

INTERSECTION OF CHILD ABUSE AND CHILDREN'S EXPOSURE TO DOMESTIC VIOLENCE

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This review addresses research on the overlap in physical child abuse and domestic violence, the prediction of child outcomes, and resilience in children exposed to family violence. The authors explore current findings on the intersection of physical child abuse and domestic violence within the context of other risk factors, including community violence and related family and environmental stressors. Evidence from the studies reviewed suggests considerable overlap, compounding effects, and possible gender differences in outcomes of violence exposure. The data indicate a need to apply a broad conceptualization of risk to the study of family violence and its effects on children. Further testing of competing theoretical models will advance understanding of the pathways through which exposure leads to later problems in youth, as well as protective factors and processes through which resilience unfolds.

Key words: *child abuse; exposure to domestic violence; co-occurrence; youth outcomes; resilience*

CHILDREN SUBJECTED TO CHILD ABUSE are often exposed to other forms of risk, including co-occurring exposure to domestic violence (DV) and environmental stressors. Often, these different sources of risk are examined separately

in research studies. For example, studies of developmental outcomes for youth typically focus on child abuse apart from childhood exposure to DV. Consequently, little is known about how these and other risks “work” in the

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KEY POINTS OF THE RESEARCH REVIEW

- Co-occurrence of child abuse and domestic violence (DV) exposure
 - There is considerable evidence that DV and child abuse often co-occur.
 - The rate of overlap or strength of association varies, though the relationship remains consistent.
- Factors associated with child abuse and exposure to DV
 - Family factors include poverty, parental unemployment, substance abuse, mental illness, crime, financial or parenting stress, poor health, and lower education.
 - Environmental factors include poverty, neighborhood disadvantage, and violence outside the home.
- Consequences of child abuse and children's exposure to DV
 - Emotional consequences include isolation, shame, fear, guilt, and low self-esteem.
 - Psychological consequences include post-traumatic stress disorder, anxiety, and depression.
 - Behavioral consequences include eating disorders, teen pregnancy, school dropout, suicide attempts, delinquency, violence, and substance use.
 - Relational consequences include less secure attachments, poor conflict resolution skills, and vulnerability to further victimization or perpetration of violence.
- Unique effects of child abuse and DV exposure
 - Few studies have sought to disentangle the unique and combined effects of child abuse and DV exposure.
 - Evidence is mixed, with some studies showing that certain outcomes may be more strongly linked with one or the other risk factor.
- Compounding effects of child abuse and DV exposure
 - Several studies show a “double whammy” effect, in which children exposed to both DV and child abuse fare worse than those exposed to only one risk factor.
 - Whether exposure to violence outside the home further compounds such effects is unclear.
- Gender differences
 - Few studies have systematically investigated whether effects of DV exposure and child abuse differ between male and female children.
 - Existing evidence is inconsistent, although suggestive of male–female differences for some outcomes.

- Protective factors and resilience
 - Individual characteristics include high intelligence, internal locus of control, positive self-image and self-esteem, a determination to be different from one's abusive parent(s), and a strong commitment to school.
 - Family or abuse-related characteristics include a positive perception of one's mother, at least one stable caregiver, sporadic as opposed to chronic child abuse by an otherwise supportive parent, and positive parenting characteristics.
 - Community characteristics include a positive relationship with a caring, nonabusive adult; having parents or peers who disapproved of antisocial behavior; involvement with religious community; and peer support.
- Developmental studies and mechanisms related to the transmission of violence and related outcomes
 - Family violence and other risks for children are rarely studied as part of a specified theory or conceptual model.
 - Some studies have looked at cognitive or social processes as moderators.
 - Hypotheses emerge from attachment theory, cognitive and social learning theory, and social developmental perspectives.

prediction of developmental outcomes, whether their effects on later development are comparable in strength, and whether gender influences the associations between risk factors and outcomes. There are also children, referred to as resilient, who appear to experience the same risks without significant or long-term impairment, but why? In this literature review, we examine research on these issues and highlight implications for practice and areas for further research.

To identify relevant research articles, we used known resources on the identified topics (e.g., reference lists of books, current reviews of research) and searched several databases for relevant empirical studies, including PsycInfo (OVID), Social Work Abstracts, and Medline. Search terms included *child abuse* and *exposure to domestic violence*, *co-occurrence*, *double whammy*, *dual effects*, and *family violence*. These terms were used separately and in combination to arrive at well over 500 articles. Articles were examined initially to determine their fit and relevance to

the review and then abstracted using a common template. Key points of this research review are listed at the beginning of this article, and implications for practice, policy, and research are listed at its conclusion.

