Journal of Interpersonal Violence
Volume XX Number XX
Month XXXX xx-xx

10.1177/0886260508314323
http://jiv.sagepub.com
hosted at
http://online.sagepub.com

Cumulative Experiences of Violence Among High-Risk Urban Youth

Catherine A. Taylor
Neil W. Boris
Sherryl Scott Heller
Gretchen A. Clum
Janet C. Rice
Charles H. Zeanah
Tulane University Health Sciences Center

This study examines type-specific and cumulative experiences of violence among a vulnerable population of youth. Sixty high-risk, shelter-dwelling, urban youth were interviewed regarding their history of childhood maltreatment, exposure to community violence (ECV), and experience with intimate partner violence (IPV). Results show a high prevalence and high degree of overlap among multiple types of violence exposure. Childhood physical, sexual (CSA), and emotional (CEA) abuse were interrelated and were associated with ECV. Cumulative experiences of childhood abuse (CCA) had a graded association with IPV victimization. In multivariate analyses, CCA and ECV were independently associated with IPV victimization. Gender moderated the effect of one association: CEA raised the risk of IPV victimization for girls but not for boys. Only CSA predicted IPV perpetration. Findings suggest that cumulative exposures to violence create cumulative risk for experiencing more violence. Shelter-dwelling, urban youth may be particularly vulnerable to this additive effect.

Keywords: *child physical abuse; child sexual abuse; child psychological abuse; intimate partner violence; community violence; homelessness; gender*

Authors' Note: The authors wish to thank Tonya Hawkins Sheperd, whose assistance in data collection was critical to the publication of these results. We would also like to thank the staff at Covenant House of New Orleans and, especially, the young men and women who so generously gave of their time.

Many studies have documented that early experiences of violence put one at risk for experiencing future violence. Yet questions remain regarding the specific nature of these associations and how risk varies across gender and populations. Multiple types of childhood maltreatment raise the risk of both intimate partner violence (IPV) victimization and perpetration among teens (Wolfe, Scott, Wekerle, & Pittman, 2001; Wolfe, Wekerle, Reitzel-Jaffe, & Lefebvre, 1998) and adults (Whitfield, Anda, Dube, & Felitti, 2003), however, not all findings are consistent across gender. Some studies of adolescents have found that both boys and girls with a history of childhood physical abuse (CPA) are at increased risk for IPV victimization (Foshee, Benefield, Ennett, Bauman, & Suchindran, 2004; Malik, Sorenson, & Aneshensel, 1997). However, in one nationally representative sample, CPA raised future IPV risk for women but not for men: CPA by mothers raised the risk of IPV victimization and CPA by fathers raised the risk of IPV perpetration (Heyman & Slep, 2002). In a sample of high school students, childhood maltreatment raised the odds of physical IPV victimization and IPV perpetration for boys only; however, both maltreated boys and girls were at increased risk for sexual and verbal IPV victimization (Wolfe et al., 2001). Whitfield and colleagues (2003) found both type-specific and cumulative effects of childhood maltreatment on IPV. Each type of abuse examined—CPA, childhood sexual abuse (CSA), and childhood exposure to IPV—roughly doubled the odds of IPV victimization for women and perpetration for men, and cumulative childhood maltreatment experiences led to a graded increase in IPV risk. Others have found no association for either gender between CPA and perpetration of dating violence (Foshee, Linder, MacDougall, & Bangdiwala, 2001; Malik et al., 1997). These studies suggest that the links between childhood maltreatment and risk for IPV are complex and may vary by gender and other demographic characteristics.

Besides childhood maltreatment, other experiences of violence, such as exposure to community violence (ECV), also may raise the risk for IPV. One study found that within an urban sample of high school students, exposure to weapons and violent injury in the community predicted IPV perpetration and victimization for both genders (Malik et al., 1997). Although there is other evidence to suggest that ECV might predict aggressive behavior in children (e.g., Gorman-Smith & Tolan, 1998), there is very little that explicitly explores the link between ECV and IPV (Lynch, 2003). This line of questioning is particularly important within populations at high risk for ECV and other types of violence.

The Current Study

The purpose of this study is to examine both the independent and cumulative experiences of multiple types of violence in the lives of a sample of shelter-dwelling, urban youth—an understudied subpopulation of homeless youth at particularly high risk for experiencing ECV. Homeless adolescents and young adults are at high risk for violent victimization and perpetration (Whitbeck, Hoyt, & Yoder, 1999) and typically experience high rates of childhood maltreatment (Whitbeck, Hoyt, & Ackley, 1997). Yet to the authors' knowledge, studies of the relationship between history of childhood maltreatment and IPV among homeless youth are unavailable, and general population studies of this association rarely account for the potential additive effects of ECV (Cicchetti & Lynch, 1993). Given the lack of similar prospective data in similar samples, we consider this research to be exploratory in nature. We aimed to answer the following questions within this unique sample of youth: (a) Is a history of childhood maltreatment associated with IPV victimization and/or perpetration? (b) Is ECV associated with IPV victimization and/or perpetration? (c) Are these associations type specific, cumulative, or both? and (d) Does gender modify any of these associations?

