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Individual and Family Predictors of the Perpetration of Dating Violence and Victimization in Late Adolescence

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Abstract

Teen dating violence is a crime of national concern with approximately one-fourth of adolescents reporting victimization of physical, psychological, or sexual dating violence each year. The present study examined how aggressive family dynamics in both childhood and early adolescence predicted the perpetration of dating violence and victimization in late adolescence. Children (n=401, 43% female) were followed from kindergarten entry to the age of 18 years. Early adolescent aggressive-oppositional problems at home and aggressive-oppositional problems at school each made unique predictions to the emergence of dating violence in late adolescence. The results suggest that aggressive family dynamics during childhood and early adolescence influence the development of dating violence primarily by fostering a child's oppositional-aggressive responding style initially in the home, which is then generalized to other contexts. Although this study is limited by weaknesses detailed in the discussion, the contribution of longitudinal evidence including parent, teacher, and adolescent reports from both boys and girls, a dual-emphasis on the prediction of perpetration and victimization, as well as an analysis of both relations between variables and person-oriented group comparisons combine to make a unique contribution to the growing literature on adolescent partner violence.

Keywords

dating violence; longitudinal; adolescents; family

Teen dating violence is a crime of national concern. Increasing numbers of adolescents and young adults are victims or perpetrators of dating violence, with estimated prevalence rates ranging from 15% to 42% (Hickman, Jaycox, & Arnoff, 2004; O'Keefe, Brockopp, & Chew, 1986; Spencer & Bryant, 2000). Approximately 25% of adolescents report being the victim of physical, psychological, or sexual dating violence each year (CDC, 2008). Furthermore, almost 10% of adolescents have been physically injured by a partner in the past year (CDC, 2007). Dating violence victimization is associated with physical injury, such as bruises and fractured limbs, and negative psychological outcomes, such as post-traumatic stress disorder and depression (CDC, 2008; Makepeace, 1986). Given the significant health and safety risks associated with dating violence, understanding predictors of dating violence is crucial for the development of prevention programs.

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The developmental-interactional model of partner violence (Capaldi, DeGarmo, Patterson, & Forgatch, 2002) posits that harsh coercive parenting practices and social-learning of aggressive strategies are foundational aspects of the development of partner violence. The development of dating violence is understood as an on-going cascade between the individual and the environment (Capaldi & Gorman-Smith, 2003). In this cascade, the child, potentially temperamentally vulnerable to difficult, noncompliant behavior, clashes with parents who are ineffective, escalating, and harsh. In this setting, the child develops a repertoire of assertive, aggressive relationship tactics that are further generalized and strengthened in the school setting, in part due to increased exposure to and reinforcement by antisocial peers. This model provides a theoretical structure for the current study, which examines the power of child aggressive behavior and parenting practices as predictors of the emergence of dating violence in late adolescence.

Aggressive parent-child conflict plays a special role in teaching young children to use aggressive behavior in personal relationships (as reviewed by Coie & Dodge, 1998; Loeber & Hay, 1997). This aggressive family dynamic is thought to include three key ingredients – elevated use of harsh parenting behavior to control the child, elevated use of aggressive behavior by the child to control the parent, and a compromised parent-child relationship. These family characteristics have significant consequences for the developing child and the emergence of later dating violence, which may unfold through two related pathways (Figure 1). First, children's exposure to aggressive family dynamics demonstrates that the use of aggression is appropriate in the context of close, personal relationships. In this pathway, early exposure to aggressive exchanges within the family primes children to react aggressively when they begin to develop romantic relationships in adolescence (Bookwala & Zdaniuk, 1998). A second pathway derives from an associated consequence of parent-child conflict, which is that the child receives inadequate positive socialization support at home, and enters school exhibiting low levels of behavioral control and elevated rates of externalizing problems (impulsive, disruptive, aggressive behaviors). These externalizing problems contribute to a negative cascade at school, alienating teachers and peers, and fueling a rebellious, impulsive attitude that is associated with the propensity to use violence to achieve goals (Dodge, Greenberg, Malone, & the Conduct Problems Prevention Research Group, 2008). In the first pathway, aggressive family dynamics increase risk for the emergence of adolescent dating violence primarily by exposing the child to hostility in the context of close relationships, whereas in the second pathway, aggressive family dynamics increase risk primarily by fostering under-socialized aggressive and oppositional behavior that the child generalizes to relationships outside the home, specifically at school. To date, empirical studies have not explored the degree to which exposure to aggressive family dynamics contributes to dating violence via these two interrelated but distinct pathways. This study examined the hypothesis that aggressive family dynamics play a unique role in fostering dating violence (pathway 1), in addition to the influence they play by fostering aggressive-oppositional child behavior at school (pathway 2).

Furthermore, it often is suggested that the impact of aggressive family dynamics takes place during childhood, when parents are the key socializing influence affecting children's developing models for relationships (Dutton 2007a, 2007b). At the transition into adolescence, as peers become more influential in affecting social norms, it is possible that parental influences on dating violence are less salient. However, there is sparse evidence on the timing of exposure to aggressive family dynamics and its role in promoting dating violence. For this reason, this study examined the role of aggressive family dynamics at two time points – in childhood and in early adolescence.

