

# The Covariates of Parent and Youth Reporting Differences on Youth Secondary Exposure to Community Violence

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**Abstract** Survey data for studying youth's secondary exposure to community violence (i.e., witnessing or hearing violence in the community) come from both parents and their children. There are benefits of considering multiple informants in psychosocial assessments, but parents and youths often disagree about comparable information. These reporting differences present challenges for both researchers and clinicians. To shed new light on the individual, family, and neighborhood factors that contribute to parent and youth reporting differences regarding youth's secondary exposure to community violence, this study analyzed hierarchical item response models on a sample of youth respondents from the Project on Human Development in Chicago Neighborhoods. Participants were aged approximately 9, 12, and 15 years (trimodal distribution; mean age = 12.0 years) at baseline ( $N = 2,344$ ; 49.6 % female). Descriptive analyses indicated that parents significantly underestimated their children's exposure to community violence. Logistic hierarchical item response models indicated that absolute discrepancies between parent and youth reports were a function of youth demographic characteristics (male, Hispanic or African American as compared to white, age, 3rd as compared to 1st generation immigrant), individual difference factors (lower levels of self-control, higher levels of violent peer exposure), and family factors (lower household socioeconomic status). Parental underreporting of youth's exposure to violence was associated with youth demographic characteristics (male, age, 2nd as compared to 3rd generation immigrant), family factors

(lower levels of parental supervision), and neighborhood characteristics (higher levels of violence, less access to youth services). The results suggest that a constellation of individual and contextual factors may contribute to the understanding of parent and youth reporting differences. The findings speak to the utility of examining parent and youth reporting differences from a hierarchical lens.

**Keywords** Secondary exposure to community violence · Parent–child relations · Crime and delinquency · Violence · Contextual factors

## Introduction

Survey data for studying child and adolescent development often come from multiple informants (Achenbach 2006; Byrnes et al. 2007; Thornberry et al. 2009). Using multiple informants can increase the validity and reliability of psychosocial assessments that may vary across environments (Achenbach et al. 1987). But, informants often disagree about comparable information. For example, differences exist between parent and youth reports of youth's symptomatology (see De Los Reyes and Kazdin 2005), family conflict (Paikoff et al. 1993), and negative life events such as exposure to community violence (Howard et al. 1999). Reporting discrepancies among multiple informants are thus not uncommon and pertain to various domains of a youth's daily life.

These reporting discrepancies present challenges for both researchers and clinicians across disciplines. Determining the most accurate reporter is paramount (Bailey and Garralda 1990), given that clinical treatment may vary depending on the source of information (Kazdin 1989). A second issue is which informant report is more predictive

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of developmental outcomes (Byrnes et al. 2007; Duncan et al. 2002). Third, measurement issues arise, as low inter-rater agreement may suggest distinct constructs (see Fergusson and Horwood 1987, 1989; Offord et al. 1989, 1996). Fourth, researchers must determine the most appropriate analytic model for handling multiple informants' reports (see Gonzalez and Griffin 1997; Kuo et al. 2000; Holmbeck et al. 2002). Finally, reporting differences across informants may reflect consequential behavioral, family, and neighborhood dynamics for child and adolescent development. This idea underlies the present study, which seeks to understand the etiology of differences between parent and youth reports of youth's secondary exposure to community violence, defined as witnessing or hearing violence in the community (see Buka et al. 2001; Gardner and Brooks-Gunn 2009; Gibson et al. 2009).

It is critical that we understand parent and youth reporting differences as to the child's secondary exposure to violence for several reasons. First, secondary exposure to community violence is prevalent among U.S. youths, particularly among adolescents. In national samples, approximately 10 % of toddlers (2–5 year olds) and 70 % of older adolescents (14–17 year olds) reported witnessing community violence during their lives (Finkelhor et al. 2009a, b). These rates are as much as two to four times higher than rates of direct victimization among youths (see Kennedy 2008; Richters and Martinez 1993). Second, research has documented an array of maladaptive outcomes associated with secondary exposure to violence (see Listenbee et al. 2012). Third, a number of studies have demonstrated that exposure to multiple kinds of violence (i.e., poly-victimization), including secondary exposure to violence, predicts adverse developmental outcomes beyond the effects of any single type of exposure to violence (see Finkelhor et al. 2007). Finally, understanding, addressing, and reducing secondary exposure to violence has become part of a national initiative through the Office of Juvenile Justice and Delinquency Prevention's (OJJDP) Safe Start Program. The Safe Start Program directly addresses intra-familial communication about exposure to violence throughout U.S. communities by urging school personnel to notify parents when students are directly and indirectly exposed to violence. Safe Start also notifies parents of school-based violence curricula and assigns homework exercises that require parental involvement (Escudero et al. 2010). Understanding the explanatory factors of parent and child reporting differences as to the child's exposure to violence can thus inform interventions such as the Safe Start Program that seek to reduce the negative effects of exposure to violence.

Unfortunately, empirical research on the sources of parent and child reporting differences as to the child's secondary exposure to violence is sparse, and few organizing

conceptual frameworks have been offered to explain intra-familial reporting differences. One recent and notable exception is a broad conceptual framework that sought to organize the literature on discrepant reports regarding victimization and their associated consequences. In the DiVIDE (Discrepancies in Victimization Implicate Developmental Effects) framework, Goodman et al. (2010, p. 373) identified three key concepts that may impact informant agreement: youth's disclosure of experiences with violence, caregiver observation, and outside sources of knowledge. The present study drew upon this organizational framework to shed new light on the individual, family, and neighborhood factors that contribute to parent and youth reporting differences regarding youth's secondary exposure to community violence. Factors hypothesized to impact absolute and directional parent and child reporting differences were analyzed using hierarchical item response models on a sample of youth respondents from the Project on Human Development in Chicago Neighborhoods.

#### Secondary Exposure to Community Violence: Prevalence and Consequences

Secondary exposure to community violence is a common occurrence across U.S. communities. Well more than half of urban children and adolescents report secondary exposure to violence in public spaces (Gladstein et al. 1992; McCart et al. 2007; Schwab-Stone et al. 1995; Stein et al. 2003a, b), and much of the violence that is witnessed is fatal (Osofosky 1995; Pastore et al. 1995; Pynoos and Eth 1984; Shakoor and Chalmers 1991). But, secondary exposure to violence is not limited to high-risk samples (Bell and Jenkins 1993; O'Keefe 1997; Schwab-Stone et al. 2012). In nationally representative samples, approximately 20 % of U.S. youths report exposure to some form of community violence annually (Finkelhor et al. 2009a, b), and 40 % report lifetime secondary exposure to violence (Zinzow et al. 2009). Moreover, research indicates that rates of secondary exposure to violence are more than two times higher than rates of personal victimization (Kennedy 2008; Richters and Martinez 1993). Consequently, many consider secondary exposure to violence a national epidemic (see Listenbee et al. 2012)

Prior research has documented an extensive list of problems associated with indirect exposure to violence. For example, a national task force on children exposed to violence (see Listenbee et al. 2012) cited evidence of medical issues (see Buka et al. 2001), emotional problems (see Fitzpatrick et al. 2005; Lynch and Cicchetti 2002; Rosario et al. 2008; Terr 1990; Wilson and Rosenthal 2003), and socio-behavioral issues (see Bingenheimer et al. 2005; Dodge et al. 1990; Margolin and Gordis 2000; Osofosky 1995; Ozer et al. 2004; Selner-O'Hagan et al.

