Individual, Family Background, and Contextual Explanations of Racial and Ethnic Disparities in Youths' Exposure to Violence

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We used data from the Project on Human Development in Chicago Neighborhoods to examine the extent to which individual, family, and contextual factors account for the differential exposure to violence associated with race/ethnicity among youths. Logistic hierarchical item response models on 2344 individuals nested within 80 neighborhoods revealed that the odds of being exposed to violence were 74% and 112% higher for Hispanics and Blacks, respectively, than for Whites. Appreciable portions of the Hispanic–White gap (33%) and the Black–White gap (53%) were accounted for by family background factors, individual differences, and neighborhood factors. The findings imply that programs aimed at addressing the risk factors for exposure to violence and alleviating the effects of exposure to violence may decrease racial/ethnic disparities in exposure to violence and its consequences. (*Am J Public Health.* 2013;103:435–442. doi:10.2105/AJPH.2012.300931)

Homicide is a leading cause of death among young Americans, accounting for 14.8% of deaths among persons aged 10 to 24 years.[1] Yet homicide reflects only a small portion of adolescent violence. Estimates indicate that the ratio of nonfatal to fatal assaults is as high as 100 to 1,[2] and studies have found that between 50% and 96% of urban youths have witnessed some form of community violence (e.g., seeing a shooting or assault, hearing a gunshot) in their lifetime.[3–6] The rate of secondary exposure to community violence is of particular concern to the medical and public health community because interdisciplinary research has consistently documented the negative health consequences for youths exposed to chronic violence.[7–9]

Recognizing the epidemic levels of exposure to violence faced by children and adolescents across the United States, and the consequences associated with such exposure, the US associate attorney general announced the Task Force on Children Exposed to Violence in 2011 as part of the attorney general's Defending Childhood Initiative. The task force is composed of academic experts, practitioners, youth advocates, and clinicians, and follows the 2002 workshop entitled "Children Exposed to Violence: Current Status, Gaps, and Research Priorities." This workshop was funded by 10 federal agencies, including the National Institute of Justice, the National Institute of Mental Health, and the Centers for Disease Control and Prevention, and attended by violence researchers from diverse academic backgrounds across the United States. Relying on research in public health, psychology, criminology, and sociology, the workshop identified various consequences of exposure to community violence, including mental health effects (posttraumatic stress disorder, depression, low self-esteem, disassociation); psychobiological, physiological, and neuroendocrine effects (elevated heart rate, sleep disturbance, altered cortisol production, slower pubertal development); and psychosocial effects (substance use, conduct disorder, aggression, violence).[10]

The task force also concluded that there are substantial variations in estimates of exposure to community violence in the literature, although most studies have examined the prevalence of violence exposure in high-risk areas.[10] Not surprisingly, research has found a strong correlation between exposure to violence and neighborhood conditions such as poverty.[8,11,12] Understanding the individual and contextual pathways to violence exposure in the general population, as well as in the urban community, is necessary for alleviating its damaging effects.[10]

Subsequent interdisciplinary research has continued to identify individual, family, school, and community factors associated with exposure to violence.[8,11,12] One of the strongest individual covariates of exposure to community violence is race/ethnicity. Several studies have reported higher rates of exposure to violence among racial and ethnic minorities, particularly Blacks and Hispanics, than among Whites.[4,13–15] In addition, these racial/ethnic disparities persist when youths' exposure to violence is self-reported or reported by a primary caregiver.[16] Indeed, research has demonstrated that race/ethnicity is among the strongest predictors of exposure to violence, whether the informant is a parent or a child.[8]

The etiology of these disparities remains a mystery because empirical evidence has not attempted to explain differences in exposure to violence by race or ethnicity. Individual-level studies have examined family characteristics (e.g., parents' education and income level, family structure, parent–child conflict, parental supervision) as potential covariates of exposure to violence,[3–6,15,17] but these studies have not quantified the role that family factors could play in explaining differences in exposure to violence across race/ethnicity. Studies have also found that youths reporting the highest rates of exposure to violence tend to live in the most disadvantaged neighborhoods.[4,18–20] Yet with some recent and notable exceptions,[11,12] multilevel analyses of exposure to violence are sparse, and community influences on exposure to violence are poorly understood.[8] Recognizing these limitations, we used a multilevel framework to examine the extent to which the differential exposure to violence associated with race/ethnicity among youths can be accounted for by a constellation of individual, family, and neighborhood factors.

