The role of exposure to community violence and developmental problems among inner-city youth

DEBORAH GORMAN–SMITH AND PATRICK TOLAN
University of Illinois at Chicago

Abstract
While research has well documented that urban youth are exposed to increasing rates of community violence, little is known about what increases risk for violence exposure, what protects children from exposure to violence, and what factors reduce the most negative outcomes associated with witnessing violence. This study expands on current research by evaluating the relations between exposure to violence, family relationship characteristics and parenting practices, and aggression and depression symptoms. Data were drawn from a sample of 245 African-American and Latino boys and their caregivers from economically disadvantaged inner-city neighborhoods in Chicago. Rates of exposure could not be predicted from family relationship and parenting characteristics, although there was a trend for discipline to be related. Exposure to community violence was related to increases in aggressive behavior and depression over a 1-year period even after controlling for previous status. Future studies should continue to evaluate the role of exposure to violence on the development of youth among different neighborhoods and communities. Implications for intervention and policy are discussed.

Recent studies evidence that urban youth are exposed to unprecedented levels of community violence (Bell & Jenkins, 1993; Richters & Martinez, 1993a; Schwab–Stone, Ayers, Kasprow, Voyce, Barone, Shriver, & Weissberg, 1995). For example, in a survey of African-American 7–15-year-old elementary school children in the city of Chicago (Bell & Jenkins, 1993), 26% of the children reported that they had seen someone shot and 30% reported witnessing a stabbing during their lifetime. For 10–19-year-old students, the same investigators found that 75% had witnessed a robbery, stabbing, shooting, and/or killing. Forty-five percent of the students had witnessed more than one violent incident.

Risk for Exposure to Violence
Although it is clear that, in general, urban youth are exposed to increasing rates of community violence and such exposure is likely to have deleterious effects, not all children living in the same neighborhood are equally likely to witness high rates of violence; some children are protected from exposure to violence or witness significantly fewer episodes or less serious types of violence than other children living in the same neighborhood (Richters & Martinez, 1993b). We know little about what increases relative risk for exposure to violence among children living in the same neighborhood, what protects children from exposure, and what factors serve to reduce the most negative outcomes associated with witnessing violence when it occurs (Bell & Jenkins, 1993; Lorion & Saltzman, 1993; Osof-
sky, Wewers, Hann, & Fick, 1993; Richters & Martinez, 1993a).

In one of the few investigations of determinants of risk for exposure to violence, Richters and Martinez (1993a) evaluated several demographic family characteristics as possible mediators of risk for violence exposure. These included parental education, income, marital status, and living arrangements (home vs. apartment). The only family characteristic found to be associated with violence exposure was living arrangement; those who reported higher levels of witnessing violence were more likely to live in houses rather than apartments and had lived for a longer period of time in their current home. While recognizing the importance of evaluating the role of family in risk for violence exposure, these data do not lead to an explanation of how family characteristics affect risk for violence exposure or where to direct intervention.

Family characteristics were linked to exposure by Osofsky et al. (1993). They found a significant relation between community violence and family conflict. That is, youth reporting higher rates of exposure to violence reported greater incidence of family violence. However, because of the way the violence exposure questions were asked, these investigators were not able to distinguish between exposure to community violence and family conflict. It was not clear whether the violence reported reflected violence witnessed within the family or outside the family but by a family member. It may be that conflict reflects some characteristic about families that places children at increased risk for exposure to community violence. The results suggest, however, that the relationship between family characteristics and exposure to community violence should be explored further.

Consequences of Exposure to Violence

Exposure to violence has been associated with significant levels of distress including symptoms of posttraumatic stress disorder, depression, and anxiety (Garbarino, Dubrow, Kostelnyn, & Pardo, 1992; Martinez & Richters, 1993; Osofsky et al., 1993; Pynoos & Nader, 1987; Singer, Anglin, Song, & Lunghofer, 1995). Some of these studies have targeted children who had witnessed a specific event (Pynoos & Nader, 1987) and others surveyed children living in high-risk communities (Martinez & Richters, 1993; Osofsky et al., 1993). These studies have focused on children’s experience of distress, depression, and anxiety as the presumed symptomatology resulting from exposure to violence. However, extrapolating from previous research in the area of effects of family and media violence, it seems that one likely effect of exposure to violence is an increase in aggression (Widom, 1989). This may be most likely when violent aggression is more common in the community. Although it is clear that not all children exposed to family violence or who have been the victims of family violence become aggressive or delinquent (Widom, 1989), findings indicate that these children are at significantly greater risk of becoming aggressive, delinquent, or violent (Rivera & Widom, 1990). A modest relationship seems to exist between exposure to violence between parents and later aggression, and about 16–17% of those exposed report aggression in their own marriages (Widom, 1989). This effect seems to hold for observing, as well as directly experiencing (being the victim of), violence (Jaffe, Wolfe, Wilson, & Zak, 1986).

These findings highlight not only the need to include a focus on aggression and depression due to exposure to violence, but also to understand the variation in outcome. Why do some youth react by becoming more aggressive, while others show signs of depression or anxiety or multiple syndromes? Why are some youth affected, but not others? An evaluation of factors that interact with exposure and may serve to mitigate or exacerbate the impact of exposure is needed. In regard to community violence, there is a developing literature that suggests parenting and family characteristics may play an important role.