The Developmental Consequences of Aggressive Parent-Child Conflict

After three decades of developmental research, a strong consensus has emerged that escalating patterns of increasingly aversive, aggressive parent-child interactions in early and middle childhood promote aggressive and oppositional child behavior problems (Coie & Dodge, 1998; Loeber & Hay, 1997; Patterson, 1995, 2005; Rubin & Burgess, 2002). These negative family transactions are fueled, in part, by a heavy-handed use of harsh physical punishment by parents, which provides a model of aggressive behavior and elicits angry reactivity from children (Patterson, 1995). Links between the use of harsh punishment and the development of aggressive-oppositional child behavior has been demonstrated in a number of prospective longitudinal studies (Farrington, 2003; Lipsey & Derzon, 1998; Patterson & Dishion, 1985; Patterson & Stouthamer-Loeber, 1984; Shaw et al., 2003). For example, in the National Longitudinal Study of Children and Youth, maternal hostility and punitive parenting were significantly associated with higher levels of aggressive-oppositional child behavior in a sample of 2,745 children and their families (Romano, Tremblay, Boulerice, & Swisher, 2005). In addition, harsh parenting has been associated with the emergence of aggressive-oppositional child behavior across three generations of 411 families in the Cambridge Study in Delinquent Development (Smith & Farrington, 2004). Harsh parenting in childhood and middle adolescence also predicts partner violence perpetration in adolescence and early adulthood (Andrews, Foster, Capaldi, & Hopps, 2000; Capaldi & Clark, 1998; Jouriles, Mueller, Rosenfield, McDonald, & Dodson, 2012).

Aggressive parent-child interactions also take a toll on the parents and children participating in them, eliciting feelings of frustration and anger in both parties, and undermining the development of a warm parent-child relationship. Several retrospective studies suggest that the negative impact of family discord on the parent-child relationship plays a key role in promoting later relationship violence. These studies have found an association between retrospective reports of parent-child relationship quality and dating violence perpetration or membership in reciprocally aggressive violent relationships (Babcock et al., 2000; Bookwala & Zdaniuk, 1998; Dutton, Starzomski, & Ryan, 1996; Henderson, Bartholomew, & Dutton, 1997; Holtzworth-Munroe, Stuart, & Hutchinson, 1997; Magdol, Moffitt, Caspi, & Silva, 1998). In summary, parental use of harsh punishment, high rates of aggressive-oppositional child behavior at home, and poor-quality parent-child relationship each increase the risk that the child will use aggressive tactics outside of the home, and may display violence in the context of romantic relationships.

The Importance of Generalized Child Aggression at School

Theoretical models of the development of partner violence often emphasize the role of early socialization experiences within the family context (Dutton, 2007a, 2007b), whereas developmental models of aggression emphasize longitudinal stability when children generalize the display of aggressive behavior from the home to the school setting (Coie & Dodge, 1998; Loeber & Hay, 1997; Patterson, 1995, 2005). Indeed, teacher ratings are typically more predictive of the longitudinal stability of early aggressive behaviors than are parent ratings. For example, by the end of the first grade, teacher ratings of aggressive-oppositional child behavior detect future conduct disorder and oppositional defiant disorder psychiatric diagnoses with sensitivity rates above .50 and specificity rates above .90 (Hill, Lochman, Coie, Greenberg, & CPPRG, 2004). In addition, longitudinal studies have demonstrated that youth who show high rates of aggressive-oppositional behavior, including aggression, rule violations, and related antisocial behaviors in school and community settings during late childhood and early adolescence are at elevated risk for the emergence of dating violence perpetration in late adolescence (Brendgen, Vitaro, Tremblay, & Wanner, 2002; Foshee et al., 2004).

Taken together, these findings suggest that aggressive family dynamics may promote risk for dating violence in two ways. First, within the family context, aggressive family dynamics that include parental use of harsh punishment, high rates of aggressive-oppositional child behavior at home, and a poor quality parent-child relationship may support a learned propensity to use aggressive tactics to control intimate relationships. Second, aggressive-oppositional child behavior that generalizes outside of the family circle and is displayed in interactions with teachers and peers in the school context may indicate a propensity for interpersonal aggression across relationships. One longitudinal study suggests that both influences have additive value, finding that young adolescent males who engaged in both general aggression and the perpetration of dating violence reported consistently poorer parent-child relationship quality and more coercive and inconsistent parenting practices than young males who engaged in no violence, only conduct problems, or only dating violence (Gorman-Smith et al, 2001).

Briefly, preliminary evidence has not demonstrated consistent relationships between demographics characteristics such as gender, ethnicity/racial identify, and socio-economic status and perpetration of adolescent dating violence and victimization. Teen dating violent relationships tend to be mutually violent, with males and females perpetrating equal rates of aggression (Swinford, Demaris, Cemkovich, & Giordano, 2000; Hickman, Jaycox, & Arnoff, 2004). Previous studies have failed to demonstrate gender differences in the family predictors of dating violence (Ehrensaft, Cohen, Brown, Smailes, Chen & Johnson, 2003; Foshee, Ennett, Bauman, Bennfield, & Suchindran, 2005; Giordano, Soto, Manning, & Longmore, 2010; Woodward, Fergusson, & Horwood, 2002). Similarly, there is sparse evidence supporting a relationship between racial/ethnic background or socio-economic status of participants and dating violence (as reviewed in more detail by Barter, 2009; for counter examples see Banyard, Cross, & Modecki, 2006; Magdol, Moffitt, Caspi, & Silva, 1998). Taken together, this evidence suggests that the etiology and nature of dating violence may occur similarly across demographic lines.

The Present Study

The present study examined childhood (elementary school) and early adolescent (middle school) predictors of emerging dating violence assessed in late adolescence (high school). The study took advantage of a large, prospective longitudinal study (the Fast Track Project; Conduct Problems Prevention Research Group, 1992, 2000) that provided multiple measures to increase the reliability of family, child, and adolescent assessments. Predictors included measures of aggressive family dynamics at home (i.e., harsh punishment, aggressive-oppositional child behavior at home, and poor quality parent-child relationship) and measures of the child's generalized aggressive-oppositional behavior at school assessed by teacher ratings in the school setting. First, we hypothesized that aggressive family dynamics and the child's generalized propensity to behave aggressively with others (i.e., aggressive-oppositional behavior at school) would play unique roles in predicting the emergence of adolescent dating violence, after adjusting for the demographic characteristics associated with aggression (e.g., gender, ethnicity, and socio-economic status). We hypothesized that both childhood and early adolescent measures of these variables would predict late adolescent dating violence. Second, in regards to the timing of aggressive family dynamics, we hypothesized that family predictors in childhood would uniquely predict the child's later dating violence, when examined in conjunction with family predictors in early adolescence. Finally, using a group comparison strategy, we hypothesized that participants endorsing cross-domain problems (i.e., aggressive-oppositional behavior at home, school, or both) would be most likely to engage in dating violence in late adolescence¹.

