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Moderating the Effects of Childhood Exposure to Intimate Partner Violence: The Roles of Parenting Characteristics and Adolescent Peer Support

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Abstract

We investigate parenting characteristics and adolescent peer support as potential moderators of the effects of childhood exposure to intimate partner violence (IPV) on adolescent outcomes. Lehigh Longitudinal Study (N=416) data include parent and adolescent reports of childhood IPV exposure. Exposure to IPV predicted nearly all adverse outcomes examined, however after accounting for co-occurring child abuse and early child behavior problems, IPV predicted only one outcome. Several moderator effects were identified. Parental “acceptance” of the child moderated the effects of IPV exposure on the likelihood of teenage pregnancy and running away from home. Both peer communication and peer trust moderated the relationship between exposure to IPV and depression and running from home. Peer communication also moderated the effects of IPV exposure on high school dropout. Interventions that influence parenting practices and strengthen peer support for youth exposed to IPV may increase protection and decrease risk of several tested outcomes.

INTRODUCTION

Children may be exposed to intimate partner violence in a variety of ways. Some visually witness violence between their parents or overhear incidents of violence in the home. Other children encounter the aftermath of violence when they see a parent injured, see damage in the home, or witness the police responding to an incident (Edleson, 1999b; Holden, 1998; Jouriles, McDons, Norwood, & Ezell, 2001). Estimates of the number of children who witness intimate partner violence (violence between caregivers) each year in the US vary widely, depending on sampling, operational definitions of intimate partner violence, and measurement methodology (Jouriles, McDons, Norwood, & Ezell, 2001). Annual estimates range from approximately 3 million to 18 million children. The often cited estimate of 3.3 million children exposed is based on the number of women who reported domestic violence in the first National Family Violence Survey, conducted in 1975 (Carlson, 1984; Straus, Gelles, & Steinmetz, 1980). Retrospective reports from adults respondents of

the second National Family Violence Survey, conducted in 1985, showed an incident rate of 10 million children (Straus, 1992; Straus & Gelles, 1990). The higher estimate (18 million) is suggested by a 1995 sample of undergraduate students, retrospectively surveyed about their exposure to violence as children (Silvern, Karyl, Waelde, Hodges, Starek, & Heidt, 1995). Fantuzzo and Mohr (1999) noted that, despite the challenges in accurately estimating incidence and prevalence rates, evidence consistently suggests that children are exposed in large numbers to intimate partner violence.

A growing body of literature (reviewed below) suggests that children who are exposed to intimate partner violence are at risk for a variety of adverse outcomes, including short-term effects and longer term outcomes manifested in adolescence or young adulthood. To enhance intervention with youth who have been exposed to intimate partner violence, practitioners and policy makers need a better understanding of factors that promote or mitigate the effects of children's violence exposure on later occurring outcomes. Identification of factors that are protective against the effects of intimate partner violence exposure can offer viable prevention targets that, if systematically addressed in well-designed interventions, could change for the better the course of a child's development following exposure. The present study advances research in this area by investigating the relationship between childhood exposure to intimate partner violence and adolescent well-being and exploring potential moderating factors, using longitudinal data from a sizeable community sample. This study builds upon existing literature in the field, focusing on a range of adolescent outcomes that prior research has identified as linked to IPV exposure. Below, we review research on outcomes associated with childhood exposure to IPV and review the literature on possible protective factors.

LITERATURE REVIEW

Effects of childhood exposure to intimate partner violence

Exposure to intimate partner violence in childhood has been linked to a range of adverse outcomes in schoolage children, including academic problems and cognitive deficits, low self-esteem, social withdrawal, running away from home, depression, and anxiety (Edleson, 1999b; Fantuzzo, Boruch, Beriama, Atkins, & Marcus, 1997; Graham Bermann, 1998; Hughes, 1988; Lichter & McCloskey, 2004; Litrownik, Newton, Hunter, English, & Everson, 2003; Margolin, 1998; McCloskey, Figueredo, & Koss, 1995; McCloskey & Lichter, 2003; Moffitt & Caspi, 2003; Sudermann & Jaffe, 1997). Children who have been exposed to intimate partner violence are also at higher risk for externalizing problems, such as aggressiveness/violence, conduct problems, high levels of anger, and poorer social competence (Fantuzzo, & Mohr, 1999; Margolin, 1998; Osofsky, 1999).

A meta-analysis of studies related to children's exposure to intimate partner violence by Kitzmann, Gaylord, Holt, and Kenny (2003) provides further evidence of the link to adverse outcomes. In this review of research, Kitzmann et al. examined 118 studies of outcomes related to earlier violence exposure in children (only 10 of which included data on adolescents) and found an average study-level effect size of $d = -.40$. Exposure to domestic violence predicted externalizing behavior problems (e.g., aggression or violence) and internalizing symptoms (e.g., depression). Further analyses indicated that effect sizes were not dependent on the type of adverse outcome. That is, effect sizes were similar for all of the outcomes across the studies irrespective of the measures used. The authors offer two explanations: that children experience numerous difficulties in response to exposure to intimate partner violence, and that differences in individuals' outcomes are masked by group analyses.

Fewer studies have focused on the particular impact of intimate partner violence on adolescents, and fewer still have examined the long-term effects of earlier childhood exposure to intimate partner violence on adolescents or young adults (Margolin, 1998; O'Keefe, 1996). Edleson (1999a) reviewed 31 studies on the effects of children's exposure to violence, including a small number of studies focused on adolescents. The review found that exposure to domestic violence was associated with depression, lower self-esteem, lower social adjustment, and increased violence in adolescence. Only two of the studies reviewed investigated long-term effects of earlier childhood exposure to domestic violence into young adulthood (Maker, Kemmelmeir, & Peterson, 1998; Silvern, et al., 1995). These two studies reported poorer long-term adjustment among adolescent and young adult respondents, including problems such as dating violence, antisocial behavior, depression and trauma symptoms. McCloskey and Lichter (2003) and Moretti, Osbuth, Odgers, and Reebye (2006) also found that childhood exposure to intimate partner violence is linked to higher levels of aggression and dating violence among adolescents. Additionally, two studies identified exposure to domestic violence as a significant predictor of teenage pregnancy/parenthood both for women (Quinlivan, Tan, Steele, & Black, 2004) and men (Tan, & Quinlivan, 2006).

The high rate of co-occurrence between intimate partner violence and child abuse poses a challenge for researchers trying to differentiate between the two. In homes with domestic violence, children are at higher than average risk of becoming direct targets of violence themselves (Appel & Holden, 1998; Fantuzzo et al., 1997; McCloskey, Figueredo, & Koss, 1995; Moffitt & Caspi, 2003; Straus, 1990; Tajima, 1999). Edleson's (2001) review of the literature on co-occurring child abuse and domestic violence found that 30–60% of children whose mothers were assaulted were themselves victims of physical abuse. Most of these rates were derived from clinical samples of battered women. Rates of co-occurrence of child abuse and domestic violence are lower in non-clinical samples, though even among community samples the overlap is considerable. For example, Appel and Holden's (1998) review found rates of co-occurrence derived from community and representative samples in the range of 5.6% to 11%. Given the overlap in domestic violence and child abuse, developmental studies of child outcomes should account for effects of both (Edleson, 2001). The present study advances research on childhood exposure to IPV by controlling for co-occurring child abuse as well as early child behavior problems in analyses.