Family Factors and Exposure to Violence

Previous research on potential mediators and moderators of the effects of exposure to violence have focused on family factors (Martinez & Richters, 1993; Richters & Martinez,
While recognizing that child development occurs within multiple levels of context (Bronfenbrenner, 1979; Cicchetti & Lynch, 1993), family is considered the most proximal and often most influential of these systems (Cicchetti & Lynch, 1993; Tolan & Gorman-Smith, 1997; Tolan & Guerra, 1994). Evaluating several demographic variables, Martinez and Richters (1993) found distress symptoms were related to maternal education. Violence exposure was more strongly related to distress in children of less educated mothers. The process through which this variable related was not clear. One interpretation offered was that maternal education may have an “organizing influence on the family environment” (Cicchetti & Lynch, 1993, p. 100). Families that provide a dependable organized refuge may serve to mediate the impact of violence exposure.

In a second study, Richters and Martinez (1993b) found that level of exposure to community violence was not predictive of adaptational success or failure (as measured by social-emotional and academic functioning); rather, adaptational status was related to characteristics of the children’s homes. Specifically, the rates of a child having significant problems in social-emotional functioning and academic functioning increased significantly for children living in unstable or unsafe homes. Stability was measured using teacher ratings of family stability and safety was measured by children’s report of drugs or guns in the home. The majority (67%) of children from stable, safe homes were doing well emotionally and academically. The odds decreased to 48 and 50% for those whose homes were either unstable or unsafe and 0% for those who were living in homes that were both unstable and unsafe. These investigators concluded that “it was not the mere accumulation of environmental adversities that gave rise to adaptational failure in these children. Rather, it was only when such adversities contaminated or eroded the stability and/or safety levels of the children’s homes that the odds of their adaptational failure increased” (Richters & Martinez, 1993b, p. 609).

These studies suggest that the effects of exposure to community violence are related to aspects of other systems in which children are developing (Cicchetti & Lynch, 1993). The consequences of exposure are not the same for all children and appear to be dependent on family characteristics that serve to buffer or exacerbate impact. However, the process through which family factors interact with exposure to violence to affect potential outcomes for children needs further clarification.

**Violence Versus Other Types of Stress**

Exposure to community violence is just one type of stressor experienced by children, particularly those living in poor urban environments. The experience of major negative life events has been related to a range of emotional and behavior problems in children including delinquency (Gorman-Smith, Tolan, & Henry, in press; Tolan, 1988), aggression (Attar, Guerra, & Tolan, 1994), and distress symptoms such as depression and anxiety (Compas, Howell, Phares, Williams, & Giunta, 1989; DuBois, Felner, Brand, Adan, & Evans, 1992). Studies have consistently found that exposure to one stressor is not sufficient to lead to maladjustment; rather, a combination of stressors relates to the development of serious emotional or behavioral problems (Rutter, 1989; Seifer & Sameroff, 1987). Previous research has evaluated community violence apart from the influence of other types of stressful events. This has prevented an evaluation of whether observed outcomes are specific to violence exposure or merely reflect effects of cumulative stressors. It may be that community violence is simply one type of stressor for a group already experiencing multiple adversities such as family poverty and inadequate housing. Thus, one important question is whether violence is just one part of an additive model in which outcome is related to the experience of multiple stressors, violence exposure being one, or if there is a distinct effect of exposure to community violence.

This study extends the previous research on community violence in four important ways. First, this study moves beyond basic demographic characteristics to evaluate how important family process variables relate to
risk for exposure to violence and may serve as potential moderators of the impact of exposure. Specifically, the role of parenting practices and family relationship characteristics is evaluated. Second, the relations of exposure to violence and change in aggression and anxiety/depression are explored. The question addressed is whether the same family factors are related to both types of outcomes. Third, exposure to community violence and the experience of other types of stressful life events are both measured, thus allowing an evaluation of whether exposure to violence is simply one part of an additive model in which outcome is related to the experience of multiple stressors or whether there is a distinct effect of exposure to community violence. Fourth, this study focuses on a high-risk sample of minority adolescent males living in the inner city. Although all racial and ethnic groups are affected as both witnesses and victims of community violence, minority youths are disproportionately affected (Bureau of Justice Statistics, 1991; Christofel, 1990; Cooley–Quill, Turner, & Beidel, 1995). The problem is more prevalent in poor, urban communities (Cooley, Turner, & Beidel, 1995; Tolan, Guerra, & Montain–Klovdahl, 1997). Males are at greatest risk for witnessing and becoming the victim of violence. For example, the lifetime risk of being murdered is as high as 1 in 21 for black males, compared to 1 in 131 for white males (Centers for Disease Control, 1990).

**Family Factors and the Impact of Violence Exposure**

The data are drawn from the Chicago Youth Development Study (CYDS), a longitudinal study of the dynamics of risk for the development of serious antisocial behavior among inner-city minority adolescent males. The study is guided by a transactional and multilevel conception of developmental risk and presumes that development is dependent on the interaction of individual and contextual characteristics (Cicchetti & Lynch, 1993; Sameroff & Fiese, 1992; Tolan, Guerra, & Kendall, 1995). While acknowledging that multiple systems impact development, the present study focuses on family factors (specifically, family relationship characteristics and parenting practices) in the risk for violence exposure and the development of aggression and depression among economically disadvantaged minority youth.