1998) associated with secondary exposure to violence. In addition to these domains of individual development, exposure to violence may also “invade broader spheres of the child’s life, including family, school, and community” (Margolin 2005, p. 78). Moreover, research has concluded that the adverse effects of witnessing community violence are comparable to those of personal violent victimization (Fowler et al. 2009). Secondary exposure to violence is thus a significant concern for developmental researchers and clinicians.

#### Parent and Youth Reporting Differences on Youth’s Exposure to Community Violence

Studies on the prevalence and consequences of youth’s secondary exposure to community violence have relied on information from both youths and their parents, but the correlation between youth and parent reports is not high. Although variation by the severity of the witnessed violent event exists, research has indicated that parents’ reports are significantly lower than their children’s reports of shootings, stabbings, muggings, arrests, drug deals, dead bodies, and serious accidents (Richters and Martinez 1993). For example, Lewis et al. (2012) found that 42 % of youths in a high-risk sample reported witnessing any community violence, while only 15 % of parents reported exposure to violence among their children. There is a general consensus in the literature that parents report less exposure to violence among their children than children report themselves (Ceballos et al. 2001; Hill and Jones 1997; Kliewer et al. 1998; Lynch and Cicchetti 2002; Zimmerman and Pogarsky 2011).

This finding is particularly important, given that parents who underestimate their children’s exposure to violence also tend to underestimate the symptoms and mental health needs associated with exposure to violence (Achenbach et al. 1987; Lewis et al. 2012; Richters and Martinez 1993). This may disrupt a parent’s ability to promote positive coping strategies (Gorman-Smith et al. 2004; Howard et al. 1999; Kliewer et al. 1998) and to advocate developmentally appropriate preventive strategies (Luthar et al. 2000). Only by understanding and limiting parent and youth reporting differences on youth’s exposure to violence can parents effectively buffer the potentially negative effects of exposure to violence (Jain et al. 2012).

#### Individual and Contextual Explanations for Parent and Youth Reporting Differences

A number of potential explanatory factors have been proposed for parent and child reporting differences, in general, and for parental underreporting of youth’s exposure to violence, specifically. But, few organizing conceptual

frameworks have been offered to explain parent and youth reporting differences on youth’s exposure to violence. To address this gap in the literature, Goodman et al. (2010) proposed a broad conceptual framework called DiVIDE (Discrepancies in Victimization Implicate Developmental Effects). The DiVIDE framework attempted to explain the nature of discrepant reports as well as the link between discrepant reports and developmental maladjustment. The authors applied the DiVIDE framework to discrepant ratings of victimization, but they noted that the framework “may be applicable to ratings of witnessed violence and other stressful experiences” (Goodman et al. 2010, p. 372). This study draws upon the DiVIDE framework to gain an understanding of the various domains (individual, family, and neighborhood) that could impact parent and youth reporting differences as to the youth’s exposure to violence.

The DiVIDE framework suggests that three key concepts impact informant agreement on youth’s exposure to violence: youth’s disclosure of experiences with violence, caregiver observation, and outside sources of knowledge (see Goodman et al. 2010, p. 373). The discussion below identifies salient individual, family, and neighborhood covariates of secondary exposure to community violence that may act as indicators of these three key concepts.

#### *Individual Characteristics*

Key demographic characteristics that may impact parent and youth reporting differences include sex and age. For example, parents of young males may disproportionately underreport their exposure to violence, relative to the parents of young females, due to gender differences in the nature of informal social control. That is, parental observation (monitoring, control, supervision) of female children may be heightened relative to male children (Block 1984; Borawski et al. 2003), thereby increasing parental knowledge of females’ experiences with violence. Although it is possible that overly authoritarian parenting may cut off open lines of communication, thereby restricting the information available to parents (Stattin and Kerr 2000), prior research suggests that parents are more observant of, and therefore have more knowledge about, their female children’s experiences with violence.

In addition, developmental theorists suggest that parent and youth reporting differences may be more pronounced during adolescence when a developmentally appropriate desire for autonomy and privacy heightens (Maccoby and Martin 1983). In this case, adolescents may be less likely to readily disclose experiences with violence to their parents, thereby elevating the differences between parent and youth reports of youth’s exposure to violence. Note, however, that reporting divergence during adolescence may reflect

“healthy autonomous relationships within a family” (Feinberg et al. 2000, p. 533) and thus not necessarily lead to adverse outcomes. In any case, increased autonomy among adolescents should correlate with non-disclosure and therefore elevated reporting differences between parents and their children.

Race/ethnicity and immigrant status may also be associated with parent and youth reporting differences, perhaps reflecting segregation by family and environmental contexts that “differentially expose members of... minority groups to key violence-inducing or violence-protecting conditions” (Sampson et al. 2005, p. 224; see Sampson and Wilson 1995). In this case, reporting differences may be elevated among minority groups because minority status is inextricably linked to salient family factors (e.g., non-married parents, non-intact families) that reduce caregiver observation of youth.

Individual differences among youths may also be associated with parent and youth reporting differences. For example, children may be less likely to disclose violence they have witnessed if they are violent themselves or have violent peers. Alternatively, parents may become aware of their children’s experiences with violence through their children’s peers, who may act as outside sources of knowledge. Parent and youth reporting differences may also be the result of inaccurate reporting by youth with certain personality traits. For example, youths with lower levels of self-control may be less likely to disclose exposure to violence because of poor memory recall (Bailey and Garralda 1990) or because self-control may impact the way that individuals respond to being questioned by caregivers (Hirschi and Gottfredson 1993; Marcus 2003, 2004; Piquero et al. 2000; Tittle et al. 2003). It is therefore possible that individual differences beyond demographic characteristics are associated with intra-familial reporting discrepancies.

#### *Family Factors*

Family process factors that may be associated with reporting discrepancies include parental supervision, support, warmth, and hostility. Specifically, parental awareness of a child’s experiences with violence in the community depends, at least partly, on youth’s disclosure (Kerr and Stattin 2000; Lahey et al. 2008; Stattin and Kerr 2000); and youth’s disclosure is a function of parent and youth relationship quality and communication (Goodman et al. 2010). Potential impediments to positive parent and child relations and open communication include inadequate supervision, lack of parental support, insufficient warmth/trust, and family hostility (e.g., Fitzgerald et al. 1994; Smetana et al. 2006). For example, research has demonstrated that a fear of parental hostility and a perceived lack

of understanding/support are primary reasons for non-disclosure among youths (Darling et al. 2006). Structural family characteristics (e.g., family structure, residential stability, household socioeconomic status, family size) may also impact youth’s disclosure through relationship quality (see Goodman et al. 2010). For example, caregiver warmth and parent and child communication may be encumbered in transient, poor, large, and single-parent households. Thus, both compositional family characteristics and processes that occur within the family can impact parent and child reporting differences.

#### *Neighborhood Variables*

Finally, neighborhood factors may play a role in parent and youth reporting differences. Structural characteristics such as concentrated disadvantage, residential instability, and concentrated immigration may impact reporting disparities. For example, social isolation in residentially unstable, heterogeneous, and disadvantaged communities (see Wilson 1996) may limit parents’ outside sources of knowledge about youth’s exposure to violence. Alternatively, structural characteristics may reflect community social processes that contribute to parent and youth reporting differences. For example, parent and youth reporting differences may be elevated in neighborhoods with few youth organizations and low levels of collective efficacy and reciprocated exchange among residents, where parents do not readily exchange information about exposure to violence through social networks (Luther and Goldstein 2004). In this case, social processes within the neighborhood may fail to act as outside sources of knowledge about youth’s exposure to violence. It is therefore possible that structural neighborhood characteristics and more proximate social processes that occur within the neighborhood can impact reporting differences between family members.