Methods

Participants

Participants were drawn from the Fast Track multisite investigation of the development and prevention of conduct problems (Conduct Problems Prevention Research Group, 1992). This study included youth from the high-risk control and normative samples to obtain an over-sampling of children with disruptive behavior problems at school entry. Youth who received preventive intervention services as part of Fast Track were not included. High-risk youth were identified using a multiple-gating screening procedure implemented at 55 schools serving poor neighborhoods at four sites (Durham, NC; Nashville, TN; Seattle, WA; and rural central Pennsylvania). First, 9,594 kindergarteners across three cohorts (1991–93) were screened for classroom conduct problems by teachers, using the Teacher Observation of Child Adjustment-Revised (TOCA-R) Authority Acceptance Score (Werthamer-Larsson, Kellam, & Wheeler, 1991). Those children scoring in the top 40% within cohort and site were then solicited for the next stage of screening. The majority of those invited (91%; $n=3,274$) agreed to participate in the next stage, a screening of home behavior problems by the parents, using items from the Child Behavior Checklist (Achenbach, 1991) and similar scales. The teacher and parent screening scores were then standardized and combined into a sum score. Children were selected for inclusion into the high-risk sample based on this screening score, moving from the highest score downward until desired sample sizes were reached within sites, cohorts, and conditions. Deviations were made when a child failed to matriculate in the first grade at a core school ($n=59$) or refused to participate ($n=75$). Ninety-five percent of the selected sample scored in the top 20% on both the parent and teacher screening measures. Note that these levels of problems are defined relative to other children in these high-risk schools. On the kindergarten Teacher's Report Form of the Child Behavior Checklist (TRF), 76% of the children scored in the clinical range (t -scores of 60 or higher). In addition, approximately 100 youth were selected randomly from control schools at each site to represent a "normative" sample.

The original sample included 754 children who comprised the normative ($n=386$) and high-risk control ($n=446$) samples. Six hundred and twenty-three children (82.6%) had complete data for all childhood measures assessed in the present study; 536 participants (71.09% of original sample) had complete data for all childhood and early adolescent measures; 401 (53.18%) were in relationships during late adolescence and had completed measures in childhood, early adolescence, and late adolescence. The sample included 172 (43%) females and 229 (57%) males. In terms of ethnicity, 58.4% of the sample identified as Caucasian ($n = 234$), 39.1% identified as African-American ($n = 157$), and 2.6% identified as other ethnic minorities ($n=10$).

A one-way analysis of variance was conducted to examine childhood risk differences between those who were and were not followed through late adolescence. Participants who completed the study demonstrated significantly lower rates of child aggression at school, $F=6.77$, $p < .01$, compared with those who did not complete the study. No significant differences emerged for childhood harsh parenting, $F=0.02$, $p = .89$, child aggression at home, $F=0.49$, $p = .49$, or parent-child relationship quality, $F=3.19$, $p = .07$.

¹The vast majority of individuals who endorse dating violence perpetration are also experiencing dating violence victimization (Swinford, Demaris, Cemkovich, & Giordano, 2000; Hickman, Jaycox, & Arnoff, 2004). Hence, the predictors of dating violence perpetration used in many studies reviewed here probably reflect factors related to membership in a physically conflictual relationship, rather than unilateral aggression (Andrews, Foster, Capaldi, & Hopps, 2000; Ehrensaft, Cohen, Brown, Smailes, Chen & Johnson, 2003; Foshee, Bennfield, Ennett, Bauman, & Suchindran, 2004; Gorman-Smith, Tolan, Sheidow, & Henry, 2001; Magdol, Moffitt, Caspi, & Silva, 1998; Ozer, Tschann, Pasch, & Flores, 2004).

Procedure

Parental ratings regarding the use of harsh discipline, child aggressive-oppositional behavior at home, and the quality of the parent-child relationship were collected each summer during home interviews, beginning at the end of the child's kindergarten year. Research staff members received extensive training, including watching videotapes of interviews, observing live interviews, practicing interviews with supervisors, and conducting pilot interviews while being observed. Research staff members read all questionnaire items to all parents to avoid problems related to literacy. Attrition rates throughout the study have been low, with participation rates of 80 percent in late adolescence and young adulthood (a detailed discussion of the attrition of select measures is reviewed by Foster, Fang, & Conduct Problems Prevention Research Group, 2004). Parents also reported on their socioeconomic status and the ethnicity of their child. Participants received compensation, such as small payments or selected prizes, for their time (parents and teachers were paid cash, children received prizes until late adolescence then were also paid cash). This compensation varied based on the year of the study.

In the summer following each school year between Kindergarten and 12th grade, research assistants visited schools and delivered rating forms to teachers. Teachers completed these measures, including ratings of child aggressive-oppositional behavior problems at school, and returned them to the project by mail. They were compensated for their time.

Ratings of dating violence were collected from the adolescents during the summer home interviews. Guided by a research assistant, youth responded to computer-administered prompts, listening to questions through headphones, to maximize their confidentiality.

Measures

The following measures used in the study are described in detail at www.fasttrackproject.org. All measures were scored so that higher scores reflect more of the factor. Childhood risk factors were computed using the mean of the yearly scores between kindergarten and 2nd grade (unless otherwise noted); early adolescent risk factors were based on the 7th grade score of each measure.

Demographic variables—Socioeconomic status was assessed using the Socioeconomic Status Continuous Code, whose scoring was based on a formula derived by Hollingshead (1975). This information was collected from one or both adults who reported living in and running the household. The score is “calculated by multiplying the scale value for an occupation by a weight of five and the scale value for education by a weight of three” (Hollingshead, 1975). These scores are then added together. Scores were averaged if both parents were working. The values for both the occupations and for educational level are based on Hollingshead's work. Gender and racial/ethnic identity were based on primary caregiver report.

