the skills they need to avoid problem behavior, but not necessarily those needed to become successful adults.

In order to reduce aggression and increase the use of effective nonviolent strategies in youth, it is necessary to identify the factors that contribute to both of these behaviors. It is critical to understand how risk and protective factors may differ for different subgroups of the adolescent population. Chronic stress and violence exposure are two factors that have been shown to lead to the development of aggressive cognitions and behaviors (Guerra, Huesmann, & Spindler, 2003). Living in poverty and more general conditions of neighborhood disadvantage are associated with disproportionate exposure to stressful experiences, especially violence (Attar, Guerra, & Tolan, 1994). Urban minority children appear to be particularly at risk of living in a disadvantaged neighborhood than are other populations of children (Attar et al., 1994), suggesting the need to target this subgroup for intervention. To do so requires taking a closer look at what modifiable risk and protective factors have significant influences on their behavior.

Many factors have been the target of study based on their theoretical and empirical relation to youth violence. Farrell, Mays, and colleagues (in press) identified barriers and supports for using aggressive and effective nonviolent strategies in all domains of adolescents' lives: individual, family, peer, school, and neighborhood. Through interviews with students and focus groups with adults in the school and community, the authors identified several salient familial factors, and parenting practices in particular, that were reported to influence the use of aggressive or nonviolent responses. One of these factors was the aggressive or nonviolent behavior parents tended to display or model. Modeling involves children's observation and reproduction of their parents' behavior. Aggressive or nonviolent behavior may be modeled in numerous ways,

including the way conflict situations are handled in the home (Duman & Margolin, 2007) and the way parents cope with emotional stressors (Kliewer et al., 2006). The influence of parental modeling on aggressive behavior has been well documented, and is primarily represented by the work of Bandura and colleagues (e.g. Bandura, 1973; Bandura, Ross & Ross, 1961; Bandura, Ross & Ross, 1963) on social learning. A primary focus of previous work has been the influence of modeling on aggression. Some research has also shown the effects of parental modeling on nonviolent strategies, such as positive problem solving (e.g., Van Doorn, Branje, & Meeus, 2007). These findings suggest that modeling may also influence the use of effective nonviolent behavior in response to conflict with peers, although this specific association has not been tested.

A second parenting practice identified by Farrell, Mays, et al. (in press) was parents' support for aggression and nonviolence through verbal messages. Sometimes referred to as direct tuition or verbal modeling, parental messages can be described as explicit statements or verbal instructions to children. Messages from parents about how to handle social situations are believed to be an important source of learning for children negotiating peer relationships (McDowell & Parke, 2009). Parents may express their views on aggressive and nonaggressive responses to conflict by giving advice about a particular situation (Kliewer at al., 2006; Mize & Pettit 1997), showing approval or disapproval of their children's problem-solving behavior (Padilla-Walker & Carlo, 2006), or making general statements of support (Neapolitan, 1981). Several studies have documented the importance of parental messages both in support of fighting and in support of nonviolent alternatives (e.g. Anderson, 1999; Farrell, Mays, et al., in press),

but only a handful have examined their influence on adolescent aggression (e.g., Orpinas, Murray & Kelder, 1999) or nonviolent behavior (e.g., Kliewer et al., 2006). There is an even greater dearth of research that has distinguished between messages supporting fighting and those supporting nonviolence.

This proposed study has several purposes. Mainly, it will look at the influence of parental verbal messages on adolescent aggression and use of effective nonviolent responses. More specifically, the unique role of parental verbal messages relative to parental modeling will be studied, as well as the effects of messages supporting fighting versus messages supporting effective nonviolent responses. Parental messages will be studied from the perspective of both adolescents and parents to account for discrepancies in reporting. Finally, gender differences in the influence of parental messages on adolescent behavior will be explored.

In the next section, the literature regarding parental influences on adolescent aggression and nonviolent behavior is examined. The theoretical bases for these relationships are discussed, including social information processing, socialization, and social learning theory. The relevant literature on parental influences is reviewed, including the mechanisms by which parental values and beliefs may influence adolescent aggressive beliefs and behavior. Specifically, behavioral modeling and verbal messages are explored. The methodological limitations of the existing studies of parental verbal messages are considered, leading to a discussion of the potential contributions of the present study to the field.

Review of Literature

A major emphasis of this study is on the importance of understanding not only factors that increase or decrease aggression, but also those that influence the use of effective nonviolent strategies. In recent years there has been a growing movement among researchers towards focusing on promoting positive youth development, rather than just preventing problem behavior (e.g. Catalano et al., 2002; Weissberg et al., 2003). This approach involves focusing on the strengths of individuals and their families, schools, and communities, rather than on their deficits (Klein et al., 2006). By encouraging the growth of positive competencies, youth develop internal and external resources that allow them to transition successfully into adulthood. Positive youth development encompasses many elements of social and emotional learning, many of which have been extensively studied (e.g., emotion regulation, self-efficacy, and prosocial behavior; Greenberg et al., 2003). Factors influencing the ability to handle conflict situations nonviolently and effectively are not as well known.

One of the reasons for the paucity of research on effective nonviolent behavior is that many studies simply compare aggressive and nonaggressive youth, without considering the heterogeneity of the nonaggressive group (Farrell, Erwin, et al., 2008). As seen in the work of Hanish and Guerra (2002), a lack of aggression in response to conflict does not necessarily imply the presence of behavior that is competent and effective. The authors demonstrated in a cluster analysis of urban elementary school

children that some students in their sample who refrained from violence were not functioning well in other domains. Students categorized as exhibiting low levels of aggression were a heterogeneous group with varying degrees of academic achievement, peer rejection, and internalizing symptoms. Hanish and Guerra's study suggests that merely focusing on the absence of aggression does not parse out which nonviolent behaviors promote positive adjustment. Furthermore, interventions that simply aim to reduce violence without providing effective alternatives run the risk of replacing one problem (i.e. aggressive behavior) with another (e.g. internalizing symptoms).

The social adjustment of adolescents classified as nonviolent may be a reflection of the specific strategies they employ when faced with a conflict. Not all nonviolent behaviors are effective in dealing with a problem situation. That is, effective nonviolent behavior is not simply the opposite of aggression, as supported by the research of Farrell and colleagues (Farrell et al., 2007; Farrell, Kliewer, et al., 2008; Farrell et al., 2006). Using qualitative methods, Farrell et al. (2006) asked students, community members, and various school personnel to identify problem situations experienced by middle school students. Responses to the most difficult and frequently encountered problems were then rated for effectiveness by a team of researchers, adults in the community, and a group of students nominated to be good problem solvers (Farrell, Kliewer, et al., 2008). These responses were categorized as aggressive (e.g., "I would fight"), nonviolent and effective (e.g., "I would talk to the person and try and solve the problem"), or nonviolent but not effective (e.g., "I would cry"). Some nonviolent strategies suggested by students were not only ineffective but simply not feasible, such as, "I would transfer to a different school."

Thus, nonaggressive strategies were considered by both students and adults alike as having varying degrees of effectiveness in conflict situations. Adaptive behavior requires reducing risk factors and increasing protective factors so that aggression is decreased and the use of effective nonviolent strategies is promoted.

Social Information-Processing and Social Knowledge

Research suggests that parents, through their actions and words, influence their children's aggressive and nonviolent behavior. The ways in which parents influence their adolescents' behavior can be studied in the context of a broader model representing how children process information and make decisions in situations that could lead to violence. A model of social information-processing developed by Crick and Dodge (1994) proposes an in-depth representation of the cognitive processes that occur when an adolescent encounters a problem situation. The model describes six cognitive stages associated with processing the information inherent in social situations. These stages involve (1) encoding and attending to social cues, (2) interpreting these cues, (3) clarifying goals, (4) generating possible responses, (5) evaluating the responses and selecting one, and (6) enacting the response. Research has shown that aggressive youth are more likely than other children to display difficulties at each of these steps (Dodge, Pettit, McClaskey, Brown, & Gottman, 1986; Lochman & Lenhart, 1993). Moreover, significant deficits in social information-processing skills predict the use of aggressive behavior in actual problem situations (Perry, Perry, & Rasmussen, 1986).

Parental influences on social information-processing skills in aggressive youth were found in a study by MacBrayer, Milich, and Hundley (2003). Predominantly

Caucasian children aged 8 to 12 and their mothers read vignettes of hypothetical conflict situations and were asked "Why do you believe the exchange occurred?" and "How would you respond in this situation (or expect your child to respond)?" Findings suggested a parental influence in interpreting the cues of others (stage 2), such that aggressive children and their mothers were both significantly more likely than nonaggressive children and their mothers to attribute hostile intentions to others. Aggressive children and their mothers were also more likely to endorse aggressive behavioral intentions in the hypothetical scenarios, providing evidence for a parental influence at stage 5 (selecting a response). These findings by MacBrayer et al. show that parents can influence specific stages of social information processing, such as in interpreting cues and choosing a response to conflict.

Parents may also influence their children's larger set of values, attitudes, and beliefs about aggression and nonviolence. Crick and Dodge's (1994) model of social information-processing explains how such values and beliefs contribute to the stages of decision-making that influence behavior. The model hypothesizes that at each stage, a "database" of prior knowledge is used to influence and guide decisions. It is believed that this information is stored in memory and automatically recalled during social encounters as a way to simplify the vast amount of information presented in a given situation and to inform a decision (Crick and Dodge, 1994). The database consists of what Zelli and colleagues (Zelli, Dodge, Lochman, Laird, & Conduct Problems Prevention Research Group, 1999) call social knowledge: generalized memories and organizational rules based on past learned experiences. Several terms are used to describe different facets of

social knowledge. Three of the more common are schemas, scripts, and normative beliefs.

In any given situation, there are countless pieces of information in the environment that could possibly be attended to and encoded. Schemas are pre-existing sets of ideas that are said to provide structure to existing information and aid in the process of organizing new stimuli (Taylor and Crocker, 1981). They also provide a framework to fill in missing environmental information in order to interpret a situation more quickly and anticipate an outcome. Normal information-processing involves attending primarily to cues in the environment that have relevance and meaning to the current social situation. Compared with nonaggressive children, aggressive children have been found to use fewer relevant environmental cues in their interpretation of a problem situation (Dodge et al., 1986; Milich & Dodge, 1984). It is believed that this lack of attention to relevant external stimuli leads children to rely more heavily on internal self-schemas to make sense of problem situations (Dodge and Tomlin, 1987). If a child's schemas have been developed through past experiences characterized by aggression, his or her interpretation of an event using these schemas is likely to have a hostile bias. Aggregate data from two studies support this hypothesis. Dodge and Tomlin found that aggressive children (as rated by teachers and peers) were 60% more likely than nonaggressive children to use past experiences, rather than available social cues, to interpret an ambiguous situation. Furthermore, the interpretations made when using self-schemas as opposed to environmental cues were more likely to be erroneous and biased towards hostile explanations. Thus, it is possible that aggressive children's lack of

attention to relevant cues causes them to fill in missing environmental details with aggressively biased schematic information. Schemas are said to develop out of past experiences and relationships, some of which are with parents (Crick & Dodge, 1994). Krcmar and Vieira (2005) suggested that parent-child communication patterns influence the development of moral schemas in children, especially if there is open discussion when issues or dilemmas arise. In particular, it is believed that children's schemas about peer relationships are largely based on the social interactions with their parents (Gomez, Gomez, DeMello, & Tallent, 2001).

Another aspect of the information said to be contained in the database of social knowledge is cognitive scripts. Scripts are mental representations of experienced or observed events that are retrieved from memory during problematic social situations (Huesmann, 1988). Once schemas have helped encode and organize information in the situation, scripts help guide the behavior that is to come. Much like scripts direct actors in a play, they suggest what is to happen in the environment during an encountered situation, how others involved should respond, and what consequences are likely to result. It is theorized that scripts are created through experiencing or observing sequences of events, processes in which parents play a large role. One way parents shape their children's experience of aggression and nonviolent behavior is through the use of (or lack of) rewards and punishment. Consequences received from parents for good or bad behavior are incorporated into the scripts that are recalled in subsequent situations (Bennett, Farrington, & Huesmann, 2005). A second way is through parents' control over what their children are exposed to, such as conflict in the home. Children that typically

respond to problematic encounters by using aggression are believed to be recalling and behaving according to scripts that have been developed through their repeated exposure to aggressive acts (Huesmann, 1988).

Normative beliefs, or ideas about the acceptability or appropriateness of a given behavior, are a third example of previously learned social knowledge. Huesmann and Guerra (1997) have hypothesized that normative beliefs about aggression regulate behaviors by informing the way children process information and make decisions. This hypothesis was supported in a longitudinal study of elementary school students (Huesmann & Guerra, 1997). In younger children, normative beliefs about aggression were found to be flexible, and appeared to be reflective of the child's own level of aggressive behavior. By late elementary school, however, the directionality of this relationship tended to reverse, and children's behavior was more likely to be guided by their normative beliefs. In other words, young children's beliefs tend to be in a state of development, and are formed partly based on their own experience with aggression. As they get older their beliefs about aggression become more rigid and stable, and their normative beliefs about the appropriateness of aggression begin to drive their aggressive behavior. As well as through the child's own experience with aggression, normative beliefs are thought to be formed through the observation of others and direct instruction from others. Parents offer opportunities for learning in each of these areas. They shape the child's experience of aggression by reinforcing or punishing enacted behaviors, they model behavior through their own relationships, and verbally suggest to their children how to act and what to expect from others.