#### **The Present Study**

Although literature is suggestive of factors that may contribute to parent and youth reporting discrepancies on youth’s exposure to violence, empirical investigations of these claims are sparse. The primary aim of the present study was to fill this gap in the literature.

The present study had three main objectives. The first objective was to examine the associations between parent and youth reporting differences and an array of theoretically relevant covariates. The second objective was to investigate the explanatory factors of absolute parent and youth reporting discrepancies. That is, what individual, family, and neighborhood characteristics explain why parents and their children disagree as to the child’s

exposure to violence? The final objective was to examine the factors associated with parental underestimation of youth's exposure to violence. This last objective is critical, given evidence that parents overwhelmingly underreport their children's exposure to violence. In short, this study sought to investigate the correlates of absolute and directional parent and child reporting differences as to the child's exposure to violence.

## Method

### Participants

The analysis used data from the Project on Human Development in Chicago Neighborhoods (PHDCN), a longitudinal, hierarchical study of how individual, family, and community factors contribute to child and adolescent development. Data for the present study came from two of the dataset's core components, the Community Survey, conducted between 1994 and 1995, and the Longitudinal Cohort Study, conducted between 1994 and 2002.

The Community Survey was a probability sample of 8,782 adults residing in 343 researcher-defined neighborhood clusters throughout the city of Chicago. These neighborhood clusters, averaging 8,000 people and designed to approximate a local "neighborhood," were aggregated from Chicago's 865 census tracts on the basis of spatial ecological contiguity and internal heterogeneity (with respect to race and socioeconomic status). A three-stage sampling design was used to select city blocks within neighborhood clusters, households within city blocks, and one adult (18 or over) per household (Sampson et al. 1997).

For the Longitudinal Cohort Study, a three-stage sampling procedure was used to select over 6,000 children and adolescents from 80 of the 343 neighborhood clusters. In the first stage, the 343 neighborhood clusters were assigned to 21 strata based on race/ethnicity (seven levels) and socioeconomic status (three levels), and 80 neighborhood clusters were sampled within these strata with the purpose of producing a balanced design. Residents of more than 35,000 households were then enumerated from block groups randomly sampled from each of the 80 neighborhood clusters. Finally, eligible respondents in seven cohorts defined by age at baseline (0, 3, 6, 9, 12, 15, and 18) were identified for inclusion in the Longitudinal Cohort Study. Three waves of data were collected from interviews with youths and their primary caregivers between 1994 and 2002.

The current study examined all 2,344 subjects from the 9 ( $N = 828$ ), 12 ( $N = 820$ ), and 15 ( $N = 696$ ) year-old cohorts who were interviewed at baseline, representing 80

neighborhood clusters across Chicago. Data came from interviews with these youths and their primary caregivers, conducted from 1994 to 1997 at Time 1 and from 1997 to 2000 at Time 2. Roughly 83 % of primary caregivers were biological mothers of the subjects, and 9 % of primary caregivers were biological fathers of the subjects.

As with most longitudinal survey data, there were data missing due to non-response (14.4 % of the sample) and attrition over time (19.5 % of the sample). To address potential bias produced by missing data, analysis results were combined across ten datasets multiply imputed using a missingness equation that included the dependent variables, the independent variables, and theoretically relevant auxiliary variables (Allison 2002; Raudenbush and Bryk 2002; Royston 2005; Rubin 1987; Schafer 1997; van Buuren et al. 1999; von Hippel 2007). Sensitivity analyses indicated that the results were robust to estimation strategy, and the imputed data had no detectable relationship with the outcomes using dummy variables for non-response and attrition.

### Secondary Exposure to Community Violence

To measure secondary exposure to community violence, this study used a questionnaire adapted from the Survey of Children's Exposure to Community Violence, the most widely used measure of exposure to community violence (see Gardner and Brooks-Gunn 2009; Gibson et al. 2009; Kindlon et al. 1996; Kuo et al. 2000; Richters and Saltzman 1990; Selner-O'Hagan et al. 1998). Both parents and their children assessed the child's exposure to nine violent events in the community (1 = yes; 0 = no) in the 12 months prior to the Time 2 interview: (1) seeing someone shoved, kicked, or punched; (2) seeing someone attacked with a weapon; (3) seeing someone shot at; (4) seeing someone shot; (5) seeing someone hurt in a serious accident; (6) seeing someone chased with the intention of injury; (7) seeing someone threatened; (8) seeing someone killed; and (9) hearing a gunshot. These items comport with those used in prior research (e.g., Howard et al. 1999; Johnston et al. 2003; Kuo et al. 2000) and have shown adequate validity and reliability in related studies (see Mohler et al. 1999).

Absolute and directional difference scores for parent and youth reports were calculated as described in the Analytical Strategy section below. Youth on average self-reported exposure to 2.5 of the 9 violent events ( $SD = 2.1$ ; range [0, 9]). Parents on average reported that their children were exposed to 1.5 of the 9 events ( $SD = 1.7$ ; range [0, 9]). Parent and youth reports to each exposure to community violence item are presented in Table 1. The results indicate that parents significantly underreported youth's exposure to each violent event ( $p < .001$ ).



**Table 1** Parent and youth reports of youth's secondary exposure to community violence in the 12 months preceding the time 2 interview

Youth's secondary exposure to community violence item	Youth report N (%)	Parent report N (%)
Witness someone else get chased with intent to hurt***	926 (40)	530 (23)
Witness someone else get hit, slapped, punched, or beaten up***	1,300 (55)	774 (33)
Witness someone else get attacked with a weapon, like a knife or a bat***	480 (21)	246 (11)
Witness someone else get shot, not including by a BB gun or any type of toy gun, like a paint ball gun or air rifle***	238 (10)	103 (4)
Witness someone else get shot at, but not actually wounded***	328 (14)	157 (7)
Hear gunfire nearby, not including hearing gunfire while hunting or at a shooting range***	1,321 (56)	1,125 (48)
Witness a serious accident where someone else was hurt very badly or died***	524 (22)	202 (9)
Witness someone else get killed as a result of violence, like being shot, stabbed, or beaten to death***	135 (6)	57 (2)
Witness someone threaten to seriously hurt another person, including being threatened with a weapon***	555 (24)	260 (11)

Comparisons between youth self-reported and parent-reported youth's exposure to violence based on paired *t* tests

\*\*\*  $p < .001$

### Demographic Covariates

This study included several demographic variables that prior research demonstrated as correlates of exposure to community violence (see Buka et al. 2001; Selner-O'Hagan et al. 1998). The analysis controlled for youth sex, race/ethnicity, immigrant generational status, and age. Approximately half of youth respondents were male, and the racial and ethnic distribution of sample respondents was 45.8 % Hispanic, 35.8 % African American, and 14.2 % White. Roughly 12.5, 31.1, and 56.4 % of youth respondents were 1st, 2nd, and 3rd generation immigrants, respectively. The average age of respondents at the Time 1 interview was 12.0 years. Age was grand mean-centered in the analysis.

### Family Covariates

Previous research suggests that parent and child reporting differences on negative life events may reflect negative family dynamics such as hostility or a lack of parental warmth, monitoring, supervision, or social support (Dishion and McMahon 1998; Lahey et al. 2008; Mounts 2007). These variables were therefore examined as potential correlates of parent and child reporting discrepancies on youth's exposure to violence. Indices of parental warmth, parental lack of hostility, and parental control and supervision were adapted from the Time 1 Home Observation for Measurement of the Environment (HOME) Inventory. The HOME Inventory consisted of a semi-structured interview conducted at the respondent's home and included parents' responses to a series of questions as well as interviewers' independent observations of parents and their children during the interview. The interview was designed to capture parent-child relations in the home environment and has been validated in prior research (Caldwell and Bradley

1985). The scales discussed below were standardized in the analysis.