Parent harsh punishment—Childhood (kindergarten and 2nd grade) and early adolescence (7th grade) parent harsh punishment was assessed using parent reports of psychological and physical aggression perpetration towards the child. Parents completed the psychological and physical aggression subscales of the *Conflict Tactics Scale* (CTS; Straus, 1979). Parents used a seven-point response scale (0: never to 6: almost every day) to indicate the frequency with which they used aggressive punishment tactics against their child during the past year and their responses were averaged (Cronbach's alpha for whole sample was 0.61 for the physical aggression subscale, 0.57 for the psychological aggression subscale, and 0.74 for the combined scale). In order to increase the reliability of the

measurement, CTS psychological and physical aggression subscale mean scores reported by parents were averaged to index exposure to harsh punishment.

Child/adolescent aggression at home—The Externalizing Broadband raw score of the *Child Behavior Checklist (CBCL)-Parent Report Form* (alpha = 0.91) (Achenbach, 1991a) includes aggressive and antisocial behaviors (e.g., arguing, screaming, threatening, teasing, swearing), each rated using a 0- to 2-point scale. Primary caregiver ratings of children's behavior on this scale were used to index oppositional-aggressive behavior and parent-child conflict in early childhood and early adolescence.

Parent-child relationship quality—During each yearly interview, primary caregivers also were asked to rate on a scale of 1 to 5 how pleasant it has been to raise their child, how difficult it has been to raise their child, how well the parent gets along with the child, and how satisfied the parent is with the child's behavior, with 1 representing a very negative response and 5 representing a very positive response (alpha for full sample = 0.66). Parent's responses were averaged across kindergarten, 1st grade, and 2nd grade. These questions were originally part of a larger measure called the Developmental History. The Developmental History questionnaire, developed and used by Dodge and colleagues (Dodge, Bates, & Pettit, 1990; Laird, Pettit, Dodge, & Bates, 2003), is part of a longitudinal study of family origins of children's behavior problems. The measure assesses a number of constructs: perceptions of the parent-child relationship, developmental history, life changes, child care history, discipline strategies, expected success of child in life, school, and service utilization.

Child-adolescent aggression at school—The Externalizing Broadband scale (raw score) of the *Teacher's Report Form* (TRF; Achenbach, 1991b) was used to measure child-adolescent aggression at school. The rating format and externalizing items are similar to the parent-rating form. This well-established clinical rating scale had high internal consistency in the present sample ($\alpha = 0.97$).

Dating violence—Using an adapted version of the *Conflict Tactics Scales* (Dodge, Bates, & Pettit, 1997; Straus, 1979), adolescents reported on their romantic relationships. Youth completed this questionnaire at the end of 12th grade. The physical aggression lifetime subscale was used to assess the presence of perpetration of dating violence and victimization across the lifetime. Eight dichotomous items assessed the occurrence of aggressive behaviors such as hitting a partner or kicking a partner; scale scores represented the mean of the items in the scale. The same items were asked twice to assess behaviors that were initiated and behaviors that were received. Reliability alphas for the perpetration and victimization physical aggression subscales were 0.84 and 0.86, respectively. The scores of the perpetration and victimization scales were also averaged together to represent dating violence exposure during adolescence. A combined score was used based on research suggesting that the combination of dating violence perpetration and victimization more accurately reflects adolescent dating violence that is typically mutual and bidirectional than the use of either score in isolation (Capaldi & Crosby, 1997; Gray & Foshee, 1997). This combined score also addresses concerns that perpetration scores include acts of self-defense and thus, may be inaccurately inflated when used alone. A dichotomous dating violence score (no violence versus any violence) was created to examine group risk factor differences. The continuous combined physical and psychological violence perpetration and victimization score was used in all correlation and regression analyses.

Problem behavior profiles—These profiles were constructed to better understand how aggressive-oppositional child behavior at home and at school during childhood and early adolescence were associated with dating violence in late adolescence. Childhood risk factors

were computed using the mean of the yearly scores between kindergarten and 2nd grade; early adolescent risk factors were based on the 7th grade score of each measure.

The behavior problem scores were dichotomized using a cutoff point of 1 SD above the mean of the normative population (15.65 for childhood aggressive-oppositional behavior at home, 14.81 for childhood aggressive-oppositional behavior at school, 14.79 for early adolescent aggressive-oppositional behavior at home, and 21.48 for early adolescent aggressive-oppositional behavior at school). Scores above the cutoff point were considered indexes of the specific behavior problem, whereas scores below the cutoff point were considered “non-problematic.” Dichotomized indicators were used to construct the four problem profiles that resulted from the possible combinations of the behavior problems (i.e., none, home only, school only, both home and school) in childhood and in early adolescence.

Results

The original sample included an over-representation of children at high risk for conduct problems based on early evidence of externalizing problems at home and school in kindergarten. The data were proportionally weighted to represent the population-based distribution of early externalizing problems. Each participant case was given a proportional weighting in which the weight represents the percent stratum in the population divided by the percent of stratum in the sample, determined by the TOCA and parent screen scores. Therefore, participants with high rates of externalizing problems, who were oversampled, were given a proportional weight less than 1 and participants who were undersampled were given a proportional weight score of greater than 1.

Descriptive data are provided in Table 1. Overall, 30.17% of the sample ($n = 121$) reported having experienced at least one act of dating violence. Adolescents who engaged in any dating violence did not differ significantly from their nonviolent counterparts on measures of aggressive family dynamics during childhood or early adolescence. However, dating violent adolescents demonstrated significantly higher rates of early adolescent aggressive-oppositional behavior at school compared to nonviolent adolescents.