INDIVIDUAL, FAMILY BACKGROUND, AND CONTEXTUAL EXPLANATIONS

Our theoretical framework is predicated on the premise that family background factors, individual traits, peer associations, behavioral differences, and neighborhood characteristics vary by race/ethnicity, and that these factors are in turn related to exposure to community violence. We distinguish 3 sets of relevant individual, family background, and contextual factors on the basis of previous research.

First, research has demonstrated that a variety of family characteristics, such as residential instability, low socioeconomic status (SES), and nontraditional family structure, are associated with exposure to violence.[4,6,15,17] Racial/ethnic differences in exposure to these family factors (e.g., the high prevalence of low-income, single-parent households in Black communities[21,22]) could be responsible for higher rates of exposure to violence among racial/ethnic minorities.

A second perspective focuses on individual differences. Studies have demonstrated that there is a strong correlation between having violent friends and engaging in violent behavior.[23–25] However, research has yet to investigate whether the nature of peer interactions is associated with exposure to violence. We therefore examined whether violent peer exposure covaries with exposure to violence.[13,16] In addition, structural variation in the concentration of delinquent peers suggests that racial/ethnic minorities are more likely than Whites to have violent friends and to offend.[24(pp132–133)] We therefore examined whether racial/ethnic differences in violent peer exposure and previous violent behavior statistically explain racial/ethnic disparities in exposure to violence. We also assessed whether individual differences in constitutional factors such as self-control and verbal or reading ability explain racial/ethnic disparities in exposure to violence.

A third view focuses on racial/ethnic differences in exposure to criminogenic neighborhood conditions. Minorities are more likely than Whites to reside in disadvantaged neighborhoods characterized by violence, a lack of access to community social services, and a deficiency in community social support and informal social control.[8,11,12,22,26–28] Segregation by these salient neighborhood characteristics associated with exposure to violence[11,12] may account for some of the racial/ethnic differences in exposure to violence. We therefore considered the extent to which racial/ethnic stratification across the neighborhood context explains variation in racial/ethnic disparities in violence.

METHODS

We assessed our hypotheses with data from the Project on Human Development in Chicago Neighborhoods (PHDCN), a multiwave interdisciplinary study of how individual, family, and contextual factors contribute to adolescent development. The PHDCN consists of several components, including a Community Survey (CS) and Longitudinal Cohort Study (LCS). The CS is a probability sample of 8782 Chicago, Illinois, residents focused on assessing the social, economic, political, and cultural conditions in their communities. For the CS, Chicago's 865 census tracts were combined into 343 neighborhood clusters on the basis of spatial contiguity according to ecological boundaries and internal homogeneity with respect to race/ethnicity and SES. Each neighborhood cluster, averaging 8000 people, was smaller than the 77 community areas in Chicago, thereby approximating a local "neighborhood." A 3-stage sampling design was used to select city blocks within neighborhood clusters, households within blocks, and 1 adult (aged 18 years or older) per household. This design ensured that the number of cases per neighborhood cluster could generate meaningful results from residents' aggregated responses.[29]

The LCS, consisting of 3 waves of data, is a probability sample of participants in 7 cohorts defined by age at baseline (birth, 3, 6, 9, 12, 15, and 18 years). A stratified probability sample of 80 neighborhood clusters (selected from the 343 neighborhood clusters) and a simple random sample of households within these neighborhood clusters identified eligible respondents in each cohort. Respondents and their primary caregivers were interviewed up to 3 times between 1994 and 2002; the average time between interviews was 2.5 years. We studied all 2344 respondents from the 9-, 12-, and 15-year-old cohorts who were interviewed at wave 1, representing 80 neighborhood clusters across Chicago.

As with most longitudinal survey data, there were data missing because of nonresponse and attrition over time. To address potential bias produced by missing data, we used multiple imputation techniques to include observations that had item-missing versus unit-missing data.[30–36] This procedure imputed values for individuals who were interviewed but did not provide information on a particular question (14.4% of our sample), as well as for individuals who were lost to attrition across waves of the study (19.5% of our sample). We produced 10 data sets by using a missingness equation that included the dependent variable, the independent variables, and auxiliary variables used to provide additional information and increase efficiency. We combined the analysis results across the 10 imputed data sets. To examine the robustness of our findings to estimation strategy, we estimated all models (1) without imputed data on the dependent variable and (2) without data missing through nonresponse or attrition. The results were substantively unchanged from those presented in the Results section. Using dummy variables for nonresponse and attrition, we also found that the imputed data had no detectable relationship with the outcome.

Respondents in the PHDCN were administered a My Exposure to Violence questionnaire,[11–13,16,37] a modified version of the Survey of Children's Exposure to Community Violence,[6] to determine whether they had witnessed a series of violent acts (1 = yes; 0 = no) in the 12 months prior to the wave 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.