Sternberg, Baradaran, Abbot, Lamb, and Guterman (2006) investigated whether child abuse and exposure to domestic violence had distinctive influences on psychological, social, and academic problems. Their "mega-analysis" combined raw scores from multiple studies to amass a larger dataset from which to estimate abuse and domestic violence effects. Raw data from 15 studies met their criteria of: availability of original data and information on maltreatment; and use of the Achenbach's Child Behavior Check List (Achenbach, 1991) to assess child functioning. The overall pooled sample (N=1870) was grouped into four categories for analyses: abused children (n=156), children who witnessed domestic violence (n=338), children who were abused and witnessed domestic violence (n=761), and a no violence comparison group (n=705). The compiled data were analyzed using hierarchical logistic regression models to examine unique effects of type of violence on child behavior problems, as defined by the CBCL. The authors found that children who were abused or exposed to violence exhibited significantly more externalizing and internalizing behavior problems. Those children who experienced both child abuse and exposure to domestic violence were at even higher risk overall for internalizing behavior problems. Results showed mixed effects for externalizing behavior problems.

Moderating Effects

Literature on childhood exposure to intimate partner violence or other early adversities offers evidence of considerable resilience on the part of children (Edleson, 1999b; Margolin,

1998). Researchers are increasingly focusing on protective factors that moderate the relationship between childhood exposure to intimate partner violence and adverse outcomes, often focusing on either family and/or individual factors (Gewirtz & Edleson, 2007; Kerig, 2003; Neighbors, Forehand, & McVicar, 1993). In a review of research on resilience from exposure to domestic violence, Margolin (1998) outlined three major factors to examine. These are: support from within one's family (e.g., a positive relationship with a parent), support from someone outside one's family, and lastly, individual attributes of the child. The current study draws upon existing research on resilience from the effects of exposure to IPV and is consistent with Margolin's theoretical framework in that it examines parent and peer factors as possible moderators of a range of adverse adolescent outcomes.

Rossman and Rea (2005) surveyed mothers and their children (age 5–12 years) recruited from community and domestic violence shelter populations. The authors found that parenting styles (authoritative, authoritarian, and permissive) and parenting inconsistency (endorsing conflicting parenting practices) were differentially related to child functioning. Authoritative parenting was associated with more positive child functioning, and parenting inconsistency was associated with poorer child outcomes (Rossman, & Rea, 2005). Levendosky and Graham-Bermann (1998) found stress on mothers moderated the relationship between psychological abuse experienced by the mother and children's problem behaviors. Specifically, in families where mothers experienced high levels of psychological abuse, parenting stress increased the risk of children having internalizing problems. Similarly, Neighbors et al. (1993) reported that adolescents with good relationships with their mothers had fewer adverse effects of high interparental conflict. Although not specifically a study of exposure to domestic violence, Neighbors et al.'s findings offer evidence of the potential buffering effect of maternal support.

Levendosky, Huth-Bocks, and Semel (2002) found moderation effects in their study of parenting factors and outcomes related to adolescents' mental health and relationships with their peers. Findings suggest that maternal psychological functioning and positive parenting moderated the effects of exposure on some outcomes, including depression and trauma symptoms (e.g., insomnia, flashbacks) among adolescents. Maternal warmth and parenting effectiveness moderated the relationship between domestic violence exposure and two outcomes: adolescent trauma and positive communication with a dating partner. Overall, existing research suggests that certain parenting characteristics may be protective of the deleterious effects of children's exposure to intimate partner violence, however further investigation of parenting factors and a wider range of outcomes would benefit the field.

For adolescents, peer relationships can be particularly influential and may serve as significant risk or protective factors in the context of violence in the home. In addition to examining parenting factors as moderators of children's exposure to violence, Levendosky et al (2002) examined the potential buffering effect of adolescents' level of social support by peers. Peer support was found to be an important moderator of exposure on adolescent abusive behavior, negative communication with dating partners, and victimization. In the above study, peer support did not moderate the effect of exposure on adolescent mental health outcomes examined (i.e., trauma symptoms). Further, in a review of children's resilience in the context of marital discord in the home, Margolin (1998) reported that supportive relationships with friends served a protective function.

Age and gender have also been investigated as potential moderators of the relationship between childhood exposure to intimate partner violence and adverse outcomes, although results are generally mixed. Sternberg et al's (2006) mega-analysis found that age moderated the effect of exposure to violence for externalizing behavior problems for the different types of violence exposure studied. However, age did not moderate any effects for internalizing

behavior problems. With respect to externalizing behavior problems, children ages 4 to 9 who were both abused and had witnessed domestic violence were at greater risk than were those who were abused only, exposed to domestic violence only, or those exposed to neither. Among children ages 10–14, those who witnessed domestic violence only had the highest rates of externalizing behavior (Sternberg, et al., 2006). In the Sternberg et al. study, there were no significant effects of gender. Kitzmann et al.'s (2003) also examined gender as a moderator, but found no significant effects. Gender has also been investigated as one of several controls in analyses of intimate partner violence effects (Herrenkohl, Sousa, Tajima, Herrenkohl, & Moylan, 2008).

The Present Study—The Lehigh Longitudinal Study offers a unique opportunity to explore the relationship between childhood exposure to intimate partner violence and adolescent outcomes, and to examine possible protective factors using longitudinal data from a sizeable community sample of parents and their children. To better understand the extent of the effects of childhood exposure to intimate partner violence, it is helpful to explore a broad range of possible outcomes (Evans, Davies, & DiLillo, 2008). As reviewed above, prior research points to adverse effects in multiple domains of adolescent well-being. Drawing upon the literature, we identified six outcomes which are of particular relevance to adolescents: youth violence, victimization, depression, school dropout, teenage pregnancy, and running away from home.

Informed by prior research, the current study focuses on parenting characteristics and peer support variables as potential moderators of the relationship between exposure to intimate partner violence and adolescent outcomes. By examining a range of adolescent outcomes, our study seeks to broaden attention to salient adolescent outcomes less commonly investigated. By examining protective factors within parent and peer domains, this study explores the potential influence of both parent characteristics and peer support and aims to identify specific targets for prevention and intervention to promote positive outcomes for youth who have been exposed to intimate partner violence.

We investigate the following research questions:

1. Is exposure to intimate partner violence in childhood associated with adverse outcomes in adolescence, controlling for child maltreatment and early child behavior problems?
2. Do parenting characteristics moderate the effects of exposure to intimate partner violence on youth outcomes?
3. Does peer support moderate the effects of exposure to intimate partner violence on youth outcomes?

METHOD

The Data and Sample

The Lehigh Longitudinal Study is a study of children and families begun in the 1970s to examine developmental consequences of child maltreatment. The Lehigh team's work began as the evaluation portion of a child abuse and neglect treatment and prevention program undertaken in two counties of eastern Pennsylvania, but the sample was then broadened to include participants from community settings. Participants were recruited from five settings: child welfare abuse and protective service programs, Head Start classrooms, day care programs, and private nursery programs. Selection of participants from the child welfare settings was accomplished by the two county child welfare agencies referring to the study, over a two-year period, all new and some ongoing cases in which there was at least one

abused or neglected child 18 months to 6 years of age in the home. All families were informed of the study by the agency and were approached by a project staff member to request their participation. The children who were involved in the child welfare programs also participated in one of several group settings (e.g., day care family and classroom settings and Head Start classrooms). It was from these types of community settings that additional participants were recruited to broaden the sample. These settings were geographically spread over the same two counties in eastern Pennsylvania served by the two child welfare agencies and included 13 Head Start centers, 12 day care programs, 2 programs for handicapped children, 3 Home Start programs, and 8 nursery school programs.

Although the study design did not call for the direct matching of participants from the different settings, attention was given to the gender and the age of the index child. Each setting contains similar proportions of males and females. Setting selection was carried out to reflect variation in socioeconomic status (SES): 43% of families in the child welfare abuse group were in the lowest SES quartile of the sample (preschool age assessment). For the remaining groups, the proportion of low SES families are: 12% in child welfare neglect, 41% in Head Start, 4% in day care, and 0% in the middle-income nursery group.