Huesmann and Guerra (1997) argued that normative beliefs drive behavior by influencing social information processing. Beliefs legitimizing aggression could increase the likelihood of interpreting a neutral event as hostile (stage 2), increase the retrieval of aggressive responses (stage 4), and increase the likelihood that an aggressive solution will be favorably evaluated and selected (stage 5). Two sets of findings are consistent with the part of this hypothesis related to response evaluation and selection. First, Erdley and Asher (1998) found children who endorsed beliefs legitimizing aggression to be more likely to report that they would use an aggressive strategy in an ambiguous hypothetical situation. Second, Bellmore, Witkow, Graham, and Juvonen (2005) found that response selection mediated the relationship between normative beliefs about aggression and aggressive behavior. Zelli et al. (1999) examined the full model hypothesized by Huesmann and Guerra, including social information processing, social knowledge and aggressive behavior. Specifically, they hypothesized that the relation between normative beliefs and aggressive behavior is mediated by the three processes of interpretation, retrieval of responses, and evaluation of responses. Results indicated that, as expected, normative beliefs about aggression predicted these processes and behavioral aggression. Also as hypothesized, a model in which the social information-processing variables acted as mediators between normative beliefs and aggressive behavior fit the data best. Longitudinal findings by Zelli et al. also support the notion that beliefs in early childhood influence aspects of social information-processing later in life.

Henry et al. (2000) studied normative beliefs about aggression at the individual and classroom level, and their influences on individual student aggression. They found

that the normative beliefs held by a child's classroom (i.e. averaged across members) had a direct effect on the child's level of aggression. The classroom beliefs also had an indirect effect, mediated by the child's personal normative beliefs. These findings suggest that aggressive children are adopting the prevailing value system of the group and acting out on these beliefs. It is theorized that a parallel process occurs for normative beliefs held by parents and families as a whole. Family norms are believed to serve to influence a child's individual beliefs and, in turn, his or her aggressive behavior. A study by Cotten et al. (1994) supports this idea. In a sample of predominantly low-income African American middle school students, the authors found a significant correlation between students' attitudes towards violence and their reported levels of aggression ($r = .42$). They also found a significant relation between students' perceptions of their families' values of aggression and the students' aggressive behavior ($r = .22$). When entered simultaneously into a regression model, only the students' attitudes were a significant predictor of aggression. However, this may have been due to the overlap of parent and youth attitudes. Mediation was not tested in this study, but theoretically may have supported a model in which much of the relation between parental beliefs and aggression could be explained by students' beliefs.

These findings favor a social-cognitive approach in which social knowledge, in the form of beliefs, schemas, or scripts, is acquired as the result of external experiences and shaped throughout childhood. This database of social knowledge influences the internal processing of information when conflict situations are encountered later in life. The database is theorized to contribute to each stage of processing, and empirically

supported connections have been made between social knowledge and making hostile attributions of others, retrieving aggressive solutions, favorably evaluating aggressive responses, and choosing to use them. These maladaptive methods of processing information in turn lead to poor decision-making and engagement in aggressive behavior (Boxer & Dubow, 2002).

Although many factors are undoubtedly involved in the development of social knowledge, theoretical and empirical evidence suggests that parents in particular are a critical source in the development of children's ideas about norms and behavior (Grusec & Hastings, 2007). The specific mechanisms by which parenting practices influence adolescent social knowledge and information-processing skills are illustrated by the theories of socialization and social learning.

Parental Socialization

Parents exert an important influence on the development of social knowledge and specific social information-processing skills through socialization. Socialization can be defined as the process by which new members of a group acquire "rules, roles, standards, and values across the social, emotional, cognitive, and personal domains" (Grusec & Hastings, 2007, p. 1). Grusec and Davidov (2006) theorized that an important behavioral system in socialization is group identification, or a child's need and desire to adopt the practices and values of those around him or her in order to achieve a sense of belongingness. As children enter into society as new members, family members, peers, teachers, the media, and cultural institutions all assist in the development of societal norms and behaviors (Grusec & Hastings, 2007). It is generally accepted that parents in

particular are highly salient socialization agents in the lives of their children, influencing their children's behavior through their own words and actions (Rubin & Mills, 1992).

The values that are transmitted from parent to child are typically assumed to be in accordance with those of society at large: that is, increasing prosocial behavior and decreasing aggressive behavior (Romano, Tremblay, Boulerice, & Swisher, 2005). Studies on the socialization of prosocial behavior have shown that children imitate other people's helping and sharing behaviors, and are especially likely to imitate adults with whom they have a positive relationship (Hastings, Utendale, & Sullivan, 2007). At the same time, some children receive socialization messages that can lead to the development of negative behaviors, including aggression (Grusec & Hastings, 2007). The socialization of aggression can be incidental, as in the case of parents inadvertently modeling the legitimacy of aggression by using physical discipline (e.g., Malek, Chang, & Davis, 1998). The process can also be intentional, as found in subcultures where aggression is considered somewhat adaptive (Dodge, Pettit, & Bates, 1994). In families of low socioeconomic status living in potentially threatening environments, some parents may socialize their children to have aggressive tendencies in the hopes that they will be able to defend themselves when necessary.

Aggressive behavior has been linked to living in highly disadvantaged neighborhoods, or those characterized by poverty, high crime rates, and unemployment (Attar et al., 1994). Among other adversities, children living in disadvantaged neighborhoods are disproportionately exposed to crime, drugs, and family disruption, and experience few social and educational resources (Evans, 2004). Children living in

disadvantaged neighborhoods are more likely to experience life stress, including circumscribed events (e.g., a death in the family), life transitions (e.g. separation or divorce), and exposure to violence (Attar et al., 1994). Children living in disadvantaged neighborhoods who have experienced these kinds of stressful events have been found to be more likely to exhibit aggression than are children who have not experienced these life events. In addition to influencing aggressive behavior, exposure to violence in particular has been shown to increase normative beliefs supporting aggression and aggressive fantasies in urban elementary school children (Guerra et al., 2003). Urban minority children appear to be particularly at risk of living in a disadvantaged neighborhood, with greater exposure to chronic stressors and exposure to violence than are other populations of children (Attar et al., 1994). This makes this population particularly susceptible to developing aggressive cognitions and behaviors.

Some families that are chronically exposed to violence and other disadvantage may view violence as a necessary part of life (Anderson, 1999). Such a culture espouses the belief that aggression is an acceptable or encouraged response to some situations. The effect that these beliefs have on adolescent behavior was demonstrated in a study by Dodge, Pettit, and Bates (1994). The authors examined several parenting variables as mediators of the relation between socioeconomic status and childhood conduct problems, and identified parental values supporting aggression as a significant mediator. Parents of children in preschool completed a measure that assessed their attitudes about self-defense and other aggressive strategies. At later assessment waves (in kindergarten and grades one through three), the children's externalizing behavior (including aggression) was

assessed using teacher reports and peer nominations. Mothers' aggressive values were significantly correlated with teacher reports of children's externalizing behavior ($r = .15$). An interesting finding was that mothers were significantly more supportive of aggressive strategies in sons than in daughters. This suggests the possibility that parental messages about aggression may differ depending on the gender of the child.

In a more recent study by Solomon, Bradshaw, Wright, and Cheng (2008), parental attitudes towards fighting were examined in relation to adolescent's aggressive problem behavior. Participants were predominantly African American (89%) and low income (72%) adolescents aged 12 to 17 and one of their caregivers or parents. Parental attitudes were measured by parents' self-reported level of agreement with statements either in support of or against physical aggression. Although almost 90% of parents reported that they believed fighting wasn't always the best solution to problems, many parents also supported the notion that fighting was acceptable, and even necessary, under certain circumstances. For example, 38% of parents believed that it was OK for their children to hit if they were hit first, and 63% believed that "Anyone who won't fight will be 'picked on' even more." The authors found that parental attitudes supporting fighting significantly predicted youth aggressive behavior and school suspensions, even when taking into account youth's own attitudes. This was the case for both youth report of their behavior and parental report of their children's behavior. It is noteworthy that many parents in this sample reported multiple and seemingly contradictory beliefs, supporting both aggressive and nonviolent responses.

Social Learning Theory

The socialization of values and behaviors from parent to child can be conceptualized as occurring through social learning. Social learning theory posits that children learn thoughts and behaviors by way of two processes: enactive learning and observational learning (Bandura, 1986). Enactive learning involves individuals directly engaging in various behaviors, and being reinforced or punished for them as a consequence. Learning through enactment, or personal trial and error, however, can be slow and potentially hazardous (Bandura, 1986). Thus, observational learning also occurs, whereby we vicariously learn from others: either by those in the immediate environment, or through symbolic models (e.g. the media). Two of the basic forms through which modeled information can be transmitted are physical enactment and verbal messages. Bandura argued that the process by which information is learned is the same regardless of the medium (i.e. through words or actions). However, the effectiveness of each mode varies depending on factors related to the message (e.g. its ability to keep the observer's attention), and qualities of the observer (e.g. his or her developmental stage). In young children, behavioral modeling is typically the method by which information is learned. However, as language abilities develop and words are increasingly used to represent concepts, verbal messages become a more frequently used method of transmitting values (Bandura, 1986; Maccoby, 2007). Everyday experiences, which for children typically involve interactions with parents, offer countless opportunities for social learning (Bandura, 1986).

An important component of social learning theory is the notion of reinforcement and punishment. The enactment of observed behavior is more likely when the observer

expects benefits from it (Bandura, 1973). Hicks (1968) demonstrated this in an experiment in which children watched a tape depicting an aggressive model. An adult experimenter watched with the child and made positive, negative, or no evaluative statements about the model's actions. The children were then sent to a playroom, where the experimenter was either unobtrusively present or absent. An interaction was found between the valence of the evaluative statements and the presence or absence of the experimenter in the playroom, such that children hearing statements condemning aggression were less likely to play aggressively when the experimenter was present. Similarly (but only for boys), children hearing messages supporting aggression were more likely to display aggressive behaviors in the playroom if the experimenter was present. Consistent results were found by Siegel and Kohn (1959), who observed that the aggressive behavior of boys in a playroom increased over the course of several play sessions only when a permissive adult was present in the room. Taken together, these studies suggest that children (boys in particular) displayed modeling behavior consistent with what they believed the adult present deemed appropriate.

Similar findings have been found in nonexperimental situations, where parents gave supportive, discouraging, or no responses to children's transgressions (Bandura, 1973). A 1957 study by Sears, Maccoby, and Levin (as cited in Siegel & Kohn, 1959) compared mothers' ratings of their degree of permissiveness towards aggressive behavior. Mothers that didn't interfere with their children's aggression, or considered aggression to be a natural part of growing up, were more likely to have aggressive children (r = .23). It is believed that expectations of parental reactions to behavior are

part of the database of social knowledge used in social information-processing (Bennett et al., 2005). Explicit or implicit parental attitudes about fighting, as well as the expected sanctions associated with aggression, are considerations a child takes into account when deciding how to respond to a given problem situation (Wyatt & Carlo, 2002).

It should be noted that consequences influence the enactment of modeled behavior, but are not required for the behavior to be learned. Bandura (1965) studied children that observed aggressive models that were subsequently either punished, rewarded, or offered no consequences. As expected, the children that observed the model being punished were not likely to imitate the aggression in a subsequent play session. Yet when these same children were later asked to act out the aggressive behaviors they saw, and offered rewards for doing so, they were able to imitate the behavior previously modeled for them. This showed that the children clearly had encoded and remembered the model's behavior. Bandura concluded that whereas all the participants *learned* what was modeled for them, the children's anticipated consequences were what determined whether or not they *reproduced* the behaviors. This is consistent with the idea that children will not necessarily act out aggressive behavior they have learned from their parents towards their parents for fear of punishment, though they may display the aggression later during interactions with peers (Duman & Margolin, 2007).

By the time a child reaches adolescence, he or she has experienced countless occasions during which observational learning has taken place. In what Bandura (1986) called abstract modeling, individuals are said to create general rules based on numerous, more specific observed examples. In other words, the individual messages that

adolescents receive from their parents and other sources are synthesized into generalizable rules that influence his or her future behavior. The process of abstract modeling goes beyond mere imitation or mimicry of observed behaviors; rather, children develop thought structures and values that they subsequently use to inform the generation of novel behaviors (Bussey & Bandura, 1999). It is theorized that through the process of abstract modeling, over time adolescents develop judgmental standards, information-processing skills, and self-evaluation criteria (Bandura 1986). The concept of developing rules and assumptions through abstract modeling is very similar to the more recently-defined construct of social knowledge (Zelli et al., 1999), which was previously described. Bandura's social learning theory and Crick and Dodge's (1994) model of social information-processing are complementary. Normative beliefs and other information stored in the database that contributes to decision-making in conflict situations are believed to be formulated through abstract modeling. Specific ways in which parents contribute to this process are behavioral modeling and providing verbal messages. The following sections detail these parenting practices and their influence on adolescent aggression and nonviolent behavior.

Parental Modeling

As previously noted, an important component of social learning theory is the concept of observing others performing appropriate or inappropriate actions (Bandura, 1973). Much of Bandura's work suggests that children will learn and enact specific behaviors that are modeled for them. In Bandura's classic studies of imitation, an experimental group of preschool children observed an adult model playing aggressively

with a large inflatable doll, and a control group observed a model playing nonaggressively (Bandura, Ross & Ross, 1961). When given an array of toys, children in the experimental group were much more likely to reproduce the physical and verbal aggression towards the doll, as well as more generalized aggressive behavior using other toys. Similar results were found when the behaviors of the models were depicted on a television screen, in both live-action and cartoon-like conditions (Bandura, Ross & Ross, 1963). Gender appears to play a role in this process, as children have a tendency to selectively attend to and imitate same-sex, as opposed to opposite-sex models (Bussey & Bandura, 1984). Taken together, these studies have challenged the notion that learning only occurs as the result of directly experiencing the reinforcement and punishment of enacted behaviors.

In addition to experimental studies, Bandura's more applied work explored the role that parents play in modeling. In an early study comparing aggressive and nonaggressive boys, Bandura and Walters (1959) found a key difference to be in the way the boys' parents "trained" their sons to be aggressive. One of the ways in which this training was done was through modeling aggressive behaviors, such as using physical punishment, arguing with the boys' teachers, or teaching the boys to box. The authors concluded that parents that tend to model aggression as part of their own interactions, such as in solving problems, are likely to raise children that engage in these same types of behavior.

