2020

The Influence of Peers on Adolescents' Physical Aggression: The Moderating Roles of Parental Messages Supporting Fighting and Nonviolence

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THE INFLUENCE OF PEERS ON ADOLESCENTS' PHYSICAL AGGRESSION: THE MODERATING ROLES OF PARENTAL MESSAGES SUPPORTING FIGHTING AND NONVIOLENCE

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University

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September, 2020

Acknowledgements

I would like for first thank my research advisor and committee chair, Dr. Albert D. Farrell for his continued guidance and patience through this process. I would also like to thank my committee members, Dr. Scott Vrana, Dr. Terri Sullivan, Dr. Wendy Kliewer, and Dr. Shelby McDonald, for their commitment and time. Finally, I would like to thank my family for their support and encouragement. This research was supported in part by a cooperative agreement (U01CE001956) from the Centers for Disease Control and Prevention (CDC), awarded by Dr. Albert D. Farrell. The findings and conclusions are those of the author and do not necessarily represent the official position of the CDC.

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Abstract

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There is substantial support for the link between peer factors (e.g., peer victimization, peer pressure for fighting) and adolescents' aggressive behavior. Less is known about protective factors that may mitigate the relation between peer factors and aggressive behavior. Parents serve as early role models for socialization during childhood and continue to be present in youths' lives during adolescence. Parental influences, such as parental messaging supporting fighting and nonviolence, have been directly associated with aggressive behavior. What remains unclear is the extent to which parental messages supporting fighting and nonviolence might serve as a protective factor in the relations between negative peer interactions and aggressive behavior. The purpose of this study was to investigate longitudinal effects of peers (i.e., physical peer victimization, peer pressure for fighting, friends' delinquent behavior, friends' support for fighting, and friends' support for nonviolence) on adolescents' physical aggression and to examine the extent to which parental messages supporting fighting and nonviolence moderated these effects. The study comes from analyses of data from a study evaluating the effects of a

school-based violence prevention program. Participants were a predominantly African-American sample of 2,156 sixth, seventh, and eighth grade students from three public middle schools in the mid-Atlantic region of the United States. Data were collected across four waves (i.e., fall, winter, spring, summer) within the school year between 2010 and 2018. Results indicated that physical peer victimization, peer pressure for fighting, and friends' support for fighting predicted changes in self-report of physical aggression, after controlling for all other peer variables. Peer pressure for fighting uniquely predicted changes in teacher-report of physical aggression. Minimal support was found for the moderating roles of parental messages supporting fighting and nonviolence. Contrary to hypotheses, the relation between friends' delinquent behavior and teacher-report of physical aggression was moderated by parental messages such that the relation was more evident for adolescents' who received high levels of parental messages supporting nonviolence. Support was found for simple main effects of parental messages such that parental messages supporting nonviolence uniquely predicted changes in self- and teacher-report of physical aggression, whereas parental messages supporting fighting is sometimes necessary predicted changes in self-report of physical aggression. These findings suggest that interventions may need to target multiple peer factors and parental messages in order to reduce adolescents' physical aggression.

The Influence of Peers on Adolescents' Physical Aggression: The Moderating Roles of Parental Messages Supporting Fighting and Nonviolence

Aggressive behavior in children and adolescents has been associated with adjustment difficulties including internalizing and externalizing problems, and maladaptive peer relationships (e.g., Card, Stucky, Sawalani, & Little, 2008, Schaeffer, Petras, Ialongo, Poduska, & Kellam, 2003). Research has identified positive relations between peer interactions (e.g., peer victimization, peer pressure) and aggressive behavior in adolescents (e.g., Casper & Card, 2017; Cotter & Smokowski, 2017; McQuade, 2017). Adolescence is a period when youth rely more on peers for social support, acceptance, and modeling of behavior as they begin to spend more time with peers and less time with family, including parents (Brown & Klute, 2003). Due to this increased time spent with peers during adolescence, and peers' influence on youths' behavior, research examining the effects of peer interactions on aggressive behavior continues to be an important area of research. The need for further research investigating the influence of peer factors on aggressive behavior may be particularly relevant for African-American and Hispanic youth due to findings that these youth have reported greater levels of physically aggressive behavior towards peers compared with their European-American counterparts (e.g., Wang, Iannotti, & Nansel, 2009).

Peer victimization is one peer factor that has strong support for its relation to aggressive behavior and has been found to happen at the highest rates during early adolescence (e.g., Finkelhor, 2014). Peers can victimize youth physically (e.g., hitting someone), verbally (e.g., calling someone names) or relationally (e.g., spreading rumors about someone; Archer & Coyne, 2005). There are different ways in which peer victimization has been measured. Some studies have used measures that combined physical, verbal, and relational forms of victimization into a

broad measure of victimization (e.g., Renouf et al., 2010), whereas others have combined physical and verbal forms of victimization into a measure of overt victimization (e.g., Espelage, Low, & Rue, 2012; Vernberg, Nelson, Fonagy, & Twemlow, 2011). It may be important to examine relations between specific forms of victimization and adjustment difficulties due to findings that different forms of victimization may be differentially associated with adjustment. For instance, Casper and Card (2017) conducted a meta-analysis on cross-sectional studies examining the effects of overt and relational victimization on externalizing and internalizing problems. They found that relational victimization was more strongly associated with relational aggression and that overt victimization was more strongly associated with overt aggression.

Peer pressure is another peer factor that has been related to aggressive behavior during adolescence. Peer pressure, defined as attempts by peers to coerce youth to engage in certain behavior (e.g., Ngee Sim & Fen Koh, 2003), has primarily been measured broadly to include multiple types of behavior (e.g., delinquency, aggression; Padilla-Walker & Bean, 2009). Some studies have measured specific forms of peer pressure and their relations with adjustment. For instance, Choo and Shek (2013) measured peer pressure to drink and found that it was positively related to drinking behavior. Few quantitative studies, however, have examined the effects of peer pressure to act aggressively on youths' aggressive behavior. This relation was discussed in a qualitative study that examined factors that effect how a primarily African-American sample of adolescents responds to peer conflict (Farrell et al. 2010). Specifically, adolescents suggested that pressure from peers to respond aggressively was a factor that influenced their aggressive behavior in response to conflict.

Another factor that has been linked to adolescents' aggressive behavior is association with delinquent peers. Delinquent peer association refers to the affiliation with peers who engage

in antisocial behavior (e.g., Fergusson, Wanner, Vitaro, Horwood, & Swain-Campbell, 2003). Associating with delinquent peers may be beneficial in increasing adolescents' social status and protecting them from future peer victimization (e.g., Gifford-Smith & Brownell, 2003). Findings from cross-sectional and longitudinal studies have provided evidence for the positive relation between delinquent peer association and both composite forms of aggression (e.g., combining physical and verbal; Hong, Kim, & Piquero, 2017) and measures of specific forms of aggression (e.g., physical; Thompson, Mehari, & Farrell, 2019). Delinquent peer association may influence adolescents' behavior by influencing the beliefs and values that drive their behavior (e.g., Dishion, Spracklen, Andrews, & Patterson, 1996).

Perceived support for fighting and nonviolence is another way in which peers indirectly influence adolescents' behavior. Specifically, adolescents' behavior is shaped by their beliefs and the beliefs of others around them, including peers or close friends (Crick & Dodge, 1994). Some studies have assessed the relation between perceived support for behavior, such as substance use and aggression, and subsequent externalizing problems (e.g., Pederson et al., 2017). For instance, Jung, Krahe, and Busching (2018) found that peer acceptance of aggression predicted later aggressive behavior. Farrell et al. (2010) qualitatively explored the relation between perceived support for fighting and nonviolence, and aggressive behavior. Specifically, they found that perceptions of friends' support for fighting was a main reason behind adolescents' decision to respond aggressively to peer provocation. In contrast, perceived friends' support for nonviolence was discussed as a factor that increased the likelihood of an adolescent responding nonviolently to peer provocation.

The influence of peer interactions on aggressive behavior during adolescence highlights the need to identify factors that might protect adolescents from these negative influences. One

such factor is parental messages supporting nonviolence. Although family interactions tend to decrease during adolescence (e.g., Pardini, Loeber, & Stouthamer-Loeber, 2005), youth still spend a great deal of time in the presence of their parents. Additionally, parents are the first models youth imitate (Hovell, Wahlgren, & Adams, 2009) and they often provide messages regarding acceptable behavior that are influenced by their own beliefs and values (Tam & Lee, 2010). Youth may then use the family norms or messages communicated by their parents to make their own decisions about their behavior. This is supported by findings that youth whose parents provided messages in support of aggressive behavior reported greater levels of aggressive behavior (e.g., Solomon, Bradshaw, Wright, and Cheng, 2008). The potential protective effect of parental messages supporting nonviolence was also discussed in a qualitative study where youth identified parental messages supporting nonviolence as a factor that prevented them from responding aggressively to conflictual peer relationships (Farrell et al., 2010). These findings suggest that parental messages supporting nonviolence may serve as a protective factor in the relation between negative peer interactions and aggressive behavior.

Given the negative outcomes associated with aggression and the importance of peer interactions in developing aggressive behavior, additional research is needed to clarify the ways in which negative peer interactions influence aggressive behavior and how parents may mitigate these effects. The current study examined the longitudinal influence of peers (i.e., physical peer victimization, peer pressure for fighting, friends' delinquent behavior, friends' support for fighting, and friends' support for nonviolence) on adolescents' physical aggression through analysis of data from a study that evaluated the effects of a school-based violence prevention program. The sample included a predominantly African-American group of sixth, seventh, and eighth grade students at three public middle schools. Cross-lagged regression analyses were used

to investigate the relations between peer interactions and physical aggression over time. The moderating roles of parental messages supporting fighting and nonviolence on the relation between peer interactions and physical aggression also were tested. This study advanced the current literature by examining the influence of physical peer victimization, peer pressure for fighting, friends' delinquent behavior, friends' support for fighting, and friends' support for nonviolence on the frequency of physically aggressive behavior and the extent to which these relations are moderated by parental messages.

Literature Review

This section discusses the role that peers play in youths' lives during adolescence and how negative (i.e., peer victimization, peer pressure, friends' delinquent behavior, friends' support for fighting) and positive (friends' support for nonviolence) peer influences affect aggressive behavior. First, the mechanisms by which peers provide support are discussed. Then, research is presented that details the associations between peer victimization and adjustment, and between peer pressure and adjustment, with an emphasis on physical peer victimization, peer pressure for fighting, and physical aggression. Empirical support for the relations between friends' delinquent behavior and adjustment, and friends' support for fighting and nonviolence and adjustment is also discussed, with a similar emphasis on physical aggression. Next, several theories including social learning theory, general strain theory, social norm theory, and social information processing theory are presented to explain the mechanisms through which peers might influence the development of aggressive behavior during adolescence. Then, research concerning the role parents' messages (i.e., parental messages support fighting and nonviolence) may play to strengthen or weaken the relation between peer interactions and adolescents'

physical aggression is discussed. Lastly, the importance of examining peer relations and aggression within a sample of adolescents from under-resourced communities is discussed.

Peer Relationships During Adolescence

Peers, who have been categorized as affiliates of reputational-based groups (Strauss, Rodzilsky, Burack, & Colin, 2001), unfamiliar similar-aged associates (Mallet & Lallemand, 2003), and friends (Springer, Kelder, & Hoelscher, 2006), are important contributors to youths' development. Compared with peer relationships during childhood, peer networks during adolescence tend to be larger, more stable, and more supportive (e.g., Prinstein, Brechwald, & Cohen, 2011). This may in part be due to the trend of youth decreasing the amount of time spent with family and relying more on peer groups for social support (Brown & Klute, 2003). In addition, peer groups provide youth with a sense of security, autonomy, and self-expression in ways that might differ from what their family (e.g., parents) is able to provide (Yavuzer, Karatas, Civilidag, Gundogdu, 2014). Given the amount of time that youth spend with peers, it is no surprise that over time, youth become more similar to peers in terms of their behavior and beliefs (e.g., Bagwell & Schmidt, 2011; Dishion et al., 2008).

In social contexts such as schools, adolescents are exposed to different groups of peers that may differentially influence their behavior. According to Brown (2004), peer groups include dyadic friend groups, smaller-sized groups (e.g., cliques), and larger-sized groups (e.g., crowds). Youth in dyadic friend groups and smaller-sized groups interact with one another more regularly than youth in larger-sized groups (Brown, 2004). This may be due to the selection and maintenance processes that exist in friend groups. Consistent with the similarity attraction hypothesis (Byrne, 1971), youth are inclined to select and maintain friendships with peers who engage in similar levels of a particular behavior (e.g., prosocial behavior, aggression).

Additionally, youth in the smaller groups tend to have less adult supervision and are more likely to participate in antisocial or delinquent activities together (e.g., partying, drinking). Though larger groups such as school or classroom crowds exist, youth in these groups are less likely to know each other due to the size of these groups (Brown, 2004). However, larger peer groups existing in schools or neighborhoods may still influence youths' behavior. For instance, adolescents living in communities characterized by high rates of violence may attend the same schools or participate in the same extracurricular activities. For adolescents who have internalized aggressive behavior as normal, they may act aggressively in the presence of other peers, which might then influence other adolescents' future aggressive behavior. The peer groups that youth belong to vary in the amount of time peers spend together and in the contexts or environments where the time is spent, which might change the ways in which peers influence youth adjustment.

Peers contribute to adolescents' behavior in both direct and indirect ways. Brown (2004) suggested that peers influence youth directly through peer pressure and by regulating norms, and indirectly through behavior modeling and structuring of opportunities. Peer pressure is characterized as overt or direct efforts to advise other youth about what to believe or how to behave (Brown, 2004). Peer pressure can be both positive and negative. For instance, adolescents may be pressured by peers to stay out late, skip class, or engage in other delinquent behavior (e.g., Allen, Porter, & McFarland, 2006). They may also be pressured by peers to tell the truth, attend class, or engage in more prosocial behavior (e.g., Padilla-Walker & Bean, 2009). Normative regulation occurs when peers discuss the expected norms of a particular peer group (MacLeod, 1995). Normative regulation is believed to be a more direct form of peer influence because norms are intentionally regulated through conversations with peers. When youth do not

follow the normative expectations of their peer group, youth may be subject to negative peer behaviors such as being teased or gossiped about (Macleod, 1995). Behavioral modeling by peers is considered more indirect because there is a lack of direct pressure to engage in a similar way (Hundleby & Mercier, 1987). Instead, peers provide models of certain behavior that youth may then imitate on their own. Similarly, peers may provide opportunities for youth to participate in certain behavior (e.g., drinking) by providing the contexts for the behavior to take place. For instance, a youth might choose to attend a party without supervision thrown by a classmate. Though there might not be direct pressure to engage in certain behavior at the party, the opportunity to do so might be provided by the classmate who threw the party.

In sum, peers serve an important role during adolescence by providing youth with support, a sense of belongingness, and behavioral modeling. Peers who exist in different groups (e.g., cliques) can shape youths' behavior both directly (e.g., peer pressure) and indirectly (e.g., modeling).

Peer Victimization

One way that youth may be indirectly exposed to aggressive behavior is through peer victimization. Peer victimization has been broadly defined as being the recipient of any non-sexual aggressive behavior instigated by a youth aimed at a similar-aged peer (Finkelhor & Dziuba-Leatherman, 1994; Hawker & Boulton, 2000). Peer victimization has generally been characterized as overt or relational. Overt victimization occurs when a youth is controlled or harmed through actual physical damage or threatened physical damage (e.g., being hit, being threatened to be hit; Crick & Bigbee, 1998; Crick & Grotpeter, 1996). Overt victimization may include physical victimization, which involves actual physical damage (e.g., being pushed), and verbal victimization, which involves non-physical damage or threats of damage (e.g., being

called names; Crick & Bigbee, 1998). Whereas overt victimization focuses on victimization that is directed towards the individual, relational victimization occurs when peers attempt to control or harm youths' relationships with other peers (e.g., being excluded from a birthday party; Casper & Card, 2017; Crick & Bigbee, 1998). Both overt (i.e., physical and verbal) and relational forms of victimization have been linked to adjustment difficulties (e.g., Casper and Card, 2017).

Peer victimization and adjustment. Youth who have been victimized by peers tend to report greater levels of behavioral adjustment difficulties (e.g., Hanish & Guerra, 2002; Hawker & Boulton, 2000). A meta-analysis by Reijntjes et al. (2011) examined longitudinal studies that investigated the effects of peer victimization on externalizing problems (e.g., aggressive behavior, antisocial problems) in children and adolescents. They found that peer victimization significantly predicted increases in externalizing problems over time with effect sizes ranging from small to moderate across studies. Meta-analyses have found that peer victimization is also related to more specific forms of externalizing problems. For instance, a meta-analysis by Ttofi, Farrington, Losel, Crago, and Theodorakis (2016) found that early peer victimization was a significant predictor of later drug use in children and adolescents, but the effect was small.

Peer victimization has also been found to be a strong predictor of later aggressive behavior (e.g., Ttofi, Farrington, & Losel, 2012). For example, among a predominantly White and Hispanic sample of adolescents 10 to 17 years old, Duggins, Kuperminc, Henrich, Smalls-Glover, and Perilla (2015) found that self-reported victimization predicted aggressive behavior one year later. Yu et al. (2017) found similar results in a sample of Dutch adolescents 13 to 18 years old. Although there is support from a meta-analysis that victimization is a strong predictor of aggressive behavior, there are some studies that have not found support for this relation. For

instance, among a diverse (i.e., European-American, Hispanic, African-American, Asian) sample of seventh graders, Kaynak, Lepore, Kliewer, and Jaggi (2015) found that victimization at Time 1 did not predict teacher-report of aggression at Time 2. Differences in findings across studies may be due to differences in sample characteristics, particularly age differences, and the informant used in the study. For instance, studies by Duggins et al. (2015) and Yu et al. (2017) sampled adolescents from different backgrounds, but adolescents ranged from 10 to 18 years old. In contrast, Kaynak et al. (2015) only sampled seventh graders. Additionally, Duggins et al. (2015) and Yu et al. (2017) used self-report, whereas Kaynak et al. (2015) used teacher-report. One weakness that existed across studies is that they used composite measures of victimization (e.g., combining physical and verbal) and aggression (e.g., combining physical and verbal).

As previously discussed, peer victimization can be overt (i.e., physical or verbal) or relational. The importance of distinguishing among the different forms of peer victimization is supported by findings that the relation between peer victimization and maladjustment might vary depending on the form of victimization measured. A meta-analysis by Casper and Card (2017) found that both overt and relational victimization were each related to externalizing problems. However, they also found that overt victimization was more strongly associated with overt aggression, whereas relational victimization was more strongly associated with relational aggression. These findings suggest that although both forms of victimization are related to negative outcomes, each (e.g., overt victimization) is more strongly related to the outcome that is more similar to the type of behavior being measure (e.g., overt aggression). Although not analyzed in the meta-analysis, it is likely that verbal and physical forms of victimization are strongly associated with verbal and physical forms of aggression, respectively.

Physical peer victimization and physical aggression. Adolescence is a salient time to consider the effects of peer victimization given that peer victimization has been found to happen most often during this stage of development (e.g., Finkelhor, 2014). Specifically, research suggests that youth experience physical peer victimization more than other forms of victimization during adolescence. For example, in a national survey of US youth, Turner, Finkelhor, Hamby, Shattuck, and Ormrod (2011) found that physical victimization or assault was the most common form of peer victimization experienced by their sample. Additionally, for adolescents, they found that 25% of youth 10 to 13 years old and 27% of youth 14 to 17 years old reported being physically victimized by peers in the past year. These findings support the notion that physical peer victimization is particularly concerning during adolescence.