Correlations

Associations between childhood and early adolescent predictors and dating violence were assessed using bivariate correlations. All childhood predictors were significantly positively correlated with their parallel adolescent predictor variables, showing moderate to high levels of stability in aggressive family dynamics and aggressive-oppositional child behavior at school assessed during childhood and early adolescence. Stability correlations across time ranged from $r = 0.67$ (for aggressive-oppositional behavior at home) to $r = 0.59$ (for aggressive-oppositional behavior at school) (see Table 2). At each time point, the three measures of aggressive family dynamics (i.e., parent aggression, aggressive-oppositional child behavior at home, and parent-child relationship quality) were intercorrelated, supporting the coercive family process model. Significant correlations also emerged between aggressive-oppositional child behavior at home and at school ($r = 0.53$ in childhood, $r = 0.44$ in early adolescence), although the magnitude of the cross-situational correlation reflected considerable domain specificity in aggressive-oppositional behavior problems as well.

The bottom line in Table 2 shows the simple correlations between the eight predictor variables and the emergence of dating violence in late adolescence. All of the variables under study, with the exception of the use of harsh parent punishment in childhood and parent-child relationship quality in early adolescence, were significant predictors of

adolescent dating violence, supporting the hypothesis that aggressive family dynamics and aggressive-oppositional child behavior at school are precursors of later dating violence.

Hypothesis 1a: Aggressive family dynamics and child aggressive-oppositional behavior at school in early elementary school predict adolescent dating violence—

Linear regressions were computed to evaluate the unique contributions of aggressive family dynamics (harsh discipline, aggressive-oppositional child behavior at home, parent-child relationship quality) and aggressive-oppositional child behavior at school to the prediction of dating violence, adjusting for gender, ethnicity, and socioeconomic status variables. Regressions examined the influence of childhood predictors on teen dating violence perpetration, victimization, and the combined score (see Table 3). Only aggressive-oppositional child behavior at home predicted any of the three dating violence outcomes (perpetration, victimization, and combined perpetration and victimization in late adolescence). The addition of aggressive behavior in school did not contribute additional unique variance to any of the outcomes.

Hypothesis 1b: Aggressive family dynamics and child aggressive-oppositional behavior at school in early adolescence predict adolescent dating violence—

Subsequent regressions were computed in a parallel fashion to evaluate prediction of late adolescent perpetration of dating violence and victimization using the measures of early adolescent aggressive family dynamics and early adolescent aggressive-oppositional behavior at school, adjusting for gender, ethnicity, and socioeconomic status variables (see Table 4). None of the early adolescent variables significantly predicted perpetration of dating violence in late adolescence, adjusting for gender, ethnicity, and socio-economic status. Both adolescent aggressive behavior at home and parent-child relationship quality predicted dating violence victimization. The addition of aggressive behavior in school accounted for additional unique variance. In step 2, the contribution of aggressive behavior at home fell below significance ($\beta = 0.13$; $p = .11$), indicating that the influence of aggressive behavior at home on dating violence victimization was partially mediated by the generalization of aggressive tactics into non-family contexts. Similarly, early adolescent aggressive-oppositional child behavior at home predicted total dating violence in late adolescence. The addition of aggressive behavior in school accounted for additional unique variance and in step 2, the contribution of aggressive behavior at home fell below significance ($\beta = 0.12$; $p = .14$). Apparently, although aggressive family dynamics were associated with the development of childhood aggressive-oppositional behavior, which in turn was predictive of dating violence, by early adolescence, it was the generalization of this behavior out of the home context that predicted later dating violence victimization and total exposure, but not the perpetration of dating violence.

Hypothesis 2: Family predictors in childhood uniquely predict the child's later dating violence—

Forward-entry regressions were completed to assess whether the timing of exposure to aggressive family dynamics affected its impact on dating violence. In these regressions, in addition to the demographic controls (e.g., race/ethnicity, gender, SES), harsh punishment, aggressive behavior at home, and parent-child relationships measured both in early elementary school and in early adolescence were included. Dependent variables were the perpetration of adolescent dating violence, victimization, and total score ($F=14.18$, $p < .001$, $F=8.82$, $p < .001$, and $F=11.58$, $p < .01$ respectively). In each case, childhood aggressive behavior at home in early elementary school was the only unique predictor of each outcome ($\beta = 0.17$, $p < .01$; $\beta = 0.18$, $p < .01$; $\beta = 0.16$, $p < .01$ respectively).

Hypothesis 3: Using a group comparison strategy, participants endorsing cross-domain problems (i.e., aggressive-oppositional behavior at both home

and school) will be most likely to engage in dating violence in late adolescence—To shed more light on the relative predictive value associated with patterns of child aggressive-oppositional behavior at home and school at the two developmental periods, person-oriented analyses were conducted. See Table 4 for group size and descriptive information. Approximately one-third of the children (37%) exhibited elevated levels of aggressive-oppositional behavior at home or at school during childhood. Behavioral context was relatively evenly distributed in childhood with 10% demonstrating aggressive-oppositional child behavior at home only, 13% demonstrating aggressive-oppositional child behavior at school only, and 14% demonstrating aggressive-oppositional child behavior at both home and school. In early adolescence, 30% of participants exhibited elevated levels of aggressive-oppositional behavior at home or at school. The largest percentage of these participants (11%) displayed aggressive-oppositional behavior at home only, with 10% demonstrating aggressive-oppositional behavior at school only, and 8% demonstrating aggressive-oppositional behavior at both home and school. Notably, participants who experienced problematic levels of aggressive-oppositional behavior both at home and at school had significantly higher rates of aggression-oppositional behaviors at school compared to their counterparts with problems only at school – this was true in both childhood ($p < .001$) and adolescence ($p < .01$). This suggests that participants who demonstrate a generalization of aggressive-oppositional responding across contexts are also likely to experience more severe problems than those who demonstrate aggression in a single context.