#### *Parental Warmth*

Parental warmth was measured as the sum of nine binary (1 = yes; 0 = no) items representing a parent's level of kindness or affection toward the youth (e.g., parent voices positive feelings to child; parent caresses, kisses, or hugs child). These items were observational and recorded by the interviewer. The reliability of the index was .75.

#### *Parental Lack of Hostility*

Parental lack of hostility was constructed as the sum of four binary items representing the absence of parental anger or aggressivity toward the youth (e.g., parent does not shout at child during visit; parent does not slap or spank child). These items were observational and recorded by the interviewer. The items had a reliability of .88.

#### *Parental Control and Supervision*

Parental control and supervision was measured using 13 binary items capturing parental control (e.g., parent sets curfews), parental supervision (e.g., subject is not allowed to wander in public without adult supervision for more than 3 h), and parental monitoring (e.g., parent knows child's friends). These items reflected primary caregivers' responses to a series of survey questions. The items were summed to form an index with a reliability of .52.

#### *Family Support*

An index of family support was constructed as the standardized sum of five trichotomous items measured at Time

1 from respondent's responses to the Provision of Social Relations Protocol (Turner et al. 1983): "I know my family will always be there for me," "My family tells me I'm valuable," "My family has confidence in me," "My family helps me find solutions to problems," and "I know my family will always stand by me." These items had a reliability of .68.

#### *Structural Family Characteristics*

To account for factors that may influence family dynamics, the analysis also controlled for a number of standard family background factors. The following family variables were assessed at the Time 1 interview: family structure, parents' marital status (1 = married), household socioeconomic status, years living at the current residence, and family size. Family structure was created with the following classification scheme: (1) two parents, both biological; (2) two parents, one/both non-biological; (3) one parent, biological; and (4) one parent, non-biological. Most respondents lived with one (29 %) or two (45.8 %) biological parents; the remaining respondents lived with either one nonbiological parent (3.5 %) or a biological parent and his or her partner or spouse (21.7 %). Following established procedures (see Sampson et al. 2005), socioeconomic status was constructed from a principal component factor analysis of parental income, parental education, and parental occupation. Socioeconomic status was standardized in the analysis. The average respondent lived at the same residence for 6.2 years, and roughly 11 % of subjects were only children, with most subjects having one to three siblings (70 %). Years living at the current residence and family size were grand mean-centered in the analysis.

#### *Individual Difference Covariates*

Several personality traits and behavioral factors were assessed at the Time 1 interview. Variables include lack of self-control, violent peer exposure, and violent behavior.

#### *Lack of Self-Control*

Lack of self-control was constructed as the sum of parents' responses to 17 items scored on a scale from 1 (uncharacteristic) to 5 (characteristic) in the Emotionality, Activity, Sociability, and Impulsivity Temperament questionnaire (Buss and Plomin 1975). These items represented a respondent's lack of inhibitory control (five items; e.g., has trouble controlling impulses), present orientation (four items; e.g., does not like to make detailed plans before doing something), sensation seeking (four items; e.g., seeks new and exciting experiences and sensations), and lack of persistence (four items; e.g., tends to give up easily). This

scale was derived based on published research (see Gibson et al. 2010) and had a reliability of .74. The scale was standardized in the analysis.

#### *Violent Peer Exposure*

The violent peer exposure measure was constructed based on respondents' perceptions of their friends' involvement (from 1 = none to 3 = all) in four violent acts in the year preceding the Time 1 interview: getting into a fist fight; hitting someone with the intent of injury; attacking someone with a weapon; and robbery with a weapon. Based on prior research (Zimmerman and Messner 2013), these items were summed to form a scale with a reliability of .68. The scale was standardized in the analysis.

#### *Violent Behavior*

Violent behavior was measured as the count of eight violent crimes respondents reported engaging in during the year preceding the Time 1 interview. Behaviors ranged in severity from "throwing rocks at people" to "attacking someone with a weapon." This scale was based on prior research (see Raudenbush et al. 2003) and had a reliability of .65. The scale was grand mean-centered in the analysis.

#### *Lagged Youth Self-Reported and Parent-Reported Youth's Exposure to Violence*

The analysis also controlled for prior youth self-reported exposure to violence and prior parent-reported youth's exposure to violence. This ensured that the coefficients for the model covariates reflected the hypothesized processes and not the effects of exposure to violence itself. These variables were constructed by adding four of the nine exposure to violence items at Time 1: (a) seeing someone shoved, kicked, or punched, (b) seeing someone attacked with a knife, (c) seeing someone shot, and (d) hearing a gunshot. These subscales were used because the full scale was not available at Time 1 of the study, and because the four items included in these scales were the best fit with the conceptualization of exposure to violence identified in the literature (e.g., Howard et al. 1999; Johnston et al. 2003; Kuo et al. 2000). These scales were grand mean-centered in the analysis.

#### *Neighborhood Covariates*

##### *Structural Characteristics*

Three standard neighborhood structural characteristics were constructed from the 1990 decennial census:

concentrated disadvantage, concentrated immigration, and residential stability. These scales are well-established in the literature and were constructed following established procedures employed with this data set (Morenoff and Sampson 1997; Raudenbush and Sampson 1999; Sampson et al. 1997; Wikström and Loeber 2000).

*Concentrated Disadvantage* Concentrated disadvantage was comprised of six variables: percent of families below the poverty line, percent of households receiving public assistance, percent of non-intact families with children, percent of population unemployed, median household income in 1989, and percent of population black. These variables were combined using a weighted factor regression score (all loadings  $\geq 0.83$  using principal components analysis with oblique rotation) and the resulting scale was standardized.

*Immigrant Concentration* Immigrant concentration was constructed as the standardized sum of z-scores for percent Latino and percent foreign-born. These variables were correlated at .91.

*Residential Stability* Residential stability was operationalized as the standardized sum of the percentage of owner-occupied homes and the percentage of residents living in the same house as 5 years earlier. These variables were correlated at .89.

### *Neighborhood Social Processes*

Based on research linking neighborhood social processes to exposure to community violence (Gardner and Brooks-Gunn 2009; Gibson et al. 2009; Zimmerman and Messner 2013), the analysis included five scales constructed from the PHDCN Community Survey: perceived violence, youth services, intergenerational closure, reciprocated exchange, and collective efficacy.

*Perceived Violence* To measure perceived neighborhood violence, adult respondents were asked to indicate how often each of the following happened in their neighborhoods during the 6 months preceding the interview: a fight in which a weapon was used; a violent argument among neighbors; a gang fight; a sexual assault or rape; and a robbery or mugging. The scale was constructed as a standardized sum of the items and had a reliability of .86 (see Sharkey 2006).

*Youth Services* Youth services reflected the presence of neighborhood youth organizations (e.g., youth centers,

recreational programs, after-school programs, mentoring and counseling services) aimed at keeping youths off the streets and providing youths with the resources to avoid neighborhood conflict. This standardized scale has been validated in prior research using the PHDCN (Gardner and Brooks-Gunn 2009; Gibson et al. 2009) and had a reliability of .86.

*Intergenerational Closure* Intergenerational closure assessed the closeness of parents and children in the community with items such as “Parents know their children’s friends” and “Adults know who local children are.” This standardized scale had a reliability of .77.

*Reciprocated Exchange* Reciprocated exchange measured the interactions among neighborhood families (e.g., “Do people do favors for each other?” and “Do people visit each others’ homes?”). The items in this standardized scale had a reliability of .77.