Several more recent studies support the hypothesis that children will imitate aggressive styles modeled by their parents. A study by Schwartz, Dodge, Pettit and Bates

(1997) showed that aggressive boys were more likely than other boys to have had early socialization experiences that included adult conflict or violence in the home. Specifically, aggressive boys more often witnessed violent conflict between parents, and had mothers that used aggressive tactics during conflicts with both their partners and their children. Duman and Margolin (2007) also found that children who observed frequent intramarital conflict and spousal abuse tended to use aggressive strategies when dealing with problematic peer situations. Another example of aggressive modeling is the association between parental use of physical punishment and youth aggressive behavior (e.g., Malek et al., 1998; Unnever, Cullen, & Agnew, 2006). It is posited that parents that employ physically harsh discipline are modeling the acceptability of aggression for their children, who will in turn be more likely to behave in an aggressive manner. These studies suggest that parents that employ physical tactics (whether towards their children or partners) are sending the implicit message that aggression is an acceptable, if not encouraged, way to respond to conflicts. An additional consequence of frequently witnessing violence in the home is that children are more likely to be hypervigilant to conflict, which contributes to the development of a hostile attribution bias (Fosco, DeBoard, & Grych, 2007).

Several studies have examined the impact of modeling both positive and negative conflict resolution styles to children. One example is the research of Cummings, Goeke-Morey, and Papp (2004), who asked the parents of children aged 8-16 to keep a diary of everyday marital conflicts and the specific tactics they used during them. The authors found that the children of parents who reported using destructive tactics (e.g.,

defensiveness, hostility, threat, physical aggression) during disagreements at home were more likely to be aggressive. On the other hand, children scored lower on aggression when their parents reported using constructive tactics (e.g., calm discussion, humor, support, affection, problem solving). A study by Van Doorn, Branje, and Meeus (2007) provided further support for these findings. Longitudinal results indicated that the conflict resolution style parents reported using with each other influenced the style their adolescent children reported using with them two years later. This was the case whether parents used primarily a maladaptive style (i.e., further engaging in the conflict) or an adaptive, collaborative style (i.e., positive problem solving). Thus, there is support for parental modeling of both acceptable and unacceptable ways of handling problem situations.

As previously discussed, research on modeling does not just examine how children observe and imitate behaviors, but how models may influence the development of more abstract attitudes and norms. It is theorized that over time and through abstract modeling (or the development of social knowledge), what children learn by observing modeled behaviors will generalize to form their stable beliefs and values (Bandura, 1986). These normative beliefs are recalled during times of conflict, and may support the enactment of either aggressive or nonviolent strategies in response to a problem.

Parental Verbal Messages

A second way in which parents provide information to their children about how and when to use aggressive or nonviolent strategies is through verbal modeling, referred to here as verbal messages. Verbal messages are a means of observational learning that

use words in order to instruct or direct. Messages have some advantages over behavioral modeling, including the ability to explain information about behaviors that are too complex or not feasible to physically enact (Bandura, 1986). Thus, these messages are likely to be important sources of influence for explaining abstract concepts such as how to resolve conflicts.

The influence of parental messages on adolescent aggression was suggested by Bandura and Walters (1959), who reported that parents encouraged their sons to fight by using verbal statements in addition to behavioral modeling. One mother of an aggressive boy in their study recalled a time when her son was being teased in the neighborhood, and her husband "…took off his belt, and he said, '…I'm going to tell you something. You're going to whip these boys or else I'm going to whip you'" (p. 95). One father stated he had told his son many times, "…that if someone wanted to fight with him…hit his jaw, and get it over with" (p. 115). Some parents in this study did not actively encourage violence, but indicated that it was permissible, as in the case of this mother: "I've always told him, if they do fight, fight fair and square and not with any sticks or anything, just with their fists…" (p. 112). Aggressive children from these families are likely to behave the way they do because they receive messages that are in support of fighting and that discourage the use of nonviolent alternatives.

Similar illustrations of the influence of parental messages in support of fighting can be found in field research conducted by Anderson (1999) in inner-city Philadelphia. Anderson found that a salient characteristic of some of the families he studied was the desire for respect, and the willingness to fight for it. In these families, adults tended to

use explicit messages to shape adolescents' understanding of how employing violence in some situations has social benefits. Some examples of the parental messages Anderson reported hearing are, "Don't punk out," "If somebody messes with you, you got to pay them back," and "If someone disses you, you got to straighten them out." Similar statements were heard during a more recent study by Farrell and colleagues (Farrell, Mays, et al., in press), in which interviews were conducted with middle school students and focus groups were conducted with school personnel in Richmond, Virginia. An example of a statement given by a family member, as reported by one adolescent, is, "Y'all need to go one on one right at it...Don't be scared." Reports from both students and adults suggested that parents and other family members give specific messages to their children in support of fighting.

In studies by both Anderson (1999) and Farrell, Mays, et al. (in press), general statements discouraging fighting were heard as well. A mother in Anderson's study reported, "I try to tell [my son], 'You gon' be out there with the bad [street kids], you can't do what they do. You got to use your own mind.'" One student summed up his or her family's discouragement of fighting in this way: "They just say a simple enough, 'Don't fight 'em.' That's what they say" (Farrell, Mays, et al.). Students also expressed the importance of their parents reminding them of the negative consequences of violence, such as injury or jail. These kinds of statement do not give suggestions as to what an alternative to fighting might be, but simply discourage the use of violence.

The concept of expected rewards typically discussed in terms of behavioral modeling applies to the use of verbal messages as well. Both Anderson (1999) and

Farrell, Mays, et al. (in press) found that even if children did not necessarily want to fight, they might do so in order to avoid the negative consequences associated with choosing nonviolence. These sanctions for not fighting were often administered by peers, but in some cases were from disappointed parents as well. Anderson reported children ambivalently crying during a fight, knowing that if they were to back down they would be physically punished when they got home. In the interviews conducted by Farrell and colleagues, some students stated that they would feel pressured to fight in a given situation, even if they didn't want to. Students were asked if there was anything about their families that would make it difficult for them to tell a teacher when they were having a problem with another kid. One student answered, "Yeah, like [my family will] force me to fight them. Well, they don't force me, they're like, like if a teacher don't do nothing I might as well do it on my own, like fight." Some adolescents implied that they believed that they would be punished by their parents, or at least cause them disappointment, if they did not stand up for themselves or take care of their own problems.

The impact of such messages on adolescent aggression was demonstrated quantitatively in a study by Neapolitan (1981). The author tested the relation between parental support for aggressive behavior and level of youth aggression. Neapolitan's sample consisted of 212 male high school students, who were mostly Caucasian (over 95%) and from middle class families (85%). Students were asked in closed-ended questionnaires how they thought their parents would want them to respond to a set of conflict situations. They were also asked what their parents had taught them about

fighting and self-defense. Aggression was measured by the youth's self-reported participation in fighting and other behaviors that may have resulted in violence-related injury. Although the levels of aggression in the sample were low, significant parental influences were found. Most notably, students' perception of their parents' support for aggression was correlated with their own aggressive behavior (for father support, $r = .44$; for mother support, $r = .37$). Neapolitan's predominantly Caucasian and middle class sample is not representative of the adolescents in the proposed study. However, this study provides empirical support for the notion that if adolescents perceive that their parents are in favor of them using aggressive strategies, they are more likely to engage in these behaviors.

More recently, Malek, Chang, and Davis (1998) surveyed 567 students from three middle schools of varying demographics about their parents' beliefs about fighting. Students were presented with a scenario in which they were insulted by a peer. The majority of students believed that their parents would not want them to fight in this situation. About 30%, however, reported that their parents would want them to fight the other student if insulted. Among these students, 60% reported that they had actually discussed this type of situation with their parents and had clearly been instructed to fight, while the other 40% had not specifically discussed the issue but still believed that they knew their parents' preferences. The authors found that students that either knew or believed their parents to be in support of fighting were more likely to have been in a fight in the month preceding the survey.

Copeland-Linder et al. (2007) studied the aggressive (specifically retaliatory) attitudes of urban African American adolescents (ages 10 to 15) that had been assaulted. Adolescents were administered a measure of parental messages supporting aggression designed by Orpinas et al. (1999). In addition, parents were administered a parallel measure of the messages they give their children in support of aggression. As an outcome, adolescents completed a measure of their retaliatory attitudes, which included items such as, "I believe that to survive you should always be willing to fight back." Adolescents' beliefs that their parents supported fighting were correlated with their retaliatory attitudes (r = .45), and a hierarchical regression indicated that these beliefs predicted attitudes above and beyond other factors. Gender did not significantly moderate the relation between perceived parental support and adolescent retaliatory attitudes. Interestingly, parents' report of what they would tell their children did not correlate with adolescent retaliatory attitudes. Although this could be due to socially desirable reporting by parents, it could also indicate that what children perceive their parents as saying is more important than what parents are actually saying. Also noteworthy is that although it was not a main focus in this study, youth aggression was measured and found to be not significantly correlated with either report of parental support for aggression. This finding runs counter to the larger body of research on parental messages reviewed for the current study.

In addition to general messages supporting or discouraging aggression, it has been shown that children may also be instructed to use nonviolent strategies. In the qualitative study by Farrell, Mays, et al. (in press), some participants reported parental messages in

support of the use of specific nonviolent responses in conflict situations. For example, one student stated, "My family might tell me that I'm smarter than that. I can walk away." Another student reported that in trying to deal with peer conflict, an adolescent's parent might say, 'Why don't you sit the person down, get a teacher, and ya'll both talk.'" Other strategies included ignoring provocation or telling themselves that the problem is not worth fighting over. Parents were also said to suggest ways to avoid certain situations that are likely to lead to trouble. These suggestions included such strategies as treating others with respect or apologizing for a wrongdoing.

A study by Mize and Pettit (1997) suggests an influence of parental messages supporting nonviolent strategies on child behavior. Participants in this study were 43 pairs of mothers and their three- to five-year-old children, who were mostly European-American and from middle-class families. Mothers and their children participated in a social interaction task in which the mother and child viewed 12 videotaped vignettes. The vignettes depicted target children (representing the child participant) and peers involved in encounters of varying degrees of hostility. Mothers were instructed to make comments to their children about several aspects of the situation, such as a possible solution. Responses were coded for prosocial and aggressive suggestions. An example of a prosocial strategy was to find other peers to play with for the time being; an example of a more relationally aggressive response was to tell the peer that you were not going to be his or her friend anymore. Results indicted that mothers' generation of prosocial strategies was negatively correlated with child aggression as rated by teachers ($r = -.34$) and positively correlated with sociometric ratings of peer acceptance ($r = .27$).

Mixed messages have also been reported in several studies. One mother in Anderson's (1999) field study reported telling her son when he was being picked on at school, "I want you to come out and talk as bad as you can talk, but don't hit nobody. And then walk away." These instructions imply that she considers verbal aggression to be an acceptable behavior, but not physical aggression. She also includes an effective nonviolent strategy (i.e. walking away), in addition to the statements about aggression. The following statement by a student also demonstrates the mixed nature of parental messages: "They'll tell me if somebody put their hands on me, I should hit them back and tell the principal and tell the counselor" (Farrell, Mays, et al., in press). Other messages may imply that parents are generally in favor of nonaggressive strategies, but believe fighting to be acceptable (if not encouraged) under specific circumstances. For instance, some students reported that their parents would encourage fighting only in response to a physical provocation (Farrell, Mays, et al.). An example of this kind of message heard by one student is, "They'll say that if that person don't put their hands on you, don't hit them, but if they do I got the right to hit them back." For some parents, teasing would be enough to encourage retaliation, as seen in the statement, "My dad will tell me to fight if they keep on picking on me." In some cases, different family members are giving conflicting messages. One student explained, "One person in my family's like, 'You don't need to fight or you get suspended.' But then somebody else in my family be like, 'Well, she said this…you need to get in her face.'" Students may find these mixed messages confusing, making them unsure to whom they should listen.

Support for the influence of both kinds of parental messages (supporting aggression and supporting nonviolent strategies) can be found in a study looking at coping with exposure to community violence. Kliewer and colleagues (2006) presented 101 African American caregiver-child pairs (children aged 9 to 13) with a movie clip depicting a conflict situation. Caregivers were asked via pre-recorded interview questions to discuss the scene with their child, including how they believed the youth in the movie should have responded to the conflict. Coaching suggestions, or caregiver responses made during the discussions of the movie clip, were coded based on their content. They included responses supporting nonviolent coping strategies, such as positive reframing and seeking understanding, as well as aggressive actions. Eleven percent of caregivers suggested an aggressive response to their children, such as "If they hit you, stay and fight. You need to stand up for yourself," or "Beat them up." Most (96%) caregivers provided nonviolent responses, however, either as a way to avoid conflict proactively (e.g., "Don't go places you have no business going") or while in the moment (e.g., "Go and let an adult know"). The investigators analyzed these caregiver responses, comparing them to the children's own reported methods of coping. They found significant associations between the type of coaching message given and the child's self-reported style of coping. The strongest relationship was for aggression, in that children that reported using aggressive coping strategies were more likely to have parents that gave them messages supporting the use of aggression during the movie clip. A significant relationship was also found for proactive coping suggestions, or those coaching statements caregivers used to encourage their children to prevent conflict from occurring in the first place. Caregivers' use of

these proactive statements predicted their children's reported use of proactive coping strategies. These findings have two important implications related to the current study. First, the content of the parental messages (i.e. supporting aggressive or supporting preventative strategies) produced unique patterns of influence on child behavior. Second, parental messages were found to have independent influences on children's use of aggression and their use of specific strategies to avoid violence.