Next, one-way ANOVAs were completed to examine whether dating violence differed by problem behavior profile in childhood or in early adolescence. The ANOVA comparing rates of future dating violence among children who showed different patterns of home-school aggression was significant when comparing groups in childhood, $F(3,396) = 3.85$, $p < .05$, and in early adolescence, $F(3,342) = 3.64$, $p < .05$. Tukey-Kramer post-hoc comparisons revealed that children who exhibited elevated rates of aggressive-oppositional behavior both at home and at school were significantly more likely to engage in dating violence, compared to children who were not aggressive. No differences in partner violence were found for adolescent problem behavior profiles (although the main ANOVA was significant, none of the post-hoc tests reached significance).

Discussion

A recent national survey revealed that 10% of high school students reported being physically hurt by a boyfriend or girlfriend in the past year (Center for Disease Control, 2012). When youth experience dating violence in adolescence, they are at elevated risk for escalating partner violence exposure in adulthood. Indeed, 22% of women and 15% of men who become victims of rape or serious physical assault by an intimate partner in adulthood first experienced dating violence during their teenage years (Black et al., 2011). Given the serious concurrent and future consequences of adolescent dating violence, early detection of those at-risk is needed to guide prevention and early intervention efforts. Using a prospective, longitudinal design, the current study examined the power of children's aggressive behavior and parenting practices as predictors of the emergence of dating violence in late adolescence. Whereas the current knowledge base on the development of dating violence consists primarily of cross-sectional designs, retrospective reporting, and/or all male samples, this 12-year longitudinal study provides an extension of the previous knowledge base in a number of ways such as including multiple reporters as well as an assessment of male and female perpetration of dating violence and victimization. It was hypothesized that aggressive conflicts at home during early childhood, characterized by elevated child aggression, harsh coercive parenting practices, and a deteriorating parent-child relationship, would contribute to the social learning of aggressive strategies in the

context of close interpersonal relationships (Capaldi, DeGarmo, Patterson, & Forgatch, 2002; Capaldi & Gorman-Smith, 2003). Partially confirming this hypothesis, elevated rates of aggressive behavior at home assessed at age 6 significantly forecasted the emergence of later dating violence. It was further hypothesized that, when learned patterns of aggressive and oppositional behavior generalized to the school setting, they would signal increased risk for later dating violence, reflecting the breadth of the child's aggressive response tendencies (Coie & Dodge, 1998; Loeber & Hay, 1997; Patterson, 1995, 2005; Rubin & Burgess, 2002). This hypothesis was also confirmed. Although teacher-rated aggressive-disruptive behavior at age 6 did not add incremental variance to the prediction of late adolescent dating violence, by age 12, youth aggression at school (as well as youth aggression at home) emerged as a significant predictor of late adolescent dating violence. The developmental significance of these findings and implications for prevention and early intervention programming are described in the following sections.

When considered together in a regression analysis, child aggressive-disruptive behavior at home at age 6 uniquely predicted later perpetration of dating violence, victimization and sum violence exposure. This finding suggests that child characteristics and family interactions that contribute to elevated aggressive responding during early childhood play a unique role in the developmental cascade associated with later dating violence. By early adolescence, youth aggression at home continued to show unique prediction to later dating violence victimization and total exposure, suggesting that ongoing aggressive altercations in the family context may exacerbate risk for later involvement in dating violence. In addition, in adolescence, youth aggressive behavior at school uniquely predicted both dating violence victimization and total exposure. The emergence of youth school aggression as a unique predictor in early adolescence suggests that the generalization of youth aggression from home to school settings is a particular risk indicator for later dating violence. This hypothesis is consistent with the group comparisons of dating violence among children who showed different profiles of aggression. In the group comparisons, children with problem profiles of elevated aggressive behavior in both home and school settings in early childhood (age 6) were at heightened risk for dating violence, with rates that were double the rates of non-aggressive youth.

The results of this study suggest that the development of risk for future dating violence is intertwined in fundamental ways with the development of aggressive-disruptive behavior problems at home and at school. Although theorists have hypothesized a unique role of aggressive family dynamics during childhood and early adolescence on the promulgation of dating violence, the present study did not find harsh punishment (at age 6 or age 12) or parent-child relationship quality (at age 6) to make unique contributions to later dating violence. The unique contribution of early adolescent parent-child relationship quality to dating violence victimization is a notable exception.

An additional contribution of this study is the finding that childhood risk factors contribute primarily in indirect ways, by increasing risk for early adolescent oppositional-aggressive behavior, which, in turn, increase risk for late adolescent dating violence. Therefore, this study suggests that early aggressive behaviors represent a key risk factor for later dating violence, but one that is realized primarily when those early behavior problems continue and escalate into a generalized propensity to use aggressive tactics in multiple contexts. Taken together, our findings are consistent with previous evidence that childhood and adolescent patterns of oppositional, aggressive behavior problems foreshadow similar problems in romantic relationships (Brendgen, Vitaro, Tremblay, & Wanner, 2002; Foshee et al., 2004). Notably, participants whose aggressive behavior had generalized to settings outside the home exhibited dating violence at twice the rates of their nonaggressive counterparts.

Extending Previous Research

This 12 year longitudinal study provides an extension of the previous knowledge base on the developmental precursors of dating violence in a number of ways. The existing data-base relies heavily on evidence from cross-sectional designs, retrospective reporting, and/or all male samples (Brendgen, Vitaro, Tremblay, & Wanner, 2002; Capaldi & Clark, 1998). Studies have been primarily focused on the perpetration of dating violence and have included only adolescent reporters (Andrews, Foster, Capaldi, & Hopps, 2000; Foshee, Ennett, Bauman, Benefield & Suchindran, 2005). The present study extended these findings in several ways.