*Collective Efficacy* Collective efficacy measured social cohesion and shared expectations for social control. Social cohesion was constructed as the sum of residents’ responses to five statements: “this is a close-knit neighborhood”, “people are willing to help their neighbors”, “people in the neighborhood can be trusted”, “people don’t get along”, and “people in the neighborhood do not share the same values” (last two items reverse-coded). The reliability of these items was .78. Shared expectations for social control was measured by residents’ assessments of their neighbors’ likelihood to “do something about kids skipping school”, “do something about kids defacing a building”, “scold a child for not showing respect”, “break up a fight in front of their house”, and “organize to keep a local fire station.” The reliability of these items was .78. These scales were strongly related ( $r = .80$ ) and combined across respondents as indicated in prior research (see Raudenbush and Sampson 1999; Sampson et al. 1997). The scale of collective efficacy was standardized in the analysis. More detailed descriptions of all study measures are available upon request and can be found in [author reference].

### Analytical Strategy

The analysis proceeded in two stages. In the first stage, inter-correlations were calculated between absolute and directional parent and youth reporting discrepancy scores and the model covariates. For this stage of analysis, absolute discrepancy scores were created by summing the



number of exposure to violence items to which parents and their children disagreed. Parent-youth dyads on average disagreed on 1.7 of the 9 items ( $SD = 1.6$ ; range [0, 9]). Directional discrepancy scores were constructed by subtracting parent reports from youth reports, creating a roughly normally distributed variable ranging from  $-7$  to  $9$  (mean =  $1.0$ ;  $SD = 2.2$ ). Based on this procedure, positive discrepancy scores indicated that parents reported less exposure to violence among youths than youths reported themselves. Conversely, negative discrepancy scores indicated parental over-reporting compared to youth self-reports.

In the second stage of analysis, hierarchical item response models were estimated to investigate the correlates of absolute and directional parent and youth reporting discrepancies, controlling for all model covariates. In this stage of analysis, nine binary variables were created representing parent and youth agreement (zero) and disagreement (one) to each exposure to violence item. These nine binary variables represented the first level of a three-level logistic hierarchical item response model, which predicted the odds that parents and their children reported dissimilarly about the child's exposure to each violent event. Nine ordinal variables were also created to represent parental overestimation (zero), parental agreement (one), or parental underestimation (two) of youth self-reported exposure to each violent act. These ordinal variables were incorporated into a three-level ordinal logistic hierarchical item response model, which predicted the odds that parents underestimated their children's reported exposure to violence (relative to overestimating or agreeing to their children's reported exposure to violence).

These multilevel item response models with logit form applied item response theory to the dependent variables in a random-effects setting, thereby taking into account the varying seriousness of the exposure to violence items and the multilevel nature of the data (see Raudenbush and Bryk 2002). The models had three levels nesting items within persons within neighborhoods. The level-one model represented the item response measurement model. This model nested the binary and ordinal parent and youth discrepancy variables within persons. In the level-two model, representing the person-level model, all individual and family characteristics were included as covariates of absolute and directional parent and youth reporting discrepancies within neighborhoods. The level-three model, or neighborhood-level model, examined the relationship between parent and youth reporting differences and the neighborhood-level variables (see Raudenbush et al. 2003). All models were estimated in the HLM program.

## Results

### Correlations Between Absolute and Directional Discrepancy Scores and Model Covariates

Descriptive information of all study variables and inter-correlations between the dependent and independent variables are presented in Table 2. Study variables were generally correlated with absolute parent and child reporting discrepancies as expected. Pertaining to the demographic variables, absolute parent and child reporting differences were greater among males ( $r = .10$ ,  $p < .001$ ), older youth ( $r = .20$ ,  $p < .001$ ), non-whites ( $r = -.09$ ,  $p < .001$ ), and 3rd generation immigrants ( $r = .05$ ,  $p < .05$ ). Related to the family variables, absolute parent and child reporting discrepancies were higher among families without two biological parents ( $r = -.09$ ,  $p < .001$ ), without married parents ( $r = -.09$ ,  $p < .001$ ), with lower levels of household socioeconomic status ( $r = -.06$ ,  $p < .01$ ), and with lower levels of parental warmth ( $r = -.08$ ,  $p < .001$ ), parental supervision ( $r = -.10$ ,  $p < .001$ ), and family support ( $r = -.07$ ,  $p < .001$ ). As expected, the individual difference variables were also significantly correlated with absolute parent and child reporting differences. Reporting discrepancies were higher among respondents with lower levels of self-control ( $r = .06$ ,  $p < .01$ ), higher levels of exposure to violent peers ( $r = .16$ ,  $p < .001$ ), higher levels of prior violent offending ( $r = .23$ ,  $p < .001$ ), and higher levels of parent-reported ( $r = .13$ ,  $p < .001$ ) and youth self-reported ( $r = .22$ ,  $p < .001$ ) exposure to violence. Finally, pertaining to the neighborhood variables, absolute parent and child reporting differences were greater among respondents residing in communities with higher levels of concentrated disadvantage ( $r = .12$ ,  $p < .001$ ) and perceived violence ( $r = .07$ ,  $p < .01$ ) and lower levels of collective efficacy ( $r = -.04$ ,  $p < .05$ ).

A number of model covariates were also significantly associated with the directional parent and youth discrepancy scores. Parents of male ( $r = .11$ ,  $p < .001$ ), older ( $r = .15$ ,  $p < .001$ ), and 3rd generation immigrant ( $r = -.08$ ,  $p < .001$ ) youths were more likely to underestimate their children's exposure to violence, compared to children's reports. Related to the family variables, parents were more likely to underestimate their children's exposure to violence when the family unit had lower levels of socioeconomic status ( $r = -.05$ ,  $p < .05$ ), parental warmth ( $r = -.08$ ,  $p < .001$ ), parental supervision ( $r = -.15$ ,  $p < .001$ ), and family support ( $r = -.07$ ,  $p < .01$ ). Among youths with higher levels of exposure to violent peers ( $r = .10$ ,  $p < .001$ ) and prior violent offending ( $r = .20$ ,  $p < .001$ ), parents were more likely to underestimate youth's exposure to violence, compared to youth reports. As

**Table 2** Descriptive statistics and inter-correlations between time 2 absolute and directional exposure to violence variables and time 1 independent variables