A study by Orpinas, Murray and Kelder (1999) approached the construct of parental messages by investigating the influence of four parenting variables on adolescent aggression and weapon carrying: perceived parental messages about fighting, parental monitoring, family structure, and parent-child relationship. The sample included 8,865 male and female students (in grades sixth, seventh, and eighth) from eight urban middle schools. The majority of students were Hispanic (66%), followed by African American (19%) and other ethnic groups (15%). Students were asked about their aggressive behaviors (e.g. hitting, pushing, kicking, and teasing) in the week prior to taking the survey. The parental support for fighting measure asked, "What do your parents tell you about fighting" and contained a series of yes/no statements. Perceived parental support for fighting was significantly related to aggression ($r = .50$). In addition, students who had been in a fight at school, been injured in a fight, or carried a weapon in the past week were significantly more likely to have perceived their parents as telling them that fighting was acceptable. Parental messages supporting aggression uniquely accounted for 14% of the variance in aggressive behavior, which represented more of the variance than any of

the other three parenting factors (i.e., monitoring, family structure, and the parent-child relationship).

Although the parental support measure used in the Orpinas et al. (1999) study was intended to capture parental support for fighting (e.g., "If someone hits you, hit them back"), it also included items that reflected support for effective nonviolent responses, like telling a teacher or ignoring a provocation. In this study, however, support for nonviolent responses was scored as a lack of support for fighting; items reflecting nonviolent alternatives were simply reverse-coded and included in the total score. This resulted in a one-dimensional scale, with one pole indicating "strong support for alternatives to fighting and no support for fighting as a way to solve conflicts," and the other pole representing "strong support for fighting as a way to solve conflicts and no support for peaceful alternatives to solve conflicts" (p. 783). Qualitative research suggests that the content of parental messages often contains both types of these messages, and each should be considered a distinct construct. A factor analysis of this scale confirmed that the items representing messages in support of nonviolent strategies are distinct from those in support of aggression, and should not simply be reverse-coded items on the same scale (r = -.45; Multisite Violence Prevention Project, 2004).

Two studies using longitudinal data from the Multisite Violence Prevention Project (MVPP; MVPP, 2004) addressed this limitation by examining the differing effect of parental messages supporting fighting and parental messages supporting nonviolent responses. Participants were middle school students recruited from 37 schools in four geographical areas of the United States. The sample was ethnically diverse, composed of

41% African American, 23% Hispanic, and 22% Caucasian participants; these proportions varied across the four sites. One study, by Kramer, Mays, and Farrell (2008) examined the effect of parental messages on adolescent beliefs about fighting and nonviolence using a revised version of the Orpinas et al. (1999) measure. A Likert response scale was substituted for yes/no, and the measure was divided into two factors representing messages about fighting and messages about nonviolent responses. In both sixth and eighth grades, parental messages supporting fighting were positively related to students' beliefs supporting aggression (r = .25 for sixth grade; r = .22 for eighth grade) and negatively related to their beliefs about nonviolent responses (rs = -.16 and -.18). Conversely, parental messages supporting nonviolent solutions were positively related to students' beliefs about nonviolence (rs = .32 and .31) and negatively related to their beliefs supporting aggression (rs = -.19 and -.13). Furthermore, in comparing the sixth and eighth grade models, the effect that parental messages about nonviolent responses had on reducing adolescent support for aggression weakened from sixth grade to eighth grade. The differences in patterns of correlation both cross-sectionally and longitudinally imply that parental messages about fighting and about nonviolent alternatives to fighting were each uniquely associated with adolescents' beliefs.

A second study based on the same data by Farrell, Henry, Mays, and Schoeny (in press) also used the revised scoring of the Orpinas et al. (1999) scale to measure the effect of parental messages on adolescent aggression. They found that parental support for fighting was positively associated with physical aggression and increased over the three years of the study (sixth, seventh, and eighth grade; ds = .25). In contrast, parental

support for nonviolent behavior was inversely related to physical aggression and decreased over the course of middle school (*ds* = -.30). More importantly, this study illuminated a more specific role parental messages play in relation to aggression. They tested a model in which parental messages moderated the effect of delinquent peer associations and school norms for aggression. Both of these are factors that have been shown to influence individual students' levels of aggression. Parental support for nonviolent behavior was found to be a protective factor, buffering the effects of deviant peers and school-level norms on student physical aggression. On the other hand, parental support for fighting was identified as a moderator that intensified the negative effects of delinquent peers and school norms for aggression. As in the analyses of these data by Kramer et al. (2008), in both cases the moderated effect decreased over time, suggesting that the influence of parental messages as either a risk or protective factor is stronger in early adolescence. Additional analyses of gender revealed that boys reported higher levels of parental support for fighting, and lower parental support for nonviolent behavior, than did girls.

There is some evidence, although mixed, to suggest that gender plays a role in the effect of parental messages on adolescent behavior. Parent gender differences have been found in communication between parents and children, such that mothers tend to communicate more with their children (especially with daughters) than do fathers (Bussey & Bandura, 1999; Leaper, Anderson, & Sanders, 1998). On the other hand, fathers have been found to use more directive and instructive language with their children than do mothers (Leaper et al., 1998). The role of the gender of the child has shown

mixed results as well. In a study by Perry, Perry, and Rasmussen (1986), children were asked to imagine themselves behaving aggressively toward a classmate. When asked to report outcome expectancies, girls were more likely than boys to anticipate negative reactions from themselves and their peers. However, no significant gender differences were found in expected approval or disapproval by parents and teachers. These findings were supported by a meta-analysis by Lytton and Romney (1991) that analyzed studies of differential parenting practices based on child gender. They found no significant overall effect when comparing the level of parents' discouragement of aggression conveyed to sons to the level of discouragement used with daughters. In contrast, Dodge et al. (1994) found that mothers were more likely to endorse aggressive beliefs with sons than with daughters. An additional consideration is the research on gender and behavioral modeling. Children tend to imitate the behavior of same-sex, as opposed to opposite-sex models (Bussey and Bandura, 1984); however, parallel studies were not found looking at verbal messages. Moreover, no studies were found that have looked at gender effects and parental messages about effective nonviolent behavior, suggesting that this is still an area worthy of exploration.

This review suggests that in addition to physically modeling behavior for their children, parents provide verbal messages that instruct them to respond to conflict with either aggression or nonviolence. These messages may not always be consistent, and may vary depending on the specific circumstances of the conflict (e.g., type of provocation) and the gender of the adolescent. Messages in support of aggression and nonviolence have both been shown to influence the use of aggressive and proactive strategies in

youth. However, research on the effect of messages on the use of effective nonviolent responses is limited. The research that has been conducted on messages has some additional limitations involving measurement and variables chosen for study. These limitations are discussed in the following section, along with how the current study attempted to address them.

Statement of the Problem

Although there is considerable evidence to support the influence of parental messages on adolescent behavior, there are several limitations to the previously discussed studies that leave unanswered questions. For example, prior research has assessed parental messages about fighting, but most studies have not considered messages about effective nonviolent behavior as a distinct construct. Relatedly, the field lacks a well-established self-report measure that adequately assesses both of these types of messages. In obtaining reports of parental messages, few studies have examined the extent to which parent and child reports differ, and which (if either) respondent is a better predictor of adolescent outcomes. Furthermore, studies have typically measured the effect of messages on aggressive behavior, but not on the use of effective nonviolent responses. Another area that requires further research is the influence of parental messages above and beyond other parenting variables, especially behavioral modeling. Finally, the potential moderating effect of adolescent gender on the relation between messages and behavior is still largely unknown. The goals of the proposed study were to address each of these limitations.

One goal was to explore whether messages about nonviolent responses have an effect on adolescent behavior unique from messages supporting or discouraging aggression. In other words, is it enough for parents to simply not endorse aggression, or is

it also important for them to verbally express their support for nonviolent alternatives? There is reason to believe that these two kinds of messages should be considered distinct constructs rather than two poles of the same continuum. Studies by Farrell, Henry, et al. (in press) and Kramer et al. (2008) suggest that messages supporting aggression and messages supporting nonviolent responses have differing effects on adolescent attitudes and behaviors. Likewise, in the Kliewer et al. (2006) study, parental coping suggestions that encouraged aggressive responses to conflict predicted different child coping profiles than did suggestions for more proactive strategies. The current study hypothesized that similar effects will be found: that parental messages supporting fighting would have a different effect on adolescent aggression and effective nonviolent behavior than would messages supporting the use of nonviolent responses.

A second limitation of previous research, and barrier to studying parental messages supporting fighting and effective nonviolent responses, has been the lack of an ideal measure. The few studies that have looked specifically at messages have typically used measures that considered only the presence or absence of messages supporting aggression, and not messages in support of effective nonviolent behavior. One of the more commonly used measures is the Parental Support for Fighting scale developed by Orpinas and colleagues (1999). This measure was developed as a one-dimensional scale, with one pole indicating support for fighting and the other pole support for alternatives. As evident in Farrell, Mays, et al. (in press) and Anderson (1999), parents often give inconsistent or conflicting messages, some in support of aggression and others in support of nonviolent responses; the scaling in the Orpinas et al. measure does not capture this

kind of complex information. A factor analysis has confirmed that the two types of messages are indeed distinct, and should be considered separately (r = -.45; MVPP, 2004). However, merely splitting the measure into two subscales may not be adequate. Factoring shortens each subscale to only five items, which may not sufficiently sample each domain. An additional shortcoming of the measure is that it uses the simple response choices "yes" and "no," which cannot capture the frequency or degree to which messages are communicated. A dichotomous response choice such as this also gives the measure limited reliability. An open-ended format, such as a structured interview (see Kliewer et al., 2006; Mize and Pettit, 1997), is more likely to tap into the full range of message types, and is not bound by those statements anticipated by the researchers. However, this method is more time consuming in terms of administration and coding, and is less standardized than a typical questionnaire. Such assessments also may use hypothetical scenarios that are not relevant to the youth or parents, failing to capture what parents say to their children about typically-encountered problem situations.

There is a clear need for a self-report questionnaire that provides a quick and reliable picture of parental messages. A second purpose of the proposed study, therefore, was to replicate the reliability of a recently created self-report measure of parental verbal messages supporting both aggression and effective nonviolent behavior. Measuring messages supporting aggression requires capturing the salience of statements suggesting that fighting is acceptable or encouraged under certain conditions (e.g., in response to verbal or physical provocation). Messages supporting nonviolence include those that support in-the-moment effective nonviolent strategies (e.g., walking away or talking to an

adult). The creation and preliminary reliability statistics of the youth-report measure, as well as a parallel parent-report version, are described in detail in the Method section.

A third limitation relates to the adolescent behaviors that researchers have typically chosen to study. With few exceptions (e.g., Kliewer et al., 2006), studies have mainly considered how parental messages influence the presence or absence or aggression. This focus on aggression assumes that an adolescent that refrains from engaging in violence necessarily uses responses that effectively solve conflicts and that promote their positive development. However, nonviolent responses to a given problem situation have been found to vary greatly in their degree of effectiveness (Farrell, Kliewer, et al., 2008), and not all youth engaging in nonviolent behaviors are necessarily well adjusted (Hanish & Guerra, 2002). In order to fully understand parental messages as a risk or protective factor, researchers should consider their effects on adolescent use of effective nonviolent responses as well as aggressive behavior. Kramer et al. (2008) found that parental messages had significant effects on beliefs supporting nonviolent responses, as well as beliefs supporting aggression. Results by Kliewer et al. (2006) yielded consistent findings for behavioral outcomes, indicating that messages influenced aggressive and proactive coping in different ways. Similar results were expected in the current study: that the effect of parental messages on adolescent aggression would be distinct from the effect of messages on effective nonviolent behavior.

Fourth, few studies have measured the effects of verbal messages in comparison to other parenting practices. This approach does not allow for the parsing of individual parenting practices, making it difficult to identify what specific variables are contributing

to adolescent outcomes. The current study aimed to examine the unique role of parental verbal messages relative to behavioral modeling. Research by Orpinas et al. (1999) supports the idea that messages will have a unique effect over and above other parenting variables. The authors found that messages supporting aggression predicted more of the variance in aggressive behavior than did parental monitoring, the parent-child relationship, and family structure. Furthermore, Rubin and Mills (1992) showed that parents of low socioeconomic status endorsed the use of direct, verbal statements more so than other means of communication to teach their children how to handle conflict situations. Thus, it was hypothesized that in the current study of the parenting practices of urban, lower income families, parental messages would have an effect on adolescent behavior that is distinct from parental modeling.

A fifth limitation to previous studies has been in the use of either only youth- or only parent-reports of parental messages. Studies often find that youth and parent reports are not highly correlated, even when reporting on activities within their own family. In a study of how parent-child communication affects family functioning, Barnes and Olson (1985) found only moderate correlations between parent and adolescent reports of family cohesion, adaptability, and communication (.39, .21, and .34 for mother-adolescent report, and .46, .31, and .32 for father-adolescent report, respectively). More specific to communication about aggression, Solomon et al. (2008) found a surprisingly large discrepancy when parents and adolescents were asked whether they thought their family would endorse fighting. Seventy-eight percent of adolescents agreed that if they were hit, their family would want them to hit back, but only 48% of parents agreed with this

statement. Similarly, Copeland-Linder et al. (2007) found that adolescents' perceptions of their parents' support for aggression and the parents' report of their actual support were not significantly correlated (r = .04, ns). Moreover, only the youths' perceptions, and not parents' reports, were associated with youth aggressive attitudes.

There are advantages and disadvantages to collecting data from each respondent. A youth-report measure of parental messages provides information about the adolescent's perceptions of the messages that are received, but may not reflect what is actually being conveyed. Adolescents may inaccurately encode or fail to internalize messages if they are either not attending to their parents or disagree with them (Padilla-Walker & Carlo, 2006). There is also the possibility that aggressive adolescents justify their behavior by reporting that their parents approve of or encourage it (Orpinas et al., 1999). Thus, adolescents' reports of what their parents tell them may reflect one or more of these biases. For these reasons, it may be more accurate to also assess what is being said from the parents' perspective. Unfortunately, a parent-report measure of what is said to children also has drawbacks. It is not always feasible for researchers to interview parents, and there is the possibility of eliciting socially desirable answers when parents are asked about their own parenting practices.