The results of previous studies in this area suggest that the role of family relationship characteristics and parenting practices in the risk for exposure to violence should be pursued (Osofsky et al., 1993; Richters & Martinez, 1993b). Parenting practices such as discipline and monitoring are likely to affect who is exposed to community violence. Children who are closely supervised and have greater parental involvement in their daily activities may be less exposed to community violence. Previous research has identified family relationship characteristics and parenting practices as important mediators of community-level influence on child development (Gorman–Smith, Tolan, & Henry, in press; Sampson, in press). In addition, family factors have been identified as risk factors for antisocial and violent behavior (Farrington, 1989; Gorman–Smith et al., in press; Loeber & Dishion, 1983; Tolan & Loeber, 1993), as well as protective factors for psychopathology (Garnezy, 1985; Masten, Garnezy, Tellegen, & Pellegrini, 1988). Thus, it seems likely that family relationship characteristics and parenting practices may have a central influence on risk for violence exposure and serve as a moderator of violence exposure’s impact among children living in neighborhoods with high violence rates (Richters & Martinez, 1993b).

Family relationship characteristics and parenting practices are differentiated in this study because they represent two related but distinct characteristics of family life (Gorman–Smith et al., 1996). Family relationship characteristics are distinct from parenting practices in that they refer to the way the family functions as a system or as a whole. Family functioning refers to the processes that comprise how the family relates to one another, is organized, and the beliefs and values held by the family as a system (Tolan, Gorman–Smith, Huesmann, & Zelli, 1997). In our model, six specific aspects are tapped (i.e., beliefs about family, beliefs about development, support,
cohesion, communication, and deviant values) that comprise three underlying dimensions of family relationship characteristics. Parenting practices refer to the method and style of parenting responsibilities and include discipline practices, supervision and monitoring, and the extent of involvement in the child’s daily activities (Darling & Steinberg, 1993). Both are important complementary influences on child development and are likely to influence risk for exposure to violence as well as outcomes associated with exposure.

Questions Addressed

This study seeks to address four primary questions in regard to inner-city minority youth’s exposure to community violence:

1. Do family relationship characteristics and parenting practices relate to exposure to violence?

2. Does exposure to community violence relate to aggression and depression symptoms among this sample of inner-city minority adolescent boys?

3. Do family relationship characteristics add to the explanation of the relationship of violence exposure to aggression and depressive symptoms?

4. What are the relations between exposure to community violence, experience of other stressful events, aggression, and depression?

Method

Subjects

The current study uses data from two waves (collected 1 year apart) of the CYDS, a longitudinal study of the development of serious delinquent behavior among inner-city young adolescent males. The study applies a multi-level, multiwave assessment to evaluate interactions among the individual, family, peer, community, and social factors affecting boys’ involvement in antisocial behavior.

Boys were recruited from fifth and seventh grade classrooms in 17 Chicago public schools. After obtaining parental permission, 1105 boys were screened using the Achenbach Teacher Rating Form (TRF; Achenbach, 1991), representing 92% of the population of fifth and seventh grade boys in these schools. Boys were selected for participation in the longitudinal study so that 50% of the boys selected were considered at “high risk” for development of serious aggression based on teacher ratings indicating that the boys were already participating in high levels of aggressive behavior ($T > 70$, 98th percentile). After this categorization, subjects were randomly selected from the remainder of those screened. Seventy-five percent of the eligible participants completed interviews during the first wave of interviews and 90% of those were interviewed again in the second wave.

Subjects for whom we had complete mother and son data for 2 years were included in this study ($n = 245$). Comparison of those not interviewed and those interviewed from the targeted sample was possible using initial teacher ratings of aggression, $F(1, 524) = .57$, $p = .45$, and official arrest records (ever arrested) after Wave 2, $\chi^2(1, 298) = .37$, $p = .54$. No significant differences were found. There were also no significant differences between subjects interviewed in Waves 1 and 2 and those not interviewed in Wave 2 on any of the parenting and family relation scales or mother and son reports of aggression and internalizing symptoms. The only significant difference between those interviewed during both Wave 1 and Wave 2 and those not interviewed during Wave 2 was on teacher report of aggression, $F(1, 298) = 4.04$, $p = .01$; those who continued to participate had slightly lower ratings of aggression. This difference accounted for 2% of the variance in teacher aggression ratings. There were no significant differences for mother or youth reports of aggression, self-report of delinquency at Wave 1, or official arrest records for any year. Therefore, there does not appear to be any substantial bias due to attrition.

The subjects are African-American and Latino boys and their caregiver(s) from economically disadvantaged inner-city neighborhoods in Chicago; 62% live in single-parent
homes, 47.6% of the families have a total income below $10,000 per year, and 73.5% have incomes below $20,000 per year. The subjects were between the ages of 11 and 15 during the first wave of interviews.

Procedure

Subjects were interviewed in their homes or in a mutually agreed upon location by trained interviewers. Individual interviews were conducted separately with the target boy and his caregiver(s) following a joint family-interaction task. Questions covered individual (e.g., stress, coping, depression, future expectations, beliefs, delinquent behavior), family (e.g., cohesion, support, communication, discipline practices, supervision, involvement), peer (e.g., popularity, social support, delinquency), school (e.g., attitudes, achievement), and community (e.g., safety, resources) variables. The same information was collected across informants at each wave, except that exposure to community violence was not measured at Wave 1. Total interview time was between 3 and 3.5 hr. The present study focuses on the child and mother report of family functioning, parenting practices, violence exposure, and aggression from Waves 1 and 2.