Variables	Mean (SD) [Range]	Absolute ETV	Directional ETV
<i>Parent and youth ETV reporting differences</i>			
Absolute ETV disparities	1.7 (SD = 1.6) [0, 9]	–	–
Directional ETV DISPARITIES	1.0 (SD = 2.1) [–7, 9]	.61***	–
<i>Demographic variables</i>			
Male	50.4 %	.10***	.11***
<i>Race/Ethnicity</i>			
White <sup>a</sup>	14.2 %	–.09***	–.03
Hispanic	45.8 %		
African American	35.8 %		
Other	4.2 %		
Age	12.0 (SD = 2.4) [7.8, 16.9]	.20***	.15***
<i>Immigrant status</i>			
1st Generation	12.5 %		
2nd Generation	31.1 %		
3rd Generation <sup>a</sup>	56.4 %	.05*	–.08***
<i>Family variables</i>			
<i>Family structure</i>			
Two biological parents <sup>a</sup>	45.8 %	–.09***	.00 <sup>b</sup>
Two non-biological parents	21.7 %		
One biological parent	29.0 %		
One non-biological parent	3.5 %		
Parents' marital status	56.0 %	–.09***	.01
Years at residence	6.2 (SD = 6.8) [1, 59]	.01	.01
Household SES	–.1 (SD = 1.4) [–3.2, 3.5]	–.06**	–.05*
Family size	5.4 (SD = 2.0) [2, 14]	.00 <sup>b</sup>	–.01
Parental warmth	6.4 (SD = 2.2) [0, 9]	–.08***	–.08***
Parental lack of hostility	3.7 (SD = .9) [0, 4]	–.02	–.03
Parental supervision	11.7 (SD = 1.5) [2, 13]	–.10***	–.15***
Family support	13.8 (SD = 1.7) [5, 15]	–.07***	–.07**
<i>Individual difference variables</i>			
Lack of self-control	46.4 (SD = 11.5) [17, 85]	.06**	–.02
Violent peer exposure	6.0 (SD = 1.5) [4, 12]	.16***	.10***
Violent behavior	.6 (SD = 1.1) [0, 8]	.23***	.20***
Prior ETV (PR)	1.3 (SD = .9) [0, 4]	.13***	–.05*
Prior ETV (SR)	1.8 (SD = 1.0) [0, 4]	.22***	.13***
<i>Neighborhood variables</i>			
Concentrated disadvantage	.0 (SD = 1.0) [–1.7, 2.2]	.12***	.00 <sup>b</sup>
Concentrated immigration	.0 (SD = 1.0) [–1.3, 2.5]	–.02	.06**
Residential stability	.0 (SD = 1.0) [–1.7, 2.2]	–.03	–.02
Perceived violence	.0 (SD = 1.0) [–1.7, 2.6]	.07**	.01
Youth services	.0 (SD = 1.0) [–2.2, 2.6]	–.03	–.04
Intergenerational closure	.0 (SD = 1.0) [–2.4, 2.9]	.00 <sup>b</sup>	–.02
Reciprocated exchange	.0 (SD = 1.0) [–2.5, 3.4]	.00 <sup>b</sup>	–.02
Collective efficacy	.0 (SD = 1.0) [–1.9, 2.5]	–.04*	–.01

ETV exposure to violence, SD standard deviation, SES socioeconomic status, PR parent-reported, SR self-reported

\*  $p < .05$ ; \*\*  $p < .10$ ; \*\*\*  $p < .001$

<sup>a</sup> Reference category; <sup>b</sup> correlation below .005

expected, higher levels of parent reporting were associated with higher levels of parental overestimation of youth's exposure to violence ( $r = -.05, p < .05$ ), and higher levels of youth reporting were associated with greater parental

underestimation of youth's exposure to violence ( $r = .13, p < .001$ ). Finally, pertaining to the neighborhood variables, only concentrated immigration was significantly associated with directional discrepancies on youth's

**Table 3** Hierarchical item response models regressing time 2 absolute and directional differences between parent and youth reports of youth's exposure to violence on time 1 study covariates

Variable	Model 1 Youth's exposure to violence (Absolute discrepancies)		Model 2 Youth's exposure to violence (Directional discrepancies)	
	OR	95 % CI	OR	95 % CI
<i>Demographic variables</i>				
Male	1.25***	(1.14, 1.37)	1.26***	(1.14, 1.40)
Race/Ethnicity				
White <sup>a</sup>	–	–	–	–
Hispanic	1.24*	(1.01, 1.52)	1.03	(.84, 1.25)
African American	1.23*	(1.02, 1.48)	.96	(.78, 1.18)
Age	1.08***	(1.06, 1.11)	1.03***	(1.01, 1.06)
Immigrant status				
1st Generation	.80*	(.66, .97)	.97	(.79, 1.18)
2nd Generation	.87	(.75, 1.02)	1.24*	(1.05, 1.46)
3rd Generation <sup>a</sup>	–	–	–	–
<i>Family variables</i>				
Family structure				
Two biological parents <sup>a</sup>	–	–	–	–
Two non-biological parents	.98	(.84, 1.15)	1.06	(.89, 1.25)
One biological parent	1.09	(.85, 1.40)	1.18	(.90, 1.56)
One non-biological parent	.97	(.69, 1.36)	.94	(.63, 1.41)
Parents' marital status	.95	(.78, 1.16)	1.09	(.87, 1.36)
Years at residence	1.00	(.99, 1.01)	1.00	(.99, 1.01)
Household SES	.94*	(.89, .99)	1.01	(.94, 1.08)
Family size	1.01	(.99, 1.04)	.98	(.96, 1.01)
Parental warmth	.97	(.91, 1.02)	.95	(.90, 1.01)
Parental lack of hostility	.99	(.95, 1.04)	.99	(.94, 1.04)
Parental supervision	.99	(.94, 1.05)	.89***	(.84, .95)
Family support	1.00	(.95, 1.05)	.98	(.93, 1.04)
<i>Individual difference variables</i>				
Lack of self-control	1.07*	(1.01, 1.12)	.95	(.90, 1.01)
Violent peer exposure	1.09**	(1.03, 1.15)	1.02	(.96, 1.08)
Violent behavior	1.03	(.98, 1.09)	1.17***	(1.10, 1.24)
Prior ETV (PR)	1.07*	(1.01, 1.14)	.87***	(.81, .93)
Prior ETV (SR)	1.14***	(1.07, 1.22)	1.11**	(1.03, 1.20)
<i>Neighborhood variables</i>				
Concentrated disadvantage	1.09	(.99, 1.19)	1.03	(.92, 1.15)
Concentrated immigration	.98	(.90, 1.06)	1.01	(.92, 1.10)
Residential stability	1.00	(.92, 1.09)	.99	(.91, 1.09)
Perceived violence	1.04	(.95, 1.14)	1.12*	(1.02, 1.25)
Youth services	.95	(.89, 1.02)	.93*	(.87, .99)
Intergenerational closure	1.01	(.92, 1.11)	.96	(.85, 1.07)
Reciprocated exchange	.99	(.90, 1.09)	1.01	(.92, 1.12)
Collective efficacy	1.05	(.92, 1.20)	1.17*	(1.01, 1.37)

Absolute discrepancies in youth's exposure to violence are modeled with a logistic hierarchical item response model. Directional discrepancies in youth's exposure to violence are modeled with an ordinal logistic hierarchical item response model, which predicts the odds that parents underestimated their children's reported exposure to violence relative to overestimating or agreeing to their children's reported exposure to violence. The level-1 model produces relative severities of the items in the scales of exposure to violence, and the models include dummy variables representing "Other" race and controls for attrition and item nonresponse (all nonsignificant at  $p > .05$ ). Although these results are not presented in the table, they are available from the author upon request. For both models,  $n = 2,344$  persons, 80 neighborhoods

OR odds ratio (i.e., exponentiated log-odds parameter estimate); CI confidence interval, ETV exposure to violence, SES socioeconomic status, PR parent-reported, SR self-reported

\*  $p < .05$ ; \*\*  $p < .10$ ; \*\*\*  $p < .001$

<sup>a</sup> Reference category

exposure to violence ( $r = .06$ ,  $p < .01$ ); higher levels of concentrated immigration were associated with greater parental underestimation of youth exposure to violence.

#### Hierarchical Item Response Models Predicting Absolute and Directional Parent and Youth Reporting Differences

Modest bivariate correlations were observed in Table 2 between the dependent and independent variables. To ensure that the statistical significance of these associations was not an artifact of spuriousness or of the large individual-level sample size, odds ratios, which can easily be converted into magnitudes of coefficients or effect sizes, were estimated using a series of hierarchical item response models as described in the Analytical Strategy section above.

Unconditional models without covariates were first estimated in order to examine the extent of neighborhood-level variation in the outcomes. The analysis (not shown here) indicated that absolute ( $p < .001$ ) and directional ( $p < .05$ ) discrepancy scores varied significantly across neighborhoods, justifying the multilevel modeling strategy.