Considering the issues related to informant discrepancies, it is currently unclear which informant's report is a better predictor of adolescent use of aggressive and effective nonviolent responses. Perhaps the reality of what parents say is not as important as the messages that adolescents perceive or interpret. This study planned to shed light on this question by examining the relative influences of parent and child reports on

adolescent behavior. That is, whether parental messages as reported by parents or perceived parental messages as reported by adolescents would be a better predictor of youth aggression and nonviolent responses. Based on findings by Solomon et al. (2008) and Copeland-Linder et al. (2007), it was hypothesized that there would be a significant discrepancy between parent and child reports. Furthermore, it was believed that the youth report would be a better predictor of behavioral outcomes.

Finally, this study sought to fill a gap in the literature regarding gender effects on the influence of messages. Theoretical and empirical evidence suggests that gender plays a significant role in the modeling of behaviors (Bussey & Bandura, 1984). Although the evidence regarding parental messages specifically about aggression seems to indicate no relation to gender (e.g. Copeland-Linder et al., 2007; Kliewer et al., 2006; Lytton & Romney, 1991; Orpinas et al., 1999), it was hypothesized that that these differences would be found using a measure that addressed messages both in support of aggression and those in support of nonviolent behavior. Moreover, the current study aimed to assess how gender affects the relation between parental messages and adolescent effective nonviolent behavior, a question that no studies found have explored. In this study, adolescent gender was hypothesized to moderate the effect of parental messages on aggression and nonviolent behavior such that the effect of messages given by mothers would be stronger for girls than for boys.

To summarize, this study was designed with the intention of improving on the limitations of prior studies. The purposes of the present study were to explore: (1) The reliability of a more comprehensive measure of parental verbal messages supporting both

aggression and nonviolence; (2) Whether messages supporting nonviolent responses have a different effect on adolescent behavior than do messages supporting aggression; (3) The differing effects of each type of parental message on two outcomes: adolescent aggression and effective nonviolent behavior; (4) The unique role of parental verbal messages relative to parental behavioral modeling; (5) The level of agreement between adolescent and parent report: whether there is a discrepancy, and, if so, which report is a better predictor of outcomes; and (6) Gender effects on the influence of messages. The specific hypotheses were:

1) Adolescents' frequency of aggression will be predicted by their parents' messages supporting fighting, and messages supporting nonviolent responses. Within the overall model, each will account for a unique portion of the variance, but messages supporting fighting will be a stronger predictor
2) Adolescents' frequency of effective nonviolent behavior will be predicted by their parents' messages supporting fighting, and messages supporting nonviolent responses. Within the overall model, each will account for a unique portion of the variance, but messages supporting nonviolent responses will be a stronger predictor
3) Adolescents' frequency of aggression will be predicted by adult modeling of antisocial behavior and parental modeling of prosocial behavior. Within the overall model, each will account for a unique portion of the variance, but adult modeling of antisocial behavior will be a stronger predictor

4) Adolescents' frequency of effective nonviolent behavior will be predicted by parental modeling of prosocial behavior and adult modeling of antisocial behavior. Within the overall model, each will account for a unique portion of the variance, but parental modeling of prosocial behavior will be a stronger predictor
5) Parental messages will predict aggression and effective nonviolent behavior above and beyond the influences of parental modeling
6) There will be a significant discrepancy between youth and parent reports of parental messages. Youth reports of messages will be a better predictor of aggression and effective nonviolent behavior than parent reports
7) The effect of parental messages will be moderated by gender, such that the effect of messages from mothers will be stronger on the behavior of adolescent girls than on boys

The basic proposed model is represented in Figure 1.

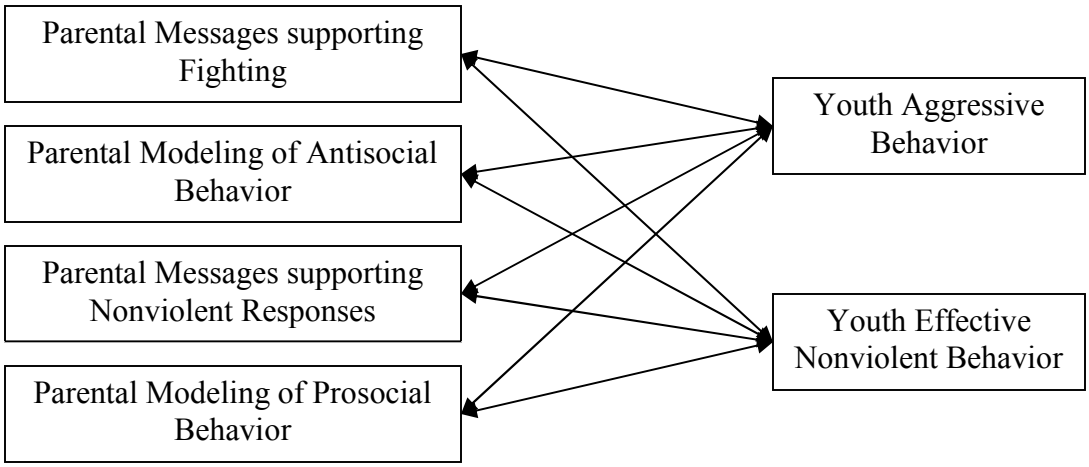

Figure 1: Hypothesized relations among constructs in study.

Method

Participants

Participants in this study were adolescent-parent pairs recruited as part of a pretest assessment for a study of a neighborhood intervention designed to reduce teen violence and teen pregnancy. Potential participants were selected from a list provided by the Richmond Department of Social Services (DSS) of families receiving food stamps that were residing in three previously identified high-risk neighborhoods of Richmond at the time of recruitment. From this roster, 273 families that were listed as having an adolescent between the ages of 13 and 16 were randomly selected to participate in the neighborhood intervention. Of these, 99 families were found to be ineligible for the study (e.g., the family moved or did not actually have a child in the targeted age range). Of the remaining 174 families believed to be eligible for the intervention study, 23 refused participation and 24 could not be located. Thus, 127 families consented to participate and were interviewed, representing a participation rate of approximately 73%.

The specific purposes of the current study resulted in the exclusion of 22 additional families from analyses. Because one of the purposes of the current study was to compare youth's perceptions of their parents with their parents' self-report, it was important to have valid data from both of these sources. Thus, 12 cases were excluded from this study's analyses due to an excess of missing data or random responding from

either the parent or the adolescent. Another 8 cases were excluded because the caregiver responding to the parent survey was not identified by the adolescent as someone he or she considered to be a "parent." Finally, 2 cases were excluded because the parents and adolescents were reportedly completing their interviews in the same room. The final sample used for analyses consisted of 105 adolescent-parent interviews.

Adolescents in the sample had a mean age of nearly 15 years (21% were 13, 31% were 14, 25% were 15, and 23% were 16 years old), and 58% were female. The majority of youth (91%) indicated they were African American, and the remainder identified themselves as multiracial (3%), Caucasian (1%), or preferred not to answer. Approximately 55% of the adolescents interviewed indicated that they lived in a single-caregiver household (47% single-mother), and 12% reported living with two biological parents. All but 1 of the caregivers interviewed was female, with 87% identifying themselves as the adolescent participant's biological mother. The median age of parents was 36, and 92% indicated they were African American.

Procedure

Data collection took place between November 2007 and January 2009. Data were collected from parents and youth as part of a larger battery of assessments. Each assessment was conducted in the families' homes by two trained interviewers. Data were obtained through the use of a computer aided personal interview, in which measures were administered to each participant using an individual laptop computer. For the measures administered to youth, questions were presented visually on the laptop screen. To address potential reading difficulties and provide a more engaging assessment, the participants

also had the option of listening to a pre-recorded version of the survey through headphones. Instructions and questions were read by two African American adults (one male and one female) that alternated throughout the survey. The adolescents independently responded to items using the laptop touchpad to select their desired answer. The interviewer was present in case the adolescent had questions or difficulties, but the youth were able to enter their own responses privately. For the parent survey, a second interviewer read the questions and response choices aloud and recorded parents' verbal responses using another laptop. The parents were able to follow along with the interviewer using a printed booklet that listed the available response choices for each measure. Parents were given the opportunity to point to their answers in the response booklet, if they preferred not to say them aloud. Except in rare instances where it was not possible, parent and child assessments were conducted in separate rooms of the residence. All data were recorded onto and stored as files on the laptops. Participants' identifying information and responses have been and will remain confidential. All procedures were approved by the Institutional Review Board of Virginia Commonwealth University.

Measures

Aggressive behavior. Adolescent aggression was measured using the Problem Behavior Frequency Scales (PBFS; Farrell, Kung, White, & Valois, 2000) and the Child Behavior Checklist (Achenbach & Ruffle, 2000). The PBFS is a youth-report measure consisting of seven scales that assess the frequency of problem behaviors, including aggression (physical, non-physical, and relational), victimization (overt and relational), drug use, and delinquency. It also includes scales that measure the frequency of prosocial

behavior (e.g.., "Tried to do your best in school") and effective nonviolent responses (e.g., "Walked away when someone wanted to fight you"). To measure aggressive behavior in the current study, the Physical Aggression Scale (6 items) was used. For each item, the respondents are asked to indicate how frequently they engaged in a particular behavior in the 30 days prior to taking the survey, using the following 6-point response scale: 1= *Never*, 2 = *1-2 times*, 3 = *3-5 times*, 4 = *6-9 times*, 5 = *10-19 times*, and 6 = *20 or more times,* with higher scores representing higher levels of the behaviors. Sample items include "Hit or slapped someone" and "Thrown something at someone to hurt them." This measure is based on one developed by Farrell et al. (2000). The six items representing physical aggression were based on the Center for Disease Control's Youth Risk Survey (Kolbe, Kann, & Collins, 1993). Research by Farrell and colleagues (2000) suggests that the physical aggression subscale has good internal consistency with an alpha of .80. In the current study, the internal consistency was .75.

The Child Behavior Checklist (CBCL; Achenbach & Ruffle, 2000) is a 113-item parent-report assessment of children's behavioral and emotional problems over the past three months. Parents are asked to rate how true each statement is of their child, where 0 = *Not true (as far as you know),* 1 = *Somewhat or sometimes true*, and 2 = *Very true or often true*. Syndromes on the CBCL are classified into one of six areas: anxious/depressed, withdrawn, sleep problems, somatic problems, aggressive behavior, and destructive behavior. Only the 20-item Aggressive behavior subscale was used in the current study. Sample items on this subscale include "Is mean to others," "Destroys own things," and "Is disobedient at school." The CBCL is widely used and has established

reliability and validity. Test-retest reliability for the externalizing subscales ranges from .64 to .69 (Achenbach, 1991). The internal consistency of the Aggressive subscale in a sample of urban youth was .91 (Kliewer et al., 2004). The internal consistency in the current study was .89.

Effective nonviolent behavior. The second dependent variable, adolescent use of effective nonviolent responses, was measured using the Effective Nonviolent subscale (9 items) of the PBFS. For each item, the respondents are asked to indicate how frequently they engaged in a particular behavior in the 30 days prior to taking the survey, using the same 6-point response scale as other items on the PBFS. Specific items for the Effective Nonviolent subscale were based on responses to difficult problem situations that were obtained from urban adolescents in an earlier study (Farrell, Kliewer, et al., 2008). They were developed by a research group consisting of experienced researchers and graduate students. Sample items include, "Asked an adult in your family for advice about a problem you were having," and "Talked things out with someone you were having a problem with." The internal consistency was .76 in a recent sample of sixth-grade urban adolescents (Sullivan, Farrell, Meyer, & Sutherland, 2009), and .82 in the current study.

Parental messages supporting fighting and nonviolent responses. The Parental Messages about Fighting and Nonviolent Responses scale assesses youth's perceptions of the messages their parents give them about both fighting and effective nonviolent behaviors. This measure was based on an extensive review of the relevant research, including interventions, review articles, and empirical studies. Items for this measure were developed from a series of qualitative and quantitative studies designed to identify

problem situations and response strategies of urban, African American youth (Farrell et al., 2007; Farrell, Kliewer, et al., 2008; Farrell et al., 2006). A qualitative study asked students and school personnel what they believed to be the barriers to and supports for using both aggressive and effective nonviolent strategies (Farrell, Mays, et al., in press). Statements provided by participants about family influences were used to inform item development in the present study. One additional item was taken from Dodge, Pettit and Bates' (1994) Parental Attitudes toward Use of Aggression scale.

The original measure contained 26 items. The structure of the child report version of the measure was established in a study of 169 sixth-grade students from an urban school system (73% were African American; Sullivan et al., 2009). Use of confirmatory factor analyses to compare competing models indicated that a two-factor model best represented the scale structure. Within this model, separate factors representing messages supporting fighting and messages supporting nonviolence were not significantly correlated (r = .06, ns), supporting the notion that these represent distinct constructs. The final scale includes 15 items that fall into two distinct subscales: Support for Fighting (8 items) and Support for Nonviolent Responses (7 items). The Support for Fighting subscale assesses youth's perceptions of the salience of messages that imply fighting is acceptable in certain situations. The Support for Nonviolent Responses subscale assesses youth's perceptions of parental messages regarding the use of effective nonaggressive strategies in response to conflict. Examples of items from the two respective subscales are, "If someone hits you, it's self-defense to hit them back," and "If someone wants to fight you – walk away." Participants rate how likely their parents would be to tell them

each statement on a 4-point scale where 1 = *Very unlikely,* 2 = *Somewhat unlikely,* 3 = *Somewhat likely,* and 4 = *Very likely*. Internal consistencies from the measure-development sample were .75 for Support for Fighting and .83 for Support for Nonviolent Responses (Sullivan et al., 2009). The current study indicated similar reliability (.73, and .85, respectively).