First, this longitudinal study of males and females included information from multiple reporters (parent, teacher, and child) at three distinct developmental periods (childhood, early adolescence, and late adolescence) as well as a multi-item assessment of perpetration of dating violence and victimization. Second, this study employed both linear regressions to assess relationships between predictors and dating violence, as well as person-oriented group comparisons to assess how problem behavior profiles may provide unique information in the prediction of dating violence. It is recommended that future studies employ similar complementary analyses with the goal of furthering our understanding of the correlates, predictors, and group differences of dating violence. Finally, we assessed predictors of the perpetration of dating violence, victimization, and total exposure to violence, a unique contribution to the literature.

These findings could indicate that influences during the years between school entry and 8th grade impact involvement in oppositional-aggressive behavior. This hypothesis is consistent with theoretical models of the development of dating violence that highlight the importance of external influences during later childhood and the pubertal transition; specifically, deviant peer association and assortative partnering may be additional important precursors to dating violence (Capaldi & Gorman-Smith, 2003). Whereas the majority of research on the etiology of dating violence cites the importance of parental and family precursors, a few recent studies suggest that deviant peer affiliation is associated with dating violence as well (Brendgen, Vitaro, Tremblay, & Wanner, 2002; Capaldi, Dishion, Stoolmiller, & Yoerger, 2001; Kim & Capaldi, 2004; Pettit et al., 2006; Rhule & McMahon, 2007). This relationship is posited to occur through multiple mechanisms (Dishion & Patterson, 2006). First, deviant peer affiliation may reduce the likelihood that the adolescent develops friendships with typical, prosocial peers. Thus, the adolescent may miss opportunities to engage in positive friendships that model more adaptive relationship and behavior examples. Second, deviant peers act as models and provide reinforcement for aggressive behavior (i.e., deviancy training; Dishion, Eddy, Haas, Li, & Spracklen, 1997; Elliott et al., 1985; Dishion, 2000). Third, deviant peer affiliations increase the likelihood of assortative partnering, in which an aggressive male and an aggressive female form a romantic relationship. Dating violence is more likely in these pairs, who often have aggressive, escalating interactions and who lack alternative conflict resolution strategies (Capaldi & Crosby, 1997; Kim & Capaldi, 2004). Factors such as academic difficulties, low parental supervision, and early physical maturation also may increase the likelihood that adolescents disengage from school, affiliate with deviant and potentially older peers, and have ample opportunity to engage in oppositional, aggressive behavior problems and dating violence. Finally, dating violence, especially in adolescence, is typically mutual or bidirectional (Capaldi & Crosby, 1997; Gray & Foshee, 1997), indicating that dating violence may be an interactional process that is the result of both partner's individual relationship or behavioral styles as well as the interaction of these two styles.

Notably, each predictive model examined here accounted for only a fraction of the variance in dating violence. This suggests that developmental models of dating violence that rely

heavily on aggressive family dynamics are insufficient to explain the prediction of dating violence. Specifically, although family risk factors are implicated in the development of aggression and may contribute in important ways to the escalation of early adolescent behavior problems into late adolescent dating violence, the results suggest that this is not the complete explanation.

Limitations and Future Directions

These results suggest that more steps must be mapped out to increase the precision with which future dating violence can be predicted. Early adolescence may be a critical developmental window at which to intervene to prevent the development of dating violence. To date, there is sparse evidence as to which risk factors attenuate or escalate the risk for the development of dating violence. As more information is gained as to which adolescent risk factors are critical in the developmental cascade, these factors that occur more proximally to the behavior may be targeted.

The present study is not without its weaknesses. Most notably, the identified risk factors account for little of the variance in dating violence. This may be explained by the number of years between assessment points or weaker relations between difference reporters, but further evidence is needed to replicate the present findings. In addition, the lack of identified predictors of the perpetration of violence may indicate that other influences are more critical during this developmental period (Capaldi & Gorman-Smith, 2003). The study could have been strengthened by a richer analysis of neighborhood, school, peer, and relationship contexts during adolescence. In addition, reports from the primary caregiver's partner and the adolescent's partner could have increased the reliability of the estimates of both harsh punishment and late adolescent dating violence, as well as offered additional information about proximal relationship and situational variables that may increase the likelihood of dating violence. These limitations help to provide a roadmap for future research -- more evidence is needed on the proximal, dynamic, multi-context influences on the development of the perpetration of dating violence and victimization.

Conclusions

The results of this study suggest that aggressive family dynamics during childhood and early adolescence influence the development of dating violence primarily by fostering a child's oppositional-aggressive responding style initially in the home, which is then generalized to other contexts. These findings can be understood as a downward extension of previous evidence noting that conduct problems in middle and late adolescence predicted partner violence in adulthood (Ehrensaft, Cohen, Brown, Smailes, Chen & Johnson, 2003). Notably, our results demonstrate that children's aggressive behavior at home at age 6 contributes unique variance in the prediction of dating violence 12 years later, and further that teacher observations of youth aggression at age 12 improve upon the early home prediction, delineating additional risk for later dating violence. Although this study is limited by weaknesses detailed above, the contribution of longitudinal evidence including parent, teacher, and adolescent reports from both boys and girls, a dual-emphasis on the prediction of perpetration and victimization, as well as an analysis of both relationships between variables and person-oriented group comparisons combine to make a unique contribution to the growing literature on adolescent partner violence. Prevention programs that target aggressive behavior problems in early adolescence may play an important role in preventing dating violence. Still, more research on the developmental, non-family precursors of dating violence is needed to develop appropriate prevention programs.

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Biographies

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Figure 1.
Conceptual framework of individual and family influences on the development of teen dating violence.

Table 1

Risk factors for participants who were nonviolent or dating violent.

<i>Childhood</i>	<u>Non violent</u>	<u>Dating violent</u>	<u>F</u>
1. Harsh punishment	1.63 (1.01)	1.72 (1.07)	0.67
2. Aggressive behavior at home	10.79 (7.20)	12.51 (7.78)	4.57 *
3. Parent-child relationship	4.07 (0.51)	3.97 (0.51)	3.20
4. Aggressive behavior at school	9.24 (11.16)	9.72 (12.03)	0.15
<i>Early Adolescence</i>			
5. Harsh punishment	0.52 (0.53)	0.59 (0.64)	0.94
6. Aggressive behavior at home	8.76 (7.99)	9.00 (9.40)	0.06
7. Parent-child relationship	4.00 (0.71)	4.06 (0.70)	0.46
8. Aggressive behavior at school	10.43 (11.92)	12.16 (15.49)	1.25

Note.