Full models accounting for all study covariates were then estimated. Odds ratios and 95 % confidence intervals from the logistic and ordinal logistic hierarchical item response models are shown in Table 3. Odds ratios are the exponentiated log-odds regression coefficients and can be interpreted as the change in odds in the dependent variable associated with a one unit change in the independent variable. Examination of Model 1 predicting absolute parent and youth reporting discrepancies indicates that reporting differences were higher among male respondents (OR 1.25; 95 % CI 1.14, 1.37), among Hispanic (OR 1.24; 95 % CI 1.01, 1.52) and African American (OR 1.23; 95 % CI 1.02, 1.48) respondents, and among 3rd generation immigrants as compared to 1st generation immigrants (OR .80; 95 % CI .66, .97). The odds of a discrepancy between parent and youth reports of youth's exposure to violence was 25 % higher among male respondents than among female respondents [ $(1.25 - 1) \times 100\%$ ], 24 and 23 % higher among Hispanic and African American youth, respectively, than among white youth, and 20 % higher among 3rd generation immigrants than among 1st generation immigrants. Model 1 also indicates a significant association between respondent age and parent and youth reporting differences (OR 1.08; 95 % CI 1.06, 1.11). Specifically, a 1 year increase in respondent age was associated with an 8 % increase in the odds of an absolute discrepancy between parent and youth reports of youth's exposure to violence.

Pertaining to the family variables, parent and youth reporting differences were greater in households with lower

levels of socioeconomic status (OR .94; 95 % CI .89, .99). A one standard deviation decrease in household socioeconomic status was associated with a 6 % increase in the odds of a parent and youth reporting discrepancy.

Related to the individual difference variables, reporting differences were greater when respondents had lower levels of self-control (OR 1.07; 95 % CI 1.01, 1.12), when respondents reported higher levels of exposure to violent peers (OR 1.09; 95 % CI 1.03, 1.15), and when parents (OR 1.07; 95 % CI 1.01, 1.14) and youths (OR 1.14; 95 % CI 1.07, 1.22) reported more exposure to violence. A one standard deviation decrease in self-control was associated with a 7 % increase in the odds of a discrepancy between parent and youth reports, and a one standard deviation increase in violent peer exposure was associated with a 9 % increase in the odds of a reporting divergence. Similarly, for every additional exposure to violence event that parents and youths reported, the odds of a discrepancy between parent and youth reports increased by 7 and 14 %, respectively.

Model 2 takes into account the direction of parent and youth reporting discrepancies and estimates the odds that parents underestimated their children's reported exposure to violence, relative to overestimating or agreeing to their children's reported exposure to violence. The model indicates that parents tended to underreport their children's exposure to violence when their children were male (OR 1.26; 95 % CI 1.14, 1.40) and 2nd generation immigrants, as compared to 3rd generation immigrants (OR 1.24; 95 % CI 1.05, 1.46). The odds that parents underestimated their children's exposure to violence were 26 % higher among male respondents than among female respondents, and 24 % higher among 2nd generation immigrants than among 3rd generation immigrants. Model 2 also indicates a significant association between respondent age and parental underestimation of youth's exposure to violence (OR 1.03; 95 % CI 1.01, 1.06). Specifically, a 1 year increase in respondent age was associated with a 3 % increase in the odds that parents underestimated their children's exposure to violence.

In addition, parents were more likely to underreport youth's exposure to violence when they less closely monitored and controlled their children (OR .89; 95 % CI .84, .95). A one standard deviation decrease in parental supervision was associated with an 11 % increase in the odds that parents underestimated youth exposure to violence.

Pertaining to the individual difference variables, parental underreporting was positively associated with higher levels of youth self-reported violence (OR 1.17; 95 % CI 1.10, 1.24) and exposure to violence (OR 1.11; 95 % CI 1.03, 1.20), and negatively associated with parent-reported youth's exposure to violence (OR .87; 95 % CI .81, .93). For every additional act of violence that youths reported

engaging in, the odds that parents underestimated their children's exposure to violence increased by 17 %; for every additional act of violence that youths reported witnessing, the odds that parents underestimated their children's exposure to violence increased by 11 %; and for every additional act of violence that parents reporting their youths witnessing, the odds that parents overestimated, rather than underestimated, their children's exposure to violence increased by 13 %.

Finally, several of the neighborhood characteristics were significantly associated with directional parent-youth reporting differences. Parents were more likely to underreport their children's exposure to violence when they resided in neighborhoods with higher levels of perceived violence (OR 1.12; 95 % CI 1.02, 1.25), less available access to youth services (OR .93; 95 % CI .87, .99), and higher levels of collective efficacy (OR 1.17; 95 % CI 1.01, 1.37). One standard deviation increases in neighborhood violence and collective efficacy were associated with 12 and 17 % increases, respectively, in the odds that parents underestimated their youths' exposure to violence; and a one standard deviation decrease in neighborhood youth services was associated with a 7 % increase in the odds that parents underestimated their children's exposure to violence.

## Discussion

To date, empirical studies have yet to examine the etiology of differences between parent and youth reports of youth's secondary exposure to community violence. This neglect is surprising given consistent evidence that parents underreport their children's exposure to violence (Hill and Jones 1997; Kliewer et al. 1998; Lewis et al. 2012; Lynch and Cicchetti 2002; Richters and Martinez 1993). To fill this gap in the literature, the present study examined the correlates of absolute and directional differences between parent and youth reports of youth's exposure to violence. Understanding the explanatory factors of parent and child reporting differences as to the child's exposure to violence can enhance scholarship on reporting discrepancies across informants and inform efforts to reduce the negative effects of exposure to violence.

Descriptive analyses indicated that parents significantly underestimated their children's exposure to community violence. Logistic hierarchical item response models indicated that absolute discrepancies between parent and youth reports were a function of youth demographic characteristics (male, Hispanic or African American as compared to white, age, 3rd as compared to 1st generation immigrant), individual difference factors (lower levels of self-control, higher levels of violent peer exposure), and family factors

(lower levels of household SES). Parental under-reporting of youth's exposure to violence was associated with youth demographic characteristics (male, age, 2nd as compared to 3rd generation immigrant), family factors (lower levels of parental supervision), and neighborhood characteristics (lower levels of perceived violence, less access to youth services, higher levels of collective efficacy). The findings thus indicated a number of individual and contextual characteristics that may influence parent and youth reporting differences.

## Implications for Research and Policy

Several implications of the study findings are worthy of discussion. Consistent with previous research, parents of the sample respondents reported significantly less exposure to violence among their children than their children reported themselves (Ceballo et al. 2001; Feinberg et al. 2001; Hill and Jones 1997; Kuo et al. 2000; Lewis et al. 2012; Lynch and Cicchetti 2002). It is possible that this variation in reporting was due to a combination of parental underreporting and youth overreporting. Unfortunately, it is difficult, if not impossible, to determine the most accurate reporter among multiple survey informants without an objective examination of the construct in question (Bailey and Garralda 1990). Therefore, in the face of conflicting informant reports that may make one or more report source unreliable, methods that integrate the information from multiple informants may hold promise. Kuo et al. (2000), for example, estimated a hierarchical linear model that allowed for the consideration of data from multiple informants (or one informant when data are missing from the other informant), as well as a consideration of how the significance and strength of covariates varies across informants. In addition, Holmbeck et al. (2002) discussed the utility of multisource data collection and analytical techniques for medical populations. They argued that using multisource samples can prevent conflicting findings and increase the efficiency of observable estimates. Methods that take into account multiple sources of information may be particularly relevant in a practitioner setting when diagnoses and treatments depend on subjective reports.