We incorporated the dichotomous items into a scale of exposure to violence as described in the Statistical Methods section. Respondents

on average were exposed to 2.5 of the 9 violent events.

We constructed measures of the respondent's race/ethnicity from the primary caregiver interviews at wave 1. In cases of mixed ethnicity, we coded the respondent's race as the race of the mother.[38] Respondents were asked to self-report their race/ethnicity at wave 2, and roughly 90% of respondents who identified as White, Black, or Hispanic at wave 1 self-reported the same race/ethnicity at wave 2. Most of the disparities were the result of a self-reported mixed race/ethnicity at wave 2, lending credence to our measurement scheme. This measurement strategy, used in previous research with the PHDCN, has been shown to be reliable.[38] The majority of respondents were Hispanic (46%) or Black (36%), compared with White (14%) or "other" (4%; i.e., Asian, Pacific Islander, American Indian, or other).

To examine whether we could account for the racial/ethnic disparities in exposure to violence, we selected risk factors corresponding to the variables identified in our theoretical framework. We assessed all risk factors at the wave 1 interview. A detailed description of all study measures, including means, standard deviations, ranges, and reliabilities (when applicable), as well as the procedures and items used to construct these measures, is provided in the supplemental appendix (available as a supplement to the online version of this article at http://www.ajph.org).

Demographic variables included age, gender (male = 1), and immigrant status (first generation, second generation, and third generation or higher). Family background factors included 4 indicators of family structure; parents' marital status (1 = married); family size; indices of parental warmth, lack of hostility, and supervision; SES; and years living at the current residence.

We measured 4 variables representing individual differences. Peer violence represents the number of respondent's friends engaging in a variety of violent behaviors in the year preceding the wave 1 interview. We constructed verbal or reading ability as the standardized sum of youths' scores on the widely used Wechsler Intelligence Scale for Children vocabulary test and the Wide Range Achievement Test for reading.[39] We constructed self-control from parents' responses to 17 items in the Achenbach Child Behavior Checklist representing a respondent's lack of inhibitory control, present orientation, sensation seeking, and lack of persistence.[40,41] We measured previous violent offending using respondents' self-reports of participation in 8 violent crimes in the year preceding the wave 1 interview.[42] Behaviors ranged from "throwing rocks at people" to "attacking someone with a weapon."

We constructed 3 neighborhood-level variables from the 1990 decennial census following established procedures previously employed with this data set: concentrated disadvantage, ethnic heterogeneity, and residential stability.[29,42–44] Concentrated disadvantage is a weighted factor regression score of the percentage of families below the poverty line, percentage of households receiving public assistance, percentage of nonintact families with children, percentage of population unemployed, median household income in 1989, and percentage of population that was Black. We constructed 5 neighborhood characteristics from the CS. Neighborhood violence measured residents' perceptions of the prevalence of violence in their neighborhoods (e.g., how often did "a gang fight" and "a robbery or mugging" occur in the neighborhood in the previous 6 months). A measure of youth services reflected the presence of services in the neighborhood (e.g., after-school programs, mental health services) aimed at keeping youths off the streets and providing them with the resources to avoid neighborhood conflict. Intergeneration closure, reciprocal exchange, and child-centered control assessed the closeness of parents and children in the neighborhood, the level of interaction among families regarding child-rearing practices, and the willingness of residents to intervene on behalf of neighborhood children in need, respectively.[11,29,42,45,46]

In our examination of the sources of the racial/ethnic gaps in exposure to violence, we followed closely the approach of Sampson et al. to the study of racial/ethnic disparities in violent offending.[38] First, we considered how individual, family background, and contextual characteristics vary by race/ethnicity. For this stage of the analysis, we compared summary statistics across the 3 major racial/ethnic groups in our sample: Whites, Blacks, and Hispanics. Second, we examined to what extent racial/ethnic disparities in exposure to violence are statistically explained by these factors. For this stage of the analysis, we estimated a hierarchical item response model with logit form to predict the odds of witnessing each violent act. This method simultaneously uses the benefits of item response and hierarchical linear models, applying item response theory to the dependent variable in a random-effects setting. This approach takes into account the varying frequency and seriousness of the exposure to violence items; estimates the relationships between violence exposure and individual, family, and neighborhood characteristics; and generates efficient slope estimates and unbiased standard errors when persons nested within neighborhoods share similar traits (i.e., are clustered).[31]

