
Families, Neighborhood Socio-Demographic Factors, and Violent Behaviors among Latino, White, and Black Adolescents

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Abstract

Youth violence is a major cause of morbidity and mortality among Blacks and Latinos. Violent behaviors within Latino subgroups and the reasons for subgroup differences are not well understood. Using data from the National Longitudinal Study of Adolescent Health ($N = 16,615$), this study examined the risk for violent behaviors among an ethnically diverse sample of youth, with special attention to different Latino subgroups. Family dynamics were examined as moderators between neighborhood socioeconomic status (SES) and violent behaviors who lived in neighborhoods with different racial/ethnic compositions. Results indicated that neighborhood SES was positively associated with risk for violent behaviors among youth living in predominately Black and Latino neighborhoods, but negatively in predominately White neighborhoods. Additionally, family cohesion, parental engagement, and adolescent autonomy differentially impacted the relationship between neighborhood SES and youth violent behaviors for youth living in predominately Latino neighborhoods.

Keywords

youth violence, families, neighborhoods, Latinos

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National estimates generally indicate that the risk for violence among Latino youth falls between the risk for White and Black youth. In 2007, for example, 40% of Latino youth were involved in a physical fight compared to 32% of White and 45% of Black youth (CDC, 2008). Additional evidence suggests variations in the risk for violence across Latino ethnic subgroups. Felson, Deane, and Armstrong (2008) found that Puerto Rican youth had higher risk for violent behaviors from Whites, whereas Cuban, Mexican, and Central American youth did not differ. Estrada-Martínez and colleagues (in press) found that Puerto Rican youth had higher risk for severe violent behaviors than Cuban and Mexican youth, who in turn had higher risk than White youth. Sampson, Morenoff, and Raudenbush (2005) also found that Puerto Rican youth had a higher risk, whereas Mexican youth had a lower risk for violent behaviors, as compared to Whites. These findings suggest that grouping nationalities within pan-ethnic labels may obscure differences and hinder effective interventions necessary to address violence among Latino youth.

Differences in risks for violence across Latino populations may stem from variations in the social environments they experience. In the United States, groups have historically varied widely in size, socioeconomic position, household characteristics, immigration experiences, generational distribution, racial and ethnic identity, and geographic concentration (Tienda & Mitchell, 2006). These differences may contribute to the extent to which family environments perpetuate cultural values (Rivera et al., 2008). Thus, associations between neighborhood socioeconomic status (SES) and youth violence may be influenced by family dynamics that are patterned by national origins and sociohistorical backgrounds among Latinos.

Research examining family and neighborhood as contexts for youth violence has mainly focused on primarily and Black neighborhoods. Studies examining violence within Latino or ethnically mixed neighborhoods have generally done so regionally (Frank, Cerdá, & Rendón, 2007; Sampson et al., 2005). Although useful to characterize risk, generalizations based on these findings are limited. The current study extends previous research by using a nationally representative sample of ethnically diverse adolescents to (a) examine risks for violent behaviors among different Latino ethnic subgroups compared to White and Black adolescents; and (b) to examine potential moderating influences of family dynamics on established relationships between neighborhood SES and youth violence within neighborhoods of different racial/ethnic compositions.

Theoretical Orientation

We use the National Research Council's definition to define violence as "behaviors that intentionally threaten, attempt or inflict physical harm on others"

(Dahlberg, & Potter, 2001). Thus, the theoretical orientation of this study is an integration of social control (SCT; Hirschi, 1969) and social disorganization theories (SDT; Sampson, 2003) that emphasize the significance of social bonds within families and neighborhood characteristics as environmental factors critical to shaping youth's violent behaviors. Specifically, interactions between family and neighborhood factors can protect or expose youth to environmental risks for violence (Leventhal & Brooks-Gunn, 2000; Sampson & Lauritsen, 1994). These theories are especially useful for examining familial protective effects against violence within neighborhoods of varying SES among Latino ethnic subgroups because of the variations that exist in their sociopolitical backgrounds, family histories, and residential distributions.