Three waves of data were collected at key developmental points for children: preschool, school-age, and adolescence/young adulthood. The first wave of data collection (the 'preschool' wave) took place in 1976–77, when each participating family had at least one preschool child between the ages of 18 months and six years. The second wave of data collection (the 'school-age' assessment) occurred between 1980 and 1982, when the children were between 8 and 11 years of age. The third assessment was completed in 1990–1991, when the children were adolescents. The assessment consisted of a self-report survey of the adolescents themselves. In this assessment, 416 (91%) of the original sample of 457 children was reassessed.

The fully integrated longitudinal sample is comprised of 457 children from 297 families: 144 children from child welfare abuse programs, 105 from child welfare protective service programs, 70 from Head Start, 64 from day care programs, and 74 from nursery programs. The full sample contains 248 (54%) males and 209 females. One child was assessed in 52% (n=155) of the families; two children were assessed in 43% (n=128) of the families; three or four children were assessed in 5% (n=14) of the families. The racial composition of the full sample is: 1.3% (n=6) American Indian/Alaska Native, 0.2% (n=1) Native Hawaiian or Other Pacific Islander, 5.3% (n=24) Black or African American, 80.7% (n=369) White, 11.2% (n=51) more than one race, and 1.3% (n=6) unknown. The ethnic composition is: 7.1% (n=33) Hispanic or Latino, 91.5% (n=381) Not Hispanic or Latino, and 1.3% (n=6) unknown. These percentages are consistent with the makeup of the two-county area from which the sample was drawn. Eighty-six percent of children were, at the time of initial assessment, from two-parent households. Sixty-three percent of families had incomes below \$700 per month in 1976–1977.

The present analyses are conducted using only data regarding the 416 adolescents assessed across all three waves of data collection. Of these 416 participants (the analysis sample), 229 (55.0%) are males, 1.4% (n=6) are American Indian/Alaska Native, 0.2% (n=1) Native Hawaiian or Other Pacific Islander, 5.0% (n=21) Black or African American, 81.5% (n=339) White, and 11.7% (n=49) more than one race. By the time of the adolescent assessment, four participants had died: One child in the child welfare abuse group had died from illness and another from a car accident; one in the child welfare neglect group had been murdered; and one child in the middle-income group had died in a car accident. Percentages lost to attrition in the adolescent assessment from each of the composite groups include: 13.9% from child welfare abuse, 10.5% from child welfare protective service, 7.1% from

Head Start, 4.7% from the day care group, and 8.1% from the nursery school group. Earlier analyses of the data did not find significant group differences on key variables (e.g., physically abusive discipline) when those lost to attrition were compared to those who remained (R. C. Herrenkohl, Egolf, & Herrenkohl, 1997).

Measures

Table 1 describes measures used in the current study. The table presents information about the operationalization of key variables, including exposure to intimate partner violence, adolescent outcomes, potential moderators, and control variables.

Exposure to Intimate Partner Violence—Our dichotomous measure of exposure to intimate partner violence combines caregiver and youth reports and includes all available intimate partner violence items (Table 1). Data on intimate partner violence were gathered from the primary caregiver (usually the mother) in both the preschool and school-age assessments. Questions to primary caregivers were included in a section on ways of handling differences in the household. Respondents were asked how often they or their partners (asked separately) did any of the following: 1. threatened to physically harm, 2. hit, pushed, or kicked, 3. destroyed something. Response options were: none of the time; rarely; sometimes; most of the time. Retrospective adolescent reports of exposure to intimate partner violence were obtained through surveys with the youth in the 1990–1992 wave of assessment. Youth were asked “When your parents had differences, how often, if at all, did the following things happen?” Youth were asked the same items as the caregivers (i.e., threatened to physically harm; hit, pushed, or kicked; and destroyed something), asked about separately for fathers and mothers. Response options were: never; rarely; sometimes; or often.

As presented in Table 1, our measure of “**IPV exposure**” uses both primary caregiver and youth reports of exposure to intimate partner violence (father-to-mother and/or mother-to-father), operationalized to include any of the following: “hit, pushed, kicked,” “threatened to physically harm,” or “destroyed something”. The variable was dichotomized as: “0=never” and “1=rarely, sometimes, or often”. Exposure to IPV was coded as “1” if either the primary caregiver or youth reported any intimate partner violence. Thus, conflicting reports were coded as “1”. If one report had missing data regarding intimate partner violence, then IPV exposure was coded based on data from the available source.

Researchers studying intimate partner violence use a variety of operational definitions. The measure of IPV in the present study is broader and more inclusive of all children possibly exposed to domestic violence than others used in analyses of this dataset (references omitted for blind review) because we wanted to reduce errors in classification that might result from more a more restrictive coding of the indicator variables. However, other valid operationalizations of the data may be better suited to certain analyses that test different research hypotheses. To create a broadly inclusive measure given the data available, IPV is defined as any incident of father-to-mother or mother-to-father behavior that constitutes even moderately-severe intimate partner violence (such as pushing, threatening to harm, or destroying property), and counted IPV as having occurred even if only one source (caregiver or youth) endorsed the item. We note that although the specific items used measure less severe behaviors, they are consistent with those used to define intimate partner violence in the National Violence Against Women Survey (Tjaden & Thoennes, 2000) and National Family Violence Surveys (Straus & Gelles, 1990). Further, moderately severe behaviors are known to co-occur with even more severe forms of intimate partner violence, including those leading to physical injury (Tajima, 1999).

Adolescent Outcomes—Outcome measures were derived from youth self-reports of their own current behaviors and recent experiences. These measures were obtained during the third wave of data collection, when the participants were adolescents/young adults. In the present study, we studied the moderating effects of parent and peer variables on the relationship between exposure to intimate partner violence and the following youth outcomes: violence, depression, high school dropout, running away from home, victimization, and teenage pregnancy. A mix of dichotomous and continuous measures was used in analyses (Table 1).

Youth violence: Frequency of youth violence was measured retrospectively, using a continuous variable and reflected the number of times an individual perpetrated any of the following during the past year: gang fight; hitting another person; hitting another person with the idea of seriously hurting or killing them; or forced sex.

Depression is a continuous variable, measured using the Beck, Rush, Shaw, and Emery (1979) Depression Inventory (BDI-IA). The BDI is a widely used self-report rating index designed to measure characteristic symptoms of depression. Items in the BDI measure factors such as sadness, sense of failure, weight loss, social withdrawal, suicidal ideas, and self-dislike. Its internal consistency is reported to range from .73 to .92 with a mean of .86. (Beck, Steer, & Garbin, 1988).

High school dropout is based on youth reports and is a dichotomous variable which indicates whether or not an individual had dropped out of high school before graduation (yes/no).

Teenage pregnancy is a dichotomous variable. Youth were asked whether they had become pregnant/or gotten a girl pregnant at a young age (yes/no).

Victimization is a dichotomous variable (yes/no). Youth were asked how many times in the past year they were victimized in any of the following ways: Property taken by force; sexually attacked or pressured into sex against one's will; beaten by person other than parents.

Runaway is a dichotomous variable. Youth reported on the number of times they had ran away from home before age 18 years. If they had never run away from home, this was coded as "0"; the variable was coded "1" (Yes) if they had run away one or more times prior to age 18.