Method

Participants

A total of 60 adolescents were recruited from a private, nonprofit shelter and transitional housing facility in a medium-sized Southern city during a 3-month period. All 18- to 21-year-olds who were at the facility during that time and who were interested in participating were recruited into the study. The majority of the sample was recruited from an "acute unit" in the facility that provided housing for up to 60 days. Although the shelter also housed adolescents younger than age 18, these adolescents were not recruited because of the need to seek parental permission to interview.

The 30 males and 30 females who participated had a mean age of 19 years. Most of the participants were never married (90%), were African American (73%), and had not completed high school (63%). Of the sample, 42% had at least one child. Males and females did not differ significantly on any of the demographic variables except for parenthood (females = 60%, males = 23%; Pearson $\chi^2 = 8.3$, $p = .004$).

Procedure

Once participants were recruited, a trained graduate student research aide administered informed consent procedures and all measures in an interview format (to control for differences in reading comprehension level) to each participant. All interviews were conducted in a private, closed room at the shelter; including consent procedures, the interviews lasted approximately 2 hours. The study was reviewed and approved by a university health sciences institutional review board, and access to participants was granted after internal review of the study procedures and measures by key personnel (including the director) at the shelter. All participants received $30 in vouchers good for food at a local restaurant for participating. A subgroup was randomly selected for retesting of one instrument (Boris, Heller, Sheperd, & Zeanah, 2002).

Measures

Childhood Maltreatment Interview Schedule–Short Form (CMIS). Adapted from the full CMIS (Briere, 1992), three variables were retained to assess history of childhood maltreatment: CPA, CSA, and childhood emotional abuse (CEA). CPA was assessed using the following item:

> Before age 17, did a parent, step-parent, foster-parent, or other adult in charge of you as a child ever do something to you on purpose (for example, hit or punch or cut you, or push you down) that made you bleed or gave you bruises or scratches, or that broke bones or teeth? (*no* = 0, *yes* = 1).

CSA was assessed using the following item:

> Before you were age 17, did anyone ever kiss you in a sexual way, or touch your body in a sexual way, or make you touch their sexual parts? If yes, did this ever happen with someone 5 or more years older than you were? (*no* = 0, *yes* = 1).

CEA was assessed by asking respondents, "When you were 16 or younger, how often did the following happen to you in the average year? Answer for your parents or step-parents or foster parents or other adult in charge of you as a child" (CMIS, Item 7). Then seven items were presented, such as "insult you," "ridicule or humiliate you," and "embarrass you in front of others." Each item was rated on a Likert-type scale that ranged from 0 (*never*) to 6

(*more than 20 times per year*). The mean score for this sample was 28; scores ranged from 0 to 42 and were negatively skewed (–0.84). CEA was broken into a trichotomous ordinal variable (0, 1, 2) for analysis that suggests the following frequency of occurrence, on average, for each: 0 = *2 times per year or less*, 1 = *greater than 2 but less than 6 times per year*, and 2 = *at least 6 to 10 times per year* (i.e., persons in Group 2 reported that, on average, each of the seven items occurred at least 6 to 10 times per year). The breakdown of this variable into these ordinal groups was based on clinical judgment of the severity of these reported levels.

Cumulative childhood abuse (CCA) was assessed by summing the CPA, CSA, and ordinal CEA scores. CCA scores ranged from 0 to 4: 0 = *no childhood maltreatment*; 1 = *one type of childhood maltreatment—CPA, CSA, or midlevel CEA*; 2 = *two types of childhood maltreatment or high-level CEA only*; and 3 and 4 = *three types of childhood maltreatment, with midlevel or high-level CEA, respectively*.

Survey of Exposure to Community Violence–Self Report Version, Short Form. The short form is an adaptation from the full survey (Richters & Saltzman, 1990) and is similar in style to the 20-item version for younger children (Richters & Martinez, 1990). This 28-item questionnaire assesses an individual's lifetime ECV. Items are answered in a true–false format and consist of statements about being a victim of violence or related activities (e.g., "I've been chased by gangs or individuals"; "I've been asked to help sell or distribute illegal drugs"; "I've been attacked or stabbed with a knife"), witnessing such activities (e.g., "I've seen someone else get threatened with serious physical harm"; "I've seen or heard a gun fired in my home"), and having personal knowledge of a homicide or suicide. Violence exposure via media is explicitly excluded.

Partner Violence Interview (PVI)–Short Version. The PVI is a 26-item structured interview adapted from the Conflict Tactics Scale (Straus, 1990) that asks participants to report in a *true* (1) or *false* (0) format about physical, sexual, and psychological perpetration and victimization by current and ex-intimate partners (Boris et al., 2002). (The Current Partner scale and the Psychological Violence items were not analyzed for this study.)[1] Overall scores for victimization and perpetration were obtained by summing positive responses to the last 12 items of the PVI. Internal consistency ranged from .88 to .92 (Victimization scale) and .80 to .83 (Perpetration scale), and convergent validity for each scale with the Conflict Tactics Scale Violence subscale was high (r = .444 and r = .475, respectively; Boris et al., 2002).