Although some studies have examined the relation between broad measures of peer victimization and broad measures of aggression (e.g., Duggins et al., 2015; Yu et al., 2017), fewer have focused more narrowly on the link between physical peer victimization and physical aggression. Cross-sectional and longitudinal studies have found support for a positive association between physical peer victimization and youths' physical aggression. Some studies focused on specific age groups or grades, whereas other studies focused on wider age groups or grades. For instance, in a cross-sectional study of European-American and Asian-American fourth graders, Kawabata and Crick (2013) found that teachers tended to report higher levels of physical aggression for children whose peers nominated them as having experienced physical victimization. Similar results have been found for a sample of eighth graders. Specifically, among a predominantly African-American sample of eighth grade students, Sullivan, Farrell, and Kliewer (2006) found that self-report of physical peer victimization explained 16% of the variance in self-report of physical aggression, after controlling for gender. Studies sampling a

wider age group have also found support for the positive relation between physical peer victimization and physical aggression. For example, in a predominantly European sample of Canadian sixth and seventh graders, Hoglund, Hosan, and Leadbeater (2012) found that adolescents who reported experiencing more physical peer victimization reported higher levels of physical aggression compared with youth who reported experiencing less physical peer victimization. In addition, Russell, Kruas, and Ceccherini (2010) found support for a positive relation between physical peer victimization and physical aggression among a predominantly European-American sample of children in grades three through eleven.

Findings from cross-sectional studies have been replicated in longitudinal studies. For example, in a predominantly European-American sample of children 8 to 10 years old, McQuade (2017) found that Time 1 parent- and teacher-report of adolescents' physical peer victimization was related to changes in parent- and teacher-report of physical aggression 1 year later. In addition, among a predominantly European-American sample of children, Ostrov (2010) found that teacher-report of physical peer victimization was associated with changes in observed physical aggression 4 months later. These findings suggest that physical peer victimization is predictive of later physically aggressive behavior in youth.

Peer Pressure and Adjustment

Unlike peer victimization, which influences youths' behavior indirectly, experiencing pressure from peers is a more direct way that peers may influence youths' behavior. Peer pressure is defined as the active urging or encouragement to act or think in a way that is favored by a peer or group of peers (e.g., Santor et al., 2000; Sim & Koh, 2003). Experiencing negative pressure from peers has been associated with adjustment difficulties including poorer academic achievement, and greater involvement in substance using and delinquent behavior (e.g., Allen,

Porter, & McFarland, 2006; Santor et al., 2000; Sullivan et al., 2006). Additionally, studies suggest that specific types of peer pressure are related to youths' engagement in those specific behaviors. For instance, Padilla-Walker and Bean (2009) found that peer pressure to participate in delinquent behavior (e.g., stealing) was positively related to youths' engagement in delinquent behavior among a predominantly European-American and Hispanic sample of adolescents 14 to 19 years old. Similarly, broad measures of peer pressure have also been related to adjustment. For example, Dumas, Ellis, and Wolfe (2012) found that a broad measure of peer pressure from peers, including pressure towards substance use, was positively associated with youths' substance using behavior. These findings suggest that both general and specific forms of peer pressure may influence youths' behaviors.

Another form of externalizing behavior that has been associated with peer pressure is aggressive behavior. Compared with other behaviors such as delinquency and substance use, fewer studies have examined relations between peer pressure and broad measures of aggressive behavior. There is some evidence supporting the link between peer pressure and broad measures of aggressive behavior, though no support has been found longitudinally. For instance, in a racially and ethnically diverse sample of sixth through eighth graders, Smokowski, Guo, Cotter, Evans, and Rose (2016) found that self-report of peer pressure was positively associated with self-report of aggressive behavior. Similarly, Cotter and Smokowski (2017) found that self-reported peer pressure was positively related to self-report of aggressive behavior in a female sample of sixth through eighth graders. However, they did not find longitudinal support for the link between peer pressure and aggressive behavior. These findings suggest that for middle school students, peer pressure is positively related to broad measures of aggressive behavior, though findings are all based on cross-sectional studies.

Peer pressure for fighting and physical aggression. Though some studies have explored the link between general forms of peer pressure and general forms of aggression, few studies have examined the link between peer pressure for physical aggression (e.g., fighting) and youths' physically aggressive behavior. Edwards, van de Mortel, and Stevens (2019) qualitatively explored perceptions of aggressive behavior in a sample of male adolescents from a rural town. Youth identified peer pressure (i.e., pressure to fight) as a factor that contributed to their aggressive behavior. Specifically, some youth stated that they were more likely to respond to peer provocation in a physically aggressive way because of pressure from peers to do so, with one youth stating, "people push you like into fights, like you don't want to fight like someone…everyone's telling you to…provoking you." This relation was evaluated quantitatively in both a cross-sectional and longitudinal study. In a predominantly African-American sample of sixth through eighth graders, Farrell, Thompson, and Mehari (2017) found that self-reported peer pressure for fighting was positively associated with self- and teacher-report of physical aggression, after controlling for other peer factors. This association was supported longitudinally in a similar sample. Specifically, using the same data examined in the present study, Thompson, Mehari, and Farrell (2019) found that self-reported peer pressure for fighting at Time 1 predicted self- and teacher-report of physical aggression three months later, though the effects were small. Taken together, these findings suggest that peer pressure for fighting is an important predictor of later physical aggression.

Delinquent Peer Association

Another peer factor that indirectly influences adolescents' behavior is delinquent peer association or peer delinquency. Delinquent peer association represents adolescents' associations with peers who engage in problem behaviors such as substance use or aggressive behavior (e.g.,

Fergusson, Wanner, Vitaro, Horwood, & Swain-Campbell, 2003). Adolescents may choose to affiliate with delinquent peers for various reasons. For instance, adolescents are more likely to interact with individuals who share similar beliefs and engage in similar behavior (e.g., Gaughan, 2006). Additionally, adolescents who are victimized might associate with delinquent peers in order to gain social approval (e.g., Clasen & Brown, 1985) or to protect themselves against future victimization (e.g., Gifford-Smith & Brownell, 2003). Delinquent peers may influence adolescents' behavior through daily interactions that might involve direct peer pressure, reinforcement, and social modeling (Dodge, Lansford, & Dishion, 2006). Through interactions with delinquent peers, adolescents are likely to develop attitudes and beliefs that favor delinquent behavior, which may increase their chances of participating in delinquent behavior in the future (e.g., Dishion, Spracklen, Andrews, & Patterson, 1996; Yanovitzky 2005).

Delinquent peer association and adjustment. Associating with delinquent peers has been linked to externalizing problems in adolescents including delinquent and substance using behavior. For instance, a cross-sectional study by Hinnant, Erath, Shimizu, and El-Sheikh (2019) found that delinquent peer affiliation was positively related to self-reported externalizing problems (e.g., aggression, rule breaking behavior) in a predominantly European-American sample of adolescents. Similarly, among a predominantly African-American sample of fifth graders, Mrug and Windle (2009) found that peer deviance was positively associated with a composite measure of self-reported externalizing problems, including disruptive and delinquent behavior. Delinquent peer affiliation was also found to uniquely contribute to self-report of nonviolent crimes (e.g., vandalism, breaking and entering) among a sample of African- and European-American early adolescents (Kalvin & Bierman, 2017). Unlike in previous studies that measured broad forms of externalizing problems, Jiang, Yu, Zhang, Bao, and Zhu (2016)

examined a specific form of externalizing problem (i.e., substance use). They found that delinquent peer affiliation was positively related to self-reported alcohol use for Chinese boys and girls, and positively related to cigarette use among boys, but not for girls.

Aggressive behavior is another form of externalizing behavior that has been linked with delinquent peer affiliation. There is some support from cross-sectional studies for a relation between delinquent peer association and composite measures of aggression. For instance, among a sample of high school girls from Turkey, Bas (2016) found that mild levels of peer deviance were positively related to self-report of reactive (e.g., "Gotten angry when frustrated") and proactive (e.g., "Vandalized something fun") forms of aggression. Similar findings were also found in samples of middle school students. For instance, Wang et al. (2017) examined the relation between delinquent peer affiliation and a composite measure of aggression (i.e., combining physical, verbal, and indirect aggression) among a sample of middle school adolescents from China. They found that delinquent peer association was positively linked to self-report of aggressive behavior, after controlling for gender, age, and socioeconomic status. In a middle school sample of adolescents from South Korea, Hong, Kim, and Piquero (2017) found a positive relation between delinquent peer association and self-reported bullying perpetration (e.g., social exclusion, hit or threaten someone), after controlling for sex, age, and socioeconomic status. Similar results were found in a study that measured bullying perpetration among a predominantly African-American sample of fifth through seventh graders (Grant, Merrin, King, & Espelage, 2019).

Findings from cross-sectional and longitudinal studies have provided evidence for the relation between delinquent peer affiliation and physical forms of aggression. For example, among a predominantly African-American and Hispanic sample of middle school students,

Farrell, Mays, Henry, and Schoeny (2011) found that delinquent peer association was positively related to physical aggression. Additionally, in a predominantly African-American sample of middle school students, Farrell, Thompson et al. (2017) found that friends' delinquent behavior was positively related to self-, but not teacher-report, of adolescents' physical aggression. In a longitudinal study, Zhu et al. (2017) found that high levels of delinquent peer association in the eighth grade predicted high levels of self-reported physical aggression in the ninth grade. Similarly, among a sample of sixth through eighth graders, Henry, Tolan, Gorman-Smith, and Schoeny (2012) found that peer delinquency in sixth grade predicted higher levels of violence (e.g., assault, fighting) in the seventh and eighth grade, though the effects were small. Lastly, using the same data as the current study, Thompson et al. (2019) found that friends' delinquent behavior predicted increases in self-, but not teacher-report, of physical aggression at a later time point, though the effects were small. In sum, these findings suggest that delinquent peer association is positively related to externalizing problems, including aggressive behavior.

Peer Support for Fighting and Nonviolence

Much of the literature examining peer predictors of externalizing problems has focused on behavioral influences (e.g., peer victimization, peer pressure, peer deviance). However, adolescents' behavior may also be influenced by their perceptions of their peers' support or approval of their behavior. Adolescents' behavior is not only shaped by their own beliefs, but also by the beliefs and values of those closest to them, such as peers or friends (Crick & Dodge, 1994). This notion is supported by findings that perceived injunctive norms (i.e., perceptions about peers' attitudes about the acceptability of behavior) are positively related to adolescents' engagement in externalizing behavior (e.g., substance use; Pederson et al., 2017; Williams & Covington, 1997). Similar to other peer influences, the need to behave in ways that are approved

or accepted by peers is important in order to maintain social status and may decrease the likelihood of being victimized by peers (e.g., Bandura, 1971; Hovell, Wahlgren, & Gehrman, 2002).

The importance of peer support for aggressive behavior has been supported in qualitative and quantitative studies. For instance, Farrell, Thompson et al. (2010) examined factors that influenced adolescents' use of aggressive and nonviolent responses to peer provocation in a predominantly African-American sample of youth. Adolescents identified friends' support for fighting as the primary reason for why they would choose to respond aggressively to peer conflict, explaining that being supported by a friend would make them more likely to act aggressively. On the other hand, friends' support for nonviolence was mentioned as a factor that would make it more likely that an adolescent would respond nonviolently to peer conflict. This relation has been supported quantitatively. For instance, a cross-sectional study by Farrell, Thompson et al. (2017) found that friends' support for fighting was positively related to self-reported physical aggression for a predominantly African-American sample of middle school students. There is also some support from longitudinal studies. For example, among a sample of adolescents from Germany, Jung et al. (2018) found that peer acceptance of aggression at Time 1 was positively related to aggressive behavior at Time 2. Similarly, Thompson et al. (2019) found that friends' support for fighting at Time 1 predicted later self-, but not teacher-report of physical aggression using the same data in the present study, though the effects were small. These findings provide some support for the relation between peer support for fighting and nonviolence and aggressive behavior.

Theoretical Background

Several theories have attempted to explain the relation between peer interactions (e.g., peer victimization and peer pressure) and adolescents' physical aggression. Social learning theory suggests that individuals learn how to behave by observing how others behave (Bandura, 1973). Social norms theory posits that individuals adapt how they behave in ways that are consistent with the norms of socially valued individuals (e.g., peer groups; Cialdini & Trost, 1998). General strain theory proposes that negative interactions with individuals lead to disruptive behavior through negative emotions (Agnew, 1992). Lastly, social information processing theory postulates that individuals' responses to conflictual social stimulus are a function of several steps or decisions made along the way that help individuals decide how to respond (Dodge, Pettit, McClaskey, Brown, & Gottman, 1986).

Social learning theory postulates that behavioral patterns can be learned by witnessing the behavior of others (e.g., modeling) or through direct exposure to certain behavior (e.g., being victimized; Bandura, 1971; 1973). In line with the social learning theory of aggression, individuals who are exposed to environments that are high in aggression tend to imitate aggressive behavior more than those who are not (Bandura, 1978). Peers represent a group of individuals to whom youth are exposed for a large part of their day, which makes them important in terms of social learning. When youth engage in behavior that their peers also engage in, their behavior may be positively reinforced through increased social status or popularity (e.g., Hovell et al., 2002). Likewise, youth may engage in similar behavior as their peers if they feel that not doing so will result in social punishment, such as social rejection or a decrease in social status (e.g., Bandura, 1971; Heilbron & Prinstein, 2008). Consistent with social learning theory, youth who are physically victimized by their peers may learn physically aggressive behavior from

those peers. Additionally, youth who are pressured to react aggressively by their peers may comply with peer pressure if acting in that way is consistent with their peer group.

Norms play an important role in the ways in which youth are socialized to behave. According to social norms theory, individuals tend to modify their behavior in ways that are consistent with the expected or accepted behavior of those whom they value (e.g., peers; Cialdini & Trost, 1998). The expected or accepted behavior represents norms that reflect behavior that is normally approved (i.e., what is socially allowed) or what is normally done (i.e., what is common; Cialdini, Kallgren, & Reno, 1991). Peer-related group norms are important within a social group because a youth's position in that social group will depend largely on whether or not group norms are complied with (Smith & Louis, 2008). Group norms, particularly within the school setting, may influence youths' aggressive behavior if the school has social norms supporting aggressive behavior as a way to correct apparent injustices (e.g., being victimized) or a means to gain social popularity or status (e.g., comply with peer pressure; Fagan & Wilkinson, 1998). Group norms may be descriptive or injunctive in nature, with each type of norm creating different pathways to peer-influenced behavior. Descriptive norms represent actual or perceived behavior within a peer group, whereas injunctive norms represent actual or perceived beliefs within a peer group (Cialdini & Trost, 1998). Peer pressure is proposed as a third type of social norm that presents clear encouragement from peers to behave in a certain manner (Brown, Clasen, & Eicher, 1986; Santor, Messervey, & Kusumakar, 2000). Compared with descriptive and injunctive norms, peer pressure is considered a more direct peer group norm (e.g., van de Bongardt, Reitz, Sandfort, & Dekovic, 2015).

General strain theory posits that negative events or relationships with others (e.g., being victimized) result in antisocial behavior (e.g., aggression) due to negative feelings (e.g., anger;

Agnew, 1992). The negative events or relationships, which are known as strains, involve situations where individuals do not attain positively valued goals (Agnew, 1992). Strains may also occur in instances where there is threat or actual removal of a positively valued stimulus, and instances where there is threat or actual addition of a negatively valued stimulus (Agnew, 1992). Peer victimization represents a negative event that is seen as unjust and considered to be high in magnitude (e.g., Miller et al., 1996). It is also an experience that leads to low conventional social controls, as victimized youth are often rejected by peers and have trouble forming positive peer relationships (e.g., Coie, Dodge, & Kupersmidt, 1990; Rodkin & Hodges, 2003). As victimized youth begin to imitate behavior modeled by their abuser, they may be likely to engage in aggressive behavior in order to reestablish their status within their social group (e.g., Mahady, Wilton, & Craig, 2000). General strain theory is typically not used to explain the relation between peer pressure and aggressive behavior. However, one could argue that pressure from peers might also meet criteria for a strain that increases antisocial behavior in youth.

According to social information processing theory, individuals decide how to react to conflictual social interactions, such as peer victimization, using a sequence of steps (Dodge et al., 1986). These steps include encoding or translating pertinent information from the environment, decoding the environmental cues, accessing potential response options, deciding on how to respond, and then enacting the chosen behavioral response (Bellmore, Chen, & Rischall, 2013). Aggressive behavior may occur as a result of biases or deficits in the processing steps, whereas non-aggressive behavior may be likely to occur if the environmental information is correctly processed along the way (Bellmore et al., 2013). Being the recipient of peer victimization has been found to disturb the processing steps in a way that increases sensitivity to aggressive cues,

which creates hostile attribution bias (e.g., Dodge et al., 2003; Weiss, Dodge, Bates, & Pettit, 1992). There is evidence to support the mediating role of deficits in social information processing in the relation between peer victimization and aggressive behavior in youth (e.g., Dodge et al., 2003; Lansford, Malone, Dodge, & Pettit, 2010). Taken together, the literature suggests that disruptions in social information processing following peer victimization may put youth at risk for engaging in aggressive behavior (e.g., Herts, McLaughlin, & Hatzenbuehler, 2012).

Parental Support for Fighting and Nonviolence

Parents play an important role in the ways in which youth are socialized. Starting from birth, parents serve as initial models for behavior that are deemed socially acceptable (e.g., Bandura, 1978; Buhi & Goodson, 2007). Parents also pass on important values and beliefs that youth then use to form their own values and beliefs (Lau, Quadrel, & Hartman, 1990). Parents may pass on these values through direct modeling of certain behavior or by communicating (e.g., expressing praise or support) their opinions about certain behavior (e.g., Bandura, 1986; Cohen, Richardson, & LaBree, 1994). The influence of parents is especially important in the development of aggressive behavior, with parents teaching children how to handle conflict in either aggressive or non-aggressive ways (e.g., Orpinas, Murray, & Kelder, 1999). Having a parent who supports non-violent alternatives may mitigate the negative relation between negative peer interactions (e.g., peer victimization) and adolescents' aggressive behavior.

Studies have examined the effects of parental messages on youths' aggressive behavior through qualitative and quantitative work. For instance, Farrell et al. (2010) conducted a qualitative study that investigated environmental factors that contributed to the ways youth respond to peer-related problem situations. Some youth suggested that they would be more likely

to respond aggressively to conflictual peer situations because of encouragement to do so from parents. On the other hand, some indicated that parental messages disapproving of aggression and in favor of more nonviolent alternatives would prevent them from responding aggressively to peer provocation. Researchers have also examined this relation quantitatively. Studies have found that parental messages favoring or valuing aggressive behavior have been positively related to youths' aggressive behavior (e.g., Dodge, Pettit, & Bates, 1994; Farrell, Henry, Schoeny, Bettencourt, & Tolan, 2010; Kliewer, Parrish, & Taylor, 2006; Orpinas, Murray, & Kelder, 1999; Solomon, Bradshaw, Wright, & Cheng, 2008). Although studies have examined the effects of parental support for fighting on aggressive behavior, fewer studies have examined the effects of parental support for nonviolence. One study that did examine this effect (Garthe, Sullivan, & Larsen, 2015) found that perceived parental support for nonviolent responses was inversely related to later aggressive behavior for seventh grade students, but not sixth grade students.