In the current study, a parallel parent-report measure was administered to assess parents' perspectives on the messages they give their children. Respondents are asked how likely they would be to tell their children each statement on a 4-point scale ranging from 1 = *Very unlikely* to 4 = *Very likely*. This measure was administered using the same 26 items as the originally developed youth-report measure, with the same intended subscales: Support for Fighting and Support for Nonviolent Responses. An example of an item on the Support for Fighting subscale is, "If you walk away from a fight other kids will think you're weak." An example from the Support for Nonviolent Responses subscale is, "Talk things out when you have a conflict with someone." Analyses using the same scale structure as the adolescent version indicated internal consistencies of .64 for Support for Fighting (8 items) and .63 for Support for Nonviolent Responses (7 items).

Presence of parent prosocial models. The Parent Prosocial Models scale was developed for use in the larger study from which the current data was derived. This measure was designed to assess youths' perceptions of their parents' prosocial behavior. The development of the 11 items was largely based on statements from transcripts from the qualitative study of barriers and supports to aggression and effective nonviolent responses by Farrell, Mays, et al. (in press). Several items were also taken from the

Family Problem Solving measure used in the Multisite Violence Prevention Project (2004) and a Presence of Prosocial Peers Scale currently under development by Farrell and colleagues. Youths rate how much each statement applies to their parents on a 4-point scale, where 0 = *Not at all,* 1 = *A little,* 2 = *Somewhat,* and 3 = *A lot*. Sample items are, "Discuss issues calmly when problems arise," and "Apologize when they are wrong." The parental modeling scale had internal consistency of .85 in the current study.

Presence of adult antisocial models. A measure of exposure to antisocial behavior in the home was developed along with the Parent Prosocial Models scale to assess youths' perceptions of their parents' antisocial behavior. The 10-item Witnessing Violence in the Home scale asks youths to report the frequency with which they have witnessed an adult who lives in their home engaging in certain antisocial behaviors within the past year. These items use the following 6-point response scale: 1= *Never*, 2 = *1-2 times*, 3 = *3-5 times*, 4 = *6-9 times*, 5 = *10-19 times*, and 6 = *20 or more times,* paralleling the response choices of the PBFS. Items were based on the Conflict Tactics Scales (Straus, 1979), in which adults report on their spouses' various behaviors. The wording was changed from the original to reflect the actions of adults from the youth's perspective. The phrase "Adults that live in your house" was used in each question stem instead of "Your parents" because of the sensitivity of having children reporting on their parents' potentially illegal behavior. Moreover, it was uncertain whether children would be willing to disclose such information specifically about their parents. Sample items (all with the stem, "How many times have you seen an adult who lives in your house…") are, "…get drunk or high," "…yell or scream at someone," and "…beat someone up?" The

items from this subscale were interspersed with a more general measure of exposure to violence, which asks respondents to report on the antisocial acts they have witnessed or fell victim to (Richters & Saltzman, 1990). In the current study, this scale had an estimated reliability of .80.

Data Analyses

Data were first analyzed for evaluation of assumptions. Next, reliabilities (i.e., Cronbach's alpha coefficients) for each scale were calculated. Descriptive statistics were then calculated for parental messages supporting fighting (youth and parent report), parental messages supporting nonviolent responses (youth and parent report), parent prosocial and adult antisocial models, youth aggression (youth and parent report), and youth effective nonviolent behavior to determine their distribution properties. Gender differences, source (adolescent or parent) differences, and Gender by Source interactions were examined using analyses of variance (ANOVA). Correlational analyses were conducted to evaluate the relations among all variables in the study.

Hierarchical regression was then used to evaluate the relative contributions of each type of parental message (i.e., supporting fighting and supporting nonviolent responses) to adolescent behavior. Analyses were conducted for each of three dependent variables: youth-reported physical aggression, youth-reported effective nonviolent behavior, and parent-reported aggression. For analyses using youth-reported physical aggression as the dependent variable, the first step included demographic variables (i.e., adolescent gender, age, and family structure). For all regression analyses, family structure was dummy-coded using single-mother households as the reference group to compare to

households with other caregiver combinations (i.e., two biological parents, biological mother and stepfather, single caregiver other than mother, and other combinations). The second step in the regression analyses included parental messages supporting fighting (youth and parent reports) and the third step included parental messages supporting nonviolent responses (youth and parent reports). To account for effects due to the ordering of variables, a competing model was calculated that reversed the second and third steps. Identical procedures were used for analyses using youth-reported effective nonviolent behavior as the dependent variable, and for analyses using parent-reported aggressive behavior as the dependent variable. In all of the above analyses, reports of parental messages supporting nonviolent responses were entered separately from parental messages supporting fighting to see if the specific content of the message has a distinctly different contribution towards the outcomes.

Hierarchical regressions were also used to examine the influence of parental modeling on adolescent behavior, and to evaluate the relative contributions of messages and modeling. Again, analyses were conducted for each of the three dependent variables. Analyses were identical to the previously described procedures, with the addition of a step consisting of both prosocial and antisocial modeling. This step was entered second, and parental messages were entered in steps three and four (the order varying as described above). In these analyses, parental messages were entered separate from parental modeling to determine whether messages predict adolescent behavior above and beyond modeling. Reports of parental messages supporting nonviolent responses were again entered separately from parental messages supporting fighting.

Lastly, hierarchical regression analyses were employed to determine if the effect of parental messages on behavior is moderated by the gender of the adolescent. For these analyses, each parental messages variable (i.e., parent-report messages supporting fighting, parent-report messages supporting nonviolent responses, youth-report messages supporting fighting, and youth-report messages supporting nonviolent responses) was centered by subtracting the sample mean from each individual's raw score. Interaction terms were then created by multiplying the adolescent gender variable (males coded as 1 and females coded as 0) by each of these centered variables. Four sets of analyses were conducted for each of the three dependent variables, one for each type of message (supporting fighting or nonviolent responses) and source (youth- or parent-report). This resulted in twelve models. For all analyses, the first step included demographic variables (i.e., adolescent age, and family structure), and the two factors in the interaction term (gender and a mean-centered parental messages variable). The interaction term (gender x mean-centered variable) was entered at the second step to test the moderation.

Results

Data Cleaning

An analysis of missing values indicated that a number of adolescents were missing data for one or more key variables, and that these data were missing at random. Ten adolescents had not reported their month and year of birth in the assessment battery, but their ages were entered using the original list of potential participants from the Department of Social Services. Another 13 cases were missing data for at least one student-reported variable of interest. A single imputation was used to estimate missing data based on the nonmissing scores for each case. The data set containing imputed values was used for the remainder of analyses.

Analyses of the distribution properties of each scale led to transformation of several variables with significant skewness or kurtosis (i.e., absolute values of skewness or kurtosis greater than 1.00 or those greater than two times the standard error). For each variable, the weakest transformation necessary to render the distribution closest to within the acceptable ranges of normality was applied. A square root transformation was applied to parent prosocial models. Logarithmic transformations were applied to youth report of parental messages supporting nonviolent responses, adult antisocial models, effective nonviolent behavior, and physical aggression, as well as parent report of aggression. Parent report parental messages supporting nonviolent responses was transformed by

taking the inverse of scores. For ease of interpretation, transformed variables were reflected as needed in order to restore their original directionalities. After these transformations, no extreme univariate outliers were identified, nor were multivariate outliers with the use of a $p < .001$ criterion for Mahalanobis distance. The final number of cases for analysis was 105.

Descriptive Analyses

Means and standard deviations for all study variables are reported in Table 1 for boys and girls. Table 1 also reports the Cohen's *d* estimate of effect size for differences between boys and girls. Analyses of variance (ANOVAs) did not identify any significant differences between boys and girls on any of the measures examined.

Table 1

Means and Standard Deviations for Each Scale by Gender

	Girls		Boys			
Variable	*M*	*SD*	*M*	*SD*	*d*	*F*
Youth Report						
Aggressive behavior	1.64	0.73	1.66	0.74	-0.04	0.03
Effective nonviolent behavior	2.24	0.86	2.20	1.01	0.04	0.04
Parental messages supporting fighting	2.42	0.63	2.46	0.59	-0.07	0.12
Parental messages supporting nonviolent responses	3.06	0.69	3.13	0.68	-0.09	0.23
Adult antisocial models	1.87	0.74	1.72	0.65	0.21	1.08
Parent prosocial models	3.04	0.59	3.07	0.57	-0.05	0.07
Parent Report						
Aggressive behavior	7.62	6.60	6.11	5.59	0.24	1.52
Parental messages supporting fighting	2.25	0.51	2.44	0.56	-0.37	3.61
Parental messages supporting nonviolent responses	3.71	0.26	3.57	0.45	0.38	3.69

Note: $N = 105$

Repeated measures ANOVAs were conducted to compare differences in parental messages across source (youth- or parent-report). Pooled standard deviations were used to calculate Cohen's *d*, representing the effect size of the differences across sources. For parental messages supporting nonviolent responses, a significant main effect for source, $F(1,103) = 58.77$, $p < .001$ indicated that parents' perceptions of the extent to which they conveyed their support for nonviolent responses ($M = 3.64$; $SD = 0.35$) were stronger than their children's perceptions of this support ($M = 3.09$; $SD = 0.68$). The effect size of this difference using Cohen's *d* was 1.00. The effect size of the difference in these reports using the partial Eta squared statistic was moderate ($\eta 2 = .36$, $p < .001$), meaning that the source (parent or adolescent) accounted for 36% of the overall (effect+error) variance in these messages. Means for parental messages supporting fighting were 2.35 ($SD = 0.54$) for parent-report and 2.44 ($SD = 0.61$) for youth-report; this difference was not significant, $F(1,103) = 1.44$, $p > .05$. There were also no differences in reports based on gender, nor any significant interactions between gender and source. These findings suggest that any differences in reports of messages were not accounted for by the youth's gender.

Correlations among Measures

Correlations among all scales used in this study are reported in Table 2. Findings related to the relation between parental messages and adolescent behavior were mixed. It was expected that parental messages supporting fighting (both youth- and parent-report) would be positively correlated with aggression, and negatively correlated with effective nonviolent behavior. Conversely, it was anticipated that parental messages supporting

Table 2

Correlation Coefficients among Observed Variables

Variable	1	2	3	4	5	6	7	8	9
1. Parental messages supporting fighting (youth report)	1.00								
2. Parental messages supporting non-violent responses (youth report)	-.10	1.00							
3. Parental messages supporting fighting (parent report)	.06	-.09	1.00						
4. Parental messages supporting non-violent responses (parent report)	-.13	.19	-.36***	1.00					
5. Parent Prosocial Models (youth report)	.01	.40***	.01	.01	1.00				
6. Adult Antisocial Models (youth report)	.17	-.12	-.11	.07	-.47***	1.00			
7. Physical Aggression (youth report)	.17	-.25*	.06	.07	-.26**	.53***	1.00		
8. Effective Nonviolent Behavior (youth report)	.02	.32**	-.11	.15	.30**	.12	.30**	1.00	
9. Youth Aggression (parent report)	.03	-.14	.13	-.01	-.13	.15	.17	.09	1.00

Note: $N = 105$

*$p < .05$. **$p < .01$. ***$p < .001$.

nonviolent responses would be negatively correlated with aggression, and positively correlated with effective nonviolent behavior. Contrary to the first set of hypotheses, there were no significant correlations between parent or youth report of parental messages supporting fighting and adolescent behavior (aggression or effective nonviolent responses). As hypothesized, a moderate correlation was found between youth report of parental messages supporting nonviolent responses and their reported effective nonviolent behavior ($r = .32$, $p < .01$). The expected inverse relation between youth report of parental messages supporting nonviolent responses and their reported physical aggression was also significant ($r = -.25$, $p < .05$). These two findings indicate that youth that reported hearing messages supporting nonviolent responses from their parents also reported engaging in less aggressive and more effective nonviolent behavior. Parent reports of parental messages supporting nonviolent responses did not show the same pattern. There were also no significant correlations between parental messages and parent reports of their children's aggressive behavior. As expected, the correlation between parents' reports of their own messages (supporting fighting and nonviolent responses) was significant and negative ($r = -.36$, $p < .001$). However, there was no significant relation between youth reports of these two types of messages.

Correlations between parental modeling and adolescent behavior were mostly significant and in the expected directions. There was a strong positive relation between adult antisocial modeling and physical aggression (youth report only), such that youth that reported witnessing antisocial behavior in the home reported engaging in higher levels of aggression ($r = .53$, $p < .001$). Contrary to expectation, exposure to adult

antisocial models did not negatively correlate with effective nonviolent behavior. As anticipated, the relations between parental prosocial modeling and adolescents' reports of their own behaviors were significant. Prosocial modeling was positively correlated with effective nonviolent behavior ($r = .30$, $p < .01$) and negatively correlated with physical aggression ($r = -.26$, $p < .05$). As expected, adolescent reports of parent prosocial and adult antisocial models were negatively correlated ($r = -.47$, $p < .001$).

Correlations between measures of constructs related to aggression and nonviolence revealed an inconsistent pattern. Not surprisingly, there was a moderate to strong positive correlation between youth reports of their parents' prosocial behavior and parental messages supporting nonviolent responses ($r = .40$, $p < .001$). However, the same was not true for reports of adult antisocial behavior and parental messages supporting fighting. The relation between youth reports of their own levels of aggressive behavior and use of effective nonviolent responses was hypothesized to be significant, negative, and moderate in strength. Interestingly, these constructs were found to be positively correlated ($r = .30$, $p < .01$). Parent and youth reports of the same constructs, including parental messages supporting fighting, messages supporting nonviolent responses, and adolescent aggression, were not significantly correlated. Finally, hypotheses involving parent-report adolescent aggression were not supported, as this measure did not significantly correlate with any other.

Hierarchical Regression

Hierarchical regression analyses were employed to address several hypotheses. All analyses were conducted separately for each of three dependent variables: youth

reported physical aggression, youth reported effective nonviolent behavior, and parent reported aggression. The first set of regressions was conducted to determine the extent to which parental messages are related to adolescent behavior. It was hypothesized that parental messages supporting fighting would be more strongly related to aggressive behavior, and parental messages supporting nonviolent responses would be more strongly related to effective nonviolent behavior, although all relations would be significant. The first model, reported in Table 3, used youth reported physical aggression as the dependent variable.