Analyses

Univariate frequencies and distributions of all variables were assessed. Bivariate analyses were conducted (one-way ANOVAS or cross-tabulations with chi-square tests as appropriate) between gender and all other variables. Cross-tabulations and logistic regressions were conducted to examine associations among the child maltreatment variables. These logistic regression models were adjusted for gender only; adjusted odds ratios (AORs) and 95% confidence intervals (CIs) are reported. Gender was the only demographic variable analyzed in multivariate comparisons because of power constraints.

Bivariate regressions were conducted to determine the main effects of childhood maltreatment and ECV on IPV victimization and perpetration. Separate multivariate regressions were used to assess ECV plus each of the childhood maltreatment variables (i.e., CPA, CSA, CEA, or CCA) as predictors of IPV victimization. Gender was included in the final multivariate analysis. Multicollinearity was not a problem in these analyses: Mean variance inflation factors ranged from 1.06 to 2.02. Tobit regressions were used to analyze associations with the IPV victimization variable, which was skewed toward zero; Tobit with left censoring treated zeros as censored data (Long, 1997). The distribution of the IPV perpetration variable suggested that it was best analyzed as a binary outcome, so logistic regressions were used.

To compare median scores of IPV victimization across CCA categories, a Kruskal-Wallis test was conducted; this test is a nonparametric analog of ANOVA and was necessary because the assumption of equal variances across comparison groups was not met (Hamilton, 2004).

Results

Prevalence of Violence

Most of the youth had a history of CPA (53%) and high levels of CEA (62%), whereas a substantial minority were sexually abused (42%) (see Table 1). A majority (52%) of the sample experienced all three types of childhood maltreatment; 27% experienced CPA, CSA, plus high-level CEA. This sample had an average score of 16 out of 28 on the ECV scale, indicating a high level of ECV and violence-related activities as victim and observer. Nearly three fourths (73%) had been victimized by an intimate partner, and those who had been victimized experienced 4.7 types of IPV (out of 12 possible types) on average. Fewer than one third (32%) of the

Table 1
Participant Summary Statistics on all Measured Violence Variables

Variable	Value	%			
Childhood maltreatment					
Physical abuse (CPA)	Yes (1)	53			
Sexual abuse (CSA)	Yes (1)	42			
Emotional abuse (CEA)					
	None or low (0)	18			
	Medium (1)	20			
	High (2)	62			
Cumulative childhood abuse					
No child maltreatment reported	0	13			
	1	15			
	2	20			
	3	25			
CPA, CSA, and high level CEA reported	4	27			
Intimate partner violence (IPV)					
Victimization (any reports)	Yes	73			
Perpetration (any reports)	Yes	32			
		M	*SD*	*Mdn*	Range
Of those who were IPV victims ($n = 44$), # of victimization types experienced		4.7	2.8	4	1 to 10
Of those who perpetrated IPV ($n = 19$), # of perpetration types perpetrated		3.1	2.0	3	1 to 7
Exposure to community violence		16.2	6.5	16	2 to 28

Note: $N = 60$. For CPA and CSA, *no* = 0.

youth indicated that they had perpetrated IPV, and those who had had perpetrated 3.1 types of IPV on average.

Girls were more likely to report CSA than were boys (57% vs. 27%), Pearson $\chi^2(1) = 5.6$, $p = .02$. Boys were exposed to more community violence than were girls ($M = 19.3$ vs. $M = 13.2$; $F = 16.8$, $p = .0001$). There were no gender differences for depression or any other violence exposure or perpetration variable.

Co-Occurrence of Violence

Youth who experienced one type of childhood maltreatment were more likely to experience another type as well. As shown in Table 2, physically abused youth had higher odds of reporting sexual abuse (AOR = 10.0, CI = 2.6,

Table 2
Co-occurrence of Childhood Maltreatment

		Childhood Physical Abuse (CPA)			Childhood Sexual Abuse (CSA)			Childhood Emotional Abuse (CEA)		
		%	AOR	95% CI	%	AOR	95% CI	%	AOR	95% CI
CPA	No (47%)	—	—	—	21	1.0	—	31	1.0	—
	Yes (53%)	—	—	—	79	10.0	2.6, 39.4***	69	6.5	2.0, 20.9***
CSA	No (58%)	39	1.0	—	—	—	—	49	1.0	—
	Yes (42%)	61	10.0	2.6, 39.4***	—	—	—	51	3.2	0.97, 10.5
CEA	No (38%)	19	1.0	—	24	1.0	—	—	—	—
	Yes (62%)	81	6.5	2.0, 20.9***	76	3.2	0.97, 10.5	—	—	—

Note: AOR = adjusted odds ratio; CI = confidence interval. For these analyses, emotional abuse *yes* refers to high-level emotional abuse only. All logistic regression models were adjusted for gender.
***$p < .002$.

39.4) and high levels of emotional abuse (AOR = 6.5, CI = 2.0, 20.9). The association between reported sexual and emotional abuse was not statistically significant.

All three of the childhood maltreatment variables also were associated with ECV. In single-predictor linear regressions, ECV was predicted by CPA (B = 3.4, $p = .04$), high-level CEA (B = 4.9, $p = .03$), and CSA (B = 3.1, $p = .07$); however, the directionality of these associations was unclear, and the latter model was only marginally statistically significant. Also, the highest level of CCA (Level 4) was associated with ECV (B = 6.9, $p = .01$).