Recent work using latent class analysis (LCA) has suggested that there are distinct subgroups of youth who report receiving different patterns of messages from their parents about nonviolence and fighting. Specifically, O'Connor, Coleman, Farrell and Sullivan (2020) found support for four subgroups of adolescents who reported receiving different patterns of messages from their parents about nonviolence and fighting. The subgroups included patterns representing: (a) mostly messages supporting fighting, (b) mostly messages supporting nonviolence, (c) mixed messages, and (d) no messages. They found that the four subgroups differed in their aggressive behavior such that the subgroup reporting mostly messages supporting nonviolence reported lower frequencies of peer victimization and aggression compared with the mostly messages supporting fighting and mixed messages subgroups. These findings suggest that youth may

perceive various messages about fighting and nonviolence from their parents and that distinct patterns of parental messages could have different relations with adjustment.

Previous studies examining the protective effect of parental factors on the relation between peer risk factors and externalizing behavior have focused on particular forms of parental involvement such as high parental control and monitoring, and positive family environment (Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2006; Galambos, Barker, & Almeida, 2003; Kiesner, Poulin, & Dishion, 2010; Nash, McQueen & Bray, 2005). Less attention has been given to the protective effect of parental messages on the relation between peer risk factors (e.g., peer pressure for fighting, friends' support for fighting) and aggressive behavior. Parental messages are an important protective factor to investigate during adolescents. Although youth spend more time with peers and less time with parents during this time, parents remain important contributors to socialization (e.g., Brown & Klute, 2003; Compas, Worsham, & Ey, 1992).

Though no study to my knowledge has examined the moderating role of parental messages on the relations among peer victimization, peer pressure, friends' support for fighting and nonviolence, and aggression, two studies have examined parental messages as moderators of relations between other peer risk factors and externalizing behavior. For instance, among a predominantly African-American and Hispanic sample of middle school students, Farrell, Henry, Mays, and Schoeny (2011) found support for the protective effect of parental messages on the relation between risk factors (e.g., delinquent peer associations) and aggression. For boys, they found that parental support for nonviolence attenuated the effects of delinquent peer association and aggression. However, for girls, they found that high levels of perceived parental support for nonviolent alternatives buffered the effects of norms (i.e., class and school norms) and parental support for fighting on aggressive behavior. They also found that low parental support for

fighting weakened the relations between the risk factors and physical aggression for boys and girls. In contrast, Kramer-Kuhn and Farrell (2016) found that parental support for nonviolence did not serve a protective function in the relation between delinquent peer association and aggression among a predominantly African-American sample of sixth graders. Differences in findings across these studies may be explained by differences in the informants used to measure aggressive behavior and differences in samples. Farrell et al. (2011) created a multiple-informant composite that included self- and teacher-report of aggressive behavior, whereas Kramer-Kuhn and Farrell (2016) created a similar composite using self-, teacher-, and parent-report. Both Farrell et al. (2011) and Kramer-Kuhn and Farrell (2016) sampled youth from schools in four communities where two to three schools within each community were assigned to a universal intervention, selective intervention, combined intervention (selective and universal), and no-intervention-control. However, Kramer-Kuhn and Farrell (2016) focused on a separate sample of youth who met criteria for the selective intervention. Taken together, it is plausible that parental messages may buffer the relation between other peer factors (e.g., peer victimization, friends' support for fighting) and physically aggressive behavior.

There is some qualitative work that supports the notion that parental messages favoring nonviolence might protect adolescents from the negative effects of peer influence. Farrell et al.'s (2010) qualitative study investigated factors that contributed to how adolescents responded to conflict. Some adolescents suggested that even in the presence of peer pressure, messages from their parents favoring nonviolent responses to conflict might prevent them from responding aggressively. In addition, some youth stated that their parents explained potential consequences of aggressive behavior (e.g., going to jail) that helped them decide not to respond aggressively. This suggests that receiving parental messages supporting nonviolent alternatives to peer conflict

might make adolescents less vulnerable to the negative effects of peer influence. In summary, due to the continued importance of parents during adolescence, adolescents who are at an increased risk for aggressive behavior may benefit from having parents who communicate messages that are in favor of nonviolent responses to peer-related conflict.

Youth in Under-resourced Communities

Youth in under-represented groups (e.g., African-American and Hispanic youth), particularly those living in under-resourced communities, are at an increased risk of behaving aggressively. Using a nationally representative sample of sixth through tenth graders in the US, Wang et al. (2009) found that compared with European-American youth, African-American and Hispanic youth reported being more physically aggressive towards peers. This may be reflective of the consequences of residing in under-resourced neighborhoods characterized by high levels of crime and community violence (e.g., Berman, Silverman, & Kurtines, 2002; Foster, Brooks-Gunn, & Martin, 2007; Osofsky, 1999). Many under-resourced communities have poor neighborhood conditions, violence, and family discord (e.g., Phillips, Branch, Brady, & Simpson, 2018). Youth raised in these neighborhoods may observe community members engaging in aggressive behavior that youth may internalize as being socially acceptable. This perception of the acceptability of such behavior may increase youths' chances of behaving in a similar way.

In addition to an increased risk for witnessing aggressive behavior, minority youth, particularly those raised in impoverished environments, are also at an increased risk for experiencing peer victimization (e.g., Bettencourt & Farrell, 2013; Goldweber, Waasdorp, & Bradshaw, 2013). This may be because aggressive behavior may be more acceptable in these environments, which reinforces such behavior towards peers. Some studies have found racial and

ethnic differences in experiences of peer victimization, but have differed in the direction of these differences. For instance, some have found that African-American youth reported greater peer victimization compared with youth from other racial and ethnic groups (e.g., Felix & You, 2011), whereas others have found that African-American youth are peer victimized less often than their peers (e.g., Nansel et al., 2001; Spriggs, Iannotti, Nansel, & Haynie, 2007). Given that many African-American and Hispanic youth are at greater risks for behaving aggressively, it is important to continue to examine factors such as peers that may contribute to their behavior.

Statement of the Problem

Although studies have examined the effects of peer influences on aggressive behavior in youth, a number of limitations exist within the current literature. One limitation of previous studies is that peer victimization and peer pressure typically have been measured as broad constructs without considering the specific type of victimization and peer pressure. For instance, some studies have used measures of peer victimization that included relational, physical, and verbal forms of victimization (e.g., Renouf et al., 2010), whereas others examined overt forms of victimization that included verbal and physical victimization (e.g., Vernberg et al., 2011). The focus on broad measures of peer victimization may have failed to account for differences in the effects of specific forms of peer victimization on specific outcomes. For instance, Casper and Card (2017) found that overt victimization was more strongly related to overt aggression, whereas relational victimization was more strongly related to relational aggression. When various forms of victimization are combined, one form of victimization could be more or less strongly related to an outcome.

Studies have examined both general (e.g., peer pressure to engage in delinquent behavior; Padilla-Walker & Bean, 2009) and specific forms of peer pressure (e.g., substance use; Dumas,

Ellis, & Wolfe, 2012). However, few studies have measured peer pressure specific to fighting. Similar to the issue raised with combining different forms of victimization, examining broad measures of peer pressure prevents researchers from understanding how specific forms of peer pressure might differentially influence outcomes. Given the influence of peers as it relates to aggression (e.g., Bandura, 1971), it would be beneficial to determine how peer pressure specific to aggression influences adolescents' aggressive behavior. This study addressed this limitation by measuring specific forms of peer influences and aggression that include physical peer victimization, peer pressure for fighting, and physical aggression. Friends' delinquent behavior and friends' support for fighting and nonviolence also were examined as predictors.

Few studies have examined the relations between multiple peer factors and externalizing problems. The importance of examining multiple peer constructs is supported by findings that peer influences (i.e., peer pressure for fighting, friends' delinquent behavior, friends' supporting for fighting, friends' support for nonviolence) have been found to represent distinct constructs uniquely associated with problem behavior, including aggression (Farrell, Thompson et al., 2017; Thompson et al., 2019). Specifically, results from a confirmatory factor analysis of five peer measures that used data from 1,787 adolescents from three middle schools found support for a five-factor structure, and for strong measurement invariance across gender, grade, and intervention condition (Farrell, Thompson et al., 2017). These findings highlight the importance of examining the ways in which peer factors might differentially influence adolescents' externalizing problems, including aggression.

Another limitation of the existing literature is that few studies have used longitudinal designs, which provide a clearer basis for drawing conclusions about causality. Longitudinal studies have varied in the amount of time between waves. For instance, some studies have

assessed participants one year after the initial assessment (e.g., Duggins et al., 2015; Zhu et al., 2017). One study found that the relation between friend selections based on similarity in popularity was present during both assessment periods (i.e., fall and winter), whereas friend selection based on similarity in aggression was only present during the winter period (Logis, Rodkin, Gest, & Ahn, 2013). This suggests that the influence of peers may vary throughout the school year. The current study addressed this limitation by using longitudinal data collected at four time points throughout the year (i.e., fall, winter, spring, summer).

Studies examining the relation between peer factors and aggressive behavior have varied in their sample characteristics. Some have sampled participants from a wide range of ages (e.g., 13 to 18 year olds, Yu et al., 2017; 14 to 19 year olds, Padilla-Walker & Bean, 2009), whereas others have sampled participants from specific grades (e.g., fourth graders, Kawabatea & Crick, 2013; fifth graders, Mrug & Windle, 2009). Although there are benefits to sampling both wide and specific age ranges, middle school is a period when peer influences are increasingly vital to adolescents' development (e.g., Farrell et al., 2011). This makes the middle school years a particularly important time to examine how peers might influence aggressive behavior. Participants' racial background is another sample characteristic that varies across studies. Many studies used predominantly European-American samples of youth (e.g., Hinnant et al., 2019, Ostrov, 2010), whereas others have used African-American samples (e.g., Sullivan et al., 2006) or diverse samples (e.g., Smokowski et al., 2016). African-American youth residing in under-resourced neighborhoods tend to be exposed to high levels of community violence and victimization (e.g., Goldweber, Waasdorp, & Bradshaw, 2013). Due to their increased risk for aggressive behavior, it remains important to examine peer factors that might influence their behavior. This study focused on a predominantly African-American sample of middle school

students (i.e., sixth, seventh, and eighth grade) from communities that experience high rates of poverty and violence.

The current study added to the existing literature by examining the influence of parental messages for fighting and nonviolence. Given the continued presence of parents in youths' lives, youth may benefit from receiving parental messages in favor of nonviolent alternatives to peer-related problem situations. Some studies have found that parental factors such as parental control and monitoring weaken the relation between peer risk factors and externalizing problems (e.g., Galambos et al., 2003; Nash et al., 2005). There is also some evidence supporting the protective effect of high parental messages for nonviolence and low parental messages for fighting on the relation between risk factors (i.e., class and school norms, delinquent peer association) and aggression (Farrell et al., 2011). However, to my knowledge, no study has examined parental messages for fighting and nonviolence as moderators of the relation between multiple peer factors (i.e., physical peer victimization, peer pressure for fighting, friends' support for fighting and nonviolence) and physical aggression. There is also qualitative work that suggests that parental messages supporting nonviolence might prevent adolescents from responding aggressively to peer conflict even when they receive pressure from peers to do so (Farrell et al., 2010). This study contributed to the literature by examining the extent to which parental messages moderated the impact of peer factors on aggressive behavior.

This study extended previous work that established the link between peer factors and physical aggression. Specifically, Thompson et al. (2019) found support for longitudinal relations between peer pressure for fighting, friends' delinquent behavior, friends' support for fighting, and friends' support for nonviolence and physical aggression using the same data examined in the current study. The present study added to those findings by examining physical

peer victimization as an additional peer factor in predicting physical aggression. More importantly, it added to the previous study by determining the extent to which parental messages supporting fighting and nonviolence serve as a protective factor by mitigating the impact of peer influences on adolescents' physical aggression.

Analyses were conducted using four waves (i.e., fall, winter, spring, summer) of data from self-report and three waves (i.e., fall, winter, spring, summer) of data from teacher-report collected every three months during sixth, seventh, and eighth grades. The present study addressed the following hypotheses.

1. Levels of physical peer victimization at a particular wave would be positively related to changes in self- and teacher-report of physical aggression at the following wave. Although I expected physical peer victimization to be correlated with other peer factors including peer pressure for fighting, friends' delinquent behavior, and friends' support for fighting and nonviolence, physical peer victimization was expected to exert an independent effect on changes in physical aggression.
2. Parental messages (i.e., messages supporting nonviolence, messages supporting fighting is sometimes necessary, messages supporting retaliation) would moderate positive relations between each peer factor (physical peer victimization, peer pressure for fighting, friends' delinquent behavior, and friends' support for fighting and nonviolence) and changes in self- and teacher-report of physical aggression across waves such that:
    a) Relations would be less evident as the level of parental messages supporting nonviolence increases.
    b) Relations would be less evident as the level of parental messages supporting retaliation decreases.

c) Due to a lack of research on parental messages supporting fighting is sometimes necessary, analyses examining this parental messages category were exploratory. Because items for this category are consistent with the idea that fighting is acceptable in some situations (e.g., in order to stop future victimization), I expected the relation between peer factors and aggressive behavior to be less evident as the level of parental messages supporting fighting is sometimes necessary decreases. However, alternatively, because these messages also suggest that responding aggressively might not be acceptable in all situations, the relation may be less evident as the level of parental messages supporting fighting is sometimes necessary increases.

Method

Participants

The study was based on analyses of de-identified data from a project that investigated the effectiveness of a school-based violence prevention program. Participants were students attending three public middle schools in a medium-sized, city in the southeastern United States who participated between 2010 and 2018. All three schools had a predominantly African-American student population and were involved in the National School Lunch Program, with 98% of the students being eligible for reduced or free lunch. Approximately 210 youth were selected at random from the rosters of sixth, seventh, and eighth grade rosters at each of the three schools in the fall of 2010. During each year that followed, a new random sample of sixth grade students was recruited to participate in the study. New seventh and eighth grade students were also randomly selected to replace students who were no longer participating in the study. Four waves of data were collected each year in the fall (i.e., Wave 1), winter (i.e., Wave 2), spring (i.e., Wave 3), and summer (i.e., Wave 4). A missing-by-design method was used in an effort to

decrease testing effects and fatigue. This involved randomly assigning each student to complete two of the four assessment waves each year.

The initial sample included 2,934 sixth, seventh, and eighth graders. Of these, 778 adolescents were excluded because they did not participate in two waves within any one grade. This left a final sample of 2,156. In cases where a student participated in two waves during more than one grade, data were included from a single randomly selected grade to avoid including multiple cases from the same participant. Of the 1,862 (86.4%) participants who provided information related to their race, 82.8% endorsed being African-American or Black, 7.8% endorsed being White, 1.6% endorsed being American Indian or Alaska Native, 0.9% endorsed being Native Hawaiian or Pacific Islander, 0.9% endorsed being Asian, and 6.0% endorsed being multiracial. All of the participants who endorsed being multiracial endorsed African-American or Black as one of the racial codes. Twenty-one percent of participants who provided information related to their ethnicity endorsed being Hispanic or Latino. The final sample included 829 sixth, 647 seventh, and 680 eighth graders. The majority (i.e., 98.4%) of adolescents in the sample were between the ages of 11 and 14 (M = 12.20, SD = 1.02). The sample was about evenly divided by gender (52.4% female; 47.6% male). No other gender identities were reported.

Procedure

The intervention had been implemented in all three schools prior to the final wave of data collection. The first school received the intervention beginning in the 2011 to 2012 school year, the second school beginning in the 2012 to 2013 school year, and the third school beginning in the 2015 to 2016 school year. Student assent and parental consent were obtained from all participants. Participants were assured that there would not be any negative consequences if they chose to discontinue or decline participation. Students were given a $5 gift certificate for

returning assent and consent forms even if they declined to participate, and received a $10 gift certificate every time they completed an assessment. Research staff administered surveys to participants mostly in groups of 20 to 30 at school during the school year waves (i.e., fall, winter, spring) and at community locations or in students' homes during the summer. All assessment material was in English and measures were completed using computer-assisted personal interviews where questions were shown on the screens. Audio clips that included voices of men and women of different racial and ethnic groups were available through headphones for students who had difficulty reading. Students completed the assessment independently, though research staff members were available to monitor the administration and answer any questions. The university's Institutional Review Board approved the use of de-identified data sets for secondary analysis and all procedures from the larger project.

Measures

Demographics. Age, gender, grade, race and ethnicity were based on adolescent report. Gender was assessed using the question that asked, "What is your gender?" Participants were able to choose boy or girl. Race was assessed using the question that asked, "What race do you consider yourself to be? You can choose more than one." Participants were able to choose American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White. Ethnicity was assessed using the question that asked, "Do you consider yourself to be Hispanic or Latino. Participants were able to choose yes or no.

Physical peer victimization. Self-report of physical peer victimization was assessed using a subscale on the Problem Behavior Frequency Scale-Adolescent Report (PBFS-AR; Farrell, Sullivan, Goncy, & Le, 2016). Participants were asked to report how often peers physically victimized them in the last 30 days. A sample item includes "Someone pushed or

shoved you." Items were rated on a 6-point frequency scale that included the following categories: (1) *never*, (2) *1-2 times*, (3) *3-5 times*, (4) *6-9 times*, (5) *10-19 times*, and (6) *20 or more times*. Due to very few participants endorsing the two highest frequency categories, items from the three highest frequency categories were collapsed into one category, which resulted in a 4-point frequency scale. Items were then averaged and log-transformed to reduce skewness and kurtosis. Scores were then rescaled to have the same mean and standard deviation as the original scales and were multiplied by 10. This does not have any impact on the correlations or standardized coefficients, but avoids working with small numbers in computations and reporting of values. Results from a confirmatory factor analysis of the PBFS-AR that used data from 5,532 adolescents from 37 schools across four states found support for strong measurement invariance across gender, geographic location, and grade, and for the seven-factor structure (Farrell et al., 2016). The measurement invariance across grade and gender and the structure was also supported by a study by Farrell, Thompson et al. (2017) that investigated data from a subsample drawn from the project that provided the data for the present study. The convergent validity of the victimization subscale was supported by its correlations with teacher-report of victimization (Farrell, Goncy, Sullivan, & Thompson, 2018). Alpha coefficients were .85 across waves.

Peer pressure for fighting. Self-reported peer pressure for fighting was measured using the Peer Pressure for Fighting scale (Farrell, Thompson et al., 2017). Adolescents were asked to indicate how frequently they were pressured to fight by peers in the past 30 days on a 6-point scale ranging from *never* to *20 or more times*. A sample item includes "Your friends told you that you should fight someone." The three highest frequency categories were combined due to few participants endorsing the two highest categories. Scores on the scale were then averaged across items and log-transformed to decrease kurtosis and skewness. Scores were then rescaled

to have the same mean and standard deviation as the original scales and were multiplied by 10. The concurrent validity of the Peer Pressure for Fighting scale is supported by its correlations with self-report of physical and relational aggression, delinquent behavior, and substance use, and teacher-report of physical aggression (Farrell, Thompson et al., 2017). Alpha coefficients ranged from .83 to .87 across waves.