The logistic hierarchical model has 3 levels nesting items within persons and persons within neighborhoods. The level-1 model represents the item response measurement model and nests binary responses to the exposure to violence items within persons. In this model, item responses are allowed to vary as a function of violence exposure propensity and item severity and are incorporated into a scale of violence exposure, a latent variable representing each person's propensity to be exposed to violence. This latent variable is interpreted on a logit metric and serves as the outcome variable for the person- and neighborhood-level models. In the level-2 model, representing the person-level model, all individual and family characteristics are included as covariates of exposure to violence within neighborhoods. The level-3 model, or neighborhood-level model, examines the relationship between individual variation in exposure to violence and the neighborhood-level variables.[47] We estimated this model using generalized estimating equations (hierarchical generalized linear models) in the HLM 6 program (Scientific Software International, Skokie, IL).[31]

RESULTS

Table 1 presents descriptive statistics for the 3 main racial/ethnic groups in our study: Whites, Blacks, and Hispanics. Important differences by race/ethnicity among the demographic characteristics and family

TABLE 1—Descriptive Statistics, by Race/Ethnicity: Project on Human Development in Chicago Neighborhoods Waves 1 and 2, Age Cohorts 9–15 Years, 1994–2002

Characteristic	White (n = 333), Mean ±SD, No. (%), or Estimate (SD)	Black (n = 840), Mean ±SD, No. (%), or Estimate (SD)	Hispanic (n = 1074), Mean ±SD, No. (%), or Estimate (SD)
Demographic characteristics			
Age, y	12.09 ±2.47	12.03 ±2.42	11.93 ±2.44
Male, %	51 (50)	48 (50)	51 (50)
Immigrant generation,*** %			
First	10 (30)	1 (11)	22 (42)
Second	13 (34)	3 (16)	58 (49)
Third or higher (Ref)	77 (42)	96 (19)	19 (39)
Family background factors			
Family structure,*** %			
2 parents, biological	64 (48)	21 (41)	59 (49)
2 parents, 1 or both not biological	13 (34)	26 (44)	21 (41)
1 parent, not biological	1 (9)	8 (27)	1 (9)
1 parent, biological (Ref)	22 (42)	45 (50)	19 (39)
Parents are married,*** %	70 (46)	35 (48)	67 (47)
Family size***	-0.66 (1.62)	-0.18 (2.26)	0.37 (1.86)
Parental warmth**	0.10 (0.90)	-0.10 (0.99)	0.05 (1.03)
Parental lack of hostility*	0.15 (0.69)	-0.01 (0.97)	-0.04 (1.11)
Parental supervision***	-0.09 (1.04)	0.14 (0.87)	-0.06 (1.06)
Socioeconomic status***	0.76 (0.98)	0.14 (0.92)	-0.38 (0.89)
Years at residence***	1.66 (7.12)	0.59 (8.03)	-1.01 (5.34)
Individual differences			
Verbal/reading ability***	0.50 (0.92)	-0.12 (0.94)	-0.07 (1.02)
Lack of self-control***	0.22 (0.99)	0.20 (0.94)	-0.23 (1.00)
Violent peers***	-0.30 (0.85)	0.38 (1.08)	-0.18 (0.89)
Previous violent offending***	-0.12 (0.99)	0.29 (1.25)	-0.19 (0.92)
Neighborhood variables			
Concentrated disadvantage***	-0.88 (0.74)	0.61 (0.92)	-0.03 (0.73)
Concentrated immigration***	-0.19 (0.67)	-0.65 (0.76)	0.81 (0.79)
Residential stability***	0.41 (0.99)	0.29 (1.07)	-0.11 (0.62)
Neighborhood violence***	-0.72 (1.00)	0.14 (0.95)	0.09 (0.88)
Youth services***	0.29 (0.78)	-0.14 (1.07)	-0.39 (0.82)
Intergenerational closure***	0.58 (1.19)	0.18 (0.78)	-0.19 (0.94)
Reciprocated exchange***	0.48 (1.24)	0.09 (0.74)	-0.28 (0.96)
Child-centered control***	0.70 (0.92)	-0.04 (0.86)	-0.22 (0.95)

Note. Binary and nominal variables are reported as percentages. Family background factors (except family structure and parents' marital status), individual differences, and neighborhood variables are standardized for the overall sample. Units represent standard deviations above and below the mean value for the overall sample. Comparisons across race/ethnicity are based on standard errors, and on Pearson's χ^2 statistic and 1-way analysis of variance when the outcomes are dichotomous and normally distributed, respectively.
*$P < .05$; **$P < .01$; ***$P < .001$ (2-tailed tests).