Measures

Violence exposure. Boys’ exposure to community violence was measured in Year 2 using the Exposure to Violence Interview, a subscale within the CYDS Stress and Coping Interview (Tolan & Gorman-Smith, 1991) that lists nine specific items related to victimization and witnessing violence. For example, subjects were asked if they had ever witnessed anyone being beaten, seen someone shot or killed, or been the victim of a violent act. If the subject indicated that the event had occurred during the last year, he was asked where the event occurred, the specifics of the incident, and his relationship to the victim and perpetrator. Reports of events occurring during their lifetime, as well as the frequency during the last year, were obtained from subjects. Lifetime and rates of exposure during the last year are both reported in the first part of the Results section. Violence exposure during the last year (i.e., exposure between yearly interviews) was used in all subsequent analyses. The violence exposure score used in these analyses is a total frequency count for each of the nine events, and the two victimization items were given double weight.

Other stressful life events. Stressful events were measured using the CYDS Stress and Coping Scale (Tolan & Gorman-Smith, 1991). Subjects were given a list of 35 potential stressful events (not including the violence exposure questions) and asked to report frequency of occurrence during their lifetime and within the past year. The types of stressful events included economic problems (e.g., quit or lost a job, had serious financial problems, been on public aid), health (e.g., someone in family became seriously ill, someone in family had a major emotional problem), loss (e.g., someone in family died, lost a good friend), and other (e.g., gotten into trouble at school or with the authorities, had to move to a new home, new baby in the family). Youth report of total stress occurring within the last year (i.e., between Time 1 and Time 2 interviews) was used in these analyses.

Family relationship characteristics. The development of this measure is described in detail in previous papers (Gorman-Smith et al., 1996; Tolan, Gorman-Smith, Huesmann, & Zelli, 1997). The family measure used during the 1st year of data collection contained 92 items pooled from existing family relations measures. The measures selected were originally chosen because they tapped family processes that had previously been identified as relating to risk for antisocial and delinquent behavior (Loeber & Dishion, 1983; Tolan & Loeber, 1993). The caregiver(s) and boys were administered the same items.

We initially attempted to confirm the factor structures of the original scales but were unable to do so with our sample. We then applied confirmatory factor analyses based on theoretical formulations from our reviews of the literature on family process and risk (Tolan, Cromwell, & Braswell, 1986; Tolan & Mitchell, 1990). Scales were differentiated
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into those representing beliefs and values held by the family and those measuring processes occurring within the daily interactions of the family such as support, organization, communication, and cohesion. We combined reports from mother and child. A product score was computed for the belief items to obtain an index of agreement or shared beliefs among family members. This score captured the extent of endorsement by each individual, as well as the agreement across sources. An average score was computed for the items representing daily interactions to obtain an index of the presence or absence of practices in the home. Factor analysis of the combined mother and child scores yielded six theoretically meaningful factors: Family Beliefs (includes two scales: beliefs about the importance of family relationships and beliefs about development); Emotional Cohesion; Support; Communication; Shared Deviant Beliefs; and Organization. Item loadings were strong; there was coherence among items loading on each factor and adequate internal consistency. Internal consistency coefficients range from .54 (Communication) to .87 (Beliefs).

Comparison of higher order factor models indicated the best fit was a three factor structure of Cohesion, Beliefs, and Structure, $\chi^2(4) = 3.92$, $p > .41$, root mean square (RMS) = .022, Goodness of Fit Index (GFI) = .98. In addition to this model having an excellent fit to the data, these three constructs represent theoretically meaningful aspects of family functioning from a family systems perspective (Nichols & Schwartz, 1994). Beliefs include two of the six scales, Beliefs about Family and Shared Deviant Beliefs, and represent expectations about the importance of the family, purpose of the family, and expectations about child development. Cohesion includes Organization, Communication, Support, and Emotional Cohesion. This construct represents the extent of emotional closeness and dependability, support, and clear communication among families. Orthogonal to these dimensions but sharing measured scales, Structure represents organization and support and intolerance of antisocial values. While Structure comprises scales loading on the other two factors (i.e., Support, Organization, and Deviant Beliefs), this construct represents a unique variance shared between scales loading on this factor that is not accounted for by the other factors. These measured scales reflect more than one underlying dimension of family functioning.

The scale and factor structure of this measure was cross-validated with a second sample that had greater ethnic diversity (26% Caucasian), younger children (first–sixth grade), and girls (Tolan, Gorman–Smith, Huesmann, & Zelli, 1997). The higher order factors were found to relate to aggression, depression, and delinquent behavior (Gorman–Smith et al., 1996; Tolan, Gorman–Smith, Huesmann, & Zelli, 1997). The latent constructs of Cohesion, Beliefs, and Structure were used in these analyses.