Friends' delinquent behavior. Perceptions of friends' engagement in delinquent activities were assessed using the Friends' Delinquent Behavior subscale of the Friends' Behavior Scale (Farrell, Thompson et al., 2017). Participants were first asked to indicate how many friends they consider to be close friends. They were then asked how many of their close friends engaged in specific delinquent behaviors, including substance use, delinquency, and aggression, in the past 3 months. A sample item includes "Sold drugs." Items were rated on a 4-point scale from 1 (*none of them)* to 4 (*all of them)*. A total score was calculated by averaging the scores across items and then log transforming the mean. Concurrent validity was supported by findings that Friends' Delinquent Behavior was correlated with self-reported substance use, physical and relational aggression, and other delinquent behavior (Farrell, Thompson et al., 2017). Alpha coefficients ranged from .80 to .88 across waves.

Friends' support for fighting and nonviolence. Perceived friends' support for fighting and nonviolence was assessed using the Friends' Reaction to Reponses to Conflict Situations scale (Farrell, Thompson et al., 2017). Participants were asked to predict how their friends might respond to how they might behave in difficult situations. Participants were given a list of hypothetical problem scenarios that were followed by either a violent response (e.g., "You started a fight") or a nonviolent response (e.g., "You tried to talk to the person calmly to settle the argument"). Response options included a positive reaction (e.g., "They would think that I did

the right thing"), a neutral reaction (e.g., "They would not care"), and a negative reaction (e.g., "They would think I was a punk"). Negative, neutral, and positive responses were scored -1, 0, and 1, respectively. Ratings of perceived peer reactions to violent responses were averaged to create a score representing friends' support for fighting and a score representing friends' support for nonviolence. Concurrent validity was supported by positive correlations with teacher- and self-report of physical aggression for Friends' Support for Fighting and negative correlations with self- and teacher-report of physical aggression for Friends' Support for Nonviolence (Farrell, Thompson et al., 2017). Alpha coefficients for the Friends' Support for Fighting subscale ranged from .78 to .79 across waves.

Perceived parental messages supporting fighting and nonviolence. Perceived parental messages about fighting and nonviolence were assessed using subscales on the Parental Messages About Fighting and Nonviolence scale (Farrell et al., 2010). Participants were asked to rate how likely their parents would be to tell them certain statements. Items assessed support for fighting (e.g., "If someone hits you, it's self-defense to hit them back") and support for nonviolent responses (e.g., "If someone wants to fight you – walk away"). Items were rated on a 4-point scale that included the following: (1) *very unlikely*, (2) *somewhat unlikely*, (3) *somewhat likely*, and (4) *very likely*. The current study used the following three parental messages factors that were identified by a recently completed confirmatory factor analysis (Farrell et al., 2019): (a) Messages Supporting Nonviolence (e.g., "If someone wants to fight you – walk away"), (b) Messages Supporting Fighting is Sometimes Necessary (e.g., "If you don't fight some teens, they'll just keep picking on you"), and (c) Messages Supporting Retaliation (e.g., "It's okay to fight someone if they say bad things about someone in your family"). Each of the three subscales included three items. Alpha coefficients for the Parental Messages Supporting Nonviolence,

Parental Messages Supporting Fighting is Sometimes Necessary, and Parental Messages Supporting Retaliation subscales were .87, .63, and .76, respectively.

Physical aggression: Self-report. Self-reported physical aggression was assessed using a subscale on the Problem Behavior Frequency Scale-Adolescent Report (PBFS-AR; Farrell et al., 2016). Participants were asked to report how often they were engaged in specific acts of physical aggression in the past 30 days. A sample item includes "Hit or slapped someone." Items were rated on a 6-point frequency scale from *never* to *20 or more times*. As a result of few participants endorsing the two higher-order frequency categories, the three highest frequency categories were collapsed to create a 4-point scale. The mean was then calculated across items and was log-transformed to reduce skewness and kurtosis. Scores were then rescaled to have the same mean and standard deviation as the original scales and were multiplied by 10. The convergent validity of the physical aggression subscale was supported by its correlations with teacher-report of physical aggression (Farrell et al, 2018b), whereas the construct validity was supported by correlations with relational and cyber aggression, office referrals for physical aggression, delinquent behavior, and substance use (Farrell et al., 2018a). Farrell et al. (2018b) found support for a physical aggression subscale that was distinct from the relational aggression subscale. Alpha coefficients ranged from .76 to .82 across waves.

Physical aggression: Teacher-report. Teacher-reported physical aggression was assessed using a subscale on the Problem Behavior Frequency Scale-Teacher Report (PBFS-TR; Farrell et al., 2018). Teachers were asked to report how often students engaged in specific acts of physical aggression in the past 30 days. A sample item includes "Thrown something at someone to hurt them." Items were rated on a 4-point frequency scale from *never* to *very often*. The mean was calculated across items and was log-transformed to reduce skewness and kurtosis. Findings

from a confirmatory factor analysis of the PBSF-TR using data from 1,740 students in three middle schools found evidence of a seven-factor structure and strong measurement invariance across time, grade, and gender (Farrell et al., 2018). The PBSF-TR's validity was supported by its pattern of correlations with student-report of problem behaviors and teacher-report of social skills. Alpha coefficients ranged from .89 to .90 across waves.

Data Analysis

Descriptive statistics (e.g., frequencies, means, and standard errors) were calculated for each measure. Dummy-coded variables were created to control for exposure to the intervention (i.e., non-intervention control as reference group), gender (i.e., male gender as reference group), and grade (i.e., sixth grade as reference group). All analyses were conducted using Mplus Version 8.2 (Muthén & Muthén, 2015). Full information maximum likelihood estimation (FIML) was used to handle missing data. FIML provides estimations of parameters derived from all available data. A robust estimator to account for non-normal data (i.e., MLR) was used to estimate standard errors. The fit of each model was evaluated based on the models' root mean square error of approximation (RMSEA), Tucker-Lewis index (TLI), and comparative fit index (CFI). Models were compared using the scaled chi-square difference test (Satorra & Bentler, 2010). The significance of all tests was established at an alpha of .05. Correlations among variables within each wave were calculated.

Hypothesis 1 examined the relation between physical peer victimization and physical aggression. This hypothesis was tested using a longitudinal cross-lagged panel model to investigate the bivariate relation between physical peer victimization and adolescents' physical aggression (see Figure 1), after controlling for intervention status, gender, and grade at each wave. A one-sided model (i.e., path linking physical peer victimization to physical aggression

after controlling for prior physical aggression) was used rather than a bidirectional model (i.e., path linking physical peer victimization to physical aggression and physical aggression to physical peer victimization) because the focus of the current study is on how parental messages moderate the relation between peer factors and physical aggression rather than the relation between physical aggression and peer factors. Thompson et al. (2019) found support for the reciprocal relations between peer factors (i.e., peer pressure for fighting, friends' delinquent behavior, friends' support for fighting) and physical aggression. They also found consistent effects across waves for each of the peer factors and physical aggression. In order to confirm this for physical peer victimization, I examined the consistency of the cross-wave relations by comparing an unconstrained model that allowed the values of each regression coefficient (i.e., paths linking physical peer victimization to physical aggression across waves and effects of the covariates) to vary across waves with a model that constrained the coefficient values to be the same across waves.

In addition to the bivariate analysis of the relation between physical peer victimization and physical aggression, I conducted an additional analysis that examined the relation between physical peer victimization and physical aggression, after controlling for intervention status, gender, grade, and the other peer factors (i.e., peer pressure for fighting, friends' delinquent behavior, friends' support for fighting, and friends' support for nonviolence) at each wave. This allowed me to examine the unique impact of physical peer victimization on physical aggression after accounting for the other four peer factors. A one-sided model (i.e., path linking physical peer victimization to physical aggression after controlling for prior physical aggression and the other peer factors) was used. I also examined the stability of the cross-wave relations by comparing an unconstrained model that allowed the regression coefficients (i.e., paths linking

physical peer victimization to physical aggression across waves and effects of covariates and other peer factors) to vary across waves with a model that constrained the regression coefficients to be the same across waves.

Hypothesis 2 examined the degree to which parental messages (i.e., messages supporting nonviolence, messages supporting fighting is sometimes necessary, and messages supporting retaliation) moderated the relation between the five peer variables (i.e., physical peer victimization, peer pressure for fighting, friends' delinquent behavior, friends' support for fighting, and friends' support for nonviolence) and self- and teacher-report of physical aggression (see Figure 1). This was investigated by building on the longitudinal cross-lagged panel models from the models that investigated the bivariate relations between each of the peer factors and self- and teacher-report of physical aggression. The predictor (i.e., peer factors) and moderator (i.e., parental messages) variables were grand-mean centered. The interaction terms, which were based on the product of the centered peer and parental messages variables, were added to each of the bivariate models. Thirty models were used to test the hypothesized moderating effects representing five peer factors (i.e., physical peer victimization, peer pressure for fighting, friends' delinquent behavior, friends' support for fighting, and friends' support for nonviolence), three moderators (i.e., parental messages supporting nonviolence, fighting is sometimes necessary, and retaliation), and two reports of physical aggression (i.e., self- and teacher-report). The R^2 was used to determine the amount of variance in the dependent variable that was explained by each set of variables. I also examined the consistency of the cross-wave moderation effects across waves by comparing an unconstrained model that allowed values of each regression coefficient (i.e., paths linking the interaction terms to physical aggression across

waves and effects of covariates, peer factors, and parental messages) to vary across waves with a model that constrained the regression coefficients to the same value across waves.

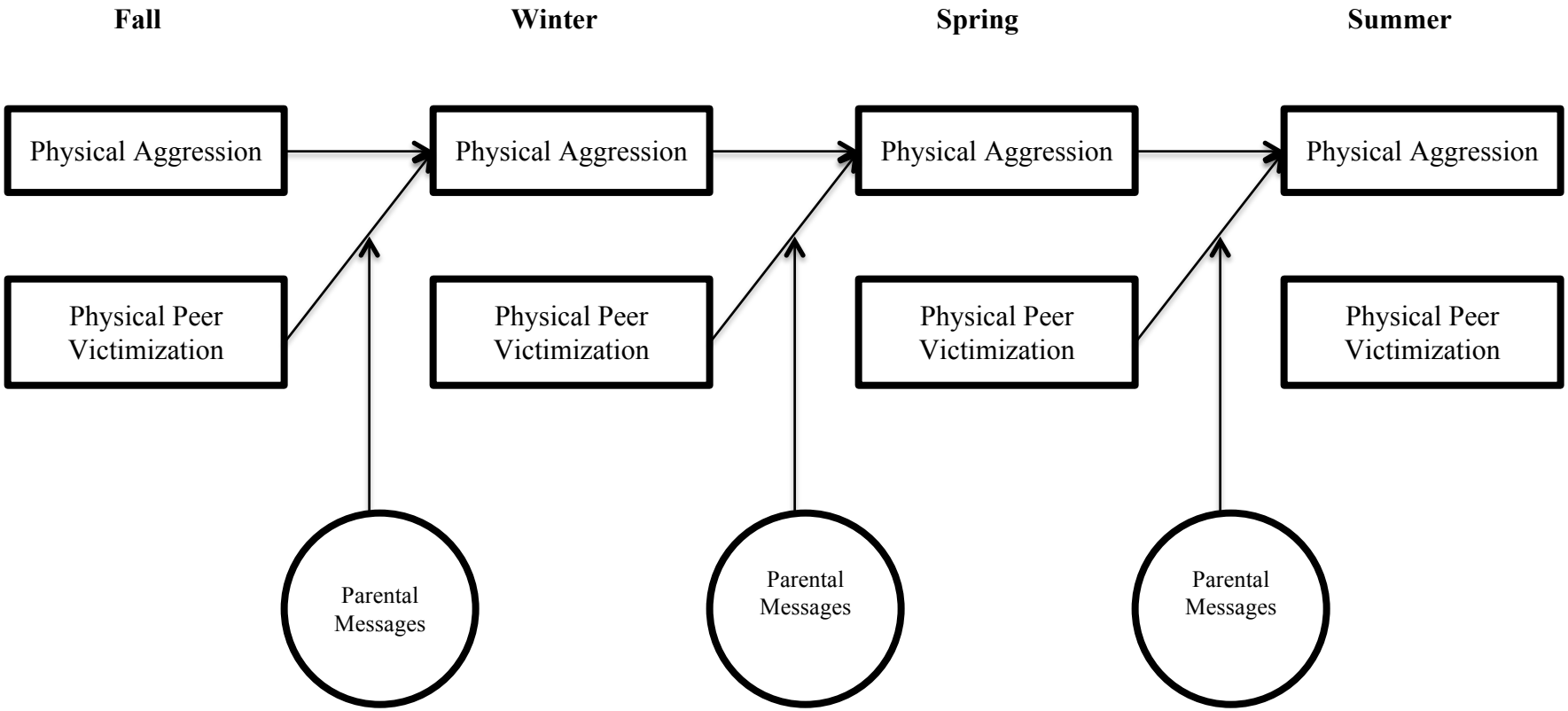


Figure 1. Analytic model illustrating the influence of peer factors (e.g., physical peer victimization) on adolescents' self- and teacher-report of physical, and the moderating roles of parental messages supporting fighting and nonviolence. Covariates included gender, grade, and intervention condition.

Results

Descriptive Statistics

Descriptive statistics were calculated for all variables (see Table 1).

Table 1

Means (SDs) By Wave For Study Variables

	Fall	Winter	Spring	Summer
Physical Aggression	13.74 (5.25)	13.46 (5.27)	13.86 (5.42)	13.33 (4.99)
Physical Aggression (T)	12.72 (4.92)	13.24 (5.15)	13.66 (5.55)	
Physical Peer Victimization	13.00 (4.52)	12.28 (4.11)	12.45 (4.23)	
Peer Pressure for Fighting	14.71 (6.20)	14.34 (6.19)	14.14 (5.96)	
Friends' Delinquent Behavior	1.10 (0.26)	1.12 (0.30)	1.12 (0.29)	
Friends' Support for Fighting	-0.17 (0.58)	-0.15 (0.57)	-0.12 (0.55)	
Friends' Support for Nonviolence	0.25 (0.60)	0.25 (0.58)	0.22 (0.58)	
Parental Messages Supporting Nonviolence	2.72 (1.08)	2.62 (1.08)	2.48 (1.05)	
Parental Messages Supporting Fighting is Sometimes Necessary	2.67 (0.91)	2.66 (0.90)	2.64 (0.92)	
Parental Messages Supporting Retaliation	2.15 (0.95)	2.18 (0.95)	2.20 (0.93)	

Note. N = 2,156. T = Teacher Report. All measures were adolescent report except where noted.

Correlations among Variables

Pearson correlations among all of the variables for each wave are reported in Table 2. All correlations for the same variable across waves were significant and ranged from .53 to .59 for physical peer victimization, .30 to .58 for peer pressure for fighting, .30 to .51 for friends' delinquent behavior, .61 to .62 for friends' support for fighting, .61 to .68 for friends' support for nonviolence, .49 to .53 for parental messages support nonviolence, .35 to .44 for parental messages supporting fighting is sometimes necessary, .40 to .46 for parental messages supporting retaliation, .44 to .60 for self-report of physical aggression, and .61 to .68 for teacher-report of physical aggression.

Within each wave, correlations among the five peer variables varied widely, ranging from low (i.e., r = .07 between physical peer victimization and friends' support for fighting) to large (i.e., r = -.65 between friends' support for fighting and friends' support for nonviolence). Correlations among the three parental messages variables ranged from small (i.e., r = .13 between parental messages supporting nonviolence and parental messages supporting fighting is sometimes necessary) to large (i.e., r = .61 between parental messages supporting fighting is sometimes necessary and parental messages supporting retaliation) within each wave. Correlations among the five peer variables and the three parental messages variables ranged from low (i.e., r = .06 between physical peer victimization and parental messages supporting fighting is sometimes necessary) to moderate (i.e., r = .34 between friends' support for nonviolence and parental messages supporting nonviolence) within each wave. Correlations among the five peer variables and the two physical aggression variables within each wave ranged from low (i.e., r = -.07 between friends' support for nonviolence and teacher-report of physical aggression) to moderate (i.e., r = .49 between physical peer victimization and self-report of physical aggression). Correlations among the three parental messages variables and the two physical aggression variables were low (i.e., r = .07 between parental messages supporting retaliation and teacher-report of physical aggression) within each wave.

Table 2

Correlations Among Peer Variables, Parental Messages, and Physical Aggression Measures at Each Wave

Variable	1	2	3	4	5	6	7	8	9	10	11	12
Wave 1												
1. Physical peer victimization	-											
2. Peer pressure for fighting	.58***	-										
3. Friends' delinquent behavior	.20***	.33***	-									
4. Friends' support for fighting	.07	.24***	.25***	-								
5. Friends' support for nonviolence	-.10***	-.21***	-.28***	-.65***	-							
6. Parental messages supporting nonviolence	.02	-.11**	-.14***	-.33***	.34***	-						
7. Parental messages supporting fighting is sometimes necessary	.06	.13**	.07*	.12**	-.04	.13***	-					
8. Parental messages supporting retaliation	.07*	.20***	.19***	.23***	-.12**	-.13***	.53***	-				
9. Physical aggression	.49***	.49***	.37***	.25***	-.30***	-.15***	.11**	.17***	-			
10. Physical aggression (T)	.03	.14***	.11**	.10**	-.07*	-.19***	-.06	.07*	.11***	-		
Wave 2												
11. Physical peer victimization	.59***	.41***	.27***	.11*	-.06	-.03	.02	.06	.42***	.02	-	
12. Peer pressure for fighting	.45***	.57***	.32***	.20***	-.12*	-.11*	.05	.15**	.43***	.13*	.55***	-
13. Friends' delinquent behavior	.29***	.37***	.48***	.26***	-.18***	-.19***	.00	.10	.30***	.05	.35***	.36***

(Table 2 continues)

Table 2 continued

Variable	1	2	3	4	5	6	7	8	9	10	11	12
14. Friends' support for fighting	.15**	.25***	.22***	.62***	-.49***	-.30***	.05	.24***	.29***	.12*	.07*	.22***
15. Friends' support for nonviolence	-.14	-.22***	-.22***	-.51**	.68***	.33***	-.09	-.17**	-.23***	-.15**	-.11***	-.20***
16. Parental messages supporting nonviolence	.02	-.16**	-.11*	-.26***	.28***	.53***	-.11*	-.19***	-.17**	-.13*	.04	-.08**
17. Parental messages supporting fighting is sometimes necessary	.16**	.21***	.16**	.09	-.05	.07	.44***	.33***	.10	-.01	.06*	.12***
18. Parental messages supporting retaliation	.11	.19***	.17**	.20***	-.07	-.06	.36***	.46***	.15**	.08	.08**	.18***
19. Physical aggression	.44***	.46**	.35***	.24***	-.18**	-.24***	.07	.15**	.60***	.16**	.49***	.55***
20. Physical aggression (T)	-.03	.21***	.21***	.17**	-.15**	-.23***	.03	.11*	.17***	.68***	.12***	.20***
Wave 3												
21. Physical peer victimization	.53***	.30***	.18**	.11	-.11	.05	.18**	.14*	.28***	.07	.54***	.34***
22. Peer pressure for fighting	.30***	.50***	.24***	.23***	-.22***	-.13*	.15**	.24***	.32***	.17**	.33***	.55***
23. Friends' delinquent behavior	.09	.09	.30***	.11	-.11	-.06	.01	.09	.28***	.03	.22***	.31***
24. Friends' support for fighting	.09	.22***	.12*	.61***	-.54***	-.28***	.14*	.22***	.21***	-.02	-.05	.16***
25. Friends' support for nonviolence	-.14*	-.23***	-.15*	-.47***	.61***	.22***	-.19**	-.21***	-.30***	.03	-.04	-.15**
26. Parental messages supporting nonviolence	-.01	-.17**	-.15**	-.25***	.29***	.49***	-.10	-.21***	-.21***	-.12*	.02	-.09*
27. Parental messages supporting fighting is sometimes necessary	.00	.05	-.03	.07	-.04	.10	.39***	.25***	.08	-.05	.02	.07