background factors were detected. Hispanics were more likely to be first- or second-generation immigrants than were third-generation immigrants, whereas Whites and Blacks were more likely to be third-generation immigrants than were recent immigrants. In addition, Whites and Hispanics were more likely to live with 2 biological parents who are married, whereas Blacks were more likely to live with a single, unmarried parent; Whites came from the smallest families, and Hispanics came from the largest families; Blacks had the lowest levels of parental warmth but the highest levels of parental supervision, whereas Whites had the highest levels of parental warmth and the lowest levels of parental hostility and supervision; SES was highest among Whites and lowest among Hispanics; and in terms of years at residence, Whites were the most stable, whereas Hispanics were the most transient.

There were also individual differences by race/ethnicity. Whites ad significantly higher verbal or reading scores than did Blacks and Hispanics, but Hispanics had higher levels of self-control than did Whites and Blacks. Regarding peer violence exposure and previous offending, Blacks were the most likely to associate with violent peers and to engage in violent behavior, whereas Whites and Hispanics were statistically equally likely to have violent peers and to offend.

Neighborhood variables also differed by race/ethnicity. Whites were in an advantaged position for all of the contextual variables. Whites tended to live in affluent, racially homogenous, and residentially stable neighborhoods, whereas Blacks lived in the most disadvantaged neighborhoods and Hispanics lived in the most ethnically diverse and least stable communities. In addition, Whites tended to live in the least violent neighborhoods, whereas Blacks and Hispanics lived in comparatively violent neighborhoods. These disparities are particularly important because Black and Hispanic adolescents do not have access to the same youth services or to the same levels of informal social support and social control (i.e., intergenerational closure, reciprocated exchange, child-centered control) as do Whites.

Explaining Racial/Ethnic Disparities in Youths' Exposure to Violence

Table 2 presents odds ratios (or exponentiated log-odds regression coefficients) from the logistic multilevel model described in the Statistical Methods section. Model 1 provides baseline estimates for the racial/ethnic disparities in exposure to violence, controlling only for the demographic characteristics. The odds ratios for "Hispanic" and "Black" were 1.74 and 2.12, respectively, indicating that the

TABLE 2—Racial/Ethnic Disparities in Exposure to Violence: Project on Human Development in Chicago Neighborhoods Waves 1 and 2, Age Cohorts 9–15 Years, 1994–2002

	Model 1, OR (95% CI)	Model 2, OR (95% CI)	Model 3, OR (95% CI)	Model 4, OR (95% CI)
Intercept	0.34*** (0.27, 0.42)	0.37*** (0.30, 0.46)	0.44*** (0.31, 0.62)	0.46*** (0.33, 0.65)
Demographic characteristics				
Race/ethnicity				
Hispanic	1.74*** (1.42, 2.15)	1.54*** (1.23, 1.92)	1.49** (1.18, 1.88)	1.49** (1.18, 1.89)
Black	2.12*** (1.69, 2.64)	1.73*** (1.37, 2.20)	1.67*** (1.31, 2.14)	1.53** (1.20, 1.96)
Other race	1.56* (1.08, 2.25)	1.40 (0.97, 2.04)	1.36 (0.95, 1.97)	1.38 (0.97, 1.96)
Male	1.51*** (1.35, 1.70)	1.52*** (1.35, 1.70)	1.53*** (1.36, 1.72)	1.38*** (1.24, 1.54)
Age	1.21** (1.18, 1.24)	1.22*** (1.19, 1.25)	1.21*** (1.18, 1.24)	1.15*** (1.12, 1.19)
Immigrant generation				
First	0.52*** (0.43, 0.64)	0.51*** (0.41, 0.63)	0.52*** (0.42, 0.64)	0.62*** (0.50, 0.77)
Second	0.70** (0.58, 0.85)	0.70*** (0.58, 0.84)	0.72** (0.60, 0.87)	0.78** (0.64, 0.93)
Neighborhood variables				
Concentrated disadvantage		1.23*** (1.11, 1.38)	1.20** (1.08, 1.34)	1.19** (1.07, 1.32)
Concentrated immigration		1.04 (0.94, 1.15)	1.02 (0.93, 1.13)	1.04 (0.94, 1.15)
Residential stability		1.03 (0.93, 1.14)	1.02 (0.93, 1.13)	1.01 (0.91, 1.11)
Neighborhood violence		1.10* (1.00, 1.22)	1.09 (0.99, 1.20)	1.08 (0.98, 1.18)
Youth services		0.89** (0.82, 0.96)	0.88** (0.82, 0.95)	0.88** (0.82, 0.95)
Intergenerational closure		1.01 (0.91, 1.13)	1.02 (0.91, 1.14)	1.04 (0.90, 1.13)
Reciprocated exchange		1.00 (0.91, 1.11)	1.01 (0.92, 1.12)	1.01 (0.94, 1.15)
Child-centered control		1.07 (0.97, 1.19)	1.07 (0.98, 1.18)	1.06 (0.96, 1.16)
Family background factors				
Family structure				
2 parents, 1 or both not biological			1.03 (0.84, 1.26)	0.97 (0.79, 1.20)
1 parent, not biological			0.68 (0.45, 1.03)	0.64* (0.42, 0.97)
1 parent, biological			1.05 (0.77, 1.43)	1.00 (0.73, 1.36)
Parents' marital status			0.78* (0.61, 0.98)	0.81 (0.65, 1.03)
Family size			1.02 (0.99, 1.05)	1.02 (0.99, 1.05)
Parental warmth			0.96 (0.89, 1.03)	0.97 (0.91, 1.04)
Parental lack of hostility			0.98 (0.92, 1.04)	1.00 (0.95, 1.06)
Parental supervision			0.96 (0.88, 1.04)	0.97 (0.91, 1.03)
Socioeconomic status			0.93* (0.88, 0.99)	0.95 (0.87, 1.03)
Years at residence			1.00 (0.99, 1.01)	1.00 (0.99, 1.01)
Individual differences				
Verbal/reading ability				1.04 (0.98, 1.11)
Lack of self-control				1.09* (1.02, 1.17)
Violent peers				1.16*** (1.09, 1.25)
Previous violent offending				1.29*** (1.21, 1.38)