REVIEW OF RESEARCH

Rates of Child Abuse and Exposure to DV

In 2005, approximately 3.3 million referrals for alleged maltreatment were made to child protective service agencies (U.S. Department of Health and Human Services, 2007). From these, an estimated 899,000 children in the United States were officially documented as having been maltreated. Children from birth to age 3 have the highest rate of victimization, and slightly more than half of all victims are girls (50.7%). Data from 2004 indicate a similar number of documented cases (906,000). In both years, physical child abuse was second to neglect in overall prevalence. By most accounts, these figures represent just a fraction of all abuse and neglect cases in a given year, with numerous acts of child maltreatment going unreported to protective service agencies (U.S. Department of Health and Human Services, 2006).

Data on the prevalence of children's exposure to DV are also alarming, although there is considerable variation in reported estimates. According to the first National Family Violence Survey, conducted in 1975, approximately 3 million children witnessed spousal abuse each year in the United States, including minor to more serious acts of aggression in which injuries and weapon use are involved (Carlson, 1984; Straus, Gelles, & Steinmetz, 1980). Retrospective reports from adult respondents of the second National Family Violence Survey, conducted in 1985, showed an incident rate closer to 10 million children (Straus, 1992). Prevalence estimates from several retrospective studies of students and adults in the general population are also available (Dong et al., 2004; Silvern et al., 1995). For example, Dong et al.'s (2004) investigation of adverse childhood events for 8,600 adult members of the Kaiser Health Plan found that 24% ($n = 2,081$) of those

sampled recalled having been exposed to DV before age 18. DV exposure in that study involved individuals' recollections of their fathers (or stepfathers) having abused (e.g., pushed, grabbed, slapped, hit, or threatened) their mothers (or stepmothers). As with rates of exposure, what constitutes and/or defines DV also differs from one study to another, although common criteria include a child's visual or auditory witnessing of violence; his or her witnessing of consequences such as injuries, household damage, and police involvement; or the child's being otherwise aware of violence in the home (Guterman, 2004; Holden, 1998).

Co-Occurrence of Child Abuse and DV Exposure

It is known that child abuse and DV often co-occur; that is, in families in which one form of violence is present, there is an increased risk for the other (Appel & Holden, 1998; Fantuzzo, Boruch, Beriama, Atkins, & Marcus, 1997; McCloskey, Figueredo, & Koss, 1995; Moffitt & Caspi, 2003; Straus, 1990). Findings from Felitti et al.'s (1998) retrospective study of adult health maintenance organization participants showed that individuals who retrospectively reported having been exposed to one form of violence (e.g., physical abuse or DV) often were exposed to multiple other adversities. Dong et al.'s (2004) analyses of these data found that the likelihood was significantly higher of an individual's having experienced some form of child maltreatment when there was DV in the home. In that study, the prevalence of physical child abuse was 57.5% for adults who reported earlier DV exposure and 21.7% for those who reported no prior exposure.

In their often cited review of studies involving battered women, Appel and Holden (1998) found a median rate of co-occurrence between child abuse and DV of 41%, although in some studies included in the review, rates of overlap were even higher. Correlations between child and spouse abuse were moderate to strong ($r = .28$ to $.56$). Renner and Slack's (2006) recent examination of retrospective data on childhood physical abuse and exposure to intimate partner violence for a sample of welfare families

showed a correlation of .52, within the range suggested by Appel and Holden's earlier review. The findings of other literature reviews and primary research studies are generally consistent, with some variation here as well in rates of overlap and the strength of associations among the measured constructs (Edleson, 2001; Gewirtz & Edleson, 2007; Osofsky, 1999; Tajima, 2000). For example, in their study of a birth cohort from Dunedin, New Zealand, Moffitt and Caspi (2003) found that the risk for abuse among children in homes in which parents physically fought was 3 to 9 times higher than for other children in the study. Osofsky (1999) reported an increased risk for abuse and neglect even greater: 15 times the national average in homes in which DV occurred. In general, estimated rates of co-occurrence for DV and child abuse within community samples are lower than for targeted, high-risk samples (e.g., samples from shelters and child welfare settings), but they are substantial nonetheless (Appel & Holden, 1998).

Factors Associated With Child Abuse and Exposure to DV

Although evidence of the co-occurrence of child abuse and DV exposure is compelling, it appears that these are among the numerous other risk factors encountered by some families (Fantuzzo et al., 1997; Margolin & Gordis, 2000). Fantuzzo et al.'s (1997) multisite study of misdemeanor DV cases found that in households in which DV was present, poverty, parental unemployment, and substance abuse also were more common. Similarly, Dong et al. (2004) found that among those who reported one or more forms of child maltreatment and/or prior DV exposure, the prevalences of prior substance use, mental illness, and crime in the family also were higher. Elsewhere, Hartley (2002) found that the co-occurrence of DV and physical child abuse was related to fathers' use of drugs, alcohol, and arrest for criminal offenses involving something other than DV. Tajima (2004) also found overlap in DV exposure, child abuse, and substance use within the family; other factors related to the co-occurrence of abuse and DV in that study

included lower education, poor health, and depression in the family.