SCT posits that the development of violent behaviors is more likely when social bonds are weak or broken, and underscores the role of family dynamics (Hirschi, 1969). Adolescents learn norms, values, and behaviors from family members, especially parental figures who shape conduct and transmit intergenerational family values and expectations. Parent-child relationships serve as important protections or risks for violent behavior (Dahlberg, 1998). SCT is consistent with several cultural values identified in the Latino cultural literature, including *familism*. *Familism* stresses the role of family life and its effect on relationships, as well as behaviors when interacting with others within and outside the family (Mirabal-Colón & Vélez, 2006). Consistent with SCT, *familism* emphasizes the importance of unity and adherence to particular roles in public situations and deference to authority figures (Ingoldsby, 1991; Vega, 1990).

According to SDT, neighborhood SES and racial/ethnic composition vary systematically and are precursors for the development of neighborhood social ties (Sampson, 2003). In classic SDT, racial/ethnic diversity within neighborhoods should lead to increased residential turnover, fewer institutional investments, limited social resources, and political marginalization. Among immigrant groups, neighborhood SES and racial/ethnic composition are vital indicators of opportunities for structural assimilation and upward social mobility (Portes & Zhou, 1993).

Family and Neighborhood Influences on Youth Violence Among Latinos

Families. Family dynamics have been frequently associated with youth violence. The evidence is mixed regarding their relationship to aggression and violent behaviors among Latinos compared to White and Black youth (Pabón, 1998; Smith & Krohn, 1995). Multiple studies have found protective

influences of family dynamics on youth violence among Latinos generally (Smith & Krohn, 1995; Walker, Maxson, & Newcomb, 2007), and specifically among Cubans (Vega, Gil, Warheit, Zimmerman, & Apospori, 1993), and Puerto Ricans (Rodríguez & Weisburd, 1991). Others have found no or weak associations between family dynamics and youth violence among Puerto Rican (Pabón, 1998) and Mexican American (Arbona & Power, 2003) youth. These conflicting findings may reflect the extent to which studies distinguish among Latino subgroups, focus on a single sex, or account for neighborhood contexts.

The influence of family dynamics on adolescent outcomes may differ according to neighborhood context (Leventhal & Brooks-Gunn, 2000). Evidence points to the profound impact that perceptions of neighborhoods have on the sense of parental efficacy, parenting strategies, and maternal involvement in low-income neighborhoods (Ceballo & Hurd, 2008; Roche, Ensminger, & Cherlin, 2007), and the degree of autonomy given to adolescents (Burton & Jarrett, 2000; Spear & Kulbok, 2004). Mirabal-Colón and Vélez (2006) have argued that lower rates of violence among Latino compared to Black youth in similarly low-income environments are partly due to sociocultural factors reproduced within families that protect Latino youth. However, many of the above studies have not examined within-groups dynamics and are limited to low-income neighborhoods in specific regions of the country.

Neighborhoods. Addressing neighborhood influences on ethnic differences in youth violence with national samples, McNulty and Bellair (2003) found that accounting for neighborhood economic disadvantage reduced, but did not eliminate, Latino-White differences in serious violent behaviors. Kaufman (2005) found that Black-White, but not Latino-White, differences in youth violence reduced to nonsignificance after accounting for neighborhood SES, family structure and income. Neither study included indicators of neighborhood racial/ethnic composition as an explanatory factor, which could represent a protective characteristic (Williams, Mohammed, Leavell, & Collins 2010), especially among immigrant youth (Portes & Zhou, 1993). When combining neighborhood racial/ethnic and economic indicators to account for neighborhood disadvantage, DeCoster and colleagues (2006) found Latinos to be at higher risk for violent behaviors compared to Whites after accounting for family and neighborhood demographic characteristics.

Measures that combine neighborhood racial/ethnic and economic indicators may obscure unique paths of economic and spatial assimilation for different racial/ethnic groups in the United States. Examining these factors separately, Frank and colleagues (2007) found that living in Los Angeles neighborhoods with above county-average concentration of Latinos increased the risk for delinquent behaviors after accounting for neighborhood SES. Sampson and

colleagues (2005), however, found that Mexicans living in primarily Latino Chicago neighborhoods had reduced risks for violent behaviors. The Sampson et al. study is one of few that examined the effects of racial/ethnic neighborhood composition as distinct from neighborhood SES on youth violence among different Latino ethnic subgroups. This approach allowed more direct examinations of risk and protection factors for violence among Latino youth.