*
 $p < 0.05$

Table 2

Zero-Order relations among predictor and outcome variables

	1	2	3	4	5	6	7	8	9
<i>Childhood</i>									
1. Harsh punishment	-								
2. Aggressive behavior at home	0.60***	-							
3. Parent-child relationship	-0.51***	-0.73***	-						
4. Aggressive behavior at school	0.31***	0.53***	-0.41***	-					
<i>Early Adolescence</i>									
5. Harsh punishment	0.63***	0.50***	-0.31***	0.35***	-				
6. Aggressive behavior at home	0.41***	0.67***	-0.50***	0.43***	0.50***	-			
7. Parent-child relationship	-0.48***	-0.60***	0.59***	-0.43***	-0.51***	-0.71***	-		
8. Aggressive behavior at school	0.27***	0.43***	-0.33***	0.51***	0.36***	0.44***	-0.41***	-	
<i>Late adolescence</i>									
9. Dating violence	0.10	0.21***	-0.18**	0.17**	0.14**	0.12**	0.08	0.26***	-

Note.

* $p < 0.05$,

**

 $p < 0.01$,

 $p < 0.001$

Table 3

Childhood predictors of late adolescent dating violence.

	R^2	t (each predictor)	β
Childhood predictors of late adolescent dating violence perpetration			
Step 1:	0.13 ***		
Race/ethnicity		5.07	0.24 ***
Gender		4.37	0.21 ***
Socio-economic status		0.96	0.05
Harsh punishment		-1.34	-0.08
Aggressive behavior at home		2.45	0.19 *
Parent-child relationship		-1.52	-0.11
Step 2:	0.13		
Aggressive behavior at school		0.40	0.02
Childhood predictors of late adolescent dating violence victimization			
Step 1:	0.06 **		
Race/ethnicity		2.17	0.11 *
Gender		0.27	0.01
Socio-economic status		0.87	0.05
Harsh punishment		-0.85	-0.05
Aggressive behavior at home		2.80	0.22 **
Parent-child relationship		-0.43	-0.03
Step 2:	0.06		
Aggressive behavior at school		1.63	0.10
Childhood predictors of late adolescent dating violence total			
Step 1:	0.10 **		
Race/ethnicity		3.97	0.19 ***
Gender		2.57	0.13 *
Socio-economic status		1.00	0.05
Harsh punishment		-1.20	-0.07
Aggressive behavior at home		2.86	0.22 **
Parent-child relationship		-1.07	-0.08
Step 2:	0.10		
Aggressive behavior at school		1.10	0.07

Note. β = standardized beta weight;

* $p < 0.05$,

** $p < 0.01$,

*** $p < 0.001$; $n = 401$.

Table 4

Adolescent predictors of late adolescent dating violence.

	R^2	t (each predictor)	β
Adolescent predictors of late adolescent dating violence perpetration			
Step 1:	0.10 ***		
Race/ethnicity		4.61	0.24 ***
Gender		3.26	0.17 **
Socio-economic status		0.71	0.04
Harsh punishment		0.73	0.05
Aggressive behavior at home		1.59	0.12
Parent-child relationship		0.89	0.01
Step 2:	0.10		
Aggressive behavior at school		1.77	0.12
Adolescent predictors of late adolescent dating violence victimization			
Step 1:	0.05 *		
Race/ethnicity		2.15	0.12 *
Gender		-0.78	-0.04
Socio-economic status		0.52	0.03
Harsh punishment		1.48	0.10
Aggressive behavior at home		2.52	0.20 *
Parent-child relationship		2.24	0.18 *
Step 2:	0.09 ***		
Aggressive behavior at school		3.77	0.25 ***
Adolescent predictors of late adolescent dating violence total			
Step 1:	0.06 **		
Race/ethnicity		3.70	0.20 ***
Gender		1.38	0.08
Socio-economic status		0.67	0.04
Harsh punishment		1.20	0.08
Aggressive behavior at home		2.23	0.17 *
Parent-child relationship		1.31	0.10
Step 2:	0.09 **		
Aggressive behavior at school		2.99	0.20 **

Note. β = standardized beta weight;

*
 $p < 0.05$,

**
 $p < 0.01$,

 $p < 0.001$; $n = 346$.

Table 5

Means and standard deviations for problem behavior profiles.

Profile Groups	Total N	Aggression at home	Aggression at school	Dating violence
<i>Childhood</i>				$F(3, 396) = 3.85^*$
No aggression	250	7.55 (4.10)	2.96 (3.95)	0.05 (0.10)
Aggression at home	41	20.91 (4.30)	6.14 (4.53)	0.07 (0.14)
Aggression at school	52	9.54 (3.60)	22.23 (7.73)	0.08 (0.18)
Aggression at home and school	58	22.34 (5.69)	27.77 (9.66)	0.12 (0.21) ^a
<i>Early adolescence</i>				$F(3, 342) = 3.64^*$
No aggression	243	5.43 (4.31)	4.90 (5.61)	0.05 (0.11)
Aggression at home	39	21.45 (6.55)	10.76 (6.82)	0.05 (0.14)
Aggression at school	36	5.92 (4.14)	30.99 (8.69)	0.11 (0.18)
Aggression at home and school	29	24.11 (7.78)	36.90 (12.07)	0.12 (0.25)

Note. Values in the table represent the group means for standardized scores. *SDs* are indicated in parentheses next to the group means.

^a significant difference between the no aggression group and the home and school aggression group at $p < .01$, using Tukey-Kramer post-hoc analyses.