All measured violence exposure variables were associated with the number of IPV victimization types experienced. Table 3 shows that having a history of CPA (B = 2.3, $p = .03$), CSA (B = 2.1, $p = .05$), or high-level CEA (B = 3.6, $p = .02$) was associated with an increased risk of IPV victimization, as was CCA (B = 4.3, $p = .02$; for both Level 3 and Level 4). Figure 1 shows a graded association of CCA with the number of IPV victimization types reported. The median number of IPV reports differed across CCA groups, with the highest group (Level 4) being significantly different from the two lowest groups (Levels 0 and 1) combined, Kruskal-Wallis $\chi^2(3) = 8.8$, $p = .03$. ECV also was associated with IPV victimization (B = 0.2, $p = .01$).

In contrast, CSA was the only variable that predicted IPV perpetration (OR = 3.7, $p = .03$).

Multivariate Regressions

There were no main effects of gender on IPV victimization or perpetration. However, one gender interaction term (high-level CEA × gender)

Table 3
Single Predictor Regression Results for Intimate Partner Violence (IPV) Victimization and IPV Perpetration

	IPV Victimization		IPV Perpetration	
	B	95% CI	OR	95% CI
Childhood maltreatment				
Physical	2.3**	0.23, 4.4	1.7	0.5, 5.1
Sexual	2.1**	–0.02, 4.2	3.7**	1.2, 11.6
Emotional				
Medium (1)	2.2	–1.2, 5.7	7.1	0.7, 75.2
High (2)	3.6**	0.7, 6.5	5.4	0.6, 47.1
Cumulative				
1	0.8	–3.2, 4.7	2.0	0.1, 27.4
2	2.5	–1.2, 6.2	3.5	0.3, 39.2
3	4.3**	0.7, 7.8	2.5	0.2, 27.7
4	4.3**	0.8, 7.8	7.0	0.7, 70.7
Community violence	0.2**	0.0, 0.4	1.0	0.9, 1.1
Gender (female)	–0.2	–2.5, 2.0	2.2	0.7, 6.7

Note: OR = odds ratio; CI = confidence interval. IPV victimization was analyzed using tobit regression; IPV perpetration was analyzed using logistic regression.
**$p < .05$.

demonstrated a trend toward significance in predicting IPV victimization (B = 5.3, $p = .07$). In a follow-up stratified analysis, high-level CEA increased the risk of IPV victimization for girls (B = 6.8, $p = .02$) but conferred no such risk for boys (B = 0.93, $p = .53$; see Table 4).

Although all three type-specific childhood maltreatment variables (i.e., CPA, CSA, and CEA) and ECV predicted IPV victimization in single predictor linear regressions, only ECV remained statistically significant in multivariate models that included ECV plus one of the childhood maltreatment types (see Models 1 to 3, Table 5). When gender was controlled for in these models, there were no significant changes in the coefficients (not shown in the table). However, when ECV was added to the CCA regression, CCA (Level 3) remained statistically significant whereas ECV became marginally significant (see Model 4, Table 5). And when gender was controlled for in this analysis, both ECV and CCA (Level 3) were statistically significant (see Model 5, Table 5).

In sum, there was a high degree of overlap between types of exposure to violence in this sample. All three types of childhood maltreatment were interrelated and also were associated with ECV. All measured violent

Figure 1
Frequency of Intimate Partner Violence (IPV) Victimization Types Experienced Compared Across Cumulative Childhood Abuse

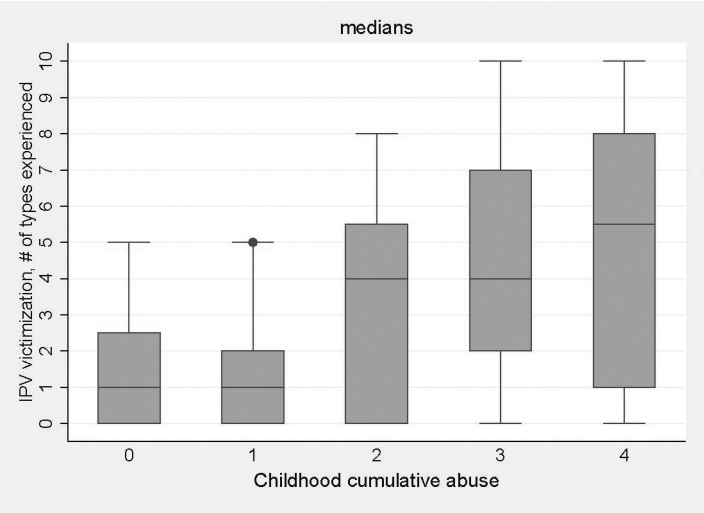

Table 4
Tobit Regression Coefficients for Childhood Emotional Abuse Predicting Intimate Partner Violence Victimization, Stratified by Gender

	Females		Males	
Variable	B	95% CI	B	95% CI
Emotional abuse				
Medium (1)	3.4	–3.4, 10.1	1.1	–2.4, 4.6
High (2)	6.8**	1.4, 12.2	0.9	–2.1, 3.9