(Table 2 continues)

Table 2 continued

Variable	1	2	3	4	5	6	7	8	9	10	11	12
28. Parental messages supporting retaliation	.02	.18**	.06	.20***	-.15*	-.06	.32***	.40***	.15**	-.04	.04	.06
29. Physical aggression	.36***	.43***	.37***	.28***	-.27***	-.19***	.13*	.24***	.62***	.11*	.33***	.34***
30. Physical aggression (T) Wave 4	-.03	.11*	.06	.05	-.03	-.12*	-.05	.01	.05	.61***	.14**	.25***
31. Physical aggression	.28***	.16*	.02	.17*	-.18*	-.10	.00	-.05	.44***	.01	.29***	.42***

(Table 2 continues)

Table 2 continued

Variable	13	14	15	16	17	18	19	20	21	22	23	24
Wave 1	-											
1. Physical peer victimization												
2. Peer pressure for fighting												
3. Friends' delinquent behavior												
4. Friends' support for fighting												
5. Friends' support for nonviolence												
6. Parental messages supporting nonviolence												
7. Parental messages supporting fighting is sometimes necessary												
8. Parental messages supporting retaliation												
9. Physical aggression												
10. Physical aggression (T)												
Wave 2												
11. Physical peer victimization												
12. Peer pressure for fighting												
13. Friends' delinquent behavior	-											
14. Friends' support for fighting	.23***	-										
15. Friends' support for nonviolence	-.22**	-.63***	-									
16. Parental messages supporting nonviolence	-.09**	-.29***	.36***	-								

(Table 2 continues)

Table 2 continued

Variable	13	14	15	16	17	18	19	20	21	22	23	24
17. Parental messages supporting fighting is sometimes necessary	.06*	.09**	-.01	.19***	-							
18. Parental messages supporting retaliation	.08**	.24***	-.11***	.00	.57***	-						
19. Physical aggression	.45***	.26***	-.25***	-.15***	.06	.14***	-					
20. Physical aggression (T)	.11***	.16***	-.15***	-.18***	-.01	.07*	.19***	-				
Wave 3												
21. Physical peer victimization	.22***	.10*	-.15**	.01	-.01	.02	.32***	.10*	-			
22. Peer pressure for fighting	.30***	.20***	-.15**	-.06	.09	.18***	.31***	.15**	.57***	-		
23. Friends' delinquent behavior	.51***	.19***	-.17**	-.12**	-.08	.01	.32***	.04	.31***	.37***	-	
24. Friends' support for fighting	.12*	.62**	-.50***	-.24***	.00	.19***	.17**	.10*	.09**	.22***	.19***	-
25. Friends' support for nonviolence	-.22**	-.52***	.66***	.31***	.00	-.15**	-.23***	-.09	-.11***	-.21**	-.22***	-.62***
26. Parental messages supporting nonviolence	-.07	-.31***	.30***	.49***	-.05	-.14**	-.22***	-.15**	.01	-.13***	-.10**	-.31***
27. Parental messages supporting fighting is sometimes necessary	-.01	.04	.04	.08	.35***	.33***	-.05	-.07	.08**	.10**	.05	.08*
28. Parental messages supporting retaliation	.06	.12*	-.02	-.11*	.24***	.45***	.05	.04	.08**	.15**	.14***	.18***
29. Physical aggression	.36***	.23***	-.22***	-.09*	.04	.08	.57***	.20***	.47***	.50***	.40***	.25***
30. Physical aggression (T)	.12**	.11	-.07	-.13**	.05	.07	.23***	.67***	.06	.17***	.09**	.08**
Wave 4												
31. Physical aggression	.21***	.16***	-.18**	-.15**	.09	.14*	.51***	.13*	.34**	.39***	.29***	.25***

(Table 2 continues)

Table 2 continued

Variable	25	26	27	28	29	30	31
Wave 1							
1. Physical peer victimization							
2. Peer pressure for fighting							
3. Friends' delinquent behavior							
4. Friends' support for fighting							
5. Friends' support for nonviolence							
6. Parental messages supporting nonviolence							
7. Parental messages supporting fighting is sometimes necessary							
8. Parental messages supporting retaliation							
9. Physical aggression							
10. Physical aggression (T)							
Wave 2							
11. Physical peer victimization							
12. Peer pressure for fighting							
13. Friends' delinquent behavior							
14. Friends' support for fighting							
15. Friends' support for nonviolence							
16. Parental messages supporting nonviolence							
17. Parental messages supporting fighting is sometimes necessary							
18. Parental messages supporting retaliation							
19. Physical aggression							
20. Physical aggression (T)							
Wave 3							
21. Physical peer victimization							
22. Peer pressure for fighting							
23. Friends' delinquent behavior							
24. Friends' support for fighting	-						

(Table 2 continues)

Table 2 continued

Variable	25	26	27	28	29	30	31
25. Friends' support for nonviolence	-						
26. Parental messages supporting nonviolence	.34***	-					
27. Parental messages supporting fighting is sometimes necessary	-.03	.23***	-				
28. Parental messages supporting retaliation	-.15***	-.05	.61***	-			
29. Physical aggression	-.24***	-.23***	.03	.15***	-		
30. Physical aggression (T)	-.08**	-.14***	-.03	.03	.16***	-	
Wave 4							
31. Physical aggression	-.25***	-.20***	.14*	.13*	.58***	.09	-

Note. N = 2,156. A = Adolescent Report. T = Teacher Report. All measures were adolescent report except where noted.

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

Main Effect Models

Self-Report of Physical Aggression

Compared with the unconstrained model, the constrained model, which held the paths linking each peer variable to physical aggression constant across waves, did not significantly reduce the model fit according to the chi-square difference test (see Model 1 vs. 2 in Table 3). It also improved the model fit based on the RMSEA, CFI, and TLI (i.e., ΔRMSEA = -.010, ΔCFI = .001, and ΔTLI = .061), and had an acceptable fit (RMSEA = .031, CFI = .991, and TLI = .920). The covariates (i.e., intervention condition, grade, and gender), prior physical aggression, and peer factors (i.e., physical peer victimization, peer pressure for fighting, friends' delinquent behavior, friends' support for fighting, friends' support for nonviolence) accounted for 42% to 43% of the total variance in self-report of physical aggression at the following wave. Consistent with my hypothesis, results showed that physical peer victimization was significantly and positively related to changes in self-reported physical aggression (βs = .07 to .08, *p*s < .001; see Table 4). Additionally, peer pressure for fighting (βs = .06, *p*s < .05) and friends' support for fighting (βs = .07 to .08, *p*s < .01) significantly predicted changes in self-report of physical aggression. In contrast, friends' delinquent behavior and peer support for nonviolence did not significantly predict changes in self-report of physical aggression.

Table 3
Fit Indices and Comparison Models for Regression of Physical-Aggression Measures on Covariates and Peer Variables

	χ^{2a}	df	RMSEA	CFI	TLI	$\Delta\chi^{2b}$	Δdf^{b}
Adolescent report five-variable models							
1. Unconstrained	82.88***	18	.041	.990	.859		
2. Constrained across waves	84.90***	28	.031	.991	.920	4.75	10
Teacher report five-variable models							
3. Unconstrained	19.96***	6	.033	.996	.909		
4. Constrained across waves	22.24***	11	.022	.997	.960	1.66	5

Note. N = 2,156. RMSEA = Root mean square error of approximation. CFI = comparative fit index. TLI = Tucker-Lewis Fit index.
[a]Chi-square test of model fit. [b]Satorra-Bentler scaled chi-square difference test indicates whether the unconstrained model fit the data significantly better than the constrained model.
*p < .05. **p < .01. ***p < .001.

Table 4

Standardized Regression Coefficients (Standard Errors) for Regression of Wave t Physical Aggression on Wave t-1 Covariates and Peer Variables

	Wave *t*+1 Physical Aggression	
	Adolescent Report	Teacher Report
Wave 1 predictors of Wave 2 score		
Intervention condition	-.02 (.03)	.01 (.03)
Grade 7	.01 (.03)	.01 (.03)
Grade 8	.00 (.03)	-.01 (.03)
Male gender	-.02 (.03)	.00 (.03)
Physical aggression[a]	.53*** (.04)	.68*** (.03)
Physical peer victimization	.08*** (.03)	-.04 (.03)
Peer pressure for fighting	.06* (.03)	.10** (.03)
Friends' delinquent behavior	.04 (.02)	.02 (.03)
Friends' support for fighting	.07** (.03)	.04 (.03)
Friends' support for nonviolence	-.01 (.03)	.05 (.03)
R^2	.43*** (.04)	.50*** (.04)
Wave 2 predictors of Wave 3 score		
Intervention condition	-.02 (.03)	-.06 (.03)
Grade 7	-.04 (.03)	-.03 (.03)
Grade 8	-.01 (.03)	-.01 (.03)
Male gender	-.03 (.03)	.01 (.03)
Physical aggression[a]	.53*** (.04)	.68*** (.03)
Physical peer victimization	.07*** (.02)	-.03 (.02)
Peer pressure for fighting	.06* (.03)	.09** (.03)
Friends' delinquent behavior	.05 (.03)	.03 (.03)
Friends' support for fighting	.07** (.02)	.04 (.03)
Friends' support for nonviolence	-.01 (.02)	.05 (.03)
R^2	.43*** (.04)	.49*** (.04)
Wave 3 predictors of Wave 4 score		
Intervention condition	.01 (.03)	[b]
Grade 7	.04 (.03)	[b]
Grade 8	-.04 (.04)	[b]
Male gender	-.05 (.03)	[b]
Physical aggression[a]	.52*** (.04)	[b]
Physical peer victimization	.08*** (.03)	[b]
Peer pressure for fighting	.06* (.03)	[b]
Friends' delinquent behavior	.05 (.03)	[b]
Friends' support for fighting	.08*** (.03)	[b]
Friends' support for nonviolence	-.01 (.03)	[b]
R^2	.42*** (.04)	[b]

Note. N = 2,156. Unstandardized coefficients were constrained across waves for adolescent report, but not for teacher report models.

[a]Based on adolescent report for adolescent report model and on teacher rating for teacher rating model. [b]Teacher ratings not obtained at Wave 4.

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

Teacher-Report of Physical Aggression

Compared with the unconstrained model, the constrained model did not significantly reduce the model fit according to the chi-square difference test (see Model 3 vs. 4 in Table 3). The final model, which held the paths linking each peer variable to physical aggression constant across waves, fit the data well based on the RMSEA, CFI, and TLI (RMSEA = .022, CFI = .997, TLI = .960). The covariates (i.e., intervention condition, grade, and gender), prior physical aggression, and peer factors (i.e., physical peer victimization, peer pressure for fighting, friends' delinquent behavior, friends' support for fighting, friends' support for nonviolence) accounted for 49% to 50% of the total variance in teacher-report of physical aggression at the following wave. Contrary to my hypotheses, results showed that physical peer victimization, friends' delinquent behavior, friends' support for fighting, and friends' support for nonviolence did not significantly predict changes in teacher-reported physical aggression (see Table 4). However, peer pressure for fighting predicted changes in teacher-report of physical aggression ($\beta = .10$, $p < .01$).

Moderating Effects

Relations with Self-Report of Physical Aggression

Compared with the unconstrained models, the constrained models for all moderating effects did not significantly reduce the model fit according to the chi-square difference test (see Models 1 to 10 in Tables 5 to 7). Overall, the final models (see Models 2, 4, 6, 8 and 10 in Tables 5 to 7), which constrained the paths linking each peer variable to physical aggression across waves, had adequate fit based on the RMSEA = .031 to .041 and the CFI = .936 to .981. However, the TLI, which ranged from .586 to .860 did not indicate adequate fit. Contrary to my hypotheses, none of the three parental messages variables moderated the relation between any of

the five peer variables and self-report of physical aggression (see Tables 8 to 10).

Although there was no support for a moderating effect of parental messages on the relation between peer factors and self-report of physical aggression, there was support for simple main effects of parental messages (see Tables 8 to 10). Because of the inclusion of the interaction term, these coefficients represent the main effects of the parental message variable at the mean of the specific peer variable included in the model. These findings suggest that parental messages supporting fighting and nonviolence exert a unique influence on physical aggression after controlling for important dimensions of peer factors.

Follow-up analyses were conducted using a comprehensive model to examine the extent to which each parental messages variable would be uniquely associated with changes in self-report of physical aggression after controlling for intervention condition, grade, gender, prior physical aggression, all five peer variables, and the other two parental messages variables. Compared with the unconstrained model, the constrained model did not significantly reduce the model fit according to the chi-square difference test (ΔX^2 (16) = 9.68, p = .882). Overall, the final model, which constrained the paths linking each parental messages variable to physical aggression and each peer variable to physical aggression across waves, had adequate fit based on the RMSEA = .027, CFI = .993, and TLI = .919. The tables only report coefficients across the first two waves because the models constrained the unstandardized coefficients to be the same value across waves. Results showed that parental messages supporting nonviolence (β = -.08, p < .001; see Table 11) and parental messages supporting fighting is sometimes necessary (β = .06, p = .032) each uniquely predicted changes in self-report of physical aggression. In contrast, a significant effect was not found for parental messages supporting retaliation. These results suggest that parental messages supporting nonviolence and parental messages supporting

fighting is sometimes necessary are uniquely associated with changes in self-report of physical aggression.

Table 5
Fit Indices and Comparison Models for Moderating Effects of Parental Messages Supporting Nonviolence on Self-Report of Physical Aggression

	χ^{2a}	df	RMSEA	CFI	TLI	$\Delta\chi^{2b}$	Δdf^{b}
Model focusing on peer victimization							
1. Unconstrained	52.79***	12	.040	.978	.761		
2. Coefficients constrained across waves	60.14***	20	.031	.978	.859	8.54	8
Model focusing on peer pressure for fighting							
3. Unconstrained	67.93***	12	.046	.974	.720		
4. Coefficients constrained across waves	75.31***	20	.036	.974	.834	10.50	8
Model focusing on friends' delinquent behavior							
5. Unconstrained	80.71***	12	.052	.949	.450		
6. Coefficients constrained across waves	81.20***	20	.038	.955	.706	6.78	8
Model focusing on friends' support for fighting							
7. Unconstrained	58.06***	12	.042	.977	.748		
8. Coefficients constrained across waves	62.83***	20	.032	.978	.860	6.28	8
Model focusing on friends' support for nonviolence							
9. Unconstrained	51.66***	12	.039	.981	.794		
10. Coefficients constrained across waves	60.36***	20	.031	.981	.874	8.94	8

Note. N = 2,156. RMSEA = Root mean square error of approximation. CFI = comparative fit index. TLI = Tucker-Lewis Fit index.
[a]Chi-square test of model fit. [b]Satorra-Bentler scaled chi-square difference test indicates whether the unconstrained model fit the data significantly better.
*p < .05. **p < .01. ***p < .001.

Table 6

Fit Indices and Comparison Models for Moderating Effects of Parental Messages Supporting Fighting is Sometimes Necessary on Self-Report of Physical Aggression

	χ^{2a}	df	RMSEA	CFI	TLI	$\Delta\chi^{2b}$	Δdf[b]
Model focusing on peer victimization							
1. Unconstrained	61.91***	12	.044	.969	.664		
2. Coefficients constrained across waves	62.28***	20	.031	.974	.829	4.77	8
Model focusing on peer pressure for fighting							
3. Unconstrained	75.23***	12	.049	.968	.649		
4. Coefficients constrained across waves	74.40***	20	.036	.972	.819	4.92	8
Model focusing on friends' delinquent behavior							
5. Unconstrained	97.06***	12	.057	.923	.169		
6. Coefficients constrained across waves	90.72***	20	.040	.936	.586	7.14	8
Model focusing on friends' support for fighting							
7. Unconstrained	66.64***	12	.046	.963	.603		
8. Coefficients constrained across waves	68.27***	20	.033	.968	.790	4.58	8
Model focusing on friends' support for nonviolence							
9. Unconstrained	60.39***	12	.043	.971	.684		
10. Coefficients constrained across waves	63.96***	20	.032	.974	.828	4.48	8

Note. N = 2,156. RMSEA = Root mean square error of approximation. CFI = comparative fit index. TLI = Tucker-Lewis Fit index.

[a]Chi-square test of model fit. [b]Satorra-Bentler scaled chi-square difference test indicates whether the unconstrained model fit the data significantly better.

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

Table 7

Fit Indices and Comparison Models for Moderating Effects of Parental Messages Supporting Retaliation on Self-Report of Physical Aggression

	χ^{2a}	df	RMSEA	CFI	TLI	$\Delta\chi^{2b}$	Δdf^{b}
Model focusing on peer victimization							
1. Unconstrained	71.11***	12	.048	.965	.622		
2. Coefficients constrained across waves	74.58***	20	.036	.968	.791	5.97	8
Model focusing on peer pressure for fighting							
3. Unconstrained	89.74***	12	.055	.962	.588		
4. Coefficients constrained across waves	87.23***	20	.039	.967	.786	5.12	8
Model focusing on friends' delinquent behavior							
5. Unconstrained	102.86***	12	.059	.930	.238		
6. Coefficients constrained across waves	93.82***	20	.041	.943	.629	4.00	8
Model focusing on friends' support for fighting							
7. Unconstrained	76.17***	12	.050	.961	.581		
8. Coefficients constrained across waves	76.91***	20	.036	.966	.777	3.42	8
Model focusing on friends' support for nonviolence							
9. Unconstrained	77.09***	12	.050	.964	.605		
10. Coefficients constrained across waves	78.09***	20	.037	.968	.790	3.73	8

Note. N = 2,156. RMSEA = Root mean square error of approximation. CFI = comparative fit index. TLI = Tucker-Lewis Fit index.

[a]Chi-square test of model fit. [b]Satorra-Bentler scaled chi-square difference test indicates whether the unconstrained model fit the data significantly better.