Parenting practices. Parenting practices were measured using questions from the Pittsburgh Youth Study (Loeber, Stouthamer–Loeber, & Farrington), which factor into four scales: Positive Parenting, Discipline Effectiveness, Avoidance of Discipline, and Extent of Monitoring or Involvement in the child’s life. Positive Parenting refers to the use of positive rewards and encouragement of appropriate behavior. Discipline Effectiveness is a measure of how effective parental discipline is in controlling the son’s behavior. Avoidance of Discipline refers to the parent’s avoidance of providing consequences or disciplining for fear of the escalation of the son’s behavior. Extent of Involvement is a measure of involvement in daily activity and routines and the knowledge of the son’s whereabouts. Report of Discipline Effectiveness and Avoidance of Discipline is gathered from the mother only. Estimates of Positive Parenting and Extent of Monitoring or Involvement is gathered from mother and child. Internal consistency reliabilities of each of the subscales ranged from .68 to .81. Previous research had identified two underlying constructs of Discipline and Monitoring as important in understanding risk for antisocial and delinquent behavior (Patterson, Reid, & Dishion, 1992). Thus, confirmatory factor analyses were applied to these data using both mother and child reports. The results of these analyses were consistent with others in identifying two
latent constructs of Discipline and Monitoring (Gorman-Smith et al., 1996). For the present study, scale scores for mother and child reports were standardized and combined using weightings from the LISREL VII analyses to create scores on these two constructs.

Anxiety/depression. The parent, teacher, and youth reports of the Child Behavior Checklist (Achenbach, 1991) were used as sources of a measure of anxiety/depression. The Child Behavior Checklist is a widely used checklist of children’s behavior problems, and a considerable body of literature reports good reliability and validity (Achenbach, 1991). Informants are given a list of 119 items that describe children and are asked to report whether the item is very true or often true of the child, somewhat or sometimes true of the child, or not at all true of the child. The anxiety or depression subscale contains 15 items (e.g., lonely, cries, sad). Mother, child, and teacher scores were converted to $z$ scores and the three $z$ scores were then combined to obtain one score. The correlation between parent and teacher scales was $r = .36, p < .01$. Child and parent correlated $r = .37, p < .01$, and teacher and child correlated $r = .21, p < .01$.

There are two perspectives generally taken regarding how to use reports from multiple informants. One perspective is that because agreement across respondents is modest, only one source (that perceived as most valid) should be used or separate analyses are run for each source. A second perspective that can be taken is that the more sources reporting about the behavior or construct, the more reliable the measure (Patterson & Bank, 1986). That is, each reporter is viewed as a source about a general tendency. In this study, we take the second perspective. By combining standardized scores from each of the three reporters (mother, child, and teacher), the score provides a more reliable measure of these behaviors in multiple settings.

Aggression. The parent, teacher, and youth reports of the aggression subscale of the Child Behavior Checklist (Achenbach, 1991) were also used as a source of measure for aggression symptoms. The informants were given the list of 119 items and were asked to report on their validity for the child. The aggression subscale contains 19 items (e.g., argues, fights, destroys property). As with depression, a $z$ score combining mother, child, and teacher reports was calculated and used in these analyses.

### Results

The results are presented in three sections. First, rates of youth report of exposure to community violence are presented. Second, we evaluate the relation between exposure to violence and family factors. Third, we consider the relations of family functioning and exposure to community violence to change in aggression and depression and whether family factors may moderate the impact of exposure to community violence.

#### Rate of exposure to community violence

The first issue is the baseline of violence exposure experienced by inner-city adolescent males. The percentage of boys reporting exposure to community violence are calculated and reported in Table 1. Lifetime, as well as exposure in the previous year, is presented. As can be seen from these tables, these youth are exposed to high rates of violence and differences between lifetime rates and exposure during the last year are not significant. The

### Table 1. Percentage reporting exposure to violence and victimization

<table>
<thead>
<tr>
<th>Item</th>
<th>Last Year</th>
<th>Lifetime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family member robbed or attacked</td>
<td>16.5</td>
<td>33.3</td>
</tr>
<tr>
<td>Other than family member robbed or attacked</td>
<td>23.5</td>
<td>33.3</td>
</tr>
<tr>
<td>Seen someone beaten up</td>
<td>54.0</td>
<td>67.7</td>
</tr>
<tr>
<td>Seen someone shot or killed</td>
<td>15.8</td>
<td>22.5</td>
</tr>
<tr>
<td>Witnessed other violent crime</td>
<td>5.6</td>
<td>12.6</td>
</tr>
<tr>
<td>Close friend killed</td>
<td>5.6</td>
<td>8.8</td>
</tr>
<tr>
<td>Witnessed violent crime</td>
<td>5.6</td>
<td>10.5</td>
</tr>
<tr>
<td>Victim of nonviolent crime</td>
<td>6.3</td>
<td>10.5</td>
</tr>
<tr>
<td>Victim of sexual assault</td>
<td>0.4</td>
<td>1.1</td>
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</tbody>
</table>
The majority of youths have been exposed to some type of violence; 80% report some exposure during their lifetime, and 65% report exposure during the last year. These youths are exposed to many different kinds of violence; 50% of the subjects report exposure to more than one event, and 30% report exposure to three or more events during the last year.

Table 1 shows that more than half (54%) of the boys report “having seen someone beaten up.” Unlike the other events reported, witnessing someone being beaten up is a frequent occurrence among adolescents in general and could be considered a developmentally expected event. Because exposure to this type of violence is normative or at least not unusual among adolescents, this item was removed from the remaining analyses to provide a clearer understanding of the impact of exposure to types of community violence that are out of the range of normal experience. Notably, the relations found do not differ from the results of analyses completed when this item is kept as part of the exposure to violence score.