Poverty (including low socioeconomic status [SES]) has perhaps been most well documented as a correlate of overlapping forms of violence (Gewirtz & Edleson, 2007; Herrenkohl, Egolf, & Wu, 1991; Lee, Kotch, & Cox, 2004), although there is evidence as well of an association between family violence and related context factors, such as neighborhood disadvantage (e.g., low income, crime, disorganization) and violence outside the home (Margolin & Gordis, 2000).

In our work on the Lehigh Longitudinal Study, a prospective study of abusive and comparison families, we have examined the intersection of abuse and children's exposure to DV, as well as the overlap of these and other co-occurring risk factors for children. Participants of the study were assessed over a 15-year period and recruited originally from child welfare abuse and protective service programs, as well as Head Start, day care programs, and nursery programs ($n = 457$, 54.3% male). In the first two assessments, completed when children were of preschool and elementary school ages, parent caregivers were asked (on a scale ranging from 1 = *none of the time* to 4 = *all of the time*) about the presence of 39 stressors within and outside the household, such as an insufficient income, parental unemployment, physical and mental illness in the family, alcohol and drug use in the family, parental criminality, overcrowding in the home, breakup of the family, child behavior problems, a lack of social support, a lack of community resources, housing problems or recent or frequent family moves, conflicts with neighbors, and community crime and violence. Variables were combined using a principal components analysis, which yielded three composite measures: Family conflict included marital problems, marital conflict, parent alcohol use or abuse, and other negative aspects of family life, such as unemployment and an insufficient income (items of this measure do not address child abuse or DV per se). A second factor, personal problems reported by parents, was defined by parents' unfulfilled ambitions, lack of privacy, loneliness, and other related difficulties. A third factor, external constraints, was

defined mainly by characteristics of the household in relation to the surrounding community (e.g., crime in the neighborhood, a lack of home conveniences, physical remoteness) (Herrenkohl & Herrenkohl, 2007).

In this study, we examined associations among these three composite variables and five indicators of child maltreatment or victimization, including physical child abuse and DV exposure (the study also included sexual abuse and neglect). The results showed modest to strong correlations among the variables. For example, physical child abuse was positively correlated with a child's having been exposed to DV ($r = .16, p < .01$). The correlations of physical child abuse and each of the above composite "stressor" variables were also significant (with family conflict, $r = .18, p < .01$; with personal problems, $r = .16, p < .01$; and with external constraints, $r = .12, p < .05$). Similar results were shown for DV exposure (with family conflict, $r = .25, p < .001$; with personal problems, $r = .14, p < .01$; and with external constraints, $r = .14, p < .01$). The correlation of all indicators of child maltreatment and stressors combined as latent constructs was strong and statistically significant ($r = .71, p < .001$).

Margolin and Gordis's (2003) study of a small community sample of families also provided evidence of a link between family violence and other risks. The researchers examined a stress moderation effect in which child abuse potential among caregivers (for those perpetrating or being victimized by violence) increased linearly with financial and parenting stress. The data showed that husband-to-wife aggression was associated with the likelihood of child abuse in the presence of high, but not low, stress. Wife-to-husband abuse was linked only to mothers' potential for child abuse in the presence of elevated stress within the family.

In sum, there is relatively strong evidence of an overlap of childhood abuse and DV exposure, as well as an association between these and other risks within and outside the home. By taking a more comprehensive approach that examines family violence in context, it is possible to develop a more complete picture of the vulnerability of families and hardship faced by many children (Daro, Edleson, & Pinderhughes,

2004). Although limited to relatively few studies, results suggest that children in violent homes encounter additional adversities that place them at risk for a variety of problems later in life. These include low SES, neighborhood disadvantage, and parents' harmful use of drugs and alcohol (Fantuzzo et al., 1997). Examining how these risk factors operate in combination is an important first step toward developing interventions and policy-level change efforts to improve the lives of disadvantaged children and families (Daro et al., 2004; Guterman, 2004). Equally important is learning about resilience and protective factors that buffer against the effects of risk exposure (Masten, 1994, 2001). We turn to both topics next, addressing first what studies show with regard to the many short- and longer term consequences of direct and indirect exposure to violence.