Note: CI = confidence interval.
**$p < .05$.

experiences (i.e., CPA, CSA, CEA, CCA, and ECV) predicted IPV victimization when examined as single predictors. As Figure 1 shows, higher levels of CCA were associated with a higher likelihood of experiencing multiple types of IPV victimization. In multivariate analyses, only CCA and ECV

Table 5
Tobit Regression Coefficients for Single Predictor and Multivariate Models of Exposure to Community Violence (ECV) and Childhood Physical (CPA), Sexual (CSA), Emotional (CEA), and Cumulative (CCA) Abuse Predicting IPV Victimization

	Single Predictor Models of IPV Victimization			Multivariate Models of IPV Victimization	
	B	95% CI	Model	B	95% CI
ECV	0.21**	0.04, 0.37	1	0.16**	0.001, 0.33
CPA	2.34**	0.23, 4.44		1.79	–0.31, 3.88
ECV	—	—	2	0.18**	0.01, 0.34
CSA	2.11**	–0.02, 4.24		1.56	–0.55, 3.67
ECV	—	—	3	0.17**	0.004, 0.33
CEA—Medium (1)	2.24	–1.21, 5.70		1.52	–1.90, 4.94
CEA—High (2)	3.58**	0.70, 6.46		2.81*	–0.07, 5.69
ECV	—	—	4	0.15*	–0.01, 0.31
CCA—1	0.75	–3.20, 4.69		0.28	–3.61, 4.16
CCA—2	2.49	–1.20, 6.19		2.26	–1.35, 5.88
CCA—3	4.27**	0.73, 7.80		3.61**	0.10, 7.11
CCA—4	4.27**	0.77, 7.78		3.27*	–0.31, 6.84
ECV	—	—	5	0.19**	0.0002, 0.39
CCA—1	—	—		0.44	–3.42, 4.30
CCA—2	—	—		2.35	–1.23, 5.93
CCA—3	—	—		3.61**	0.15, 7.08
CCA—4	—	—		2.91	–0.73, 6.55
Gender (female)	–0.24	–2.45, 1.97		0.95	–1.48, 3.38

*$p < .07$. **$p < .05$.

predicted IPV victimization. Gender moderated the effect of one association: Emotionally abused girls, but not boys, were at increased risk for IPV victimization. Finally, only CSA predicted IPV perpetration.

Discussion

This study underscores the cumulative experiences of violence experienced by this high-risk sample of urban youth. A majority of the youth in this study reported either CPA or CEA, and the prevalence of childhood maltreatment subtypes were consistent with surveys of homeless youth (Tyler & Cauce, 2002; Whitbeck et al., 1997). Also, consistent with larger

and less "high-risk" samples (e.g., Dong et al., 2004), we found subtypes of childhood maltreatment histories to be strongly interrelated.

There was a high degree of overlap between having a history of childhood maltreatment and ECV. Similarly, Malik et al. (1997) found that childhood maltreatment was a predictor of both community violence victimization and perpetration. Others have found that children living in high-violence communities are at greater risk of being maltreated than are those in low-violence communities; specifically, the risks for CPA and severe neglect were increased, though the risks for CSA and CEA were not (Lynch & Cicchetti, 1998). It may be that childhood maltreatment indirectly predicts ECV via externalizing problems (Lynch, 2003; Margolin, 2005).

Despite the strong associations between childhood maltreatment and ECV, both types of exposure remained relevant in the multivariate regression model that controlled for gender: That is, ECV and CCA had an additive effect on their association with IPV victimization. Others have found similar cumulative effects of childhood maltreatment alone on IPV victimization in studies of adolescents (Wolfe et al., 1998; Wolfe et al., 2001) and in adult women (Bensley, Van Eenwyk, & Simmons, 2003; Whitfield et al., 2003), with the latter two studies also showing a dose-response relationship. Our data suggest that this pattern holds within this unique, high-risk sample of youth.

The only other study to our knowledge that has looked at both childhood maltreatment history and ECV in association with IPV in adolescents (Malik et al., 1997) did not find this additive effect on IPV risk. However, their sample was not at particularly high risk for ECV (Stein, Jaycox, Kataoka, Rhodes, & Vestal, 2003): African Americans and boys (who suffered much higher rates of ECV and childhood maltreatment than did other ethnic groups and girls in their study) were in the minority. Therefore, despite the fact that our sample size was much smaller, the demographics of our sample may have provided more power to capture the additive risk of ECV and childhood maltreatment.

In contrast, our data do not support a cumulative effects model for IPV perpetration, as only CSA predicted this outcome. Previous studies have documented an association between CSA and later aggression (Frothingham et al., 2000). However, few studies have included both genders in looking at IPV perpetration or have examined childhood maltreatment subtypes and cumulative experiences. The Adverse Childhood Experiences Study found that each of three childhood experiences—CSA, CPA, and witnessing parental violence—approximately doubled the odds of men perpetrating IPV (no findings for women were reported); in particular, men who experienced

CSA that included intercourse before the age of 12 had 3 times the odds of perpetrating IPV when compared to men who did not experience such abuse (Whitfield et al., 2003). It may be that some unmeasured variable, such as conduct disorder (Ehrensaft et al., 2003), is mediating the pathway between CSA and perpetration of IPV in our sample. Although more girls than boys were sexually abused in our study, gender did not moderate this effect.