Table 3

Summary of Hierarchical Regression of Youth Reported Physical Aggression on Parental Messages

Step	Variables entered	sr^a	R^2	R^2 change
1	Demographics		.10	
	Gender	.01		
	Child Age	.02		
	Family Structure: Two-Parent Family	-.06		
	Family Structure: Mother and Stepfather	.26**		
	Family Structure: Other Single Caregiver	.06		
	Family Structure: Other Combination	.18		
2	Parental messages supporting fighting		.13	.03
	Youth-Report	.15		
	Parent-Report	.07		
3	Parental messages supporting nonviolent responses		.20*	.07*
	Youth-Report	-.24*		
	Parent-Report	.13		

Note. $N = 105$
[a]Semi-partial correlation at the step at which the variable was entered.
* $p < .05$. ** $p < .01$. ***$p < .001$.

Step 1, which did not reveal a significant overall effect, included demographic variables (i.e., adolescent gender, age, and family structure). The addition of both

adolescent and parent reports of parental messages supporting fighting at Step 2 did not significantly improve the R^2. However, adding parent and youth reports of parental messages supporting nonviolent responses at Step 3 increased the R^2 by .07 ($p < .05$). This change was primarily due to the youth's reports of messages supporting nonviolent responses. A competing model, in which parental messages supporting nonviolent responses was entered before parental messages supporting fighting, yielded similar findings.

Identical procedures were followed using parent reports of adolescent aggression as the dependent variable (see Table 4). The results of these analyses suggested no significant relation between parent reports of aggression and parental messages.

Table 4

Summary of Hierarchical Regression of Parent Reported Physical Aggression on Parental Messages

Step	Variables entered	*sr*[a]	R^2	R^2 change
1	Demographics		.11	
	Gender	-.06		
	Child Age	-.10		
	Family Structure: Two-Parent Family	-.15		
	Family Structure: Mother and Stepfather	.15		
	Family Structure: Other Single Caregiver	.13		
	Family Structure: Other Combination	.12		
2	Parental messages supporting fighting		.13	.02
	Youth-Report	.02		
	Parent-Report	.14		
3	Parental messages supporting nonviolent responses		.15	.01
	Youth-Report	-.10		
	Parent-Report	.05		

Note. $N = 105$
[a]Semi-partial correlation at the step at which the variable was entered.
* $p < .05$. ** $p < .01$. ***$p < .001$.

Similar analyses were conducted on youth reported effective nonviolent behavior (see Table 5). Entering demographic variables at Step 1 resulted in a significant overall effect of the model. The effects were primarily due to the addition of family structure; adolescents that reported living with their biological mother and stepfather were significantly more likely to also report engaging in effective nonviolent behavior. After controlling for this effect, effective nonviolent behavior was significantly predicted by parental messages supporting nonviolent responses (R^2 change = .08, $p < .01$), specifically youth reports. The addition of parental messages supporting fighting in Step 3 did not significantly improve the R^2. Similar results were obtained when the order of entry for Steps 2 and 3 was reversed; that is, entering parental messages supporting fighting at Step 2 was not significant, and entering messages supporting nonviolent responses at Step 3 remained significant.

Table 5

Summary of Hierarchical Regression of Youth Reported Effective Nonviolent Behavior on Parental Messages

Step	Variables entered	sr^a	R^2	R^2 change
1	Demographics		.20**	
	Gender	-.12		
	Child Age	.07		
	Family Structure: Two-Parent Family	.10		
	Family Structure: Mother and Stepfather	.41***		
	Family Structure: Other Single Caregiver	.07		
	Family Structure: Other Combination	-.05		
2	Parental messages supporting nonviolent responses		.28***	.08**
	Youth-Report	.27**		
	Parent-Report	.04		
3	Parental messages supporting fighting		.28***	.01
	Youth-Report	.01		
	Parent-Report	-.02		

Note. $N = 105$
[a]Semi-partial correlation at the step at which the variable was entered.
* $p < .05$. ** $p < .01$. ***$p < .001$.

The second set of regressions tested the effects of parental modeling on adolescent aggression and effective nonviolent behavior. They were also conducted to determine whether the effects of parental messages on adolescent behavior add to the influences of parental modeling. It was hypothesized that parental messages would predict both adolescent aggression and effective nonviolent behavior above and beyond parental modeling. Regressions were first run using youth reports of aggression as the dependent variable. Demographic variables entered at Step 1 did not account for a significant proportion of the variance (see Table 6). The addition of parental modeling at Step 2 significantly improved the R^2 (R^2 change = .23, $p < .001$), primarily due to the addition of adult antisocial modeling. The inclusion of parental messages supporting

fighting in Step 3 did not further improve the R^2. However, parental messages supporting nonviolent responses added in Step 4 did result in a significant change in the R^2 (R^2 change = .04, $p < .05$), due to the youth's, rather than their parents', reports of messages. In a competing model in which parental messages supporting nonviolent responses was entered prior to parental messages supporting fighting, the addition of parental messages supporting nonviolent responses at Step 3 also produced an R^2 change of .04. However, in this model the contribution did not reach significance at $p < .05$.

Table 6

Summary of Hierarchical Regression of Youth Reported Physical Aggression on Parental Modeling and Messages

Step	Variables entered	*sr*[a]	R^2	R^2 change
1	Demographics		.10	
	Gender	.01		
	Child Age	.02		
	Family Structure: Two-Parent Family	-.06		
	Family Structure: Mother and Stepfather	.26**		
	Family Structure: Other Single Caregiver	.06		
	Family Structure: Other Combination	.18		
2	Parental and Adult Modeling		.33***	.23***
	Adult Antisocial Models	.41***		
	Parent Prosocial Models	-.03		
3	Parental messages supporting fighting		.35***	.02
	Youth-Report	.08		
	Parent-Report	.11		
4	Parental messages supporting nonviolent responses		.39***	.04*
	Youth-Report	-.19*		
	Parent-Report	.11		

Note. $N = 105$
[a]Semi-partial correlation at the step at which the variable was entered.
* $p < .05$. ** $p < .01$. ***$p < .001$.

Similar analyses were conducted to examine relations with parent reports of adolescent aggression. After controlling for demographic variables, there were no

significant effects for parental modeling entered at Step 2, parental messages supporting fighting at Step 3, or parental messages supporting nonviolent responses at Step 4 (see Table 7). For each model, results did not significantly differ when ratings of parental messages supporting nonviolent responses were entered before ratings of parental messages supporting fighting.

Table 7

Summary of Hierarchical Regression of Parent Reported Physical Aggression on Parental Modeling and Messages

Step	Variables entered	*sr*[a]	R^2	R^2 change
1	Demographics		.11	
	Gender	-.06		
	Child Age	-.10		
	Family Structure: Two-Parent Family	-.15		
	Family Structure: Mother and Stepfather	.15		
	Family Structure: Other Single Caregiver	.13		
	Family Structure: Other Combination	.12		
2	Parental and Adult Modeling		.13	.01
	Adult Antisocial Models	.04		
	Parent Prosocial Models	-.08		
3	Parental messages supporting fighting		.15	.02
	Youth-Report	.01		
	Parent-Report	.14		
4	Parental messages supporting nonviolent responses		.15	.01
	Youth-Report	-.07		
	Parent-Report	.05		

Note. $N = 105$
[a]Semi-partial correlation at the step at which the variable was entered.
* $p < .05$. ** $p < .01$. ***$p < .001$.

Parallel analyses on youth reported effective nonviolent behavior are reported in Table 8. After controlling for demographic variables, adolescent effective nonviolent

behavior was predicted by parental modeling (R^2 change = .14, $p < .001$). Both parent prosocial and adult antisocial modeling were strong predictors within this model.

Table 8

Summary of Hierarchical Regression of Youth Reported Effective Nonviolent Behavior on Parental Modeling and Messages

Step	Variables entered	*sr*[a]	R^2	R^2 change
1	Demographics		.20**	
	Gender	-.12		
	Child Age	.07		
	Family Structure: Two-Parent Family	.10		
	Family Structure: Mother and Stepfather	.41***		
	Family Structure: Other Single Caregiver	.07		
	Family Structure: Other Combination	-.05		
2	Parental and Adult Modeling		.34***	.14***
	Parent Prosocial Models	.36***		
	Adult Antisocial Models	.25**		
3	Parental messages supporting nonviolent responses		.37***	.03
	Youth-Report	.19		
	Parent-Report	.05		
4	Parental messages supporting fighting		.37***	.00
	Youth-Report	.01		
	Parent-Report	-.02		

Note. $N = 105$
[a]Semi-partial correlation at the step at which the variable was entered.
* $p < .05$. ** $p < .01$. ***$p < .001$.

Interestingly, the relation between both types of modeling (prosocial and antisocial) and effective nonviolent behavior was positive. This differs from the findings from the first-order correlations, which indicated that antisocial adult models and adolescents' nonviolent behavior were not significantly correlated. These findings suggest a more complex pattern of relations within the multivariate that includes demographic variables and parent prosocial models. The addition of parental messages supporting nonviolent responses in Step 3, and parental messages supporting fighting in Step 4, did not

significantly improve R^2. These results did not differ when ratings of parental messages supporting fighting were entered before ratings of messages supporting nonviolent responses.

A final set of regressions was conducted to test the hypothesis that the effect of parental messages is moderated by adolescent gender, such that the effect of messages from the same-gendered parent is stronger on youth behavior. Interaction terms were calculated using gender and mean-centered parental messages variables: youth-report messages supporting fighting, parent-report messages supporting fighting, youth-report messages supporting nonviolent responses, and parent-report messages supporting nonviolent responses. For each dependent variable, analyses were conducted to examine the predictive value of the interaction terms above and beyond the main effects of each individual factor. Of the twelve models tested, only one model indicated a significant interaction, F (8,96) = 2.26, $p < .05$. Specifically, adolescent gender moderated the relation between parental messages supporting fighting as reported by parents and adolescent physical aggression as reported by youth. Although the regression weights for boys and girls were in the opposite direction, only the results for girls were significantly different from zero at $p < .05$. Thus, the more mothers endorsed giving messages supporting fighting to their adolescent girls, the higher their daughters' self-reported aggression. This trend was not present for mothers' messages to their sons.

Discussion

Summary and Discussion of Findings

The purpose of this study was to examine the impact of parental messages supporting fighting and nonviolent responses on aggression and effective nonviolent behavior among urban adolescents. As predicted, youth reports of parental messages supporting nonviolent responses were significantly related to lower levels of youth aggression and higher levels of effective nonviolent behavior. Contrary to expectation, there was no significant relation between either youth or parent reports of parental messages supporting fighting and adolescent behavior. Hypotheses related to a unique effect of parental messages above and beyond parental behavioral modeling were partially supported. As expected, the effect of parental messages supporting nonviolent responses on aggression remained significant even when controlling for parental modeling. However, support was not found for a unique effect of parental messages supporting nonviolent responses on effective nonviolent behavior. Only minimal support was found for the moderating influence of adolescent gender on the relation between parental messages and aggression and effective nonviolent behavior: a significant interaction was found for gender only for the relation between parent reported messages supporting fighting and youth reported aggression. Finally, as anticipated, the patterns of findings differed based on the type of message given (i.e., in support of fighting or

nonviolent responses), the type of adolescent behavior (i.e., aggressive or effective nonviolent), and the information source (i.e., adolescent or parent).

In keeping with previous findings (e.g., Farrell, Henry, et al., in press; Kliewer et al., 2006; Orpinas et al., 1999), the current study hypothesized that adolescents' frequency of aggression would be uniquely predicted by both their parents' messages supporting fighting and their messages supporting nonviolent responses. Support for these hypotheses was mixed. As hypothesized, youth reports of parental messages supporting nonviolent responses significantly predicted a lower frequency of aggressive behavior. This finding corroborates prior research that suggests children who perceive their parents as providing support for nonviolent responses to conflict exhibit fewer aggressive behaviors (e.g., Farrell, Henry, et al., in press). In contrast, the current study did not find a significant relation between parental messages supporting fighting and adolescent aggression. This finding is not consistent with the existing body of literature on parental messages and aggression, which suggests a relation between these two variables (e.g., Malek et al., 1998; Neapolitan, 1981; Orpinas et al., 1999). These results are, however, similar to findings by Copeland-Linder and colleagues (2007), who also found no relation between parental messages supporting fighting and aggressive behavior. A possible explanation relates to research suggesting that youth spend more time with peers than with parents over the course of adolescence, making the influence of peers more salient (Krosnick & Judd, 1982; Larson, Richards, Moneta, Holmbeck, & Duckett, 1996). Although some youth in this sample hear messages supporting fighting from their parents, their behavior may be more strongly influenced by peer support for

nonviolent responses. The nonsignificant findings may have also been due to methodological limitations of the current study – these are discussed in more detail in the following section.

Because the absence of aggression does not imply the presence of socially competent behavior (e.g., Farrell, Erwin, et al., 2008; Hanish & Guerra, 2002), a second main focus of this study was to examine the effects of parental messages on adolescent effective nonviolent behavior. Results support the hypothesis that youth reported parental messages supporting nonviolent responses predict adolescents' use of effective nonviolent behavior. This finding is a unique contribution to the field; previous research has linked parental messages to social competencies such as proactive coping (Kliewer et al., 2006) and peer acceptance (Mize & Pettit, 1997), but not specifically to effective nonviolent behavior. Support was not found for the hypothesis that parental messages supporting fighting would predict effective nonviolent behavior. Although this finding was not anticipated, it is not surprising that the discouragement of fighting alone, without suggestions for effective alternatives, would not influence the use of such alternatives.

Together these findings suggest that, contrary to the existing literature, parental messages supporting fighting do not have an influence on adolescent aggressive or effective nonviolent behavior. However, youth's perceptions of messages supporting nonviolent responses predict both a lower frequency of aggression and a higher frequency of effective nonviolent behavior. These results imply that for parents, simply refraining from endorsing fighting as a response to problem situations is not sufficient to reduce aggression or increase the use of effective nonviolent behavior. It appears as though it is

more important for youth to believe that if they encounter a problem, their parents would support them if they used nonviolent alternatives to fighting.