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

Table 8
Standardized Regression Coefficients (Standard Errors) for Moderating Effects of Parental Messages Supporting Nonviolence on Self-Report of Physical Aggression

Model focusing on physical peer victimization	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.02 (.03)
Grade 7	.01 (.03)
Grade 8	.01 (.03)
Male gender	-.02 (.03)
Physical aggression	.56*** (.03)
Physical peer victimization (PPV)	.12*** (.03)
Parental messages supporting nonviolence (PMNV)	-.09*** (.02)
PPV*PMNV Interaction	-.02 (.02)
R^2	.41*** (.03)
Model focusing on peer pressure for fighting	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.01 (.03)
Grade 7	.01 (.03)
Grade 8	.00 (.03)
Male gender	-.01 (.03)
Physical aggression	.56*** (.03)
Peer pressure for fighting (PPF)	.12*** (.02)
Parental messages supporting nonviolence (PMNV)	-.07*** (.02)
PP*PMNV Interaction	.01 (.02)
R^2	.41*** (.03)
Model focusing on friends' delinquent behavior	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.02 (.03)
Grade 7	-.01 (.03)
Grade 8	-.02 (.03)
Male gender	-.01 (.03)
Physical aggression	.59*** (.03)
Friends' delinquent behavior (FDB)	.07** (.02)
Parental messages supporting nonviolence (PMNV)	-.07*** (.02)
FDB*PMNV Interaction	.02 (.02)
R^2	.41*** (.03)
Model focusing on friends' support for fighting	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.03 (.03)
Grade 7	-.01 (.03)
Grade 8	-.02 (.03)
Male gender	-.01 (.03)
Physical aggression	.60*** (.03)
Friends' support for fighting (FAG)	.07*** (.02)
Parental messages supporting nonviolence (PMNV)	-.06** (.02)
FAG*PMNV Interaction	.02 (.02)
R^2	.40*** (.03)

(Table 8 continues)

Table 8 continued

Model focusing on friends' support for nonviolence	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.02 (.03)
Grade 7	-.01 (.03)
Grade 8	-.02 (.03)
Male gender	-.02 (.03)
Physical aggression	.60*** (.03)
Friends' support for nonviolence (FNV)	-.06** (.02)
Parental messages supporting nonviolence (PMNV)	-.06** (.02)
FNV*PMNV Interaction	-.01 (.02)
R^2	.40*** (.03)

Note. N = 2,156.
*p < .05. **p < .01. ***p < .001.

Table 9
Standardized Regression Coefficients (Standard Errors) for Moderating Effects of Parental Messages Supporting Fighting is Sometimes Necessary on Self-Report of Physical Aggression

Model focusing on physical peer victimization	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.02 (.03)
Grade 7	.02 (.03)
Grade 8	.01 (.03)
Male gender	-.01 (.03)
Physical aggression	.58*** (.03)
Physical peer victimization (PPV)	.10*** (.02)
Parental messages supporting fighting is sometimes necessary (PMSN)	.04* (.02)
PPV*PMSN Interaction	.01 (.03)
R^2	.41*** (.03)
Model focusing on peer pressure for fighting	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.13 (.03)
Grade 7	.21 (.03)
Grade 8	.05 (.03)
Male gender	-.06 (.03)
Physical aggression	.57*** (.03)
Peer pressure for fighting (PPF)	.11*** (.02)
Parental messages supporting fighting is sometimes necessary (PMSN)	.04* (.02)
PP*PMSN Interaction	.01 (.03)
R^2	.41*** (.03)
Model focusing on friends' delinquent behavior	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.03 (.03)
Grade 7	-.00 (.03)
Grade 8	-.02 (.03)
Male gender	-.01 (.03)
Physical aggression	.59*** (.03)
Friends' delinquent behavior (FDB)	.08** (.02)
Parental messages supporting fighting is sometimes necessary (PMSN)	.04* (.02)
FDB*PMSN Interaction	-.02 (.03)
R^2	.40*** (.03)
Model focusing on friends' support for fighting	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.03 (.03)
Grade 7	-.01 (.03)
Grade 8	-.02 (.03)
Male gender	-.01 (.03)
Physical aggression	.60*** (.03)
Friends' support for fighting (FAG)	.09*** (.02)
Parental messages supporting fighting is sometimes necessary (PMSN)	.04 (.02)
FAG*PMSN Interaction	-.01 (.03)
R^2	.40*** (.03)

(Table 9 continues)

Table 9 continued

Model focusing on friends' support for nonviolence	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.03 (.03)
Grade 7	-.01 (.03)
Grade 8	-.02 (.03)
Male gender	-.02 (.03)
Physical aggression	.60*** (.03)
Friends' support for nonviolence (FNV)	-.07*** (.02)
Parental messages supporting fighting is sometimes necessary (PMSN)	.04* (.02)
FNV*PMSN Interaction	.01 (.02)
R^2	.40*** (.03)

Note. N = 2,156.
*p < .05. **p < .01. ***p < .001.

Table 10
Standardized Regression Coefficients (Standard Errors) for Moderating Effects of Parental Messages Supporting Retaliation on Self-Report of Physical Aggression

Model focusing on physical peer victimization	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.02 (.03)
Grade 7	.02 (.03)
Grade 8	.01 (.03)
Male gender	-.01 (.03)
Physical aggression	.57*** (.03)
Physical peer victimization (PPV)	.10*** (.02)
Parental messages supporting retaliation (PMRT)	.05* (.02)
PPV*PMRT Interaction	.03 (.03)
R^2	.41*** (.03)
Model focusing on peer pressure for fighting	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.11 (.03)
Grade 7	.21 (.03)
Grade 8	.03 (.03)
Male gender	-.07 (.03)
Physical aggression	.57*** (.03)
Peer pressure for fighting (PPF)	.11*** (.02)
Parental messages supporting retaliation (PMRT)	.03 (.02)
PP*PMRT Interaction	.00 (.03)
R^2	.40*** (.03)
Model focusing on friends' delinquent behavior	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.02 (.03)
Grade 7	-.01 (.03)
Grade 8	-.02 (.03)
Male gender	-.01 (.03)
Physical aggression	.59*** (.03)
Friends' delinquent behavior (FDB)	.07** (.02)
Parental messages supporting retaliation (PMRT)	.04* (.02)
FDB*PMRT Interaction	-.01 (.03)
R^2	.40*** (.03)
Model focusing on friends' support for fighting	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.03 (.03)
Grade 7	-.01 (.03)
Grade 8	-.02 (.03)
Male gender	-.01 (.03)
Physical aggression	.60*** (.03)
Friends' support for fighting (FAG)	.09** (.02)
Parental messages supporting retaliation (PMRT)	.03 (.02)
FAG*PMRT Interaction	.00 (.02)
R^2	.40*** (.03)

(Table 10 continues)

Table 10 continued

Model focusing on friends' support for nonviolence	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.02 (.03)
Grade 7	-.01 (.03)
Grade 8	-.02 (.03)
Male gender	-.02 (.03)
Physical aggression	.60*** (.03)
Friends' support for nonviolence (FNV)	-.07*** (.02)
Parental messages supporting retaliation (PMRT)	.04* (.02)
FNV*PMRT Interaction	.03 (.02)
R^2	.40*** (.03)

Note. N = 2,156.
*p < .05. **p < .01. ***p < .001.

Table 11
Standardized Regression Coefficients (Standard Errors) for Regression of Wave 2 Self-Report of Physical Aggression on Wave 1 Peer Variables and Parental Messages

Wave 1 predictors of Wave 2 change	
Intervention condition	-.02 (.03)
Grade 7	.00 (.03)
Grade 8	-.01 (.03)
Male gender	-.02 (.03)
Physical aggression	.52*** (.04)
Physical peer victimization	.09** (.03)
Peer pressure for fighting	.05 (.03)
Friends' delinquent behavior	.05* (.02)
Friends' support for fighting	.06* (.03)
Friends' support for nonviolence	-.00 (.03)
Parental messages supporting nonviolence	-.08*** (.02)
Parental messages supporting fighting is sometimes necessary	.06* (.03)
Parental messages supporting retaliation	-.01 (.03)
R^2	.44*** (.04)

Note. N = 2,156.
*p < .05. **p < .01. ***p < .001.

Relations with Teacher-Report of Physical Aggression

Compared with the unconstrained models, the constrained models for all moderating effects did not significantly reduce the model fit according to the chi-square difference test (see Models 1 to 10 in Tables 12 to 14). Overall, the final models (see Models 2, 4, 6, 8, and 10 in

Tables 12 to 14), which constrained the paths linking each peer variable to physical aggression across waves, had adequate fit based on the RMSEA = .013 to .031 and CFI = .976 to .998. The majority of the final models had adequate fit based on the TFL = .911 to .979. However, five models (i.e., model 2 in Tables 13 and 14, model 6 in Tables 12 and 14, model 8 in Table 14) did not indicate adequate fit based on the TLI = .782 to .864. There was no support for the moderating effect of parental messages supporting fighting is sometimes necessary or retaliation on the relation between peer factors and teacher-report of physical aggression (see Tables 16 and 17).

Results revealed a significant moderating effect of parental messages supporting nonviolence on the relation between friends' delinquent behavior and changes in teacher ratings of students' physical aggression ($\beta = .05$, $p < .05$; see Table 15). Similar effects were not found for physical peer victimization, peer pressure for fighting, friends' support for fighting, and friends' support for nonviolence. Contrary to my hypothesis, parental messages supporting nonviolence did not reduce the strength of the relation between friends' delinquent behavior and changes in teacher-report of physical aggression. The overall pattern suggested that parental messages supporting nonviolence had a promotive effect (i.e., reduction) on changes in teachers' report of physical aggression for adolescents reporting low levels of friends' delinquent behavior that became increasingly less evident as adolescents reported higher levels of friends' delinquent behavior (see Figure 2). In other words, parental messages supporting nonviolence was not enough to overcome the negative effects of friends' delinquent behavior on changes in physical aggression. These effects were consistent across waves. These effects represent a protective-reactive relationship (Luthar, Cicchetti, & Becker, 2000) in which the attribute (i.e., presence of parental messages supporting nonviolence) is typically related to better outcomes (i.e., decreased

frequency of teacher-reported physical aggression), but the benefit decreases at higher levels of risk (i.e., higher levels of friends' delinquent behavior).

Although there was limited support for a moderating effect of parental messages on the relations between peer factors and teacher-report of physical aggression, there were some simple main effects of parental messages (see Tables 15 to 17). These findings suggest that parental messages supporting fighting and nonviolence remains a significant predictor of changes in teacher-report of physical aggression even after controlling for each peer factor. Follow-up analyses were conducted to examine the extent to which each parental messages variable was uniquely associated with changes in teacher-report of physical aggression after controlling for all five peer variables and the other two parental messages variables. Compared with the unconstrained model, the constrained model significantly reduced the model fit according to the chi-square difference test (ΔX^2 (8) = 17.16, p = .029). However, the unconstrained model improved the model fit based on the CFI by less than .01 (i.e., ΔCFI = .005) and reduced the fit based on the RMSEA (ΔRMSEA = .004) and the TLI (ΔTLI = -.045). For these reasons, the model that constrained the paths linking each parental message variable to physical aggression and each peer variable to physical aggression across waves was chosen as the final model. Overall, the final model had adequate fit based on the RMSEA = .038 and CLI = .987, but not the TLI = .815. Results showed that parental messages supporting nonviolence predicted changes in teacher-report of physical aggression (β = -.12, p = .011; see Table 18). In contrast, parental messages supporting fighting is sometimes necessary and parental messages supporting retaliation did not.

Table 12

Fit Indices and Comparison Models for Moderating Effects of Parental Messages Supporting Nonviolence on Teacher-Report of Physical Aggression

	χ^{2a}	df	RMSEA	CFI	TLI	$\Delta\chi^{2b}$	Δdf^{b}
Model focusing on peer victimization							
1. Unconstrained	11.21***	4	.029	.992	.856		
2. Coefficients constrained across waves	13.21***	8	.017	.994	.948	1.28	4
Model focusing on peer pressure for fighting							
3. Unconstrained	11.84***	4	.030	.992	.860		
4. Coefficients constrained across waves	13.58***	8	.018	.994	.950	1.35	4
Model focusing on friends' delinquent behavior							
5. Unconstrained	18.27***	4	.041	.980	.641		
6. Coefficients constrained across waves	20.28***	8	.027	.983	.845	2.03	4
Model focusing on friends' support for fighting							
7. Unconstrained	8.90***	4	.024	.996	.925		
8. Coefficients constrained across waves	10.77***	8	.013	.998	.979	1.33	4
Model focusing on friends' support for nonviolence							
9. Unconstrained	8.76***	4	.024	.996	.930		
10. Coefficients constrained across waves	11.52***	8	.014	.992	.974	2.36	4

Note. N = 2,156. RMSEA = Root mean square error of approximation. CFI = comparative fit index. TLI = Tucker-Lewis Fit index.

[a]Chi-square test of model fit. [b]Satorra-Bentler scaled chi-square difference test indicates whether the unconstrained model fit the data significantly better.

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

Table 13

Fit Indices and Comparison Models for Moderating Effects of Parental Messages Supporting Fighting is Sometimes Necessary on Teacher-Report of Physical Aggression

	χ^{2a}	df	RMSEA	CFI	TLI	$\Delta\chi^{2b}$	Δdf^{b}
Model focusing on peer victimization							
1. Unconstrained	13.07***	4	.032	.989	.795		
2. Coefficients constrained across waves	15.86***	8	.021	.990	.911	1.62	4
Model focusing on peer pressure for fighting							
3. Unconstrained	12.92***	4	.032	.990	.821		
4. Coefficients constrained across waves	14.38***	8	.019	.993	.936	0.57	4
Model focusing on friends' delinquent behavior							
5. Unconstrained	20.49***	4	.044	.972	.492		
6. Coefficients constrained across waves	22.16***	8	.029	.976	.782	1.84	4
Model focusing on friends' support for fighting							
7. Unconstrained	11.17***	4	.029	.992	.857		
8. Coefficients constrained across waves	12.59***	8	.016	.995	.954	0.64	4
Model focusing on friends' support for nonviolence							
9. Unconstrained	9.60***	4	.025	.994	.974		
10. Coefficients constrained across waves	15.96***	8	.021	.992	.929	6.10	4

Note. N = 2,156. RMSEA = Root mean square error of approximation. CFI = comparative fit index. TLI = Tucker-Lewis Fit index.

[a]Chi-square test of model fit. [b]Satorra-Bentler scaled chi-square difference test indicates whether the unconstrained model fit the data significantly better.

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

Table 14

Fit Indices and Comparison Models for Moderating Effects of Parental Messages Supporting Retaliation on Teacher-Report of Physical Aggression

	χ^{2a}	df	RMSEA	CFI	TLI	$\Delta\chi^{2b}$	Δdf^{b}
Model focusing on peer victimization							
1. Unconstrained	12.61***	4	.032	.989	.803		
2. Coefficients constrained across waves	19.91***	8	.026	.985	.864	6.58	4
Model focusing on peer pressure for fighting							
3. Unconstrained	13.69***	4	.034	.990	.826		
4. Coefficients constrained across waves	17.09***	8	.023	.991	.918	2.61	4
Model focusing on friends' delinquent behavior							
5. Unconstrained	21.04***	4	.044	.976	.568		
6. Coefficients constrained across waves	24.78***	8	.031	.976	.788	3.82	4
Model focusing on friends' support for fighting							
7. Unconstrained	10.46***	4	.027	.993	.882		
8. Coefficients constrained across waves	15.30***	8	.021	.993	.864	4.12	4
Model focusing on friends' support for nonviolence							
9. Unconstrained	11.38***	4	.029	.993	.868		
10. Coefficients constrained across waves	16.58***	8	.022	.992	.924	4.70	4

Note. N = 2,156. RMSEA = Root mean square error of approximation. CFI = comparative fit index. TLI = Tucker-Lewis Fit index.

[a]Chi-square test of model fit. [b]Satorra-Bentler scaled chi-square difference test indicates whether the unconstrained model fit the data significantly better.

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

Table 15
Standardized Regression Coefficients (Standard Errors) for Moderating Effects of Parental Messages Supporting Nonviolence on Teacher-Report of Physical Aggression

Model focusing on physical peer victimization	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.00 (.03)
Grade 7	.01 (.03)
Grade 8	-.01 (.03)
Male gender	-.01 (.03)
Physical aggression	.69*** (.03)
Physical peer victimization (PPV)	.03 (.02)
Parental messages supporting nonviolence (PMNV)	-.04 (.02)
PPV*PMNV Interaction	.01 (.02)
R^2	.48*** (.03)
Model focusing on peer pressure for fighting	
Wave 1 predictors of Wave 2 change	
Intervention condition	.01 (.03)
Grade 7	.01 (.03)
Grade 8	-.01 (.03)
Male gender	-.01 (.03)
Physical aggression	.68*** (.03)
Peer pressure for fighting (PPF)	.09 (.02)
Parental messages supporting nonviolence (PMNV)	-.03 (.02)
PP*PMNV Interaction	.02 (.02)
R^2	.50*** (.03)
Model focusing on friends' delinquent behavior	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.00 (.03)
Grade 7	-.00 (.03)
Grade 8	-.02 (.03)
Male gender	-.01 (.03)
Physical aggression	.69*** (.03)
Friends' delinquent behavior (FDB)	.05* (.02)
Parental messages supporting nonviolence (PMNV)	-.03 (.02)
FDB*PMNV Interaction	.05* (.02)
R^2	.49*** (.03)
Model focusing on friends' support for fighting	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.01 (.03)
Grade 7	-.00 (.03)
Grade 8	-.02 (.03)
Male gender	-.01 (.03)
Physical aggression	.69*** (.03)
Friends' support for fighting (FAG)	.03 (.02)
Parental messages supporting nonviolence (PMNV)	-.03 (.02)
FAG*PMNV Interaction	.04 (.02)
R^2	.49*** (.03)

(Table 15 continues)

Table 15 continued

Model focusing on friends' support for nonviolence	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.00 (.03)
Grade 7	-.00 (.03)
Grade 8	-.02 (.03)
Male gender	-.01 (.03)
Physical aggression	.69*** (.03)
Friends' support for nonviolence (FNV)	.01 (.02)
Parental messages supporting nonviolence (PMNV)	-.04 (.02)
FNV*PMNV Interaction	-.04 (.02)
R^2	.49*** (.03)

Note. N = 2,156.
*p < .05. **p < .01. ***p < .001.

Table 16
Standardized Regression Coefficients (Standard Errors) for Moderating Effects of Parental Messages Supporting Fighting is Sometimes Necessary on Teacher-Report of Physical Aggression

Model focusing on physical peer victimization	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.00 (.03)
Grade 7	.00 (.03)
Grade 8	-.01 (.03)
Male gender	-.01 (.03)
Physical aggression	.70*** (.02)
Physical peer victimization (PPV)	.03 (.02)
Parental messages supporting fighting is sometimes necessary (PMSN)	.05* (.02)
PPV*PMSN Interaction	-.02 (.02)
R^2	.49*** (.03)
Model focusing on peer pressure for fighting	
Wave 1 predictors of Wave 2 change	
Intervention condition	.04 (.03)
Grade 7	.01 (.03)
Grade 8	-.01 (.03)
Male gender	-.01 (.03)
Physical aggression	.68*** (.03)
Peer pressure for fighting (PPF)	.09 (.02)
Parental messages supporting fighting is sometimes necessary (PMSN)	.04* (.02)
PP*PMSN Interaction	-.02 (.02)
R^2	.50*** (.03)
Model focusing on friends' delinquent behavior	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.00 (.03)
Grade 7	-.00 (.03)
Grade 8	-.02 (.03)
Male gender	-.01 (.03)
Physical aggression	.69*** (.02)
Friends' delinquent behavior (FDB)	.05* (.02)
Parental messages supporting fighting is sometimes necessary (PMSN)	.05* (.02)
FDB*PMSN Interaction	-.01 (.02)
R^2	.49*** (.03)
Model focusing on friends' support for fighting	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.01 (.03)
Grade 7	-.00 (.03)
Grade 8	-.02 (.03)
Male gender	-.01 (.03)
Physical aggression	.69*** (.02)
Friends' support for fighting (FAG)	.04 (.02)
Parental messages supporting fighting is sometimes necessary (PMSN)	.05* (.02)
FAG*PMSN Interaction	-.01 (.02)
R^2	.49*** (.03)

(Table 16 continues)

Table 16 continued

Model focusing on friends' support for nonviolence	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.00 (.03)
Grade 7	.01 (.03)
Grade 8	-.01 (.03)
Male gender	-.01 (.03)
Physical aggression	.70*** (.02)
Friends' support for nonviolence (FNV)	-.01 (.02)
Parental messages supporting fighting is sometimes necessary (PMSN)	.02 (.02)
FNV*PMSN Interaction	-.01 (.02)
R^2	.48*** (.03)

Note. N = 2,156.
*p < .05. **p < .01. ***p < .001.