Relation of exposure to violence and family factors

The second issue evaluated was the relation between family factors and exposure to violence. Specifically, were family relationship characteristics and parenting practices measured at Wave 1 related to reports of exposure to violence measured at Wave 2 (i.e., exposure occurring in the subsequent 12 months)?

Table 2 provides the bivariate associations between violence exposure reported at Wave 2 and family relationship and parenting characteristics, aggression, and depression reported at Waves 1 and 2. Yet again, family factors and individual symptoms were measured during each year of data collection. Exposure to community violence (both lifetime and during the last year) was not measured until the 2nd year of data collection.

Exposure to violence measured at Time 2 is not related to any Time 1 parenting or family relationship characteristics, as can be seen in Table 2. However, Discipline at Time 2 is significantly related to violence exposure. Thus, it appears for these adolescents that violence exposure is not related to prior status of family functioning but may be related to concurrent parenting practices.

The relation of violence exposure to aggression and anxiety or depression

We then examined whether violence exposure was related to change in aggressive and anxious or depressive symptoms. Given the often reported stability of these symptoms, particularly aggression, we were interested in whether exposure to violence was related to change in symptom level (Lefkowitz, Huesmann, Walder, & Eron, 1972). Multiple regression analyses were conducted to evaluate the relation of exposure to community violence to symptoms reported at Time 2, controlling for previous status on the respective symptom scales. The results support the hypothesis that exposure to violence relates modestly to change in aggression and anxiety or depression. Violence exposure contributed an additional 5% of the variance for current aggression than was accounted for by previous aggression, $F(2, 248) = 69.64, p < .0001$, and an additional 3% of the variance than is accounted for by Time 1 anxiety/depression, $F(2, 246) = 49.21, p < .0001$.

Relations of exposure to violence, family and parenting characteristics, aggression, and anxiety or depression

We next tested the relation of family relationship characteristics and parenting practices

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1. Analyses were also completed by age and risk group. The results of those analyses were similar to that found for the entire sample. That is, the relations between exposure to violence, family factors, and symptoms were the same for the group initially targeted as “high risk” and those at low to medium risk. In addition, there was no difference in the pattern of results found for the younger (sixth grade) and older (eighth grade) sample. Therefore, the analyses presented included the entire sample.

2. Analyses were also completed using youth scores from the Child Depression Inventory (Kovacs, 1985). The same pattern of results was found as that of the anxious or depressed subscale of the Child Behavior Checklist (Achenbach, 1991).
Table 2. Correlations among exposure to violence, aggression, anxiety/depression, other stress, parenting and family relationship characteristics

<table>
<thead>
<tr>
<th></th>
<th>Exposure to Violence</th>
<th>Aggression</th>
<th>Anxiety/Depression</th>
<th>Other Stress</th>
<th>Monitor</th>
<th>Discipline</th>
<th>Cohesion</th>
<th>Beliefs</th>
<th>Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Time 1</td>
<td>Time 2</td>
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<td>Time 2</td>
<td>Time 1</td>
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<tr>
<td>Exposure to violence</td>
<td>1.00</td>
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<td></td>
</tr>
<tr>
<td>Aggression</td>
<td></td>
<td>.22**</td>
<td>1.00</td>
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<tr>
<td>Time 1</td>
<td></td>
<td></td>
<td>.31**</td>
<td>.56**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Time 2</td>
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*p < .05, **p < .01.
and exposure to community violence in change in level of symptomatology. In addition, given the number of other types of stressors to which adolescents living in the inner city are exposed (Attar, Guerra, & Tolan, 1994; Tolan, Guerra, & Montaini–Klovdahl, in press), we included the total of other stress types reported to evaluate whether results were specific to exposure to violence or related to experience of stress in general. To test for potential moderating effects of family functioning, the interactions between exposure to violence and each of the family and parenting variables were included in the equation. To test the relationship, status on each dependent variable at Time 2 was regressed on exposure to violence in the past year, other stress in the past year, family relationship and parenting characteristics measured at Time 2, and the product of exposure and each family variable, controlling for symptom status at Time 1. Measures of family functioning at Time 2 were used because we were interested in the concurrent influence of family factors and exposure to violence. As detailed in the Methods section, exposure to violence occurring since the last interview (during the last year) was measured. Participants reported about the current level of family functioning. The question addressed was, given exposure, how does current family functioning relate to outcome? Does current family functioning moderate the impact of exposure to violence?

Table 3 reports the results of the hierarchical regression analysis. In each case exposure to violence remained a significant predictor of later status, even when the family relationship and parenting characteristics were added to the model. However, there were different relations for aggression and anxiety or depression. Change in aggression was not related to exposure to other types of stress but was significantly related to exposure to community violence. Thus, there appears to be a distinct relation between exposure to violence and aggression. Structure and the interaction between Structure and Exposure to Violence were also significant. The interaction between Beliefs and Exposure to Violence approached significance ($p = .08$). For anxiety or depression, Exposure to Violence and the experience of other types of stressful events were both significantly related. Structure and the interaction between Exposure to Violence and Cohesion were also significant.

**Interactions.** To evaluate significant interaction effects, correlations between status at Time 2 and exposure to community violence, controlling for status at Time 1, were computed for families high and low on each of the significant family variables. The results are presented in Table 4.