Gender did moderate the effect of CEA on IPV victimization, however, as the risk was raised for emotionally abused females but not for males. A study of college women found that reports of CEA (but not CPA or CSA) were associated with IPV victimization; CEA also predicted further IPV during a 2-month follow-up period (Rich, Gidycz, Warkentin, Loh, & Weiland, 2005). An additional community-based study of women found that both CEA and CSA (along with low educational attainment) were the only predictors of IPV victimization (Seedat, Stein, & Forde, 2005). Our study adds to this literature by demonstrating the strength of this association in a high-risk sample of urban youth. Though more studies that include males and measures of CEA are needed, it appears that CEA may be a particularly salient path to IPV victimization for females.

Limitations

There are several important limitations of this study. First, our data are cross-sectional, making it difficult to ascertain the direction of effects. We cannot say with certainty the order in which the three types of violence—childhood maltreatment, ECV, and IPV—actually occurred. Respondents were asked to identify childhood maltreatment that occurred prior to age 17, but timing for the other exposures was less specific. ECV could have occurred at anytime, and we know only that the IPV occurred with an ex-partner.

A second limitation is that our data are based on retrospective self-reports that we were unable to verify and that may be influenced by recall bias. Recall bias and the fallibility of memory are key factors in explaining why longitudinal studies have documented significant problems with both the reliability and the validity of retrospective reports of childhood maltreatment (Widom, Raphael, & DuMont, 2004). Also, one study has found that runaway youths' reports of family violence concurred with those of their parents or caretakers for less severe violence (e.g., pushed, slapped) but that youth reported more severe violence (e.g., hit, beat up) than the adults did; it was unclear whether the adults underreported or the youth overreported the violence (Whitbeck et al., 1997). Despite these limitations, there is

evidence that retrospective recall of maltreatment is acceptable so long as detailed accounts of specific events are not central to the analysis (Hardt & Rutter, 2004), which they were not in our study.

A third limitation was our sample size. Large samples of shelter-dwelling youth can be difficult to assemble. Inadequate power may account for finding only one moderating effect of gender and prevented us from conducting further subanalyses.

Finally, another problem inherent in research on homeless youth is lack of an appropriate comparison group. Factors that distinguished random samples of homeless and poor urban adults in a previous study included experiences of childhood maltreatment and IPV (Toro et al., 1995), and demographic matching of urban homeless youth to a comparison housed group has yielded differences in psychiatric morbidity (McCaskill, Toro, & Wolfe, 1998). A comparison group of urban, impoverished, and housed youth would have allowed us to better understand the association of homelessness with our findings.

Conclusions and Implications

Findings from our study highlight the notion that exposure to and experiences of violence are highly interrelated: Cumulative exposure to violence is associated with cumulative risk for experiencing more violence. Urban, shelter-dwelling youth appear particularly vulnerable to this additive effect, and devising appropriate prevention and intervention strategies that target reductions in violence exposure is essential. Our results also point to more specific associations that may inform further research and intervention.

For example, our results suggest that interventions for high-risk males and females may need to be different. For males, intervention programs that prevent ongoing ECV should be developed. At this point, few such interventions exist, though the application of program principles derived from model youth violence intervention programs could be instituted in shelter programs for homeless youth (Thornton, Craft, Dahlberg, Lynch, & Baer, 2002). For females, the link between CEA and IPV victimization and between CSA and perpetration deserves further study and, if replicated, may inform new gender-specific approaches to the prevention of IPV. To date, there has been little evidence of effective interventions for IPV once it has begun (Wathen & MacMillan, 2003a, 2003b), and further development of gender-specific approaches is therefore warranted. In the meantime, because 60% of the young women in this sample had children (most of whom lived with them in the shelter), the adoption of model programs for the prevention of

the sequelae of exposure to IPV for offspring of youth living in shelters is also important (Graham-Bermann & Hughes, 2003).

From a broader population perspective, prevention of violence exposure is the surest way to undercut the accumulation of adverse risks and effects. Home visitation models are widely considered the best practice for preventing childhood maltreatment (Bilukha et al., 2005). Methods for preventing dating violence have not been examined as extensively, although some have shown promise (e.g., Foshee et al., 1998; Foshee et al., 2000; Wekerle & Wolfe, 1999). Research that informs practice holds the promise of diminishing the cumulative and specific effects of violence exposure.

Note

1. A requirement of the shelter was that residents not have current partners (i.e., intimate relationships were strongly discouraged). Thus, few participants were able or willing to answer questions regarding a current partner, and this scale was therefore not analyzed for this study.

References

Bensley, L., Van Eenwyk, J., & Simmons, K. W. (2003). Childhood family violence history and women's risk for intimate partner violence and poor health. *American Journal of Preventive Medicine, 25*(1), 38-44.