Table 17
Standardized Regression Coefficients (Standard Errors) for Moderating Effects of Parental Messages Supporting Retaliation on Teacher-Report of Physical Aggression

Model focusing on physical peer victimization	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.06 (.03)
Grade 7	-.04 (.03)
Grade 8	-.01 (.03)
Male gender	-.01 (.03)
Physical aggression	.69*** (.03)
Physical peer victimization (PPV)	.03 (.02)
Parental messages supporting retaliation (PMRT)	.03 (.02)
PPV*PMRT Interaction	-.02 (.03)
R^2	.49*** (.03)
Model focusing on peer pressure for fighting	
Wave 1 predictors of Wave 2 change	
Intervention condition	.01 (.03)
Grade 7	.01 (.03)
Grade 8	-.01 (.03)
Male gender	-.01 (.03)
Physical aggression	.68*** (.03)
Peer pressure for fighting (PPF)	.10 (.02)
Parental messages supporting retaliation (PMRT)	.02 (.02)
PP*PMRT Interaction	-.03 (.03)
R^2	.50*** (.03)
Model focusing on friends' delinquent behavior	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.00 (.03)
Grade 7	.00 (.03)
Grade 8	-.02 (.03)
Male gender	-.01 (.03)
Physical aggression	.69*** (.02)
Friends' delinquent behavior (FDB)	.05 (.03)
Parental messages supporting retaliation (PMRT)	.03 (.02)
FDB*PMRT Interaction	.01 (.03)
R^2	.49*** (.03)
Model focusing on friends' support for fighting	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.01 (.03)
Grade 7	-.00 (.03)
Grade 8	-.02 (.03)
Male gender	-.01 (.03)
Physical aggression	.69*** (.02)
Friends' support for fighting (FAG)	.04 (.02)
Parental messages supporting retaliation (PMRT)	.03 (.02)
FAG*PMRT Interaction	-.01 (.03)
R^2	.49*** (.03)

(Table 17 continues)

Table 17 continued

Model focusing on friends' support for nonviolence	
Wave 1 predictors of Wave 2 change	
Intervention condition	-.01 (.03)
Grade 7	.01 (.03)
Grade 8	-.01 (.03)
Male gender	-.01 (.03)
Physical aggression	.70*** (.02)
Friends' support for nonviolence (FNV)	-.01 (.02)
Parental messages supporting retaliation (PMRT)	.03 (.02)
FNV*PMRT Interaction	-.02 (.03)
R^2	.49*** (.03)

Note. N = 2,156.
*p < .05. **p < .01. ***p < .001.

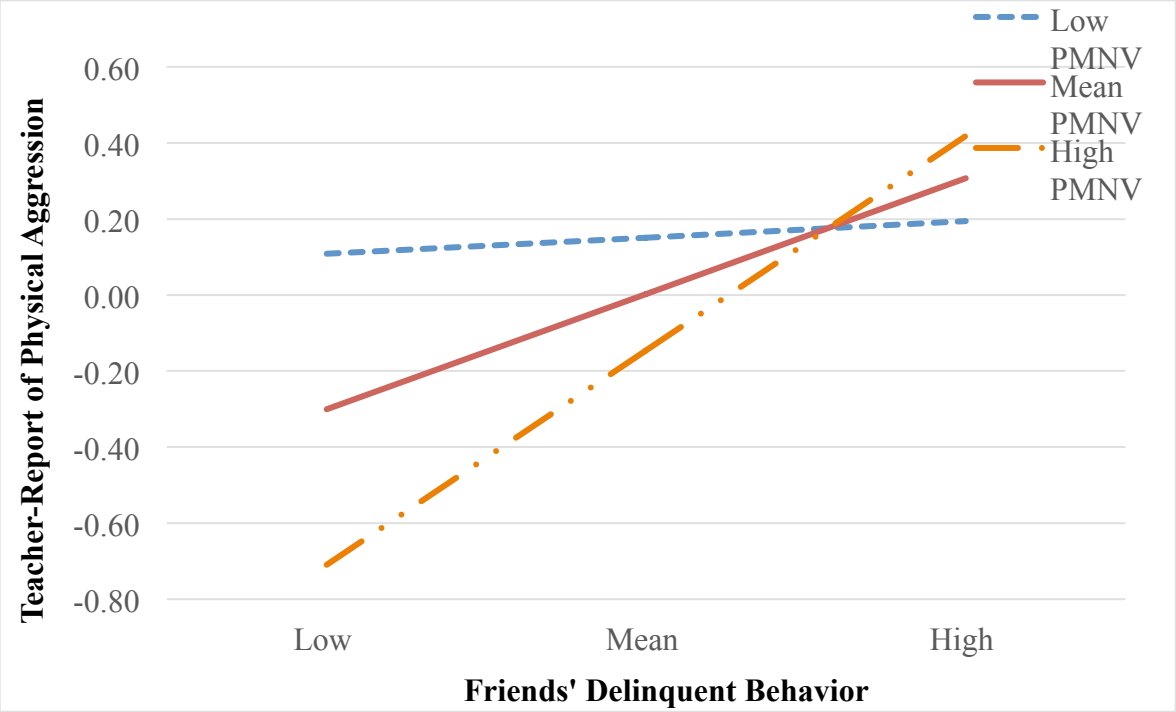
Table 18
Standardized Regression Coefficients (Standard Errors) for Regression of Wave 2 Teacher-Report of Physical Aggression on Wave 1 Peer Variables and Parental Messages

Wave 1 predictors of Wave 2 change	
Intervention condition	.01 (.04)
Grade 7	.04 (.04)
Grade 8	.08 (.05)
Male gender	-.00 (.05)
Physical aggression	.46*** (.11)
Physical peer victimization	.04 (.08)
Peer pressure for fighting	.12 (.13)
Friends' delinquent behavior	.14* (.06)
Friends' support for fighting	.05 (.10)
Friends' support for nonviolence	.05 (.14)
Parental messages supporting nonviolence	-.12* (.05)
Parental messages supporting fighting is sometimes necessary	-.03 (.05)
Parental messages supporting retaliation	-.00 (.03)
R^2	.37*** (.10)

Note. N = 2,156.
*p < .05. **p < .01. ***p < .001.

Figure 2

Moderating Effect of Parental Messages Supporting Nonviolence on the Relation Between Friends' Delinquent Behavior and Teacher-Report of Physical Aggression



Note. PMNV = Parental messages supporting nonviolence. Protective-reactive effect of parental messages supporting nonviolence on teacher-reported physical aggression.

Discussion

The purpose of this study was to investigate the longitudinal influence of five peer factors (i.e., physical peer victimization, peer pressure for fighting, friends' delinquent behavior, friends' support for fighting, and friends' support for nonviolence) on adolescents' self- and teacher-report of physical aggression and the potential protective influence of three parental messages factors (i.e., parental messages supporting nonviolence, parental messages supporting fighting is sometimes necessary, and parental messages supporting retaliation) in the above associations. This study focused on a predominantly African-American group of middle school students (i.e., sixth, seventh, and eighth grade) where 98% of students were eligible for free or reduced lunch.

It was hypothesized that peer factors, particularly physical peer victimization, would be positively associated with changes in self- and teacher-report of physical aggression. Partially consistent with my hypotheses, physical peer victimization was positively associated with changes in self-, but not teacher-report of physical aggression, after accounting for covariates, prior physical aggression, and other peer factors. In addition, after controlling for all other peer variables, friends' support for fighting remained a significant predictor across all waves for self-report of physical aggression, whereas peer pressure for fighting remained a significant predictor of self- and teacher-report of physical aggression. Contrary to my hypotheses, friends' delinquent behavior and friends' support for nonviolence were not uniquely associated with changes in self- or teacher-reported physical aggression.

A second hypothesis was that parental messages (i.e., messages supporting nonviolence, fighting is sometimes necessary, and retaliation) would moderate the relation between the five peer factors and adolescents' physical aggression. Support for a moderation effect was only found for one peer factor and only based on teacher ratings. Specifically, parental messages supporting nonviolence was beneficial at decreasing physical aggression for adolescents with low levels of friends' delinquent behavior. However, parental messages supporting nonviolence was not enough to decrease physical aggression as the levels of friends' delinquent behavior increased.

Influence of Peer Factors on Adolescents' Physical Aggression

Findings that physical peer victimization was positively associated with changes in self-reported physical aggression are consistent with findings from cross-sectional studies (e.g., Hoglund et al., 2012; Russell et al., 2010). Findings that physical peer victimization did not predict changes in teacher-report of physical aggression differ from results of a previous

longitudinal study that found that adolescents' physical peer victimization predicted changes in teacher-report of physical aggression one year later (i.e., McQuade, 2017). Differences between findings from the current study and McQuade's (2017) study may be explained by differences in sample characteristics (e.g., participants' racial and ethnic background), informants used to assess physical peer victimization and physical aggression, and timeframe of assessment measures.

McQuade (2017) used a predominantly European-American sample of children and adolescents, whereas the current study examined these effects for a predominantly African-American sample of adolescents. Previous studies have found that African-American youths tend to report higher levels of peer victimization compared with youths from other ethnic and racial groups (e.g., Felix & You, 2011). Given the increased risk for victimization for minority youths living in under-resourced neighborhoods with high rates of violence and poverty (Goldweber et al., 2013), it may be that peer victimization represents a more salient risk factor for aggressive behavior for African-American youths compared with their European-American counterparts.

Regarding informants, McQuade (2017) relied on teacher-report for both physical peer victimization and physical aggression, whereas the current study used self-report for physical peer victimization and teacher-report for physical aggression. Teachers' observations are limited to how adolescents behave at school (e.g., in the classroom), which could differ from other settings that adolescents may be reporting on (e.g., in their neighborhood; Laird & Weems, 2011). In the present study, adolescents' report of their physical peer victimization may have included victimization that occurred outside of school. Physical peer victimization occurring outside of the school setting may not have been predictive of teacher-report of physical aggression, which only assessed aggression at school. In the previous study (i.e., McQuade,

2017), teachers' report of adolescents' physical peer victimization in school was predictive of teachers' report of adolescents' physical aggression in school. Lastly, McQuade (2017) assessed adolescents' physical aggression across two waves separated by one year, whereas the current study assessed adolescents' physical aggression across four waves that were three months apart, which offers a clearer picture about how the relation between physical peer victimization and physical aggression might change over the course of the school year.

The finding that physical peer victimization is a unique predictor of adolescent's report of physical aggression is consistent with several relevant theories. According to social learning theory (Bandura, 1971), direct exposure to a particular behavior is one way that behavioral patterns develop. Adolescents who are physically victimized by peers are directly exposed to physically aggressive behavior, which may cause aggressive behavior to become part of adolescents' future behavioral patterns. Behaving aggressively in the future may be advantageous for previously victimized youths as aggressive behavior may decrease future victimization and may increase social status (e.g., Heilbron & Prinstein, 2008). The role of peer victimization in the development of aggressive behavior can also be explained by general strain theory, which posits that antisocial behavior is due in part to negative emotions resulting from a negative event (Agnew, 1992). Adolescents' experience with peer victimization may evoke feelings of anger, which adolescents' may then express through aggressive behavior. Lastly, consistent with social information processing theory, adolescents go through a series of steps to decide how to respond to conflictual social interactions (Dodge et al., 1986). Previous studies have found that youth who have been victimized by peers tend to experience disruptions in their social information processing (e.g., hostile attribution bias; Dodge et al., 2003), which makes it more likely that they will respond aggressively in certain social interactions.

Of the five peer factors, peer pressure for fighting was the only peer variable that predicted changes in teacher-report of physical aggression, after controlling for other peer factors. These results are consistent with qualitative work in which male adolescents from a rural town identified peer pressure for fighting as a contributor to their aggressive behavior (Edwards et al., 2019). Findings are also consistent with cross-sectional and longitudinal studies. In a cross-sectional study, Farrell, Thompson, and colleagues (2017) found that peer pressure for fighting was positively related to teacher-report of physical aggression. These results were supported longitudinally in a similar sample. Specifically, among a predominantly African-American sample of middle school students, Thompson and colleagues (2019) found that peer pressure for fighting predicted changes in teacher-report of physical aggression, after controlling for other peer factors. In some cases, adolescents may be less willing to engage in aggressive behavior in the presence of teachers for fear of consequences (e.g., suspension; Farrell et al., 2010). However, under certain circumstances (e.g., pressure from peers), teachers may witness or hear about adolescents' aggressive responses to peer conflict. Given that peer pressure to fight can happen in school settings that are crowded and loud (e.g., cafeteria, hallway; Farrell, Mehari, Kramer-Kuhn, Mays, & Sullivan, 2015), adolescents may choose to fight when teachers are near if they feel they have no other choice.

Findings that friends' support for nonviolence did not uniquely predict changes in self- and teacher-report of physical aggression are inconsistent with qualitative work and some pertinent theories. In a qualitative study by Farrell et al. (2010), adolescents identified friends' support for nonviolence as a factor that would reduce their engagement in aggressive behavior. Social norms theory suggests that individuals adjust their behavior in ways that match the norms of socially important individuals, such as peers (Cialdini & Trost, 1998). Based on social norms

theory, adolescents with peer norms favoring nonviolence may be less likely to engage in aggressive behavior in favor of nonviolent alternatives. Failure to find evidence of the role of friends' support for nonviolence in predicting changes in self- and teacher-report of physical aggression may be due to several reasons. Friends' support for nonviolence was significantly and highly correlated with friends' support for fighting across waves. Given the high correlations between the two variables, it is possible that the importance of friends' support for nonviolence was overpowered by friends' support for fighting. Friends' support for nonviolence was just of one of five peer factors examined in this study. In the presence of multiple negative peer factors (e.g., physical peer victimization, peer pressure for fighting), friends' support for nonviolence may not have been enough to predict changes in physical aggression. In addition, adolescence is a period where peer influences become stronger and acceptance of externalizing behavior, such as aggression, increases (Rubin et al., 2015). It is possible that adolescents in this sample are less likely to have friend norms that favor nonviolence. It is also likely that larger school norms favoring nonviolence are more important in predicting changes in aggressive behavior than smaller peer group norms (e.g., friend groups). Lastly, it is possible that negative peer factors are more influential in predicting negative behaviors (e.g., physical aggression) than positive peer factors.

Failure to find support for the unique impact of physical peer victimization, friends' delinquent behavior, friends' support for fighting, and friends' support for nonviolence on teacher-report of physical aggression may be due to a number of reasons. First, peer pressure for fighting was the only peer variable that was significantly correlated with teacher-report of physical aggression across every wave, though the correlations were small. Although teacher-report of physical aggression was correlated with other peer factors, correlations were not

consistent across all waves and were small. Given that the peer factors had small to no correlations with teacher-report of physical aggression, it is possible that adding all peer factors to one model reduced the significance of the peer factors in predicting teacher-report of physical aggression. Second, unlike adolescents who are able to report on their behavior across different settings, teachers' observations are limited to school settings. Due to potential consequences of aggressive behavior (e.g., suspension, going to jail; Farrell et al., 2010), adolescents may be less likely to engage in physically aggressive behavior in the presence of teachers and may instead behave aggressively in settings where they are less likely to be caught (e.g., neighborhood park). Similarly, adolescents may be more likely to engage in delinquent behavior (e.g., substance use) when they are not in the presence of an adult. In addition, when peer conflict does occur in the school setting, it is possible that teachers witness the end of a physical altercation, but do not witness what occurred beforehand. This is particularly relevant for the peer factors that were examined in the current study. For instance, friends' support for fighting can involve both emotional support (e.g., verbal encouragement of physical aggression) and physical assistance (e.g., a friend assisting in a physical altercation; Farrell et al., 2010). Teachers may not be present during the beginning of peer conflict to witness the emotional support, but may directly observe the physical assistance. Similarly, teachers may not witness physical peer victimization, but may hear about it from other teachers or students.

Findings from the current study differed somewhat from the findings of a longitudinal study using the same data. Specifically, both the previous study (Thompson et al., 2019) and the current study found that peer pressure for fighting predicted changes in self- and teacher-report of physical aggression, whereas friends' support for fighting predicted changes in self-report of physical aggression. However, findings differed in that the previous study found that friends'

delinquent behavior predicted changes in self-report of physical aggression, which was not confirmed by findings from this study. Differences between findings from the present study and the Thompson et al. (2019) study may be explained by differences in the variables included in the model. More specifically, Thompson et al. (2019) included three peer variables (i.e., peer pressure for fighting, friends' delinquent behavior, and friends' support for fighting) in their model, whereas the current study included two additional peer variables (i.e., physical peer victimization and friends' support for nonviolence). Given the high correlations among the peer variables, including additional peer variables in the model could reduce the unique variance accounted for by specific variables. For instance, physical peer victimization, which was not included in the previous study, was significantly correlated with friends' delinquent behavior and peer pressure for fighting. Similarly, friends' support for nonviolence, which was also not included in the previous study, was significantly correlated with friends' delinquent behavior and peer pressure for fighting. Including these two peer variables into the model with other peer variables may explain why some peer variables were no longer unique predictors of physical aggression.

Moderating Role of Parental Messages Supporting Fighting and Nonviolence

Support was not found for the hypothesis that parental messages exert a protective influence by moderating the relation between peer factors and self-report of physical aggression. Peer influences tend to be stronger during early adolescence, which is also a time when acceptance of antisocial behavior, including aggression, tends to increase (Chein, Albert, O'Brien, Uckert, & Steinberg, 2011; Rubin, Bowker, & Bukowski, 2015). During adolescence, youths spend more time with their peers than with their parents (Brown & Klute, 2003). It is therefore possible that the messages that they receive from their parents about fighting and

nonviolence may not be enough to buffer the negative effects of peer factors (e.g., friends' delinquent behavior) on aggressive behavior. Failure to find support for the protective effects of parental messages for fighting and nonviolence may also be due to adolescents' experience in their home and neighborhood environments. According to a qualitative study using a predominantly African-American sample of youths from under-resourced communities, peer (e.g., friends' support for fighting), parent (e.g., parental modeling of violence), and neighborhood (e.g., exposure to violence) factors were identified as factors that would increase their likelihood of responding aggressively to peer conflict (Farrell et al., 2010). This suggests that adolescents are exposed to violence across multiple domains, which supports adolescents' beliefs that fighting is an inevitable response to peer conflict (Farrell et al., 2010).