Moderator Variables

Parenting Characteristics: Scales measuring two parenting dimensions were constructed for the present study based in part upon Baumrind's (1971) parenting typology work. The scales were developed from items asked in the youth survey, conducted during the adolescent wave of data collection. The items represent proximal parenting practices. The scale for **Accepting and Responsive Parenting** was derived from a larger Attachment to Parents and Peers scale developed by Armsden and Greenberg (1987), the Olson, McCubbin, Barnes, Larsen, Muxen and Wilson (1982) Parent and Adolescent Communication Scale, the Family Adaptability (FACES II) scale (Olson, et al., 1982) and questions developed by the original Lehigh Study investigators. The accepting/responsive parenting scale consists of 10 youth items. Examples include: "My parents respect my feelings," "My parents accept me as I am," "My parents sense when I am upset about something," "How much support/encouragement have you received from your parents?" Scores were standardized and combined. We calculated the standardized Cronbach's scale alpha for the parental responsiveness and acceptance scale as 0.85, indicating good

reliability. **Controlling Parenting** measures the extent to which parents were perceived by the youth as being controlling. Seven items were used, such as “It is difficult to get a rule changed in our family,” “Discipline is fair in our family” (reverse coded), “Each family member has input in major family decisions” (reverse coded). We calculated the standardized alpha for the controlling parenting scale as 0.74. The two parenting characteristics are inversely correlated ($r = -0.58, p < .001$).

Peer Support: Following the framework that social support may exert a protective influence (Levendosky et al., 2002), and acknowledging that peers are among the most important spheres of influence for adolescents (Levendosky et al., 2002), we examine peer support as a potential moderator of the effects of exposure to intimate partner violence on youth. Although sometimes conceptualized and operationalized as a single construct, based on preliminary analyses, we decided to separately examine three subdimensions of peer support. **Peer Trust** is an 8-item scale measuring adolescent trust based on Armsden and Greenberg’s (1987) original conceptualization. Examples include “I can count on my friends when I need to get something off my chest,” “My friends accept me as I am,” and “I can trust my friends”. Our Cronbach’s alpha for our scale of peer trust is 0.88. **Peer Communication** is a 9-item scale, also consistent with Armsden and Greenberg (1987) (Cronbach’s alpha for our scale = 0.88). Examples include: “When we discuss things, my friends consider my point of view”, “My friends encourage me to talk about my difficulties” and “I like to get my friends’ point of view on things I’m concerned about”. **Peer Alienation** is a 7-item scale derived from the same source. Examples include: “I feel alone or apart when I am with my friends,” and “Talking over my problems with my friends makes me feel ashamed or foolish”. To improve the internal consistency of the scale, we added one item, “I wish I had different friends.” In creating this scale, we also removed one item “I feel the need to be in touch with my friends more often,” as doing so yielded a higher Cronbach’s alpha (0.74).

Control variables

Child Abuse: This dichotomous (yes/no) variable is a composite of three dimensions: primary caregivers’ self-reports of their own severe physical disciplining of their children (gathered during the preschool and school-age waves of data collection); whether or not the family was involved with child protective services for child abuse or neglect (measured at preschool or school-age); and retrospective youth reports of experiencing child abuse (gathered during the adolescent wave of data collection). The caregiver indicators of severe physical discipline include: hitting with a stick, paddle, or any other hard object; hitting with a strap, rope, or belt; hitting or paddling so as to bruise; slapping or spanking so as to bruise; biting; biting so as to bruise. Caregivers were asked whether they had used any of the above practices during the year prior to the school age interview or at some time during the child’s preschool years. Youth reported whether their primary caregiver had used any of the above practices during their childhood, up to age 12 years. Measures of child abuse occurring after age 12 years were not available. Thus, this control variable is an indicator of pre-teenage child abuse experience only.

Early child behavior problems: A measure of early child behavior problems was based on teacher reports of children’s behavior, assessed during the school-age wave of data collection. Teachers completed a version of the Child Behavior Checklist (Achenbach, 1988) in which problem behaviors were identified. Items used from the checklist tapped a child’s history of aggression, cruelty, and disobedience. The scale had a standardized alpha (α) of 0.89.

Demographic variables—Gender, race, and age were measured by youth self-report during the adolescent wave of data collection. **Gender** of adolescent participants (male=1 or female=0) was included as a control. **Race** was accounted for as a control variable comparing whites (coded 1) (75.5%) and racial/ethnic minorities (coded 0) (24.5%). **Age** was also included to account for level differences in the predictors and outcomes as a function of development. Ages of youth in the adolescent assessment ranged from 14 to 23 years (mean: 18 years of age). **SES** was a continuous level composite variable based on measures of family income during the preschool period, mother's occupational status and education level, and total number of rooms in the family's house.

Data Analysis

Descriptive statistics were run on all of the variables to derive means and standard deviations and to compute frequencies for dichotomous variables (Table 2). Prevalence rates of exposure to intimate partner violence and each of the outcome variables are reported in Table 2.

To examine intimate partner violence exposure as a predictor of each of the six adolescent outcomes, a series of regression analyses were conducted in SPSS. Bivariate analyses were run first with intimate partner violence exposure as the only predictor (Table 3). Next, child abuse and early childhood behavior problems were added simultaneously to the regression model to examine whether intimate partner violence exposure would continue to predict the outcomes, net of the effect of these other two predictors (Table 3). Prior research has underscored the importance of controlling for the effects of child abuse in particular. In addition, our analyses control for early child behavior problems because early disruptive behavior also predicts later adverse adolescent outcomes. The models presented in Table 3 illustrate the difference in findings when these two key predictors (and potential confounds) are accounted for in regression analyses. Main effects of exposure to intimate partner violence net of the effects of child abuse, child behavior problems, gender, age, SES, and race were then calculated.

Because our sample consists of both singletons and multiple children within the same household, we had the potential problem of correlated data. Specifically, of the 297 families in the study, 142 had more than one child participating. When clustering may bias parameter estimates, it is important to examine the extent to which nesting constitutes a threat (Raudenbush & Bryk, 2002). To investigate the extent to which nesting posed a problem, we used HLM 6.0 to estimate intraclass correlations (ICCs) for all continuous outcome variables. HLM adjusts for differences in the size of the cluster in estimating ICCs. We first used unadjusted models to estimate variance at the person and family levels. We then adjusted these estimates for other covariates used in the final analysis: early child behavior problems, gender, race, SES, and age. We found that most of the between-family variance was accounted for by these individual-level covariates. After accounting for the covariates, only 7.8% of the variance in depression scores remained at the family level ($p>.05$). For youth violence perpetration, 13.8% of the variance was at the family level and marginally significant ($p=.05$) after adjustments. Considering the relatively small amount of unexplained variance in these outcomes attributed to the family, and considering the average cluster size in this study (1.5 children), we chose to report analysis results from our previous single level models. Prior research has shown that, with small group sizes (e.g., <7), the effect of clustering on parameter estimates is typically very small (Muthen & Satorra, 1995) and, in fact, others have argued against use of multilevel models when clustering is at a minimum (e.g., McLeod & Shanahan, 1993).

To test the hypothesis that parenting and peer support moderate the relationship between intimate partner violence exposure and the six adolescent outcomes, a second set of

regressions was conducted. Intimate partner violence exposure was entered along with each of the moderators and an interaction term (intimate partner violence $\times$ moderator) in separate regression models for each moderator. We also ran 3-way interaction effects with gender to examine gender differences. We found the majority to be non-significant, and therefore decided to treat gender as a covariate in our final models. Included in every model were: age, SES, gender and race, early child behavior problems, and child abuse.

Predicted probabilities

To illustrate the effect of our significant moderator relationships, we calculated predicted probabilities using illustrative scores to show the strength of association or magnitude of the difference for each outcome. To illustrate these effects, we selected values at ± 1 SD for the moderator variable, as these represent intuitively high and low values on the scale. Probabilities (or predicted scores, for continuous outcome variables) were calculated for the two selected values of the moderator variable by inserting those particular values into the equation, inserting a “1” to indicate IPV exposure, and holding all other variables (including dichotomous variables) constant at their mean. Predicted probabilities (or scores) are presented in Table 5.