The Current Study

The current study builds on and extends the research of Sampson et al. (2005) by examining influences of different family dynamics and neighborhood SES on variations in violence for youth living in neighborhoods of varying racial/ethnic compositions. The following research questions are addressed: Do adolescents of different Latino backgrounds differ from each other and from other racial groups in their risk for violent behaviors in different neighborhood contexts? What is the influence of family dynamics (i.e., family cohesion, parental engagement, and adolescent autonomy) and neighborhood SES on the risk for youth violence within neighborhoods of different racial/ethnic compositions? Is the effect of neighborhood SES on violent behavior moderated by family dynamics within neighborhoods of different racial/ethnic compositions?

Method

Study Design

Data for this study are from the National Longitudinal Study of Adolescent Health (Add Health; Harris et al., 2008). One hundred and thirty two middle and high schools were randomly selected to nationally represent schools. Student selection was stratified by grade and sex. In-Home Wave I data (1994-95) were used, which had a 79% response rate. A major advantage of this data set is that Puerto Rican, Cuban, and Black adolescents with highly educated parents were oversampled. Subsequent waves of this data set are limited in the ability to address ethnic subgroup differences among Latinos due to sample attrition and the lack of inclusion of the necessary family dynamic variables.

Sample Description

Respondents who self-identified as non-Latino White (60%), non-Latino Black (24%), Cubans/Cuban American (3%), Mexicans/Mexican American/Chicano (9.5%) (hereafter referred to as Whites, Blacks, Cubans, and Mexicans), and

Puerto Rican (3.5%) origin ($N = 16,799$) were included in this study. Violence scores were missing for 184 respondents for a final sample size of 16,615 weighted to represent 20,201,501 adolescents in the country. Fifty one percent of respondents were male and the mean age was 16. Parents reported a mean family income of US\$45,000 ($Mdn = US\$38,000$).

Measures

Violent behaviors. Five items assessed violent behaviors. Three items assessed moderate violence: “During the past 12 months how often did you . . .” (a) get into a serious physical fight, (b) injure someone badly enough to require medical care, and (c) take part in a group fight. Response categories ranged from never, 1 to 2 times, 3 to 4 times, and 5 or more times. Two additional items were indicators of severe violence. Adolescents were asked: “During the past 12 months, how often did each of the following things happen?” You (a) pulled a knife or gun on someone and (b) shot or stabbed someone. Response categories were never, once, more than once. Items on this measure are consistent with the National Research Council’s definition used for this study (i.e., intentionally threaten, attempt or inflict physical harm on others).

The response categories for the above items differed based on the assumption that more severe actions happened less frequently. Therefore, we coded each item as a binary variable indicating *no violence* (0) versus *any violent behavior* (1). As in other studies of violence, continuous and multiple level categorical scales were heavily skewed and log transformations did not correct the problem. Approximately 90% of all violent acts reported were at the moderate level of severity, whereas less than 9% were severe violent behaviors. The final outcome variable is a binary indicator of whether or not youth reported engaging in any violent behaviors.

Family cohesion. This variable is a modified version of López-Turley, Desmond, and Bruch’s (2010) measure of family cohesion. We used the average score of a 5-item scale ($\alpha = .76$; 1 = *not at all* to 5 = *very much*) where higher scores indicate higher family cohesion. Items included the extent to which adolescents reported feeling that his or her family had fun together, understood him or her, paid attention to him or her, and parents cared about him or her. An additional item asked how much the adolescent wanted to leave home. The final item was reverse coded.

Parental engagement. Parental engagement was measured using ten yes-no items that indicated the breadth of activities adolescents did with their parent(s) (Estrada-Martínez et al, in press; Kapinus & Gorman, 2004). Example items are if the adolescent had shopped, played a sport, attended a religious service, worked on a school project, or talked about a personal problem with a parent in

the previous 4 weeks. Adolescents who answered no to all items were coded as zero. Scores were summed to create a count for each parent, and then averaged across the number of parents. The final measure ranged from zero to nine, where higher scores indicate more parental engagement.

Adolescent autonomy. A measure was created using seven yes–no items that indicated whether adolescents reported being allowed to make their own decisions about weekend curfews, friends, clothes, the amount and type of television watched, weekday bedtime, and the foods they eat. Responses were summed to create a count that ranged from zero to seven, where higher scores reflect more independence in decision making. Similar measures have been used elsewhere in the literature where in the literature (Estrada-Martínez, in press; Kapinus & Gorman, 2004).