There was evidence of a moderating effect of parental messages supporting nonviolence on teacher-report of physical aggression. However, contrary to my hypothesis, the promotive effect of parental messages supporting nonviolence on teacher-report of physical aggression became less evident as the levels of friends' delinquent behavior increased. This suggests that parental messages supporting nonviolence was not enough to reduce the effects of friends' delinquent behavior on teacher-report of physical aggression. This is inconsistent with previous qualitative work in which some adolescents suggested that even when pressured by peers to engage in aggressive behavior, messages they received from their parents supporting nonviolent responses might prevent them from reacting aggressively (Farrell et al. 2010). However, findings from the current study are consistent with findings that parental support for nonviolence did not serve a protective function in the relation between friends' delinquent behavior and aggression among a sample of sixth graders (Kramer-Kuhn & Farrell, 2016).

In the current study, parental messages supporting nonviolence did not serve a protective function in the relation between friends' delinquent behavior and teacher-report of physical aggression. This suggests that although parental messages supporting nonviolence may be beneficial at reducing teacher-report of physical aggression for adolescents with low levels of friends' delinquent behavior, the benefit of parental messages supporting nonviolence appears to be overpowered by high levels of friends' delinquent behavior. Although contrary to my hypotheses, these findings are consistent with the increased influence of peers during adolescence. Specifically, adolescence is a stage where peer networks become larger and youths' reliance on friends for support and autonomy increases (Brown & Klute, 2003). In addition, the benefits of associating with delinquent peers may be appealing for adolescents who have been victimized by peers, and whose parents have provided messages supporting nonviolence as an acceptable response to conflict. For instance, Bettencourt and Farrell (2013) found that adolescents in a predominantly victimized subgroup and a well-adjusted subgroup reported higher levels of parental support for nonviolence compared with adolescents in aggressive subgroups (i.e., non-victimized aggressors, aggressive-victims). Due to the importance of social status and the desire to gain autonomy during adolescence, youths who receive parental messages favoring nonviolence may try to solve their own social difficulties by aligning with peers who engage in delinquent behavior. Associating with delinquent peers could increase social approval and decrease future victimization (e.g., Gifford-Smith & Brownell, 2003), but has also been related to increased aggressive behavior (e.g., Hong et al., 2017).

Although there was no evidence supporting the moderating effects of parental messages supporting fighting and nonviolence, there was evidence of main effects. Parental messages supporting nonviolence predicted changes in self- and teacher-report of physical aggression, after

controlling for peer factors and the other parental messages variables. These findings are consistent with quantitative findings that parental messages supporting nonviolence are negatively linked to aggressive behavior (e.g., Garthe et al., 2015) and qualitative work in which parental values against fighting was identified as a deterrent to aggressive behavior (Farrell et al., 2010). Parental messages supporting retaliation did not predict changes in self- or teacher-report of physical aggression after controlling for the other parental message variables and peer factors. Failure to find evidence for the unique influence of parental messages supporting retaliation may be explained by its high correlations with parental messages supporting fighting is sometimes necessary. Specifically, correlations between parental messages supporting fighting is sometimes necessary and parental messages supporting retaliation ranged from .53 to .61 across waves. It is possible that including all five of the peer factors and the other parental messages variables reduced the unique effect of parental messages supporting retaliation.

Parental messages that support fighting is sometimes necessary were found to predict changes in self- but not teacher-reported physical aggression, after controlling for other parental messages variables and all five of the peer factors. These results are consistent with a qualitative study in which students identified mixed parental messages about fighting as a factor that would encourage aggressive behavior in response to peer conflict (Farrell et al., 2010). Adolescents who receive parental messages that fighting is acceptable in certain situations (e.g., self-defense) may have a difficult time deciding for themselves when aggressive behavior is appropriate (Vera et al., 2017). Although adolescents who receive mixed parental messages about fighting and nonviolence may sometimes understand when it would be appropriate to behave aggressively, other factors such as peer influence may make it more likely that adolescents will respond aggressively even in situations when other alternatives (e.g., walk away) are possible. This may

be especially true for adolescents living in communities with high rates of violence as they may feel the need to engage in aggressive behavior as a means of gaining social approval or reducing future victimization (Hovell et al., 2002). The unique effect of parental factors after accounting for peer factors is also supported by findings of a previous study in which attachment to parents at Time 2 was negatively associated with externalizing behavior at Time 3, after controlling for friends' delinquent behavior (Salzinger, Feldman, Rosario, & Ng-Mak, 2011). Taken together, these findings suggest that even though parents may not be able to protect adolescents from the risks associated with negative peer factors, parents can exert independent effects on adolescents' physical aggression.

Implications and Future Directions

The present study contributed to the literature on peer factors and adolescents' physical aggression in a number of ways. It expanded the existing knowledge about the multiple ways in which peers can influence physical aggression during adolescence by examining specific forms of peer influences (i.e., physical peer victimization, peer pressure for fighting, friends' delinquent behavior, friends' support for fighting, friends' support for nonviolence) and a specific form of aggression (i.e., physical). In addition, the study included two informants of physical aggression (i.e., self- and teacher-report). Adolescents are influenced by multiple peer factors at a given time and each peer factor might be differentially related to physical aggression. The present study found that after controlling for all other peer factors, physical peer victimization, peer pressure for fighting, and friends' support for fighting uniquely predicted changes in self-report of physical aggression, whereas only peer pressure for fighting significantly predicted changes in teacher-report of physical aggression. These findings suggest that based on self-report, more than one peer factor is important in predicting subsequent

engagement in physically aggressive behavior. On the other hand, after including other peer factors, only one peer factor (i.e., peer pressure for fighting) remained a significant predictor of teacher-report of physical aggression.

Peer victimization contributes to behavioral difficulties during adolescence (e.g., Reijntjes et al., 2011). Findings of the current study suggest that physical peer victimization is associated with changes in self-report of physical aggression after accounting for other peer factors. Adolescents who are exposed to physical aggression through victimization might learn the consequences of not being aggressive (e.g., being victimized) while also learning the benefits of being aggressive (e.g., not being victimized). This is particularly important for adolescents growing up in communities where they are exposed to high levels of community violence. Specifically, they might internalize aggressive behavior as being socially acceptable, which might then result in them engaging in aggressive behavior. Adolescents who do not view aggressive behavior as acceptable, on the other hand, might be victimized for not engaging in aggressive behavior. Over time, their views on aggressive behavior may change as a function of their experiences with victimization and the aggressive behavior they are exposed to within their community. Given that physical peer victimization predicts changes in physical aggression, efforts should be made to decrease existing physical peer victimization and to prevent future physical peer victimization. Reductions in physical peer victimization may occur by teaching adolescents' alternative ways to handle conflict (e.g., talking it out) and by reinforcing non-violent alternatives to conflict so that adolescents are less likely to choose aggressive responses.

Findings of the present study suggest that there are multiple ways in which peers can influence aggressive behavior during adolescence. Specifically, physical peer victimization, peer pressure for fighting, and friends' support for fighting uniquely predicted changes in self-report

of physical aggression. Adolescence is a period of life where problem behavior (e.g., aggressive behavior) is likely to occur and where peer networks strengthen (e.g., Brown & Rinelli, 2010). During this time, adolescents interact with peers within the school and neighborhood settings where they might be exposed to negative (e.g., antisocial) behaviors (e.g., Padilla-Walker & Bean, 2009). This makes adolescence an optimal time for intervention efforts aimed at decreasing aggressive behavior by decreasing negative peer influences. Given findings that multiple peer factors predict physically aggressive behavior, it would be important for prevention and intervention efforts to target multiple peer factors. Interventions may work to decrease physical peer victimization, peer pressure for fighting, and friends' support for fighting.

The current study added to the existing literature by examining the degree to which parental messages moderated the influence of peer factors on aggressive behavior. There was no support for the protective role of parental messages supporting fighting and nonviolence on the relation between peer factors and adolescents' physical aggression. Future studies should explore factors that may protect adolescents from the risks of negative peer influences, such as friends' prosocial behavior and adult support. This would be particularly important given the risks associated with maladjustment during adolescence (e.g., Brown & Rinelli, 2010) and the increased risk of aggressive behavior for adolescents residing in neighborhoods characterized by high levels of community violence (e.g., Foster et al., 2007). Mechanisms that underlie the effects of peer factors on physical aggression should also be considered, such as beliefs about various behaviors.

The study used a predominantly African-American sample of adolescents, which differs from studies that have used predominantly European-American samples. African-American adolescents, especially those living in under-resourced communities, are at an increased risk for

victimization and violence exposure (Goldweber et al., 2013), both of which have been related to aggressive behavior (e.g., Fowler et al., 2009). Findings suggest that for African-American adolescents, parental messages supporting fighting is sometimes necessary, parental messages supporting nonviolence, and peer factors uniquely contribute to physical aggression. These findings underscore the continued significance of parents during adolescence when peers are also important. This also highlights the potential for future interventions to not only work to decrease negative peer influences to reduce adolescents' physical aggression, but to also simultaneously work to decrease parental messages supporting fighting is sometimes necessary and increase parental messages supporting nonviolence. Future studies should make efforts to conduct subgroup analyses when including African-Americans and other underrepresented groups within their samples as not to assume that relations will be the same across different racial and ethnic groups.

The current study examined the role of parental messages supporting fighting and nonviolence in adolescents' physical aggression. However, parental messages are just one way that parents can influence adolescents' aggressive behavior. In a qualitative study examining factors that contribute to how adolescents respond to peer conflict, in addition to parental messages supporting fighting, adolescents also identified parental modeling of violence and antisocial behavior as a factor that would increase the chances of them reacting aggressively to peer conflict (Farrell et al., 2010). Parental monitoring and discipline are other parental factors that have been related to aggressive behavior (e.g., Lee & Randolph, 2015). Similar to the influence of peers, previous findings suggest that parents can influence adolescents directly (e.g., verbally encouraging aggressive behavior) and indirectly (e.g., modeling aggressive behavior; Farrell et al., 2010; Lee & Randolph, 2015). Future studies should examine the unique and

combined effects of both direct and indirect parental factors on adolescents' aggressive behavior. Related to findings from the current study, parents, particularly those living in neighborhoods characterized by violence, may benefit from training that changes their understanding of the ways in which their messages about fighting and nonviolence can influence their children's behavior. Parents may also benefit from learning about the long-term consequences related to aggressive behavior, which may decrease the amount of messages supporting fighting that they give their children.

Limitations

Although this study attempted to address some of the limitations of existing studies, several limitations should be discussed. The present study used a predominantly African-American sample of middle school students from an underserved area. This sample was appropriate for the specific objectives of the study. However, results from the current study may not generalize to all youths. Specifically, findings may not generalize to adolescents in elementary or high school, youths from other ethnic and racial groups, and youths who are not from underserved areas. In addition, the current study did not control for family composition. It is possible that the relation between the peer factors and aggressive behavior varies as a function of whom adolescents live with or who they consider to be their parent. Adolescents were also not asked which parent(s) they had in mind when answering questions about their perceptions of parental messages. Adolescents' perceptions of parental messages supporting fighting and nonviolence may depend on whether they receive messages from a male or female caregiver.

With the exception of teacher-report of physical aggression, self-report was used to measure all of the study variables. Self-report measures tend to be susceptible to social desirability (e.g., Shield, 2002), but are still appropriate to obtain information that other

informants (e.g., parents) are not in a position to provide. Adolescents are able to provide information across multiple contexts (e.g., school, home), whereas parent-report may be limited to the home environment and teacher-report may be limited to the school environment. Parents and teachers may also provide information related to behaviors that adolescents might not want to acknowledge, such as aggressive behavior. In addition, adolescents' perceptions of parental messages may differ from parents' own perceptions of the messages they give their children. For instance, adolescents who are aggressive may perceive parental messages as favoring more aggressive behavior, whereas parents may believe that they provided messages favoring nonviolence. Findings from this study may not replicate when other informants are used.

Another limitation is that the study used a longitudinal design that assessed adolescents every 3 months throughout the school year. It is possible that there were changes in peer factors, parental messages, and aggressive behavior between waves that were not captured during those data collections. Additionally, items on the peer pressure for fighting measure included items specific to the larger peer group (e.g., "Other people tried to get you to start a fight with someone") and smaller friend groups (e.g., "A friend wanted you to have their back in a fight"). It is possible that the relation between peer pressure for fighting and physically aggressive behavior would be stronger or weaker if adolescents were solely asked about their smaller friend groups versus larger peer groups. In addition, a one-sided model rather than a bidirectional model was used in the current study. A bidirectional model could examine whether peer factors and physical aggression influences parental messages supporting fighting and nonviolence. Lastly, although a longitudinal design was used, it is possible that variables not examined in this study could influence both parental messages and peer factors in a way that alters their relations with physical aggression.

Conclusion

Despite certain limitations, this is one of the first studies to my knowledge that examined the moderating role of parental messages for fighting and nonviolence on the relation between multiple peer factors and adolescents' physical aggression. Prior studies have been limited in that they typically measured broad forms of peer influences (e.g., overall peer pressure), have mostly used cross-sectional designs, and have not examined moderators. The present study adds to the current literature by continuing to understand the multiple ways in which peers and parents can influence adolescents' physically aggressive behavior. Findings from the current study underscore the need to decrease physical peer victimization, peer pressure for fighting, and friends' support for fighting in order to decrease adolescents' report of physical aggression. Additionally, findings suggest that although parental messages do not exert a protective influence on the relation between peer factors and physical aggression, they do uniquely predict aggressive behavior after controlling for peer factors and other parental messages variables. The findings of this study highlight the need for prevention and intervention efforts during adolescence that target both peer and parent factors relevant to aggressive behavior.

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Appendix

Measures

Physical Peer Victimization

Problem Behavior Frequency Scale-Adolescent Report (PBFS-AR; Farrell et al., 2016)

Response options:

1 = *never*, 2 = *1-2 times*, 3 = *3-5 times*, 4 = *6-9 times*, 5 = *10-19 times*, 6 = *20 or more times*

Instructions:

In the last 30 days, how many times has this happened to you?

Physical Peer Victimization Items

1. Someone threatened to hit or physically harm you
2. Someone pushed or shoved you
3. Someone threatened or injured you with a weapon (gun, knife, club, etc.)
4. Someone threw something at you to hurt you
5. Someone hit you hard enough to hurt

Peer Pressure for Fighting

Problem Behavior Frequency Scale-Adolescent Report (Farrell, Thompson et al., 2017)

Response options:

1 = *never*, 2 = *1-2 times*, 3 = *3-5 times*, 4 = *6-9 times*, 5 = *10-19 times*, 6 = *20 or more times*

Instructions:

In the last 30 days, how many times have you:

Peer Pressure for Fighting Items:

1. A friend wanted you to have their back in a fight
2. Other people tried to get you to start a fight with someone
3. Others got into a fight and wanted you to join in
4. Someone was bothering you and other people crowded you up so that you couldn't get away
5. Your friends told you that you should fight someone
6. Someone was bothering you in front of other people who would give you a hard time or call you names if you didn't fight the person
7. You got into an argument with someone and other people boosted it up

Friends' Delinquent Behavior

Friends' Behavior Scale (Farrell, Thompson et al., 2017)

Response options:

1 = *none of them*, 2 = *some of them*, 3 = *most of them*, 4 = *all of them*

Instructions:

As far as you know, in the last 3 months how many of your close friends have:

Friends' Delinquent Behavior Items:

1. Sold drugs?
2. Stolen something worth more than $10?
3. Gone into or tried to go into a building to steal something?
4. Used marijuana or hashish?
5. Used a weapon, force, or strong-arm methods to get money or things from people?
6. Purposely damaged or destroyed property that did not belong to them?

7. Drank alcohol (such as beer, wine, or hard liquor)?

Friends' Support for Fighting and Nonviolence

Friends' Reaction to Responses to Conflict Solutions Scale (Farrell, Thompson et al., 2017)

Response options:

Responses range from 1 to 3 with response options differing by item. Response options represent a positive, neutral, or negative reaction to items.

Instructions:

Imagine that you're in the following situation (e.g., "You see two people about to start a fight"). What would your friends think if…(e.g., you cheered on the fight")?

Friends' Support for Fighting Items:

1. Kids fighting – Cheered on the fight
2. Kid making fun of you – Started a fight
3. Students boosting up fight – Threw the first punch
4. Blamed for rumor – Argued and got into a fight
5. Disrespectful about family – Told them to stop
6. Kids at school tease – Asked friends to help you beat up the other teens

Friends' Support for Nonviolence Items:

1. Kids fighting – Went to get a teacher
2. Kid making fun of you – Quit playing ball and left
3. Students boosting up fight – Tried to talk calmly
4. Blamed for rumor – Talked it out
5. Disrespectful about family – Ignored them and didn't let it bother you
6. Kids at school tease – Asked an adult for help

Parental Messages Supporting Fighting and Nonviolence

Parental Messages About Fighting and Nonviolence Scale (Farrell et al., 2010)

Response options:

1 = *very unlikely*, 2 = *somewhat unlikely*, 3 = *somewhat likely*, 4 = *very likely*

Instructions:

How likely would your parents be to tell you:

Parental Messages Supporting Nonviolence Items:

1. If someone wants to fight you – walk away
2. Stay calm and don't let it bother you when someone says something disrespectful to you
3. If someone wants you to fight, just tell them you don't want to

Parental Messages Supporting Fighting is Sometimes Necessary Items:

1. If you don't fight some teens, they'll just keep picking on you
2. If someone hits you, its self-defense to hit them back
3. If someone else throws the first punch, you shouldn't walk away

Parental Messages Supporting Retaliation Items:

1. Sometimes a person doesn't have any choice but to fight
2. It's okay to fight someone if they say bad things about someone in your family
3. It's okay to fight if someone else starts it

Physical Aggression: Self-Report

Problem Behavior Frequency Scale-Adolescent Report (PBFS-AR; Farrell et al., 2016)

Response options:

1 = *never*, 2 = *1-2 times*, 3 = *3-5 times*, 4 = *6-9 times*, 5 = *10-19 times*, 6 = *20 or more times*

Instructions:

In the last 30 days, how many times have you:

Physical Aggression Items:

1. Hit or slapped someone
2. Thrown something at someone to hurt them
3. Threatened to hit or physically harm someone
4. Shoved or pushed someone
5. Threatened someone with a weapon (gun, knife, club, etc.)

Physical Aggression: Teacher-Report

Problem Behavior Frequency Scale-Teacher Report (PBFS-TR; Farrell et al., 2018)

Response options:

1 = *never*, 2 = *sometimes*, 3 = *often*, 4 = *very often*

Instructions:

In the last 30 days, how frequently did this child engage in the following behaviors?

Physical Aggression Items:

1. Hit or slapped someone
2. Thrown something at someone to hurt them
3. Threatened to hit or physically harm someone
4. Shoved or pushed someone
5. Was in a fight in which someone was hit
6. Threatened to hurt a teacher
7. Threatened someone with a weapon (gun, knife, club, etc.)

Vita

Jasmine Nicole Siedah Coleman was born on December 17, 1990, in Camden, New Jersey, and is an American citizen. She graduated from Dr. Charles E. Brimm Medical Arts High School, Camden, New Jersey in 2009. She received her Bachelor of Arts degree in Psychology from Drew University, Madison, New Jersey in 2013. Jasmine Coleman began her graduate study in the Clinical Psychology program at Virginia Commonwealth University in 2015. She received her Master of Science degree in Psychology from Virginia Commonwealth University, Richmond, Virginia in 2017.