Results

Prevalence rates for exposure to intimate partner violence and adolescent outcome variables

As shown in Table 2, the rate of exposure in our sample (including physical violence, threats, and destroying property) was 77.5 %. The frequency of youth violence perpetration ranged from 0 to 5, with a mean of 1.0 (SD=1.1). The mean depression score among our analysis sample was 10.651. Approximately 34% of the sample had dropped out of high school at the point of the adolescent assessment. Approximately 33% of our sample had become pregnant or gotten someone pregnant. Approximately 70% of youth had been victimized (including property taken by force; sexually attacked or pressured into sex against one's will; beaten by person other than parents). Approximately 33% of the sample had run away from home at least one time.

Impact of exposure to intimate partner violence on youth outcomes

As shown in Table 3, bivariate analyses showed that exposure to intimate partner violence was a significant predictor of all adolescent outcomes except for teenage pregnancy. Once child abuse and early child behavior problems were taken into account, significant relationships remained between intimate partner violence exposure and high school dropout ($p < .05$), youth violence (marginally significant, $p < .10$) and youth victimization (marginally significant, $p < .10$). Thus, after accounting for child abuse and early child behavior problems, intimate partner violence predicted considerably fewer adolescent outcomes. Table 3 also shows coefficients from the final regression model, with all of the predictor (IPV exposure, child abuse, early child behavior problems) and control variables (gender, race, age, and SES) included.

Moderating effects: primary caregivers' parenting characteristics

Even though the relationship between exposure to intimate partner violence and most adverse outcomes was no longer significant after controlling for other factors, exposure may still play a role as a moderator of those relationships. We examined the moderating influence

¹According to U.S. Department of Health and Human Services guidelines for interpreting the Beck Depression Inventory, the mean score among our sample is in the upper end of the range representing minimal depression (US DHHS).

of the primary caregivers' "acceptance and responsiveness" and "control" on the relationship between exposure to intimate partner violence and these adverse youth outcomes. As shown in Table 4, parental acceptance/responsiveness moderated certain relationships ($p < .05$), however parental control did not. Specifically, parental acceptance/responsiveness moderated the effect of exposure to intimate partner violence on running away from home and teenage pregnancy. Table 5 presents the predicted probabilities (or predicted scores) for various adverse outcomes for youth exposed to intimate partner violence in childhood. As shown, among youth exposed to intimate partner violence, those with less accepting or responsive primary caregivers had notably higher predicted probabilities of running away from home (48%, $p < .05$) relative to youth with more accepting primary caregivers (15%). In the context of intimate partner violence, youth reporting greater parental acceptance had lower predicted rates of teenage pregnancy (19%, $p < .05$) compared to those in homes in which primary caregivers were lower on the acceptance scale (30% probability).

Moderating effects: Adolescent peer support

Also shown in Table 4, two of the three subscales of peer support were found to moderate the relationship between exposure to intimate partner violence and adolescent outcomes. Specifically, peer communication moderated the relationship between intimate partner violence exposure and youth depression, high school dropout, and running away from home (all $p < .05$), and peer trust was a moderator for running away from home and for teenage pregnancy (marginally significant, $p < .10$). As shown in Table 5, among youth exposed to intimate partner violence, those reporting greater peer communication had lower predicted depression scores (mean = 9.93) compared to those who reported less peer communication (mean = 11.64). In homes with intimate partner violence, youth reporting greater peer communication had a lower predicted probability of dropping out of high school (20% versus 28%). With regard to running away from home, youth reporting greater peer communication had a lower predicted probability of running away from home (29% probability) compared to youth reporting less peer communication (32% probability). Peer trust was a similarly protective factor. Among youth exposed to intimate partner violence in childhood, those reporting more peer trust had a lower predicted probability of running away from home (30%) relative to those with less peer trust (32%). In the context of intimate partner violence, youth with more peer trust also had lower predicted depression scores (9.04) compared to those with less peer trust (12.54). Youth alienation from peers did not moderate the relationship between exposure to intimate partner violence and any of the adolescent outcomes examined.

Discussion

In the present study, approximately three fourths of the youths and young adults had been exposed to at least one instance of intimate partner violence between their caregivers. This rate of exposure to IPV is comparable to those reported in certain other studies, particularly those involving clinical or high risk samples (e.g., over 50%, O'Keefe & Sela-Amit, 1997) but is higher than rates typically found in studies of community samples (e.g., 16%, Tajima, 2004). The higher rate reported in the present study is derived at least in part from the fact that we used an inclusive operational definition of intimate partner violence. For example, we included less severe acts of violence, including pushing, threatening to harm, or destroying property, which occur with more frequency than more severe behaviors, such as assault with extensive injuries and use of weapons (Straus & Gelles, 1990). We also chose to define IPV as any amount of exposure (even a single act), and our measure included father-to-mother or mother-to-father acts. Absent a mechanism to measure self-defense or determine who might have been the primary aggressor, we opted to include violence of

either partner in our operationalization of IPV. We used a broader time frame than the typical “past year” time frames used in many studies of domestic violence prevalence. Specifically, the present study combined caregiver self-reports that measured intimate partner violence that occurred when the children were up to school age, and youth reports that asked adolescents to reflect on incidents that occurred “when their parents had differences”. Additionally, our measure drew upon two sources of data – caregiver and youth reports, and in the present study, sources did not have to agree to count as intimate partner violence exposure. Finally, the Lehigh sample includes a sizeable number of participants who are at high risk for adverse experiences and outcomes – more than two thirds of the families were involved in either child welfare or Head Start programs; nearly half of participants from these settings were in the lowest SES bracket of the sample.

The operationalization of intimate partner violence used in our analyses is thus broad. Having a broader definition has implications for analyses in that it may be harder to detect effects that might be more evident in youth exposed to more severe, more recent, or more chronic intimate partner violence in the home. However, we were interested in exploring whether we would find significant moderation effects even with a broad and inclusive operational definition. By utilizing a broad measure that captures any amount of even more minor incidents of intimate partner violence, our study yields findings that are arguably generalizable to a wide range of families affected by intimate partner violence.

In the present study, exposure to intimate partner violence was significantly related to all adolescent outcomes except for teenage pregnancy, however, after accounting for child abuse and early child behavior problems, exposure predicted only one outcome (at the $p < .05$ level). This demonstrates the importance of controlling for factors that are themselves significant predictors of well-being and points to the need to better understand their roles in the etiology of adverse effects. It also suggests that other factors (such as child abuse) may play more important roles in the development of adverse effects than does exposure to intimate partner violence. Our results are similar to those reported by Silvern et al. (1995), who found that childhood domestic violence exposure was associated with several problems in young adulthood (e.g., depression, trauma symptoms, low self-esteem), however associations were no longer significant after controlling for early child abuse experiences. In our sample, early child behavior problems appear to be particularly predictive of adverse outcomes in adolescence and young adulthood. Further investigation into this relationship is warranted. However, we note that it is possible that early child behavior problems might actually be an outcome of earlier childhood exposure to intimate partner violence, as the temporal sequencing of the two variables could not be determined in the present study.

This study found moderating effects of parenting characteristics and youth peer support factors for a range of adolescent behavior problems. Primary caregiver acceptance and responsiveness moderated key outcomes, including running away from home, and teenage pregnancy. The effect of intimate partner violence exposure on the likelihood of running away from home was also buffered by two peer support factors (peer trust and peer communication). Dropping out of high school, sexual risk-taking and teenage pregnancy, and the act of running away from home are highly consequential outcomes that have potentially serious, long-lasting implications for adolescents’ health, safety, and economic well-being (Alexander, Entwisle, & Kabbani, 2001; Kaufman & Widom, 1999; Kellogg, Hoffman, & Taylor, 1999). Youth who live on the street are more likely to participate in high-risk behaviors, such as stealing, asking strangers for money, selling drugs and prostitution in order to survive (Hagan, McCarthy, Parker, & Climenhage, 1997). Whitbeck and Simons (1993) found that homeless youth were significantly more likely to be involved in dangerous subsistence living activities and to be criminally victimized compared to homeless adults.