Neighborhood SES. Using 1990 Census data linked to the in-home sample, we conducted a principal components factor analysis using the proportion of the population 25 years and older with a college degree, the proportion of those employed in managerial and/or professional occupations, the proportion of persons under the poverty line, and the total unemployment rate at the tract level (the last two reversed) to create a standardized index that represented the neighborhood SES (disadvantage/advantaged) continuum ($\alpha = .87$). The four items loaded into a single factor, with all lambdas over .81. Scores ranged from -5.17 to 3.48 (range = 8.65). Higher values represent higher levels of neighborhood SES. Multivariate analyses were stratified by the racial/ethnic composition of the neighborhoods (described below), thus neighborhood SES reflects the range of SES for neighborhoods within a given racial/ethnic composition.

Neighborhood racial/ethnic composition. Neighborhood racial/ethnic composition indicates which racial/ethnic group (Whites, Blacks, or Latinos) predominates in a given census tract. In the 1990 Census, Latino identification was treated as an ethnicity allowing them to be distributed across all racial groups. Thus, the first step was to construct mutually exclusive categories that would represent Latinos of all races, non-Latino Whites, non-Latino Blacks, and non-Latino others. Using these continuous variables we created variables for tracts with at least 75% White population, 75% Black, and 75% Latino as homogeneous neighborhoods. Tracts with more than 20% of at least two groups were classified as mixed neighborhoods (Earls & Buka, 1997).

Analytic Strategy

Add Health utilized a complex sampling design with unequal probability of selection, where schools were the primary sampling units (Harris et al., 2008). Analyses were conducted using hierarchical two-level logistic models in HLM 6 (Raudenbush & Byrk, 2002) with a random intercept for each

school to account for the school clustering. Analyses using cross-classified multilevel models (students nested within schools and neighborhoods) yielded very similar results, the simpler two level models that account for the main source of clustering (schools) are presented. All slopes were fixed and all continuous variables were grand mean centered to facilitate interpretation. Post-stratification weights were used in all analyses to achieve nationally representative results. All multivariate analyses are stratified by the racial/ethnic composition of the neighborhoods.

First, we examined the direct effects of adolescents' racial/ethnic background, family dynamics, and neighborhood SES on the risk for violent behaviors across neighborhoods of different racial/ethnic composition. We tailored the analyses in primarily Black and Latino neighborhoods to better reflect the limited presence of adolescents from other racial or ethnic groups. Thus, in Black neighborhoods we compared Black to non-Black adolescents ($n = 48$), and in Latino neighborhoods we excluded Black and White adolescents ($n = 16$), focusing the analysis on Mexican, Puerto Rican, and Cuban youth. Second, we examined whether different dimensions of family dynamics moderated the association between neighborhood SES and youth violence across neighborhoods of different racial/ethnic composition. All multivariate analyses controlled for adolescents' age, sex, parents' reports of family income and mother's education, adolescents' reports of household composition, and Census-based measures of neighborhood residential stability and immigrant concentration (except where noted). These variables have been found to influence racial/ethnic differences in risks for youth violence (Blum et al., 2000; Dahlberg, 1998; Sampson, 2003). To maximize the sample, missing data for all independent variables were replaced using maximum likelihood estimates for parameters in probabilistic models via the Estimation-Maximization (EM) algorithm (Raghunathan, 2004).

Results

Descriptive Results

The lowest and highest prevalence of violent behaviors were among White and Puerto Rican youth, respectively. Unadjusted pairwise comparisons indicated that Mexicans ($\beta(SE) = .53(.11)$, OR = 1.7, $p \leq .001$), Puerto Ricans ($\beta(SE) = .58(.15)$, OR = 1.8, $p \leq .001$), and Blacks ($\beta(SE) = .62(.07)$, OR = 1.9, $p \leq .001$), had greater odds for violent behaviors than White youth. Cubans, ($\beta(SE) = .30(.22)$, OR = 1.4), did not differ from Whites, and none of the minority groups differed from each other.