Yet, as the conceptual framework in this study suggests, disparities between parent and youth reports may be due primarily to parental underestimation of youth experiences. Avenues through which parental underestimation occur include youth non-disclosure, inadequate parental observation of youth, and a lack of outside sources of knowledge of youth behavior (see Goodman et al. 2010). For example, the findings of this study indicate that parental supervision is associated with less reporting of youth exposure to violence among parents than among youths themselves, suggesting that parental unawareness is a key mechanism



through which parents underreport youths' experiences (e.g., Fitzgerald et al. 1994). This finding is particularly important given that parents who are unaware of their children's experiences with violence may be unable to anticipate their children's mental health needs (Achenbach et al. 1987; Lewis et al. 2012; Richters and Martinez 1993) and promote appropriate coping strategies (Gorman-Smith et al. 2004; Howard et al. 1999; Kliewer et al. 1998). The socialization of coping literature is particularly insightful in this regard. If, as research suggests, the viability of youth coping techniques hinges on caregiver "coaching" (Goodman et al. 2010, p. 374), then the link between exposure to violence and maladaptive outcomes will be enhanced when parental awareness of youth exposure to violence is limited.

The need exists, then, to improve parental awareness of youth's exposure to violence. An increasing number of school-based interventions, in addition to the Safe Start Program as discussed above, have adopted this as a key premise. For example, a foundational aspect of Cognitive Behavioral Intervention for Trauma in Schools (CBITS) and Families and Schools Together (FAST) is that encouraging intra-familial communication related to exposure to violence can prevent maladaptive developmental outcomes and build resiliency. One of the key goals of CBITS is to reduce symptoms of trauma and promote coping skills by increasing parent support (see Stein et al. 2003a, b); and FAST seeks to "empower parents to be the primary prevention agents for their children" in the home, school, and community setting (McDonald and Frey 1999, p. 2). These interventions thus take as a point of departure that children's coping strategies are highly dependent on caregiver support and guidance (Kliewer et al. 2006).

However, limiting parental unawareness of youth's exposure to violence is but one step toward effectively buffering the potentially negative effects of exposure to violence (Jain et al. 2012). Indeed, a number of salient factors not accounted for in this study may impact parents' estimations of their children's mental health needs and willingness to seek help for their children. For example, embarrassment, stigma, fear of diagnosis, and concerns about child protective services involvement may prevent parents from providing effective coping strategies or seeking mental health services for their child (Kayal et al. 2010), even among parents who are aware of their children's experiences with violence. It is therefore critical that health care professionals educate parents about potential challenges to seeking help and about methods for combating these challenges.

The results also suggest that multiple contexts impact shared perspectives among parents and their children. That is, individual differences (i.e., demographic, personality, and behavioral), family factors, and neighborhood

characteristics may impact the way that parents monitor their children, the availability of sources of outside information that parents receive about their children's behaviors, and the manner in which youths disclose information to their parents. Theoretically, this is consistent with recent sociological and criminological research on "persons in context," which emphasizes that studying individuals within their social contexts can provide a more accurate representation of the sphere of influence that individuals face on a daily basis. Practically, this suggests that interventions aimed at reducing exposure to violence and its associated consequences must take into account factors at different levels of abstraction in order to maximize shared perspectives among family members. For example, facilitating parent and youth communication through school channels is critical, but such efforts may not be particularly effective in severely disadvantaged communities where pervasive violence engulfs public spaces to which children and adolescents are exposed. The multiple spheres of influence that individuals face daily must be accounted for by researchers as well as practitioners.

#### Study Limitations

This study had several limitations. First, it is not clear whether parent and child reporting differences are evidence of poor behavioral outcomes and inadequate parenting, as the results indicate, or whether parent and child reporting differences is a stressor that undermines effective parenting. On the one hand, as Goodman et al. (2010) discuss in their mediational model of parent and youth agreement on youth victimization experiences, a lack of agreement may be the result of relationship stressors that inhibit youth's disclosure pertaining to victimization experiences. On the other hand, children whose parents underestimate their experiences with violence may perceive a lack of parental care or attention, which may, in turn, erode healthy parent and child bonds (Dishion and McMahon 1998). As a result, it is crucial for future studies to take into account reciprocal relationships and feedback processes among parent and youth reporting differences, family background factors, and detrimental youth outcomes.

Second, the PHDCN studied families with lower levels of socioeconomic status than in the general population. More generally, the secondary exposure to violence items examined in this study did not account for context, proximity/familiarity, or gendered violence. The need exists, then, to investigate variation in the correlates of parents' and youths' perceptions of exposure to violence across salient individual and contextual characteristics. This need is particularly important given that much of the research on secondary exposure to community violence has been

restricted to high-risk samples (see Eunice Kennedy Shriver National Institute of Child Health and Human Development 2002).

Third, consistent with literature suggestive of potential explanatory factors for parent and child reporting differences, and prior research on the correlates of exposure to violence, the analyses modeled parent and youth reporting discrepancies as a function of an array of individual, family, and neighborhood factors. Yet, it is possible that the analyses excluded potentially important correlates of parent and child reporting differences. For example, research indicates that reporting differences, in general, may be a function of parent psychopathology (see Andrews et al. 1993; Ehrlich et al. 2011; Treutler and Epkins 2003). Unfortunately, the PHDCN did not contain measures of parents' exposure to violence or parents' depression at Time 1 of the study. Future research should therefore explore these and other potential explanatory factors of parent and youth reporting differences as to the youth's exposure to violence.

Fourth, some indices in this study yielded lower than expected reliability scores, most notably the index for parental control and supervision. It is possible that poor reliability could have influenced the association between this variable and the absolute and directional discrepancy scores in the study. Yet, the items demonstrated face validity, factor analysis confirmed that the 13 items comprising this scale loaded on a single factor, and prior research using the PHDCN has validated this index in studies on exposure to violence (see Gibson et al. 2009; Zimmerman and Messner 2013). It is therefore unlikely that this index impacted the validity of the study findings.

Finally, it was expected that parent and youth reporting differences would be reduced in neighborhoods with higher levels of collective efficacy, where parents exchange information about youth's exposure to violence through social networks. However, the results indicated that parents residing in neighborhoods with higher levels of collective efficacy were actually more likely to underestimate their children's exposure to violence. Although contrary to expectations, some argue that parents in non-violent neighborhoods (with higher levels of collective efficacy) exert less parental supervision and are less likely to reduce their children's access to neighborhood settings (Furstenberg et al. 1999), perhaps widening the gap between what children experience and what parents know about these experiences.

## Conclusion

The results indicated (1) that parents significantly underestimated their children's exposure to community violence,

and (2) that this parental underestimation was associated with youth demographic characteristics (male, age, 2nd as compared to 3rd generation immigrant), family factors (lower levels of parental supervision), and neighborhood characteristics (higher levels of violence, less access to youth services). These findings reaffirm the key insight that collecting information from multiple informants both enriches and complicates developmental science. Using multiple informants can increase the validity and reliability of psychosocial assessments (Achenbach et al. 1987), but also presents formidable challenges for both researchers and clinicians. Researchers must decide the proper techniques for combining multiple informants' reports (see Gonzalez and Griffin 1997; Kuo et al. 2000; Holmbeck et al. 2002); the predictive capacity of constructs from multiple informants may vary (Byrnes et al. 2007; Duncan et al. 2002); clinical diagnosis and treatment may vary depending on the source of information (Kazdin 1989); and challenges to helping youth cope with traumatic events may become more formidable as parent and youth reports diverge (Gorman-Smith et al. 2004; Howard et al. 1999; Kliewer et al. 1998). Understanding and minimizing discrepancies between multiple informants' reports is thus critical and can only be accomplished through the theoretical and empirical exploration of the mechanisms through which reporting discrepancies among multiple informants arise.

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