For adolescents and young adults, peers are arguably the most significant source of support outside the family system. For adolescents, peer relationships are among the earliest and most formative relationships other than parent-child relationships (Levendosky, Huth-Bocks, & Semel, 2002). Consequently, we sought to include potential moderators that represented peer influences during the adolescent or young adulthood developmental stage. In this way, the present study is similar to that of Levendosky et al. (2002), who investigated both parent and peer moderators of a range of effects of exposure to domestic violence on adolescents. In our study, two of the peer support factors moderated the relationship between intimate partner violence exposure and adolescent depression. This is an important finding because, as described below, there is evidence of a link between exposure to intimate partner violence and depression in adolescents. Furthermore, the considerable effect of depression on adolescent well-being is well-documented; it is therefore important for the field to identify empirical evidence of potential targets for preventive intervention in the context of intimate partner violence.

Depression has been reported as the most widespread psychiatric problem reported by youth (Stice, Ragan, & Randall, 2004). Flannery, Singer, Williams, and Castro (1998) found that violence in the home was related to significantly higher levels of depression among adolescents (N=3,734). The present study found a significant relationship between childhood exposure to intimate partner violence and subsequent depression in youth, although after accounting for the effects of early child abuse and early child behavior problems this was not statistically significant. Fergusson and Horwood's 1998 study of 1,265 New Zealand children found that rates of depression in youth ages 16–18 grew as the extent of violence by either the father or mother increased. Associations between depression in adolescence and a range of adverse outcomes have been documented. Depression has shown a relationship to physical health factors such as diabetes (Stewart, Rao, Emslie, Klein, & White, 2005), suicidality (Fergusson, Horwood, Ridder, & Beautrais, 2005; Fergusson & Woodward, 2002; Kirkcaldy, Eysenck, & Siefen, 2004), self image (Korhonen, Laukkanen, Psiponen, Lehtonen, & Viinamaki, 2001) and smoking (Bush, Richardson, Katon, Russo, Lozano, & McCauley, 2007). In addition to these outcomes, there is evidence of a strong and significant relationship between depressive symptoms in adolescents and sexual risk taking. For example, Brown, Tolou-Shams, Lescano, Houck, Zeidman, & Pugatch, (2006) found that African American adolescents with reported depressive symptoms were about four times as likely to report inconsistent condom use six months later, as compared to their non-depressed counterparts (N=415). Fergusson and Woodward (2002) found a strong, statistically significant relationship between major depression in early adolescence (ages 14–16) and outcomes in late adolescence/early adulthood (ages 16–21). Among these outcomes were: later depression, nicotine dependence, suicidal behavior, school failure, recurrent unemployment and early parenthood. Fergusson et al.'s (2005) longitudinal study (N=1265) found a relationship between adolescent sub-threshold depression in a general community sample and rates of subsequent depression, anxiety, suicidal ideation and suicide attempts in adulthood (at ages 21–25). Because of the extent and salience of these relationships, it is important to document evidence of the protective effects of moderators of intimate partner violence exposure and youth depression. Our findings illustrate the relevance of peer factors in moderating adverse effects, particularly for outcomes such as depression, and suggest that further investigation is needed into the mechanism by which peer trust and communication moderate adolescent depression in the context of intimate partner violence. Investigation into the mechanisms of peer support and how these may differ for internalizing and externalizing behaviors would offer more specific data to inform interventions targeting peer relationships.

Our results offer evidence of peer support as a protective factor. That is, among youth exposed to intimate partner violence, greater peer support (trust and communication)

predicted more positive outcomes. This is not always the case in research on adolescent peer support, particularly for outcomes such as youth violence. For example, Levendosky et al., (2002) (described further below) found an inverse relationship between peer support and positive outcomes for youth in homes with high rates of domestic violence. Indeed, in earlier analyses using the Lehigh longitudinal sample, we found peer influences to be strong predictors of increased externalizing behaviors such as youth violence. For youth who become bonded to peers who are themselves involved in antisocial activities, such as gang fights or other violent behavior, it might be expected that greater peer trust would lead to more violence in youth, rather than less. However, the current study did not find evidence of peer support as a moderator (neither as a risk nor as a protective factor) of the impact of IPV exposure on youth violence.

Conceptually, our study is similar to Levendosky et al.'s (2002) investigation into parent and peer moderators of a variety of adolescent outcomes of exposure to intimate partner violence (including trauma symptoms, abusive behavior, victimization, best friend satisfaction, quality of communication with dating partners). Levendosky et al. found that maternal warmth was a protective factor for adolescent trauma and for positive communication with a dating partner, and that perceived peer support moderated several outcomes, including abusive behavior, victimization, best friend satisfaction, and negative communication with dating partner. Interestingly, Levendosky et al. found that peer support served as a protective factor for youth in the "low domestic violence" group, but was a risk factor among those exposed to higher rates of domestic violence. The authors theorized that youth in homes with high rates of intimate partner violence may be in peer networks that are supportive of violent behavior. Our finding of peer support as a protective factor (although not for violence or victimization) aligns with Levendosky et al.'s findings in that our measure of intimate partner violence was broad, and included less severe behaviors (such as threats of violence, destroying property, pushing), and defined intimate partner violence as present if respondents reported even a single incident occurring. As such, our sample includes many adolescents that would fit Levendosky et al.'s definition of "low domestic violence." Additional research is needed to further investigate the ways in which moderation effects vary depending upon the severity of the domestic violence to which children were exposed.

The present study examined parenting characteristics and peer support dimensions as potentially protective influences, but did not explore the relative importance of each. Systematic investigation comparing and contrasting protective factors would be a useful focus for future research (Gewirtz & Edleson, 2007). For example, future investigation might mirror Stice, Ragan, and Randall's (2004) study which examined longitudinal data to compare deficits in parent and peer support as predictors of subsequent depression among adolescent girls, although not in the context of intimate partner violence. The authors found that deficits in parental support, but not peer support, predicted future depression, suggesting that parental support is the more important factor with regard to risk of depression, at least among girls during the adolescent developmental period. It would benefit the field to investigate the relative importance of a range of protective influences in the context of intimate partner violence.

In the present study, no moderation effects were found for two adolescent outcomes: violence perpetration and victimization. It is possible that the particular dynamics at work in the relationship between childhood exposure to violence (IPV) and later adolescent experiences of violence and victimization (the intergenerational transmission of violence) are different than the dynamics involved for the other outcomes (Pears & Capaldi, 2001; Rossman, 2001; Widom, 1989, 1997). Youth violence and victimization are similar in nature to IPV exposure, and social learning principles (Bandura, 1977) might predict that direct effects of modeling and imitating would predominate. However, it is also possible that the

relationship between IPV exposure and later violence and victimization might indeed be moderated, but by factors other than those examined in the present study. For example, it is possible that a child's relationship with the abuser (or victim) might be a moderating factor. Gender effects might play an additional role, with attachment to the same-sex parent possibly increasing any effects related to social learning dynamics. Our finding of no moderation effects for violence and victimization outcomes conflicts with Levendosky et al.'s (2002) study described above. It is possible that differences in the composition of the samples, measures of peer support or parenting characteristics, or analytic methods may account for these differences, however further investigation is needed to reconcile the inconsistencies across these two sets of results.