Looking first at aggression, families were divided (median split) on the basis of their score on Structure. For families with high scores on Structure, the partial correlation between Exposure to Violence and Time 2 aggression, controlling for Time 1 aggression, was .37 ($p < .001$). In families with a low score on Structure, the partial correlation was not significant.

For anxiety/depression, the interaction of Cohesion and Exposure to Violence was significant. Again, families were divided on the basis of their Cohesion score. For families low on Cohesion, the partial correlation between Time 2 anxiety or depression and Exposure to Violence, controlling for anxiety/depression at Time 1, was .30 ($p \leq .001$). For families with high scores on Cohesion, the partial correlation was not significant.

**Discussion**

The findings from this study contribute to the emerging literature on the effects of exposure to violence by showing that boys growing up in poor, urban communities are exposed to high levels of community violence. Exposure to community violence in the past year was related to current level of aggression and depression, even when controlling for previous symptom level.

The majority of boys in this sample (80%) reported some exposure to violence during their lifetime as well as during the last year (65%). Thirty percent of the boys reported exposure to three or more violent events during the last year. Although it is not possible to make exact comparisons between this sample and others reported previously because spe-
Table 3. Regression, status at Time 2 predicted by status at Time 1, Exposure to Violence, Family and Parenting Characteristics at Time 2

<table>
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<tr>
<th>Predictor</th>
<th>Aggression</th>
<th>Anxiety/Depression</th>
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<td>Status, Time 1</td>
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<td>Exposure to Violence</td>
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<td>0.30</td>
</tr>
<tr>
<td>Beliefs</td>
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<td>0.08</td>
</tr>
<tr>
<td>Structure</td>
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<td>−0.15</td>
</tr>
<tr>
<td>Cohesion</td>
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<tr>
<td>Discipline</td>
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<td>−0.11</td>
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<tr>
<td>Monitoring</td>
<td>−0.08</td>
<td>−0.07</td>
</tr>
<tr>
<td>Structure × Exposure</td>
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<td>−0.08</td>
</tr>
<tr>
<td>Cohesion × Exposure</td>
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<td>−0.27</td>
</tr>
<tr>
<td>Beliefs × Exposure</td>
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<tr>
<td>R²</td>
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<td>.43</td>
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*p < .05. **p < .01. ***p < .001.

Table 4. Correlation of Exposure to Violence and symptoms by family group

<table>
<thead>
<tr>
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<tr>
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<td>.13</td>
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<table>
<thead>
<tr>
<th></th>
<th>High Cohesion</th>
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<tbody>
<tr>
<td>Exposure to Violence</td>
<td>.08</td>
<td>.30***</td>
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</table>

***p < .001.

cific items asked were different across studies, general rates appear similar. For example, Richters and Martinez (1993a) report that among their older sample of fifth and seventh grade students (the age group closest to this sample), 75% reported witnessing some form of community violence. Youth in the present sample reported somewhat lower rates of witnessing a shooting than others have found. Singer and colleagues (1995) reported that between 14 and 46% of their four samples had seen someone shot. Other figures range from 31% (Richters & Martinez, 1993a) to 43% (Schwab–Stone et al., 1995), compared with 23% of this sample’s lifetime report. However, these rates are still high and are levels unlikely to be encountered by youth living in other than poor, urban communities (Attar et al., 1994; Cooley et al., 1995).

Although it is clear that some boys are more likely than others to be exposed repeatedly to high levels of community violence, exposure could not be predicted from family relationship and parenting characteristics, although there was a trend for concurrent Discipline to be related to exposure. These results suggest that family factors do not relate to who is exposed to violence among this urban sample of young adolescent boys. For youth living in the inner city there may be other factors, such as peer or community level influences, that are more important in influencing
risk for exposure to violence. For example, exposure to violence for youth in this sample may be more related to where you live or where you go to school than to how your family functions. These findings are not dissimilar from those of Richters and Martinez (1993a) who found exposure to violence related only to family living arrangements (e.g., houses vs. apartments) and not to other family factors. Their finding may actually reflect a marker of community risk (where the child lives), as opposed to some aspect of family functioning. It is also possible that given the age of this sample, family and parenting factors have become less important in determining risk for exposure than they might be among a sample of elementary or preschool-aged children. Determinants of exposure and variations by developmental stage are needed to help differentiate community from developmental explanations.

Consistent with previous findings, exposure to community violence relates to aggressive behavior and anxiety or depressive symptoms (Cooley-Quill et al., 1995; Martinez & Richters, 1993; Osofsky et al., 1993; Schwab-Stone et al., 1995; Singer et al., 1995). This study shows that this relation is significant, even after controlling for previous symptom status. These findings also add to the previous literature linking symptoms and exposure by evaluating the relation of each of these factors with other types of stressful events. The results suggest differences in the relations of exposure to violence and other types of stress to aggression and anxiety or depression. When exposure to violence is considered along with other types of stressors, the other stressors are not related to changes in aggression but are related to anxiety or depression. Thus, community violence appears to be a qualitatively different type of stressful life event as related to aggression. When evaluating the relation with anxiety or depression, these results suggest that exposure to violence and other types of stressful events are both related. These findings also suggest a distinct relation, apart from other types of stressful events, for exposure to violence and aggression.