Consequences of Child Abuse and Children's Exposure to DV

Although prospective longitudinal studies on the consequences of child abuse and children's exposure to DV are rare, the findings of several studies suggest a range of adverse social and emotional consequences for those who have been abused and/or exposed to DV (Gewirtz & Edleson, 2007). For child abuse, the evidence is particularly strong: Young victims of physical abuse routinely experience feelings of isolation, shame, fear, and guilt following the disclosure of one or more forms of abuse (Osgood & Chambers, 2000; Widom, 2000). Symptoms of post-traumatic stress disorder (PTSD), anxiety, and depression also are found more often than the norm in abuse victims during and after abuse has been disclosed (McLeer, Callaghan, Henry, & Wallen, 1994; McLeer et al., 1998). In adolescence, those who were abused as children are more likely than are others to drop out of school before completion (Widom, 2000), become pregnant at a young age (Herrenkohl, Herrenkohl, Egolf, & Russo, 1998), suffer from depression (Fergusson, Horwood, & Lynskey, 1996; Widom, 2000; Wolfe, 1999; Wolfe, Scott, Wekerle, & Pittman, 2001), attempt suicide (Fergusson et al., 1996), and engage in delinquency, violence, and substance

use (Fergusson et al., 1996; Fergusson & Lynskey, 1997; Hawkins et al., 1998; Herrenkohl, Egolf, & Herrenkohl, 1997; McCabe, Lucchini, Hough, Yeh, & Hazen, 2005; Smith & Thornberry, 1995; Widom, 2000; Wolfe, 1999).

Childhood exposure to DV appears to produce many of the same developmental consequences, although these are generally less well documented. For example, children exposed to DV have higher than average rates of cognitive, psychological, and emotional impairments (Fantuzzo et al., 1997). Long-term developmental problems, such as low self-esteem, depression, anxiety, physical aggression, and school failure, also appear more common among children in homes with DV (Edleson, 1999; Fantuzzo et al., 1997; Graham-Bermann, 1998; Hughes, 1988; Lichter & McCloskey, 2004; Litrownik, Newton, Hunter, English, & Everson, 2003; McCloskey et al., 1995; McCloskey & Lichter, 2003; Moffitt & Caspi, 2003; Sudermann & Jaffe, 1997).

There is some evidence of even longer term, adulthood consequences, although here, studies are limited primarily to physical and sexual abuse. For example, as adults, child abuse victims face increased risks for depression (Beitchman et al., 1992; Felitti et al., 1998; Styron & Janoff Bulman, 1997; Widom, 2000; Wiederman, Sansone, & Sansone, 1999), eating disorders and other health problems (Beitchman et al., 1992; Felitti et al., 1998; Hulme, 2000; Kang, Magura, Laudet, & Whitney, 1999), drug use and alcoholism (Felitti et al., 1998; Widom, 2000; Widom, Ireland, & Glynn, 1995), and criminality (Kang et al., 1999; Widom, 2000). In addition, there is evidence that individuals who were victims of abuse are less securely attached to their romantic partners, have poorer conflict resolution skills, and become vulnerable to further victimization and perpetration of violence (Cunningham, 2003; Ehrensaft et al., 2003; Herrenkohl, Herrenkohl, & Toedter, 1983; Hotaling & Sugarman, 1986; Styron & Janoff Bulman, 1997; Widom, 2000). Unfortunately, there have been few parallel, independent investigations of adult outcomes of DV exposure. The need for additional prospective studies of both abuse and DV effects is clear, especially those that extend into the adult years (Gewirtz & Edleson, 2007).

Unique effects of child abuse relative to DV exposure. Because DV exposure and childhood abuse have been researched mainly as independent risk factors (Litrownik et al., 2003; McCloskey et al., 1995; National Research Council, 1993, 1998), knowledge is limited as to whether they each exert unique effects on outcomes and, if so, whether their effects are comparable in strength. Edleson (1999) noted that a common problem in DV research is a tendency to draw conclusions about the effects on children of having witnessed DV when those effects may be more directly attributable to their having been abused. Poorly estimated and inaccurate results are, of course, also possible if child abuse is studied apart from co-occurring DV exposure. In that there is considerable overlap in these and other risk factors and environmental stressors (e.g., problems within the family, poverty, community factors), an even more comprehensive approach to the study of variables—risks and outcomes—is warranted (Buka, Stichick, Birdthistle, & Earls, 2001; Margolin & Gordis, 2000).

Just a few studies have investigated child abuse and DV exposure combined. One example is McCabe et al.'s (2005) investigation of the link between earlier abuse, DV exposure, and conduct disorder (CD) among adolescents served by public service agencies. Data on lifetime abuse (and neglect) and adolescents' exposure to DV were collected approximately 2 years before the assessment of adolescent CD. The results showed an effect on CD of maltreatment after controlling for DV exposure and prior conduct problems. Exposure to violence in the community also was independently predictive of later CD, yet DV exposure by itself was not predictive. Maughan and Cicchetti (2002) also found that co-occurring child abuse accounted for the effect of DV exposure when considering later conduct problems among youth.