Of our five potential parent and peer moderators examined, two did not moderate any relationships: Controlling Parenting and Peer Alienation. It is unclear why neither of these factors had moderating effects for any of the adolescent outcomes; perhaps future research might elucidate the reasons for such differential effects. We note that both of these factors would have likely exacerbated rather than buffered the effects on adolescent outcomes. That is, across all of our analyses, only protective effects were detected.

Our results add to the literature on protective factors for youth exposed to intimate partner violence and identify two critical targets for preventive intervention – peer trust and parental acceptance. Domestic violence shelter based interventions often aim to strengthen battered women's parenting skills. Knowledge regarding the role of parental acceptance and responsiveness in potentially reducing the likelihood of an adolescent running away from home is useful to build into training sessions. Shelter- or community-based interventions for youth exposed to violence in the home might develop sessions designed to build peer trust and reduce adverse outcomes among adolescents.

Limitations

It is important to note that the above cited studies of parenting characteristics only examined maternal parenting characteristics, not paternal parenting. As Parke, Dennis, Flyr, Morris, Leidy, and Schofield, (2005) have observed, "For decades, parenting was typically operationalized as mothering" (p. 103). This may be linked to gendered assumptions about appropriate caregiving roles, but there are also methodological factors that have contributed to the focus on mothering. For example, the focus may be a function of mothers often being the primary (or sometimes sole) caregiver and therefore more likely to be the respondent in research on parenting. Sampling also plays a role. A focus on maternal parenting is to be expected when samples are drawn from populations such as residents of domestic violence shelters. Fathers are not present at those sites, nor would it be safe to contact them about their parenting practices. Although little is known about the potential moderating role of fathers' parenting characteristics, this is an important area for future research (Stover, Van Horn, Turner, Cooper, & Lieberman 2003). In the present study, we examine the moderating role of the primary caregivers' parenting -- in nearly all instances, the primary caregiver was the mother, therefore the focus of the current study was also on mothers. Our focus on mothers should not be taken to imply that mothers who are victims of intimate partner violence are to blame for the effects the intimate partner violence may have on their children.

The caregiver reports of intimate partner violence in the home were obtained during the first wave of data collection, when the children were school age (age 8–11 years). The youth data were obtained during the third wave of data collection at which time youth were asked how often certain behaviors occurred when their parents "had differences". The fact that both caregiver and youth data on intimate partner violence were available offered a

comprehensive, albeit broad measure of intimate partner violence exposure. Our combined data sources permitted our measure to span a youth's lifetime exposure to intimate partner violence, however, because we could not separate distal from proximal exposure, we were not able to examine differential effects based on time of exposure. Future research might examine comparative effects of proximal and distal exposure. Given that youth were reporting on intimate partner violence over a broad time frame, another limitation of our measure of IPV is that demands on respondent recall were significant. The use of retrospective measures of exposure to domestic violence in childhood depends on accurate recall of sometimes very distant childhood events. Memories may be imprecise and incidents may be recalled only selectively (Widom & Shepard, 1996). On average, the youth were 18 years old at the time of the survey, however the upper age range was 23 years, meaning that some had to recall and report on distal childhood experiences of exposure to violence between their caregivers. However, the fact that the rate of intimate partner violence exposure reported by the youth was relatively high, suggests that under-reporting due to lack of recall was not a significant problem in the present study.

Future research

The literature on moderators of the effects of childhood exposure to intimate partner violence on adolescents and young adults remains limited. Investigation of additional potential protective factors would benefit the field. Continuing the conceptual focus on the family as a significant locus of influence, future research might examine family level factors, such as family communication, family resilience, or family socioeconomic status. Future research might also expand the focus from microsystem family and peer factors to broader, environmental sources of resilience, investigating structural factors such as community characteristics, social support, or cultural norms as possible moderators. The impact of a range of social service interventions might also be examined. To capture even more nuanced effects, analyses of these other factors might also consider three-way interaction effects, such as with gender.

There currently is limited knowledge about mediational processes that link exposure to intimate partner violence to later outcomes among adolescents or adults (Moffitt & Caspi, 2003; Widom, 2000). Future research might test theoretically based hypotheses about processes of transmission, such as the mechanisms underlying the intergenerational transmission of violence. Research on that topic could build upon prior evidence that childhood exposure to violence contributes to later perpetration of violence (Crick & Dodge, 1994; E. C. Herrenkohl, Herrenkohl, & Toedter, 1983; T.I. Herrenkohl, Huang, Tajima, & Whitney, 2003; Widom, 2000). For example, future research might examine the possibly mediating role of attachment style on the relationship between childhood exposure to violence and victimization in adolescence or young adulthood. Examination of gender differences in mediational pathways would be an important dimension of future studies in this area.

Conclusions

Results highlight the need to increase awareness of the impact of childhood exposure to intimate partner violence on adolescents and young adults. Exposure to intimate partner violence is predictive of salient adverse adolescent outcomes, some remaining significant (or marginally significant) after accounting for the effects of child abuse and early child behavior problems. The present study found that certain parenting dimensions and peer support measures moderated the effects of exposure to intimate partner violence for a range of adverse adolescent outcomes, suggesting that interventions might productively target both caregiver and peer factors. Results of the current study advance the literature in this area, as

they illustrate the variable effects of exposure to intimate partner violence and underscore the potential impact of interventions, particularly those targeting protective influences. It is critical that we recognize that negative outcomes are not inevitable; prevention and intervention efforts can reduce the adverse effects of exposure to violence during childhood. In particular, the present study underscores that greater attention should be focused on the role of parents and peers in supporting youth in the context of intimate partner violence. Shelter- or community-based supportive parenting skills training could help adult victims of intimate partner violence enhance their children's resilience to the adverse effects of witnessing violence.

Counseling for youth exposed to intimate partner violence might help them strengthen their peer relationships as a protective mechanism to reduce serious and consequential outcomes such as running away from home, high school dropout, and depression in adolescence.

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Table 1**Measures**

Variable (min/max)	Variable Description
Intimate partner Violence Exposure Measures	
IPV Exposure (0=no; 1=yes)	Adolescent and/or parent self-reports. Mother-to-father or father-to-mother physically violent (hit, push, or kick), threatened physical harm, or destroyed something. Dichotomized: "Never" coded as 0; "rarely," "sometimes," or "often" coded as 1.
Adolescent Outcomes	
Violence (0 – 5)	Adolescent self-report. Have perpetrated how many of the following acts: gang fight; hitting one's parents; hitting co-workers, supervisor, or other persons; forced sex; or robbery. Continuous.
Victimization (0=no; 1=yes)	Adolescent self-report. How many times in the past year have experienced: property taken by force; sexually attacked or pressured into sex against one's will; beaten by person other than parents. Dichotomized: any victimization or no victimization.
Runaway (0=no; 1=yes)	Adolescent self-report. Whether ran away from home before age 18 years. Dichotomized.
Depression (0 – 43.0)	Adolescent self-report. Beck et al. (1979) Depression Inventory. Continuous.
High School Dropout (0=no; 1=yes)	Adolescent self-report. Whether dropped out of high school. Dichotomized.
Teen Pregnancy (0=no; 1=yes)	Adolescent self-report. Whether became pregnant or got a girl pregnant. Dichotomized.
Moderators	
Responsive and Accepting Parenting (–2.04 – 1.16)	Adolescent self-report of parenting. Ten items e.g., "My parents respect my feelings," "My parents accept me as I am". <i>Standardized alpha</i> = .85. Continuous scale.
Controlling Parenting (–1.49 – 1.62)	Adolescent self-report of parenting. Seven items e.g., "It is difficult to get a rule changed in our family," "Each family member has input in major family decisions" (reverse coded). <i>Standardized alpha</i> = .74. Continuous scale.
Peer Trust (1 – 5)	Adolescent self-report. Subscale of Armsden & Greenberg (1987) Inventory of Parent and Peer Attachment. <i>Standardized alpha</i> = .88. Continuous scale.
Peer Communication (1 – 5)	Adolescent self-report. Subscale of Armsden & Greenberg (1987) Inventory of Parent and Peer Attachment. <i>Standardized alpha</i> = .88. Continuous scale.
Peer Alienation (1 – 4.57)	Adolescent self-report. Subscale of Armsden & Greenberg (1987) Inventory of Parent and Peer Attachment. <i>Standardized alpha</i> = .75. Continuous scale.
Control Variables	
Child abuse (0=no; 1=yes)	Composite variable: (a) official records of substantiated abuse cases; (b) mothers' reports of their severe physical disciplining of their preschool and school-age children; and (c) adolescents' retrospective reports of those same discipline practices. Dichotomized.
Early Behavior Problems (1.00 – 2.86)	Teacher report of child behavior (school-age) using Child Behavior Check List scale. Items: e.g., aggression, cruelty, disobedience. α = .89. Continuous scale.
Gender (0=female; 1=male)	Adolescent self-report. Dichotomized.
Race (0= racial/ethnic minority; 1=white)	Adolescent self-report. Dichotomized.
SES (–1.36 – 2.29)	Parent self-report. Composite variable: Includes family income during preschool period, mother's occupational status and education level, and total number of rooms in family's house. Continuous.
Age (14 – 23)	Adolescent self-report. "So, that makes you how old now?" Continuous.