Bilukha, O., Hahn, R. A., Crosby, A., Fullilove, M. T., Liberman, A., Moscicki, E., et al. (2005). The effectiveness of early childhood home visitation in preventing violence: A systematic review. *American Journal of Preventive Medicine, 28*(2S1), 11-39.

Boris, N. W., Heller, S. S., Sheperd, T., & Zeanah, C. H. (2002). Partner violence among homeless young adults: Measurement issues and associations. *Journal of Adolescent Health, 30*, 355-363.

Briere, J. (1992). *Child abuse trauma: Theory and treatment of the lasting effects*. Newbury Park, CA: Sage.

Cicchetti, D., & Lynch, M. (1993). Toward an ecological transactional model of community violence and child maltreatment—Consequences for children's development. *Psychiatry-Interpersonal and Biological Processes, 56*(1), 96-118.

Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., Thompson, T. J., et al. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect, 28*(7), 771-784.

Ehrensaft, M. K., Cohen, P., Brown, J., Smailes, E., Chen, H., & Johnson, J. G. (2003). Intergenerational transmission of partner violence: A 20-year prospective study. *Journal of Consulting & Clinical Psychology, 71*(4), 741-753.

Foshee, V. A., Bauman, K. E., Arriaga, X. B., Helms, R. W., Koch, G. G., & Linder, G. F. (1998, January). An evaluation of Safe Dates, an adolescent dating violence prevention program. *American Journal of Public Health, 88,* 45.

Foshee, V. A., Bauman, K. E., Greene, W. F., Koch, G. G., Linder, G. F., & MacDougall, J. E. (2000). The Safe Dates program: 1-year follow-up results. *American Journal of Public Health, 90*(10), 1619-1622.

Foshee, V. A., Benefield, T., Ennett, S. T., Bauman, K. E., & Suchindran, C. (2004). Longitudinal predictors of serious physical and sexual dating violence victimization during adolescence. *Preventive Medicine, 39*(5), 1007-1016.

Foshee, V. A., Linder, F., MacDougall, J. E., & Bangdiwala, S. (2001). Gender differences in the longitudinal predictors of adolescent dating violence. *Preventive Medicine: An International Journal Devoted to Practice & Theory, 32*(2), 128-141.

Frothingham, T. E., Hobbs, C. J., Wynne, J. M., Yee, L., Goyal, A., & Wadsworth, D. J. (2000). Follow up study eight years after diagnosis of sexual abuse. *Archives of Disease in Childhood, 83*(2), 132-134.

Gorman-Smith, D., & Tolan, P. (1998). The role of exposure to community violence and developmental problems among inner-city youth. *Development and Psychopathology, 10*(1), 101-116.

Graham-Bermann, S. A., & Hughes, H. M. (2003). Intervention for children exposed to interparental violence (IPV): Assessment of needs and research priorities. *Clinical Child and Family Psychology Review, 6*(3), 189-204.

Hamilton, L. C. (2004). *Statistics with STATA*. Belmont, CA: Brooks/Cole-Thomson.

Hardt, J., & Rutter, M. (2004). Validity of adult retrospective reports of adverse childhood experiences: Review of the evidence. *Journal of Child Psychology and Psychiatry, 45*(2), 260-273.

Heyman, R. E., & Slep, A. M. S. (2002, November). Do child abuse and interparental violence lead to adulthood family violence? *Journal of Marriage and Family, 64*, 864-870.

Long, J. S. (1997). *Regression models for categorical and limited dependent variables: Advanced quantitative techniques in the social sciences* (Vol. 7). Thousand Oaks, CA: Sage.

Lynch, M. (2003). Consequences of children's exposure to community violence. *Clinical Child and Family Psychology Review*, *6*(4), 265-274.

Lynch, M., & Cicchetti, D. (1998). An ecological-transactional analysis of children and contexts: The longitudinal interplay among child maltreatment, community violence, and children's symptomatology. *Development and Psychopathology, 10*(2), 235-257.

Malik, S., Sorenson, S. B., & Aneshensel, C. S. (1997). Community and dating violence among adolescents: Perpetration and victimization. *Journal of Adolescent Health, 21*(5), 291-302.

Margolin, G. (2005). Children's exposure to violence: Exploring developmental pathways to diverse outcomes. *Journal of Interpersonal Violence, 20*(1), 72-81.

McCaskill, P. A., Toro, P. A., & Wolfe, S. M. (1998). Homeless and matched housed adolescents: A comparative study of psychopathology. *Journal of Clinical Child Psychology*, *27*(3), 306-319.

Rich, C. L., Gidycz, C. A., Warkentin, J. B., Loh, C., & Weiland, P. (2005). Child and adolescent abuse and subsequent victimization: A prospective study. *Child Abuse & Neglect, 29*(12), 1373-1394.

Richters, J. E., & Martinez, P. (1990). *Things I have seen and heard: An interview for young children about exposure to violence*. Retrieved May 19, 2006, from http://home.comcast.net/~jrichters/Measures/Things_I_Have_Seen_and_Heard-_An_Interview_for_Young_Children_About_Exposure_to_Violence.pdf

Richters, J. E., & Saltzman, W. (1990). *Survey of Exposure to Community Violence—Self report version*. Retrieved May 19, 2006, from http://home.comcast.net/~jrichters/Measures/Survey_of_Exposure_to_Community_Violence-Self_Report_Version.pdf

Seedat, S., Stein, M. B., & Forde, D. R. (2005). Association between physical partner violence, posttraumatic stress, childhood trauma, and suicide attempts in a community sample of women. *Violence and Victims, 20*(1), 87-98.