Table 1 shows that ethnic minority youth had lower levels of family income, $F(4, 128) = 28, p \leq .001$, and of mother's education, $\chi^2(4, 13,176) = 404, p \leq .001$, than White adolescents. Household composition varied by race/ethnicity, with White adolescents more likely to live with two parents, $\chi^2(16, 16,446) = 1,300, p \leq .001$; Cubans with two parents and an additional adult kin, $\chi^2(16, 16,446) = 135, p \leq .001$; Blacks and Puerto Ricans with single parents, $\chi^2(16, 16,446) = 470, p \leq .001$; Blacks and Cubans with a single parents and an additional adult kin, $\chi^2(16, 16,446) = 447, p \leq .001$; and Black youth with kin who were not their parents, $\chi^2(16, 16,446) = 267, p \leq .001$.

Family cohesion did not differ across racial/ethnic subgroups, while parental engagement, $F(4, 128) = 3.31, p < .05$, and adolescent autonomy did, $F(4, 128) = 3.88, p < .01$. White adolescents were more likely than other youth to live in neighborhoods with higher SES, $F(4, 128) = 20.59, p < .001$, and residential stability, $F(4, 128) = 27.34, p < .001$. Neighborhood immigrant concentration differed by racial/ethnic group, $F(4, 128) = 24.14, p < .001$, with Latinos, particularly Cubans, living in neighborhoods with high immigrant concentration.

Multivariate Results

Table 2 presents logistic regression coefficients (β), standard errors (SE), and odds ratios (OR ; $\exp[\beta]$) for the main variables of interest. In predominantly White and in ethnically mixed neighborhoods, Mexican and Black adolescents were at higher risk for violent behaviors than White youth. Puerto Rican youth in ethnically mixed neighborhoods also had higher risk for violent behaviors compared to Whites. Cuban youth did not differ from White youth in predominantly White or ethnically mixed neighborhoods. Within predominantly Latino neighborhoods, Puerto Ricans were at greater risk compared to Cuban youth and Mexican. There were no significant differences in risk of violence between Black and non-Black adolescents in predominantly Black neighborhoods.

Regardless of neighborhood racial/ethnic composition, family cohesion was negatively associated, and parental engagement was positively associated, with risk for violence (Table 2). Adolescent autonomy was negatively associated with risk for violence youth living in primarily Latino neighborhoods. Neighborhood SES was negatively associated with risk for violence among youth in primarily White neighborhoods, and positively associated with risk among youth in primarily Black and Latino neighborhoods. Notably, high immigrant concentration was associated with an 86% reduction in risk in primarily Latino neighborhoods, ($\beta(SE) = -1.96(.31)$, $OR = .14, p \leq .001$).

Table 1. Sample Description for Full Sample and by Adolescents' Race/Ethnicity

M (SE)	Full sample	Whites	Blacks	Mexicans	Puerto Ricans	Cubans
<i>n</i> ^a	16,615	9,911	4,045	1,587	585	487
Violent behaviors ^b	42	38	54	50	58	49
Males <i>n</i> ^{a,b}	8,083 (51)	4,858 (51)	1,892 (50)	794 (52)	297 (53.5)	242 (46.5)
Age	16 (.12)	15.9 (.13)	16.2 (.22)	16 (.28)	15.9 (.37)	16.1 (.82)
Family income ^{c,d,e}	44.99 (1.64)	49.99 (1.85)	29.15 (1.62)	31.70 (1.77)	33.92 (2.57)	27.79 (4.52)
Mother's education						
Less than high school ^{f,g,h}	.16 (.01)	.10 (.01)	.21 (.02)	.54 (.04)	.30 (.03)	.43 (.04)
High school/GED ^{f,g,h}	.34 (.01)	.35 (.01)	.35 (.02)	.21 (.03)	.38 (.03)	.30 (.22)
Some college or beyond ^{f,g,h}	.51 (.02)	.55 (.02)	.45 (.04)	.25 (.03)	.33 (.04)	.28 (.05)
Household composition						
Two parents ^{i,j,k}	.63 (.01)	.71 (.01)	.36 (.02)	.56 (.02)	.51 (.04)	.50 (.05)
Two parents and adult(s) kin ^{i,j,k}	.08 (.00)	.07 (.00)	.07 (.01)	.15 (.02)	.07 (.01)	.18 (.02)
Single parent ^{i,j,k}	.17 (.01)	.14 (.01)	.30 (.02)	.15 (.02)	.26 (.04)	.14 (.02)
Single parent and adult(s) kin ^{i,j,k}	.08 (.01)	.05 (.00)	.17 (.01)	.09 (.01)	.11 (.03)	.14 (.02)
Adult(s) kin, not parents ^{i,j,k}	.05 (.00)	.03 (.00)	.11 (.01)	.05 (.01)	.05 (.01)	.04 (.02)
Family cohesion	3.98 (.02)	3.97 (.02)	3.97 (.03)	4.04 (.05)	3.96 (.05)	4.09 (.16)
Parental engagement ^k	3.57 (.04)	3.61 (.04)	3.52 (.06)	3.31 (.11)	3.59 (.18)	3.03 (.30)
Adolescent autonomy ^k	5.14 (.05)	5.20 (.06)	5.04 (.09)	4.78 (.11)	5.15 (.12)	5.06 (.20)
Neighborhood racial/ethnic composition ^a						
White (<i>n</i> = 1,036)	9,503	8,298	674	289	204	38
Black (<i>n</i> = 303)	1,224	12	1,176	19	11	6
Latino (<i>n</i> = 81)	572	9	7	108	56	392
Mixed (<i>n</i> = 757)	5,343	1,602	2,196	1,178	315	52