Note. CI = confidence interval; OR = odds ratio (i.e., exponentiated log-odds parameter estimate). The level-1 model produces relative severities of the items in the scale of exposure to violence. The models also include dummy variables representing controls for attrition and item nonresponse (both nonsignificant at $P > .05$). Although these results are not presented in the table, they are available from the authors upon request. For Model 1, n = 2344 persons; for Model 2, n = 80 neighborhood clusters.
*$P < .05$; **$P < .01$; ***$P < .001$. P values were determined by 2-tailed test.

odds of being exposed to violence were 74% ($[1.74 - 1] \times 100\%$) and 112% ($[2.12 - 1] \times 100\%$) higher for Hispanics and Blacks, respectively, than for Whites. Model 1 also shows that the odds of being exposed to violence were 51% higher for male than for female youths, and a 1-year increase in age was associated with a 21% increase in the odds of exposure to violence. Furthermore, immigrant status was protective for youths in our sample. The odds of being exposed to violence were 48% and 30% lower for first- and second-generation immigrants, respectively, than for third-generation immigrants. These findings are consistent with research on gender, age, and racial/ethnic differences in exposure to violence.[4,6,8,13,14]

Model 2 introduces the neighborhood variables to examine the contextual factors responsible for racial/ethnic disparities in exposure to violence. The odds of being exposed to violence were higher in neighborhoods with higher levels of concentrated disadvantage (odds ratio [OR] = 1.23; 95% confident interval [CI] = 1.11, 1.38) and lower levels of youth services (OR = 0.89; 95% CI = 0.82, 0.96). In addition, controlling for these neighborhood variables reduced the odds ratio describing the gap in exposure to violence between Hispanics and Whites by 27%, from 1.74 to 1.54 ([1.74 − 1.54] / 0.74 × 100%; note that the maximum possible reduction, or 100%, would be from 1.74 to 1.00) and the odds ratio describing the gap in exposure to violence between Blacks and Whites by 35%, from 2.12 to 1.73 ([2.12 − 1.73] / 1.12 × 100%; the maximum possible reduction, or 100%, would be from 2.12 to 1.00). These findings imply that neighborhood variables (i.e., living in neighborhoods with higher levels of concentrated disadvantage and less access to youth services) are partially responsible for the increased odds of being exposed to violence among Hispanics and Blacks compared with Whites.

Model 3 adds the family background factors. The odds of being exposed to violence were significantly lower for adolescents whose parents are married (OR = 0.78; 95% CI = 0.61, 0.98) and who live in households with higher levels of SES (OR = 0.93; 95% CI = 0.88, 0.99). Other parenting characteristics, however, were not associated with exposure to violence. These findings are generally consistent with research investigating familial correlates of exposure to violence.[3–5,11,17,20] In addition, controlling for these family background factors reduced the odds ratio describing the gap in exposure to violence between Hispanics and Whites by 9% (from 1.54 to 1.49) and the odds ratio describing the gap between Blacks and Whites by 8% (from 1.73 to 1.67). These findings imply that family background factors (e.g., higher rates of married parents and higher SES among Whites) are partially responsible for the increased odds of being exposed to violence among Hispanics and Blacks compared with Whites.