Although these analyses cannot explain the processes by which violence exposure may relate to aggression, there are several potential explanations for this finding that merit mentioning. Most can be clarified with evaluation of exposure and other variables over multiple sampling points. First, it is possible that the relation between exposure to violence and aggression found in this study is in part due to these youth seeking out violent contexts. Youth may be exposed to violence because they are participating in violence or are involved in activities that put them at greater risk for exposure. Because these data are correlational, direction of effect cannot be determined. Second, exposure to high levels of chronic community violence may change the normative beliefs about use of aggression or violence. It may be that after having been exposed over time, one comes to believe aggressive and violent responses are normal acceptable responses. Increasing exposure to violence relates to increasing levels of aggression. Evaluation of these potential hypotheses can only occur with additional waves of data. These explanations are less adequate for explaining the anxiety or depression outcome. Longitudinal analyses are needed that permit the tracing of the direction of influence and specific versus general processes of these relationships.

These results also suggest a relation between parenting practices and family relationship characteristics and an increase in symptoms for this group of inner-city adolescents. Family Structure was a significant predictor of change in status for aggression and anxiety or depression. Structure refers to level of organizing and support experienced within the family, as well as the degree to which the family does not hold deviant beliefs (e.g., it’s okay to lie to someone if it will keep you out of trouble, it’s okay to skip school every once in awhile). The results suggest that the lack of the family as a dependable supportive refuge relates to an increase in both types of symptoms for these boys. These family characteristics of organization and support may be particularly important for youth living in urban environments where there are increased stressors, fewer resources, and less predictability (Tolan & Gorman-Smith, 1997). It is unclear whether the relation found suggests an addi-
tive detrimental effect of violence exposure and family factors both relating to a change in symptom or whether symptom level leads to a change in family functioning. It is also possible that the relation found is due to a third factor not captured in these analyses.

The results also suggest the process may be an interaction between exposure to violence and some family factors. For aggression, exposure to community violence was significantly related to aggression for youth in families with high levels of Structure. These results suggest that even organized families may not be able to buffer the effect of youth exposure to violence on aggression. For families with low levels of Structure, exposure to violence may not appear to have an additional deleterious relation to aggression. For anxiety or depression, exposure to violence was significantly related to increased symptoms among youth with families reporting low levels of Cohesion. These results suggest that lack of emotional closeness and support from family is related to depressive symptoms for youth who are exposed to violence in this sample. Having a family in which one feels emotionally connected and supported may provide a context for youths to cope with the emotional impact of having witnessed or been the victim of violence, at least as related to anxious or depressive symptoms. These results are consistent with others who have found that family cohesion and support serves as a protective factor among children who have been the victims of other types of violence, such as physical and sexual abuse (Spaccarelli, 1994).

There are several limitations of this study. First, this sample is limited to minority male adolescents living in the inner city. Generalization of these findings to girls, other ethnic groups, and adolescents living in other contexts is uncertain. Second, 50% of this sample comprises high-risk youth, based on teacher ratings of aggression. One hypothesis may be that the relation between exposure to violence and aggression found in this study is in part due to these youths’ greater aggression rates. This may partially explain why none of the family factors are important in predicting who is more or less likely to be exposed to violence. However, even controlling for previous aggression, there is still a relation between exposure to violence and increased aggression. Also, there was no difference in the pattern of results between the high-risk portion and the remaining sample. Third, related to this issue, the correlational nature of these data limit any determination about the direction of effect between violence exposure and symptom level. Although the interpretation that exposure to violence leads to symptom changes is consistent with previous literature (Cummings, Hennessy, Rabideau, & Cicchetti, 1994; Pynoos & Nader, 1987; Rivera & Widom, 1990), it is possible that the associations may actually run in the other direction. That is, as discussed previously, it is possible that aggressive youth may seek out violent contexts and that the relation found reflects aggressive youths’ own participation in violence or violence of their peers. It may also be that the relation found for anxiety or depression reflects youth becoming increasingly isolated from more appropriate social contacts and finding themselves in situations where they are more likely to be exposed to community violence. Further understanding of this relation must wait until the availability of additional waves of data from this study.

These results provide support for a widely held but previously unsubstantiated concern about the harmful relation of exposure to high rates of violence and aggression and anxiety or depression among inner-city youth. These findings suggest the importance of lessening such exposure and the potential benefits of doing so even when focused on adolescents. Further, these findings suggest that for youth living in urban environments, interventions that focus on family factors without consideration of this important aspect of community context may have limited impact. The task faced by families living in poor, urban communities is likely different than that faced by families living in neighborhoods with less violence and greater resources (Tolan & Gorman-Smith, 1997). The basic work may be to help families learn to manage and cope with these stressors so they are then able to provide the consistency, structure, and support children need.
These findings also underscore the importance of understanding that children’s risk in these communities is not necessarily solely related to family functioning. That is, risk extends beyond the family to characteristics of the neighborhood and community. There is increasing evidence that factors within the community have a direct effect on child development, as well as through the effect on family functioning (Brooks-Gunn, Duncan, Klebanov, & Sealand, 1993; Crane, 1992; Garbarino & Sherman, 1980). Programs and policies aimed at reducing the amount of violence within communities and providing support to families to help with basic functioning may be more effective in reducing risk for youth than traditional interventions focused on parenting characteristics such as discipline and monitoring. Policies aimed at improving the quality of the neighborhood are likely to make the most significant changes for children and families living in inner-city communities (Brooks-Gunn et al., 1993; Crane, 1992; Gorman-Smith et al., in press; Sampson, in press).

References