In the Lehigh Longitudinal Study, we have begun to explore the unique consequences of children's co-occurring abuse and exposure to DV. For example, in a previously mentioned analysis of the data, we examined the unique and combined effects of these on later internalizing and externalizing behaviors measured in adolescence (Herrenkohl & Herrenkohl, 2007).

Although DV exposure predicted later youth outcomes as an indicator of general child maltreatment, only physical and sexual abuse were found to have specific effects above and beyond that general construct. However, in another analysis of the data set, Tajima, Herrenkohl, Huang, and Whitney (2004) found independent effects of children's retrospectively reported exposure to DV for outcomes that included adolescent depression, teenage pregnancy, running away from home, high school dropout, and criminal victimization. Analyses in that study controlled for co-occurring physical child abuse but did not examine its specific effects.

Several other studies provide relevant findings. For example, Herrera and McCloskey (2001) found that childhood exposure to DV was actually more important as a predictor of youth delinquency (offending) than earlier child abuse. Similarly, Cunningham (2003) showed that whether an individual was directly abused as a teenager (physically punished, hit, or slapped) mattered less to an individual's risk for later perpetration of abuse than did the experience of having witnessed violence in the home, alone or in combination with abusive punishment.

In sum, evidence on the unique effects of DV exposure and child abuse is mixed, although it appears from several studies that certain outcomes may be more strongly linked to one or the other risk factor. One possibility is that conduct problems among adolescents, which often include some form of recurrent aggression, are more strongly linked to direct (physical) abuse than to DV exposure. If this holds true, implications for prevention and intervention would be worth considering. One possibility is that programs could be tailored to the needs of children on the basis of which form of violence they encountered or whether they were exposed to both child abuse and DV. For example, those serving physically abused children might emphasize training in social problem solving and conflict resolution skills over other approaches, given the strong link between this form of intervention and reduced risk for conduct problems in youth (Institute of Medicine, 1994). Yet because of the high rate of co-occurrence in abuse and DV exposure, the

feasibility of a more targeted or tailored intervention approach is unclear.

Perhaps in cases in which findings across studies are inconsistent, differences in sample composition (e.g., targeted vs. community samples), operational definitions of key variables, and other method effects (e.g., the use of cross-sectional vs. longitudinal data) are at play. In any event, further comparative analyses are needed to establish the degree of overlap and relative strength of each as a risk factor for later outcomes. Analyses using prospective longitudinal data are, of course, better than cross-sectional studies for establishing the temporal ordering of variables under study. Yet cross-sectional studies can also be of use, especially when focusing on within-time measures of co-occurring forms of violence and the surrounding context (Guterman, 2004).

Compounding effects of child abuse and a child's exposure to DV. A question related to the topic of independent prediction is one of compounding effects: Is the effect of child abuse and DV exposure worse in combination? On this question, there is some evidence that children who are exposed to DV and childhood abuse fare worse in later life than those who experience only one form of violence (Hughes, Parkinson, & Vargo, 1989; McCloskey et al., 1995; Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffe, 2003); this has been termed a "double whammy" effect (Hughes et al., 1989). In one study of children residing in a battered women's shelter, Hughes et al. (1989) found that children who had witnessed violence and had been physically abused had higher internalizing and externalizing symptom scores than those who had only witnessed violence. McCloskey et al. (1995) arrived at a similar conclusion. Felitti et al.'s (1998) cross-sectional study of adults found that the number of serious health risk indicators for individuals increased linearly with their number of childhood exposures to violence (including DV and direct abuse). Edwards, Holden, Felitti, and Anda (2003) described a dose-response relation between the number of types of maltreatment and mental health scores. In another cross-sectional study by Graham-Bermann and Seng (2005), analyses showed that childhood exposure to

abuse and DV predicted child health problems above and beyond several demographic variables, including a child's sex, SES, and maternal substance use.

Furthermore, Cunningham's (2003) analysis of data from the 1985 National Family Violence Survey showed a compounding effect on later risk for perpetrating abuse of an individual's having been physically punished and having witnessed interparental violence. Heyman and Slep's (2002) analysis of these data examined the effect of an individual's childhood exposure to family violence (direct abuse and exposure to interparental violence) and his or her current use of violence as an adult partner and caregiver to children. For fathers and mothers both, there was an association between having experienced violence as children and their later abuse of their own children. However, only for women was there a further elevation in risk for current abuse due to their having been exposed to multiple versus a single form of violence. Similar findings were shown with current partner violence as an outcome. Finally, Appleyard, Egeland, van Dulman, and Sroufe (2005) determined that children with increasing numbers of risk factors, including abuse and exposure to DV, exhibited more externalizing problems than children with fewer risks overall.