Model 4 adds the individual differences. Individuals who lack self-control (OR = 1.09; 95% CI = 1.02, 1.17), affiliate with violent peers (OR = 1.16; 95% CI = 1.09, 1.25), and engage in violent behavior (OR = 1.29; 95% CI = 1.21, 1.38) were comparatively more likely to be exposed to violence. In addition, controlling for these individual differences reduced the odds ratio that describes the gap between Blacks and Whites by 21% (from 1.67 to 1.53), implying that another reason Whites have lower odds of being exposed to violence than Blacks is that Whites are less likely to associate with violent peers and to engage in violent offending (Table 1).

Additional Analyses

The findings in Table 2 demonstrate that neighborhood structural and social conditions are significantly associated with exposure to violence. It is also possible that racial/ethnic disparities in exposure to violence are more pronounced in some neighborhood contexts than in others. We therefore extended our analysis by examining the extent to which the associations between race/ethnicity and exposure to violence are moderated by neighborhood disadvantage. Negative and significant cross-level interaction terms between being Hispanic and concentrated disadvantage (OR = 0.71; 95% CI = 0.56, 0.90; not shown here) and between being Black and concentrated disadvantage (OR = 0.76; 95% CI = 0.60, 0.95; not shown here) indicate that racial/ethnic disparities in exposure to violence decrease in more disadvantaged neighborhoods. In fact, the odds of being exposed to violence were 68% and 67% higher for Hispanics and Blacks, respectively, than for Whites in neighborhoods 1.5 standard deviations below the mean of neighborhood disadvantage. However, the odds ratios describing the racial/ethnic gaps in exposure to violence were reduced to nonsignificance at 0.5 standard deviations above the mean of neighborhood disadvantage.

We also acknowledge a difficulty arising from the empirical fact that White, Black, and Hispanic youths often live in nonoverlapping neighborhoods. That is, 15% of Blacks in our sample lived in neighborhoods with levels of disadvantage greater than the maximum level of disadvantage experienced by Whites. Conversely, 14% of Whites in our sample lived in neighborhoods with levels of disadvantage less than the minimum level of disadvantage experienced by Blacks. We therefore run the risk of making inferences about relationships with community conditions to which youths of some racial/ethnic groups were not exposed. To protect against this threat to the validity of our analyses, we limited our sample to youths living in neighborhoods with levels of disadvantage to which youths from each racial/ethnic group were exposed. Reanalyzing this sample of 2128 youths within 72 neighborhoods yielded remarkably similar results, with no changes in the substantive conclusions.

Finally, we note an additional covariate significantly associated with exposure to violence. In additional models, we included a measure of unstructured socializing, which represented peer interactions without an agenda for how time is to be spent in the absence of responsible authority figures.[48,49] The measure included items such as "How often do you ride around in a car or motorcycle for fun?" and "How often do you get together with friends and just hang out?" Because this measure was assessed at wave 2 of the study, and its inclusion did not substantively alter the results, we did not include it in the models discussed earlier in the Results section. Yet the pattern of results related to unstructured socializing represents an important caveat to our study. Black youths in our sample were less likely, rather than more likely, to engage in unstructured socializing than were Whites. Therefore, a positive and significant relationship between unstructured socializing and exposure to violence (OR = 1.47; 95% CI = 1.38, 1.58; not shown here) implies that unstructured socializing tends to reduce, rather than promote, the overall gap in exposure to violence between Blacks and Whites, in effect operating in the opposite direction of the risk factors in our study.

DISCUSSION

Previous research has demonstrated racial and ethnic disparities in the social burden of exposure to community violence,[4,6,8,14,15] but little empirical evidence has quantified the role of theoretically relevant covariates in explaining these disparities. We sought to fill this gap in the literature by examining the extent to which these disparities could be

accounted for with reference to a constellation of individual, family background, and contextual factors in a multilevel framework.

Our findings indicate that salient family background factors, individual differences, and neighborhood characteristics vary significantly by race/ethnicity, and that this variation contributes to the understanding of racial/ethnic disparities in exposure to violence. With respect to variables representing family background factors and individual differences, risk factors were consistently more prevalent among minorities. For example, levels of household SES were lower, and rates of violent peer exposure and previous violent behavior were higher, among Blacks than Whites. Moreover, these disparities contributed to the observed differences in exposure to violence between Blacks and Whites. Overall, the family background factors included in our study accounted for 9% of the gap in exposure to violence between Hispanics and Whites. Family background variables and individual difference variables accounted for 8% and 21%, respectively, of the disparity in exposure to violence between Blacks and Whites.