Stein, B. D., Jaycox, L. H., Kataoka, S., Rhodes, H. J., & Vestal, K. D. (2003). Prevalence of child and adolescent exposure to community violence. *Clinical Child and Family Psychology Review*, *6*(4), 247-264.

Straus, M. A. (1990). The Conflict Tactics Scale and its critics: An evaluation of new data on validity and reliability. In M. A. Straus & R. J. Gelles (Eds.), *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families* (pp. 49-73). New Brunswick, NJ: Transaction Publishing.

Thornton, T. N., Craft, C. A., Dahlberg, L. L., Lynch, B. S., & Baer, K. (2002). *Best practices of youth violence prevention: A sourcebook for community action* (Rev. ed.). Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control.

Toro, P. A., Bellavia, C. W., Daeschler, C. V., Owens, B. J., Wall, D. D., Passero, J. M., et al. (1995). Distinguishing homelessness from poverty: a comparative study. *Journal of Consulting and Clinical Psychology, 63*(2), 280-289.

Tyler, K. A., & Cauce, A. M. (2002). Perpetrators of early physical and sexual abuse among homeless and runaway adolescents. *Child Abuse & Neglect, 26*, 1261-1274.

Wathen, C. N., & MacMillan, H. L. (2003a). Interventions for violence against women. *Journal of American Medical Association, 289*(5), 589-600.

Wathen, C. N., & MacMillan, H. L. (2003b). Prevention of violence against women—Recommendation statement from the Canadian Task Force on Preventive Health Care. *Canadian Medical Association Journal, 169*(6), 582-584.

Wekerle, C., & Wolfe, D. A. (1999). Dating violence in mid-adolescence: Theory, significance, and emerging prevention initiatives. *Clinical Psychology Review, 19*(4), 435-456.

Whitbeck, L. B., Hoyt, D. R., & Ackley, K. A. (1997). Families of homeless and runaway adolescents: A comparison of parent/caretaker and adolescent perspectives on parenting, family violence and adolescent conduct. *Child Abuse & Neglect, 21*(6), 517-528.

Whitbeck, L. B., Hoyt, D. R., & Yoder, K. A. (1999). A risk-amplification model of victimization and depressive symptoms among runaway and homeless adolescents. *American Journal of Community Psychology, 27*(2), 273-296.

Whitfield, C. L., Anda, R. F., Dube, S. R., & Felitti, V. J. (2003). Violent childhood experiences and the risk of intimate partner violence in adults—Assessment in a large health maintenance organization. *Journal of Interpersonal Violence, 18*(2), 166-185.

Widom, C. S., Raphael, K. G., & DuMont, K. A. (2004). The case for prospective longitudinal studies in child maltreatment research: Commentary on Dube, Williamson, Thompson, Felitti, and Anda. *Child Abuse & Neglect, 28*(7), 715-722.

Wolfe, D. A., Scott, K., Wekerle, C., & Pittman, A. L. (2001). Child maltreatment: Risk of adjustment problems and dating violence in adolescence. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(3), 282-289.

Wolfe, D. A., Wekerle, C., Reitzel-Jaffe, D., & Lefebvre, L. (1998). Factors associated with abusive relationships among maltreated and nonmaltreated youth. *Development & Psychopathology, 10*(1), 61-85.

Catherine A. Taylor is an assistant professor in the Department of Community Health Sciences at the Tulane University School of Public Health and Tropical Medicine. She has been working on research projects regarding risk and protective factors for family and intimate partner violence since 1997.

Neil W. Boris is a pediatrician and child and adolescent psychiatrist and associate professor in the Tulane University School of Public Health and Tropical Medicine in the Department of Community Health Sciences, teaching in the maternal and child health section. He is also associate professor of psychiatry and pediatrics in the Tulane University School of Medicine.

Sherryl Scott Heller is trained as an applied developmental psychologist. She has long-standing clinical and research interests in the effects of maltreatment on child development, the development of attachment and attachment disturbances in very young children, child care, gender development and disturbances, the effects of violence on child development, and perinatal loss.

Gretchen A. Clum is an assistant professor in the Department of Community Health Sciences at Tulane University School of Public Health and Tropical Medicine. Her area of research is examining relationships between exposure to trauma and health outcomes, including health risk behaviors, in women and adolescents.

Janet C. Rice is an associate professor of biostatistics at Tulane University. Her areas of expertise include psychometrics, impact evaluation, and the analysis of longitudinal and hierarchical data.

Charles H. Zeanah is a child and adolescent psychiatrist and the Sellars Polchow Professor of Psychiatry at Tulane University Health Sciences Center. He has a longstanding interest in infant mental health, and his research and clinical interests concern the effects of abuse and serious deprivation on young children, parent–child attachment, psychopathology in early childhood, and infant–parent relationships.