The extent to which exposure to violence outside the home further elevates a child's risk for psychosocial problems beyond that associated with violence exposure within the home is unclear from existing research, although there is evidence of an increasing level of risk when children exposed to violence in the community simultaneously encounter problems in the home (e.g., instability, lack of safety; Gorman-Smith & Tolan, 1998). Evidence from several studies suggests that parenting behaviors can mediate the effects of community violence exposure so that child outcomes depend in part on the degree to which children experience warmth and consistent prosocial discipline (Margolin & Gordis, 2000). Evidence here would suggest that positive parenting lessens the risk for adverse outcomes for children exposed to community violence; conceivably, then, poor and/or abusive practices would further elevate that risk (Gorman-Smith & Tolan, 1998; Margolin & Gordis, 2000). Indicative

also of a potential compounding effect of community violence exposure are findings from studies that show a linear increase in the likelihood and/or frequency of negative youth outcomes with additional risk exposures (Hawkins et al., 1998; Herrenkohl et al., 2000; Sameroff, Bartko, Baldwin, Baldwin, & Seifer, 1998; Sameroff, Gutman, & Peck, 2003).

Gender differences. An important and still emerging area of research focuses on gender differences in child outcomes of family violence, which Widom (1998) identified as an area largely overlooked in the family violence literature. Some have hypothesized that the consequences of direct abuse for girls and boys are expressed in different ways. For example, some research shows that boys are more prone to develop externalizing behaviors such as aggression, impulsivity, and defiance in response to abuse, whereas girls are at risk for internalizing problems, including depression, low self-confidence, and social withdrawal (Widom, 1998). However, not all findings support this pattern. For example, several studies have failed to detect gender differences in behaviors such as aggression in youth previously exposed to violence (McCloskey & Lichter, 2003). Some research suggests that boys are more sensitive than girls to the effects of family violence, although other research contradicts this conclusion (Yates, Dodds, Sroufe, & Egeland, 2003).

Relatively few studies have examined gender differences in the long-term outcomes of violence exposure in children. In their study of young adults from the Dunedin Longitudinal Study, Magdol, Moffitt, Caspi, and Silva (1998) found that harsh discipline at ages 7 to 9 (smacking or hitting a child, hitting a child with something, trying to frighten a child, threatening to smack or deprive a child) predicted later partner violence perpetration and victimization for women (at age 21). For men, however, harsh discipline was not associated with these outcomes, which appears inconsistent with the internalizing-externalizing hypothesis referenced above. Elsewhere, Widom (2000) found that abuse was predictive of later alcohol problems for women but not men. Widom (1998) found that men with histories of abuse were at

risk for antisocial personality disorder in adulthood, whereas women were not.

Heyman and Slep's (2002) study is among the few that have systematically investigated gender differences in childhood exposure to DV (interparental conflict) in particular. In that study, women appeared more susceptible to the effects of multiple and differing forms of prior violence. For men, but not women, current violence perpetration was uniquely associated with their having witnessed violence perpetrated by their fathers toward their mothers. For women who were not exposed to father-to-mother abuse as children, increased exposure to mother-to-father abuse elevated the likelihood of their own use of violence with their children. Although few in number, these studies do raise the possibility that long-term outcomes of family violence (direct abuse and exposure to DV) differ to some degree by child gender. However, given the inconsistencies in measures and findings, further investigation is needed.

Protective Factors and Resilience From Abuse and Exposure to Violence

The final sections of this review focus on resilience, protective factors, and processes leading from early risk exposure to later outcomes. Resilience refers to an end-point identification of a child's having overcome early risk exposure (i.e., achieved positive outcomes or avoided negative outcomes). Protective factors are those qualities of the individual, experiences, and aspects of a child's social environment that increase the likelihood of resilience on the part of those exposed to earlier risks. Yet despite long-standing interest in the topics of resilience and protection (Gewirtz & Edleson, 2007; Kaufman & Zigler, 1989; Luthar, Cicchetti, & Becker, 2000; Masten, Best, & Garmezy, 1990; Rutter, 2001; Trickett, Kurtz, & Pizzigati, 2004; Werner & Smith, 1992; Wolin & Wolin, 1993), only a handful of well-designed studies are available.

Among those studies reviewed, the following are factors that appear to protect against the long-term effects of child abuse: high intelligence on the part of a child, internal locus of

control, positive self-image or self-esteem, and a determination to be different from one's abusive parents (Bolger & Patterson, 2001; Cicchetti, Toth, & Rogosch, 2000; Herrenkohl, Herrenkohl, & Egolf, 1994; Trickett et al., 2004). Evidence also suggests that a positive relationship with a caring, nonabusive adult can reduce the likelihood for some of these negative outcomes (Lynskey & Fergusson, 1997; Masten et al., 1990; Trickett et al., 2004; Widom, 2001). Furthermore, Toth, Cicchetti, and Kim (2002) found that maltreated children who maintained higher positive perceptions of their abusive mothers had fewer internalizing and externalizing behavior problems than maltreated children with less positive perceptions of their mothers.