The burden of neighborhood risk falls unambiguously on minorities, and neighborhood context was an appreciable source of the reduction in the racial/ethnic gaps in exposure to violence. That is, Black and Hispanic communities in our sample were characterized by high levels of concentrated disadvantage and a deficiency of youth services; the disproportionate variation of concentrated disadvantage and youth services among races/ethnicities accounted for 27% and 35% reductions in the racial/ethnic gaps in exposure to violence between Hispanics and Blacks, respectively, and Whites.

Supplemental analyses also uncovered 2 findings worthy of additional research. First, we observed that the racial/ethnic gap in exposure to violence decreased in more disadvantaged neighborhoods, as reflected in negative cross-level interactions between being Hispanic and concentrated disadvantage and being Black and concentrated disadvantage. Perhaps the cross-level interactions could be explained by an attenuated association between violent peer exposure and exposure to violence in more disadvantaged neighborhoods, as previous research indicates.[50] Or perhaps violence simply does not discriminate across race/ethnicity in extremely disadvantaged communities. We leave it to future research to confirm and investigate possible explanations for the observed cross-level interactions. We also found that Black youths in our sample were less likely, rather than more likely, to engage in unstructured socializing. This implies that the observed positive and significant relationship between unstructured socializing and exposure to violence tends to reduce, rather than promote, the overall gap in exposure to violence between Blacks and Whites, in effect operating in the opposite direction of the risk factors in our study.[48,49] Although studies have focused primarily on exposure to violence in minority communities,[10] we encourage researchers to actively investigate factors that engender exposure to violence among Whites.

Two known limitations associated with the PHDCN data are particularly noteworthy. First, neighborhood-level variables were attached to individuals on the basis of where they lived at the time of the initial interview. However, respondents could have moved during the study, creating measurement error for neighborhood of residence. Moreover, respondents could have been exposed to violence in surrounding communities. The PHDCN data do not include information on location of exposure to community violence, but knowing where individuals encounter violence is important for interpreting the mechanisms underlying any observed neighborhood effects. Second, because the PHDCN examined individuals in the city of Chicago and "did not go beyond its official boundaries into a wider region,"[29(p923)] the average neighborhood in this study was likely more criminogenic than the average US neighborhood. Thus, care must be taken in generalizing the results. We also note that our analyses did not statistically account for the entire range of the observed racial/ethnic disparities in exposure to violence. Acknowledging that race/ethnicity is not a scientific cause of violence exposure,[38,51] we concede that other relevant factors for exposure to violence have not been included in our analyses. Perhaps school-level factors, which we were not able to consider, are differentially distributed by race/ethnicity and contribute to the explanation of racial/ethnic disparities in exposure to violence.

We conclude by highlighting the research and policy implications of considering persons in context. Studying individuals within their social contexts can provide a more accurate representation of the sphere of influence that individuals face daily. In turn, understanding the ways in which social conditions and exposure to violence covary could aid in the design of individual- and community-specific interventions that have the highest potential for success. For example, our results suggest the need to remove minority children and adolescents from disadvantaged neighborhoods that do not provide adequate youth services for growth and development. Programs such as Moving to Opportunity that provide poor families with vouchers to obtain housing in less disadvantaged neighborhoods may be effective in this regard.[52] The No Child Left Behind Act,[53] which allows parents to transfer children out of dangerous schools, may also be effective in removing youths from environments exposing them to violence. Furthermore, initiatives such as the Office of Juvenile Justice and Delinquency Prevention–sponsored Safe Start Program, a school-based program to promote community responses when children are exposed to violence, may encourage coping and adaptive strategies in those exposed to violence,[54] skills that may buffer youths from the harmful effects of witnessing violence. Consistent with our findings, programs that address the risk factors for exposure to violence, and that assuage its effects, may decrease racial/ethnic disparities in exposure to violence and its consequences. ■

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This article was accepted June 3, 2012.

Contributors

G. M. Zimmerman conducted all analyses and scripted the original article. S. F. Messner aided in the conceptualization, framing, and writing of the article.

Human Participant Protection

This research used data from the Project on Human Development in Chicago Neighborhoods, a secondary data set in which all identifiers were previously removed. The institutional review board of Northeastern University approved this study.

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