This study also explored the unique effects of parental messages on adolescent aggression and nonviolence relative to the effects of parental modeling of antisocial and prosocial behavior. It was hypothesized that parental modeling of antisocial and prosocial behavior would have unique influences on adolescent aggression and effective nonviolent behavior. Consistent with the study's hypotheses, exposure to antisocial models predicted a higher frequency of adolescent aggression. Interestingly, exposure to antisocial models also predicted a higher frequency of effective nonviolent behavior. This unexpected finding was not evident in the first-order correlations, suggesting that it may reflect a more complex relation among variables within the regression model that included demographic variables and prosocial adult models. As expected, exposure to prosocial models predicted a higher frequency of effective nonviolent behavior. Although prosocial modeling was negatively correlated with aggression as hypothesized, this relation was not significant within the context of the full regression model. For the most part, these results are in accordance with previous work on the modeling of both aggressive (e.g., Bandura, Ross & Ross, 1961; Schwartz et al. 1997) and constructive ways of dealing with problem situations (e.g., Van Doorn et al., 2007). The current findings provide a unique contribution to the literature in that they extend previous findings to urban, primarily African American, adolescents.

The hypothesis that parental messages would influence adolescent behavior above and beyond the effects of parental modeling was partially supported. As expected, the

effect of parental messages supporting nonviolent responses on aggression remained significant even when controlling for parental modeling. This suggests that although adolescents who witness antisocial acts in the home are more likely to engage in aggressive behavior, parents may be able to inhibit this aggression by supporting their children's use of nonviolent alternatives. In contrast, the effect of parental messages on adolescents' use of effective nonviolent responses dropped out when parental modeling was added to the model. This implies that parental messages do not have an effect on adolescents' use of effective nonviolent responses beyond what can be explained by witnessing their parents' actions. One possible explanation for these findings comes from the theoretical work of Bandura (1986), who distinguished between verbal messages that are instructional (i.e., teaching a new behavior) from those that are instigational (i.e., encouraging the enactment of a previously learned behavior). Bandura posited that verbal instigation is meaningless if the receiver of the message does not know how to perform the suggested behavior. Perhaps even with verbal encouragement, some adolescents are not able to carry out effective nonviolent behaviors, such as talking out a problem or managing their emotions during an argument. Adolescents whose parents verbalize support for effective nonviolent responses may be deterred from using aggressive strategies. Nevertheless, they may lack the skills to use the suggested strategies without also observing them modeled at home.

Reports of parental messages were obtained from both adolescents and parents in this study. This was done in order to examine the effects of each report on adolescent behavior, and to explore any discrepancies between the two informants. Results did not

support the hypothesis that both parents' and youths' reports of parental messages would significantly relate to adolescent behavior. In fact, significant effects were not found for parents' reports of their own messages. At the same time, these results did support the hypothesis that there would be a discrepancy between information sources. This is consistent with the study by Solomon and colleagues (2008), which found little agreement between parents and children when asked about familial support for aggression. The current findings also generally supported the hypothesis that youth's perceptions of their parents' messages would be a better predictor of their behavior than their parent's self-reports. Similar to the findings of Copeland-Linder et al. (2007), results indicated that youth and parent reports of parental messages were not significantly correlated, and they differed in their patterns of relations with adolescent aggression and effective nonviolent behavior. These findings imply that parents' reports of the messages they provide and youth's perceptions of the messages they hear are two distinct constructs. Further, it seems likely that what parents intend to or believe they say is not as important as what their children hear or infer from them.

Finally, the moderating effect of gender on the relations between parental messages and adolescent behavior was examined. All but one parent reporter in the study was female, and 87% indicated that they were the adolescent participant's mother. It was expected that messages from mothers would have a stronger influence on the behavior of adolescent girls than on boys. This hypothesis was partially supported, in that adolescent gender moderated the relation between parental messages supporting fighting (as reported by parents) and aggression (as reported by youth). Although the difference between boys

and girls was significant, only the effect for girls was significantly different from zero. In other words, for girls but not boys, the more mothers endorsed giving messages supporting fighting, the higher the adolescents' self-reported aggression. This finding is consistent with the hypothesis that adolescents identify more with parents of the same gender (Bussey and Bandura, 1984), and are therefore more greatly influenced by them. However, it is unclear why this pattern was not found for youth reported messages of fighting, or for reports of messages supporting nonviolence from either source. Further investigation is needed to better understand the role of gender in parent-child communication about aggression and nonviolence.

Several additional findings warrant discussion. First, contrary to expectation, there was a moderately positive correlation between youth-reported aggression and effective nonviolent behavior. Although previous research suggests that effective nonviolent behavior is not the true inverse of aggression (e.g., Farrell, Erwin, et al., 2008; Hanish & Guerra, 2002), a modest negative correlation was anticipated. Recent findings using a sample of sixth-grade urban adolescents indicated that these two constructs were significantly negatively correlated (r = -19; Sullivan et al., 2009). It is unclear why these variables were significantly correlated in a positive direction in this sample. It is possible that due to the length of the assessment battery and the placement of the measures of interest towards the end of the survey, youth were not paying close attention to detail when responding. In other words, responding in the same fashion to most items on the Problem Behavior Frequency Scales with little attention to content would result in the

subscales being positively correlated. Potential problems associated with data collection and other limitations are discussed in more detail in the following section.

Second, the different patterns of results for parental messages supporting fighting and messages supporting nonviolent responses strengthen the argument that these two types of messages represent related, but independent constructs. Previous studies of parental messages have typically considered messages as two sides of the same coin: either for or against aggression (Orpinas et al., 1999). Consistent with qualitative research on parental messages (Farrell, Mays, et al., in press), the findings of the current study suggest that parents that verbalize support for fighting do not necessarily endorse nonviolent strategies, and vice versa. Some parents may endorse both fighting and nonviolence depending on the circumstances of the conflict, while others may not engage in this type of communication with their children at all. It is important that future research studying parental messages supporting aggression also consider messages supporting nonviolent responses as a unique construct worthy of examination.

Finally, parents' reports of youth aggression were not significantly related to any of the measures examined in this study. The fact that youth and parent reports of adolescent aggression were not significantly correlated suggests several explanations. Perhaps there was a lack of awareness on the part of parents' in this sample of their children's behaviors. It is also possible that parents provided socially desirable responses when asked about their children's aggression. These findings further speak to the complexity of informant discrepancies, and reinforce the need for reports from multiple respondents.

Limitations and Directions for Future Research

Several limitations to the design and implementation of the current study should be considered when interpreting the results. One important limitation is the cross-sectional design, which precludes making clear conclusions about the temporal order of variables. The theoretical model of this study presumes that adolescents' behaviors are, in part, a result of or reaction to their parents' messages. However, there is some evidence indicating that parents' advice about social situations may be attempts to alter their children's already maladaptive behavior (Constance & Kliewer, 2008; McDowell & Parke, 2009). Longitudinal studies similar to that of Farrell and colleagues (Farrell, Henry, et al., in press) would provide better insight into the direction of influence, and how the relation between these variables may change over the course of development.

Several considerations related to the measurement of parental messages suggest that this remains an area in need of continued exploration. The measure used in the current study is unique in that it was designed to be ecologically relevant to urban adolescents, and to represent messages supporting fighting and messages supporting nonviolent responses as distinct constructs. Although this was considered an improvement over existing self-report measures, it also has several limitations. One is the lack of contextual information given to the participant, which may make responding difficult for adolescents who hear mixed or conflicting messages at home. For example, messages from a parent may vary based on the nature of the problem situation, such as who the conflict is with or the severity of the problem. The scale may not have been sufficiently complex to address contextually-based messages (e.g., "If someone picks on

you, you should tell a teacher; but if someone hits you, hit them back.”). A better understanding of the contextual factors that parents consider when guiding their children’s behavior would greatly improve on the measurement of parental messages. Moreover, just as the same parent may provide messages that differ based on situational factors, two or more family members could consistently provide conflicting advice (Anderson, 1999; Farrell, Mays, et al., in press). It is possible that hearing inconsistent or mixed messages (either across family members or contexts) may itself have an effect on adolescent behavior that is different from messages consistently supporting either aggressive or nonviolent solutions. More research is needed to determine how best to capture subtle differences in messages within and between family members. A qualitative study focusing specifically on parental messages would greatly expand the knowledge of their content and context. It would be valuable to identify from parents and youth themselves what parents are saying to their children about aggression and nonviolence, how and when these messages are given, and the reasoning or rationale behind them.

A more serious potential limitation of this measure is that it may not have solely assessed the degree to which verbal messages are given or heard. The measure asks how *likely* the youth’s parents are to make each statement, on a scale from *very unlikely* to *very likely*. It is possible that this wording was inadvertently tapping into the youth’s perceptions of their parents’ attitudes, rather than assessing the kinds of statements that they have actually heard their parents tell them. This is a subtle distinction, but one that is important given the hypotheses of the current study. One of the purposes of this study was to assess the unique effect of actual messages supporting fighting or nonviolence

compared to another salient source of influence: parental modeling. If the parental messages measure tapped into assumptions about what parents are likely to say based on factors other than their verbal statements (e.g., behavior), the uniqueness of messages may not have been fully observed. Future adaptations of the Parental Messages about Fighting and Nonviolent Responses scale might alter the instructions to ascertain the degree to which parents have actually made statements similar to those in the items. In addition, further revisions may be warranted as more studies are done to establish the reliability and validity of the measure.

Another important factor that should be considered when interpreting the results is the likelihood of participant fatigue effects. Because the measures used in the current study were part of a larger intervention study, the complete assessment batteries were of significant length. The mean completion time for the youth assessment battery was over 90 minutes; participants were likely experiencing some degree of fatigue, and may not have been highly attentive or careful when responding.

A final caveat must be issued regarding the relatively small size of the current sample. Twenty-two cases were excluded from analyses for various reasons, such as the absence of data from either the parent or adolescent and a discrepancy between the "parent" reporter and the person the adolescent respondent identified as being his or her "parent." Cases were also excluded based on concerns for the validity of the findings, which could have been the result of limitations described elsewhere (e.g., fatigue effects). It is possible that differences in the final sample were too small to be detected given the

number of participants. Thus, interpretation of particularly the nonsignificant findings should be made with caution.

Despite these limitations, this study made important contributions to the literature on the influence of parenting practices on adolescent behavior. The results also have important implications for interventions aimed to reduce violence or promote positive youth development. Although it is more common for programs to focus on individual risk factors, reviews have concluded that the effectiveness of intervention efforts could be increased with the inclusion of parent or family components (Reese, Vera, Simon, & Ikeda, 2000). Several family-based programs shown to be effective in reducing aggression in both children (e.g., Metropolitan Area Child Study Research Group, 2002) and adolescents (e.g., Functional Family Therapy; Sexton & Alexander, 2002) include components to increase positive parent-child communication. In the current study, parental messages supporting nonviolent responses were related to lower levels of aggression, a promising finding for programs that already incorporate parent-child communication. Such programs may be enhanced by specifically addressing communication about effective nonviolent responses to conflict.

Future studies are needed to address the limitations of the current study, as well as to better understand the results found. A promising direction for future research is the mechanisms by which parental suggestions for responding to conflict are received and internalized by children. The current study tested the relation between parental messages and adolescent behavior, but did not examine potential mediating variables. The processes by which the influence of messages is theorized to occur (i.e., contributing to

the social knowledge database and affecting the stages of social information-processing) remain to be explored. A better understanding of how a child's environment contributes to his or her decision to use violent or effective nonviolent strategies would contribute greatly to the development of successful interventions.

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Publications:

Kaplan, R. I., Kramer, A. M., & Neiderhiser, J. M. (2007). Genetic influences on social behavior. In R. F. Baumeister & K. D. Vohs (Eds.), *Encyclopedia of Social Psychology* (Vol. 1, pp. 375–378). Thousand Oaks, CA: Sage.

Presentations:

Kramer, A. M., Ulbricht, J. A., Haddad, S. K., & Neiderhiser, J. M. (2006, May). *Genetic and Environmental Influences on Antisocial Behavior in Young Adults.* Poster session presented at the Association for Psychological Science 18th Annual Convention, New York, NY.

Kramer, A. M., Mays, S. A., & Farrell, A. D. (2008, March). The relative influence of parental messages and peer deviance on student beliefs supporting aggression and nonviolent responses. Poster session presented at the biennial meeting of the Society for Research on Adolescence, Chicago, IL.

Kramer, A. M., Mays, S. A., Bettencourt, A. F., Kliewer, W., & Farrell, A. D. (2009, April). *Does what parents say matter? Developing a measure of parental messages about aggression and nonviolence*. Poster session presented at the biennial meeting of the Society for Research in Child Development, Denver CO.

Bettencourt, A. F., Mays, S. A., Kramer, A. M., Kliewer, W., & Farrell, A. D. (2009, April). *Assessing Adolescent Values and Goals: A Confirmatory Factor Analysis of the Internalized Values and Goals Scale*. Poster session presented at the biennial meeting of the Society for Research in Child Development, Denver CO.

Mays, S. A., Bettencourt, A. F., Kramer, A. M., & Farrell, A. D. (2009, April). *Improving the Ecological Validity of Predictors of Youth Aggression: The Development of the Beliefs About Fighting and Non-violent Alternatives Scale*. Poster session presented at the biennial meeting of the Society for Research in Child Development, Denver CO.

Titchner, D. K., Pugh, K. L., Mays, S. A., Bettencourt, A. F., Kramer, A. M., & Farrell, A. D. (2009, April). *Development and Evaluation of an Interview-Based Measure of Social-Cognitive Processes Related to Aggression.* Poster session presented at the biennial meeting of the Society for Research in Child Development, Denver CO.