In the Lehigh study, we have identified several factors that distinguish resilient from nonresilient adolescents raised in families in which abuse and neglect had been present in earlier assessments (Herrenkohl et al., 1994). For example resilient youth were found to be of average or above average intelligence; to have had at least one stable caretaker present; and to have been the victims of sporadic, but not chronic, abusive discipline at the hands of otherwise supportive parents or surrogate caregivers. In a more recent analysis of the data, Herrenkohl, Tajima, Whitney, and Huang (2005) found that among abused children, having a strong commitment to school, having parents and peers who disapprove of antisocial behavior, and being involved in a religious community lowered rates of lifetime violence, delinquency, and status offenses. As hypothesized, exposure to an increasing number of protective factors for each outcome resulted in a stronger diminution in risk.

There have been few investigations of resilience in children exposed only to DV or to DV in combination with abuse (Gewirtz & Edleson, 2007; Hughes, Graham-Bermann, & Gruber, 2001). One relevant study by Tajima, Herrenkohl, and Moylan (2007) found that the association between exposure to DV and certain adverse youth outcomes was moderated by parenting characteristics and adolescent peer support. For example, among youth whose mothers were highly accepting and responsive (e.g., respect for child's feelings, acceptance of the

child for who he or she is) the relationship between exposure to DV and risk for dropping out of high school was reduced significantly. Measures of adolescent peer support (i.e., peer trust, communication, and alienation from peers) consistently moderated the relationship between DV exposure and later depression.

Developmental studies and mechanisms related to the transmission of violence. Review of current research suggests that risks and outcomes of family violence are rarely integrated into a developmental model, although theory may inform hypotheses that are tested. More often, studies of risks and outcomes unfold as empirical investigations leading to further model testing and theory development. In many instances, theory testing is not possible given a study's cross-sectional design and/or other limiting features. However, the tendency to examine variables apart from theory has slowed progress toward developing evidence-based prevention and intervention programs because the mechanisms that link risks to outcomes are unclear; thus, targets of risk reduction are known, but leverage points (shown in tests of mediation and or moderation of risk factors) beyond initial risk exposure are not.

There are a relative few studies from which to draw implications for further theory testing and practice. For example, Dodge, Bates, and Pettit (1990) and Dodge and Pettit (2003) studied the relation between child maltreatment and cognitive and social processes linked to later use of aggression and violence. They found that youth who had been abused had a tendency to overattribute hostile intentions to others and were more likely to judge the use of their own aggression more positively. Egeland, Yates, Appleyard, and van Dulmen (2002) found that "emotional alienation" (the level of avoidance of the primary caregiver, a lack of trust, and low seeking of support and guidance) was a strong mediator of earlier abuse on later externalizing behaviors in youth. Elsewhere, Pears and Capaldi (2001) tested several hypotheses about potential mediators of parents' history of abuse. Although parental psychopathology and inconsistent discipline of children were shown to predict recurrence of abuse in the next generation, these

variables did not fully explain the relationship between prior and later abuse.

Studies of attachment in young children have shown that those raised in stressful home environments appear less able to bond to their adult caregivers and others in the home, thereby making them susceptible to ongoing relationship problems (Gewirtz & Edleson, 2007). One hypothesis is that early failed attempts at relationships increase an individual's risk for a range of psychosocial problems, including externalizing behaviors (including violence), recurrent depression, and low self-esteem. In addition, cognitive and social learning theory (Akers, 1985; Bandura, 1977) has been used to explain the link between violence exposure and later recurrence of violence; here, violence is considered a learned behavior, acquired through modeling and reinforcement of the same behavior by others (Moffitt & Caspi, 2003; Singer et al., 1999). Skill deficits linked to impulse control and poor emotion regulation also appear to contribute to ongoing difficulties in various roles and life domains (Moore & Pepler, 1998). Finally, some research has begun to identify neuropsychological and cognitive impairments as mediators and moderators of earlier childhood risks (De Bellis, 2001; De Bellis, Keshavan, Spencer, & Hall, 2000; Dodge & Pettit, 2003). For example De Bellis et al. (2000) studied the effects of PTSD on neurobiological characteristics of the brain following child maltreatment. They compared small samples of maltreated and nonmaltreated children, matched on age, sex, race, pubertal development, and SES. The results suggested that children with PTSD following maltreatment experienced decreased neuronal connections, which in turn contributed to observed psychosocial and cognitive impairments.