Table 2

Descriptive Statistics

Variable	% or Mean (SD)	Variable	% or Mean (SD)
IPV Exposure	77.5%	Peer Trust	4.14 (.69)
Youth violence	1.00 (1.10)	Peer Communication	3.69 (.78)
Victimization	73.7%	Peer Alienation	2.04 (.65)
Runaway	33.3%	Child abuse	75.5%
Depression	10.65 (7.99)	Early Child Behavior Problems	1.43 (.45)
High School Dropout	34%	Gender (male)	54.3%
Teen Pregnancy	32.5%	Race (white)	75.5%
Responsive and Accepting Parenting	0.00 (.65) <i>standardized</i>	SES	0 (.82) <i>Standardized</i>
Controlling Parenting	-0.02 (.63) <i>standardized</i>	Age	18.23

Table 3
Adolescent Outcomes Predicted by Exposure to Intimate Partner Violence (IPV) (OLS and Logistic regression)

	Violence (continuous) OLS	Depression (continuous) OLS	HS Dropout (dichotomous) Logistic reg.	Runaway (dichotomous) Logistic reg.	Victimization (dichotomous) Logistic reg.	Pregnancy (dichotomous) Logistic reg.
Bivariate regressions of IPV on outcomes						
IPV	B=-.41* SE .13	B=-2.16* SE .97	B=1.00** SE .29	B=.64* SE .28	B=.71** SE .26	B=.60 SE .28
			OR 2.71	OR 1.89	OR 2.04	OR 1.83
Multivariate regressions of IPV on outcomes, controlling for child abuse and early child behavior problems						
Child Abuse	B=-.08 SE .12	B=-1.04 SE .92	B=.06 SE .25	B=.21 SE .25	B=.54* SE .27	B=.50* SE .25
			OR 1.06	OR 1.24	OR 1.72	OR 1.65
Early Child Behavior Problems	B=-.56*** SE .14	B=-2.94** SE 1.01	B=1.61*** SE .30	B=.92*** SE .27	B=.34 SE .31	B=.83* SE .27
			OR 5.00	OR 2.51	OR 1.40	OR 2.29
IPV	B=-.25+ SE .14	B=-1.66 SE 1.08	B=.88* SE .34	B=.50 SE .32	B=.49+ SE .29	B=.42 SE .32
			OR 2.42	OR 1.65	OR 1.63	OR 1.53
Multivariate regressions of IPV on outcomes, controlling for child abuse, early child behavior problems, and covariates						
Child Abuse	B=-.06 SE .13	B=-.07 SE .91	B=-.44 SE .29	B=-.02 SE .26	B=.48+ SE .29	B=.14 SE .28
			OR .65	OR .99	OR 1.62	OR 1.15
Early Child Behavior Problems	B=-.43** SE .14	B=-1.69+ SE 1.01	B=1.36*** SE .33	B=.76*** SE .29	B=.16 SE .32	B=.71* SE .31
			OR=3.91	OR 2.14	OR 1.17	OR 2.03
Gender	B=-.52*** SE .12	B=-.96 SE .86	B=.23 SE .29	B=.42 SE .26	B=-.45+ SE .26	B=1.05*** SE .28

	Violence (continuous) OLS	Depression (continuous) OLS	HS Dropout (dichotomous) Logistic reg.	Runaway (dichotomous) Logistic reg.	Victimization (dichotomous) Logistic reg.	Pregnancy (dichotomous) Logistic reg.
			OR 1.25	OR 1.52	OR .64	OR 2.87
SES	B= -.14 + SE .08	B= -3.37 *** SE .59	B= -1.78 *** SE .33 OR .17	B= -.56 ** SE .20 OR .57	B= .18 SE .17 OR .83	B= -.83 ** SE .25 OR .44
Race	B= .08 SE .14	B= .00 SE 1.02	B= -.08 SE .31 OR .93	B= -.01 SE .29 OR .99	B= -.15 SE .33 OR .89	B= -.34 SE .30 OR .71
Age	B= -.02 SE .04	B= -.20 SE .25	B= .47 *** SE .10 OR 1.60	B= .16 * SE .08 OR 1.17	B= -.02 SE .08 OR .98	B= .42 *** SE .09 OR 1.52
IPV	B= .26 + SE .14	B= .29 SE 1.06	B= .52 SE .39 OR 1.69	B= .23 SE .33 OR 1.26	B= .46 SE .31 OR 1.59	B= -.08 SE .37 OR .93

+ p<.10

* p<.05

** p<.01

*** p<.001

Note: All B values are unstandardized.

Table 4
Significant Moderator Relationships (OLS or Logistic Regression models with interaction terms)

	Accepting Parenting	Controlling Parenting	Peer Trust	Peer Alienation	Peer Communication
Violence (<i>continuous</i>) OLS	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Depression (<i>continuous</i>) OLS	<i>ns</i>	<i>ns</i>	$p < .10$	<i>ns</i>	$p < .05$
HS Dropout (<i>dichotomous</i>) Logistic reg.	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	$p < .05$
Runaway (<i>dichotomous</i>) Logistic reg.	$p < .05$	<i>ns</i>	$p < .10$	<i>ns</i>	$p < .05$
Victimization (<i>dichotomous</i>) Logistic reg.	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>
Pregnancy (<i>dichotomous</i>) Logistic reg.	$p < .05$	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>

Table 5

Illustrative predicted probabilities (or scores, for continuous variables) for adolescent outcomes among youth exposed to intimate partner violence

Outcome	Moderator	+1 SD Value (high score on moderator) –1 SD Value (low score on moderator)	Predicted Probability Or (Predicted Score)
Pregnancy	Accepting Parenting	.648	.19
		–.648	.30
Runaway	Accepting Parenting	.648	.15
		minus;.648	.48
Runaway	Peer Communication	4.468	.29
		2.910	.32
Runaway	Peer Trust	4.831	.30
		3.447	.32
Depression	Peer Trust	4.831	(9.04)
		3.447	(12.54)
Depression	Peer Communication	4.468	(9.93)
		2.910	(11.64)
Dropout	Peer Communication	4.468	.20
		2.910	.28