Still other hypotheses emerge from integrated, social developmental perspectives. The social development model (SDM; Catalano & Hawkins, 1996) is one that has guided some of our earlier work on child abuse and DV exposure effects. The SDM is a theory of human development that specifies both prosocial and antisocial pathways linking childhood risks to later outcomes. The theory suggests that poor outcomes in children result from socialization in which individuals learn, and then are reinforced

for, antisocial behavior over time. The theory posits that when provided opportunities for involvement within a socialization unit, when actively involved in the socialization of that unit, and when consistently rewarded for one's participation, a child will become bonded to the unit itself and to the individuals within the unit. Behavior will be prosocial or antisocial depending on the beliefs and behaviors of those to whom the individual becomes most strongly bonded; strong bonds to prosocial others will lessen the risk for negative outcomes, whereas weak bonds to prosocial others will elevate the risk. Similarly, strong bonds of attachment to antisocial others, such as delinquent peers, will increase the likelihood of antisocial behavior through further modeling and reinforcement of violence and other problem behaviors.

Consistent then with the SDM, a child from a violent home would likely encounter fewer opportunities for prosocial interactions in the family—because of a high level of stress in the family and/or a lack of emotional availability of one or both caregivers (Holden, Stein, Ritchie, Harris, & Jouriles, 1998)—weakening parent-child (family) bonds. A lack of opportunities for positive interactions, and exposure to ongoing hostility among family members, may lead a child to seek refuge outside the home, turning to peers and others for emotional and instrumental support and guidance. Were the child to become bonded to peers who engaged in antisocial behavior, he or she would encounter further modeling and reinforcement of negative behavior, increasing the likelihood of problems for the child. A child who is disconnected from his or her family might also become depressed or withdrawn and socially isolated. Alternatively, a child could become bonded to a caregiver who directly models the use of violence, in which case the relationship would have a direct influence on the use of violence and other problems for the child. In either scenario, one would expect the family environment to impair a child's ability to acquire skills necessary to form and maintain positive relationships, solve interpersonal conflicts, succeed academically, and develop a sense of personal mastery and control (Rutter, 2002).

CONCLUSION

There is relatively strong evidence that the direct abuse of children and their exposure to DV occur together and that both increase the likelihood of a full range of psychosocial problems for youth and young adults. The combined effects of these and other risk factors appear to be greater than the effect of one risk exposure apart from the others, although research is less clear as to how much greater or for which outcomes a combination of risks is most detrimental.

The outcomes of several studies suggest that family violence is likely to occur with other risks, including parental substance use and unemployment, financial stress on the family, and co-occurring violence and other adverse conditions in the surrounding community. Risks from simultaneous exposure to community violence are an important consideration, especially for children in areas (neighborhoods) in which violence occurs with the greatest frequency, such as in low-income, urban settings. Further study of the overlap in family violence and environmental influences is needed to more fully understand the range and interaction of experiences that produce the many adverse outcomes documented in the literature. Well-designed longitudinal studies of overlapping risks are particularly well suited to this task, because they allow direct tests and examination of the temporal sequencing of events that characterize a developmental chain leading to a particular outcome. Yet more common to date are cross-sectional and retrospective designs.

Despite the variety and number of risk factors that many victims encounter, studies suggest that oftentimes many children are resilient to the deleterious effects of violence exposure. Resilience is likely the outcome of a child's both having qualities that are inherently protective (e.g., intelligence and positive coping skills) and having access to resources and networks of support that promote and help maintain a process of healing and psychological wellness (Rutter, 2001, 2002). Biological and genetic factors may also play a role, although research on genetic influences is relatively new (Gewirtz & Edleson, 2007). Whether resilience in child victims of violence exposure can be

promoted through planned interventions requires further investigation, although data do show that the prevention of adolescent problems is possible when programs attend systematically

and comprehensively to risk and protective factors across domains of influence, including the family and surrounding community (Institute of Medicine, 1994).

IMPLICATIONS FOR PRACTICE, POLICY, AND RESEARCH

- Understanding how child abuse, DV exposure, and other factors relate to one another is an important first step in setting the context for intervention and policy-level change efforts to improve the lives of disadvantaged children and families.
- The prevention of adolescent problems is possible when programs attend systematically (and comprehensively) to risk and protective factors across domains of influence, including the family and surrounding community.
- More research is needed to understand the degree of overlap and relative risk for child abuse, DV exposure, and related factors in predicting later outcomes.
- Further study of the overlap in family violence and environmental influences is warranted.
- Additional prospective, longitudinal studies are needed to capture developmental changes as they emerge in victimized children over time.
- Systematic investigations into gender differences in long-term outcomes related to child abuse and DV are needed.
- Researchers should consider using theoretical or conceptual models to guide their research.

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