Table 1. (continued)

M (SE)	Full sample	Whites	Blacks	Mexicans	Puerto Ricans	Cubans
Neighborhood SES ^{a,***}	.00 (.08)	.20 (.09)	-.65 (.09)	-.28 (.13)	-.21 (.09)	-.53 (.17)
Residential stability ^{d,***}	.08 (.06)	.25 (.05)	-.20 (.11)	-.66 (.11)	-.52 (.13)	-.95 (.18)
Immigrant concentration ^{e,***}	.05 (.01)	.04 (.00)	.04 (.01)	.18 (.02)	.17 (.03)	.61 (.08)

Note: SE = Standard errors.

a. Unweighted

b. Weighted percentage.

c. In thousands.

d. Standardized score of proportion of owner occupied units and proportion of the population who had lived in the same households for more than 5 years.

e. Proportion of the population who was foreign born.

*** $p \leq .001$. ** $p \leq .01$. * $p \leq .05$.

Table 2. Population Average Logistic Regression Models for Violent Behaviors by Neighborhood Racial/Ethnic Composition

	>75% White			>75% Black ^a			>75% Latino ^b			>20% / >20% Mixed		
	β (SE)	OR		β (SE)	OR		β (SE)	OR		β (SE)	OR	
Race/ethnicity												
Whites	Ref	Ref	—	—	—	—	—	—	—	—	—	Ref
Cubans	-.29(.59) ^c	0.75	—	—	—	—	—	—	—	.78(.58)	2.18	2.18
Mexicans	.37(.16)	1.45*	—	—	—	-.18(.10)	0.83	0.83	0.83	.46(.17)	1.59**	1.59**
Puerto Ricans	.35(.28)	1.42	—	—	—	.52(.07)	1.68***	1.68***	1.68***	.61(.22)	1.84**	1.84**
Blacks	.57(.10)	1.77***	—	—	Ref	—	—	—	—	.66(.11)	1.93***	1.93***
All Others	—	—	-.18(.64) ^c	.83	.83	—	—	—	—	—	—	—
Family dynamics												
Family cohesion	-.64 (.05)	0.53***	-.55(.06)	0.58***	0.58***	-.38(.02)	0.69***	0.69***	0.69***	-.63 (.06)	0.53***	0.53***
Parental engagement	.06 (.02)	1.06***	.09(.04)	1.10*	1.10*	.04(.01)	1.04***	1.04***	1.04***	.08 (.02)	1.08***	1.08***
Adolescent autonomy	-.02 (.02)	0.98	.07(.04)	1.07	1.07	-.04(.01)	.96***	.96***	.96***	.04 (.03)	1.04	1.04
Neighborhood SES	-.15(.05)	0.86***	.36(.16)	1.44*	1.44*	.30(.05)	1.35***	1.35***	1.35***	-.09 (.06)	0.91	0.91

Note: Analyses were adjusted for age, sex, log of family income, mothers' level of education, household composition, neighborhood residential stability, and neighborhood immigrant concentration. Ref = Reference Category.

a. Model compares Black adolescents to all other adolescents in the sample. Due to lack of variability, model does not include neighborhood immigrant concentration.

b. Model compared Mexicans and Puerto Ricans to Cubans.

c. $n < 50$; results should be interpreted with caution.

*** $p \leq .001$. ** $p \leq .01$. * $p \leq .05$.

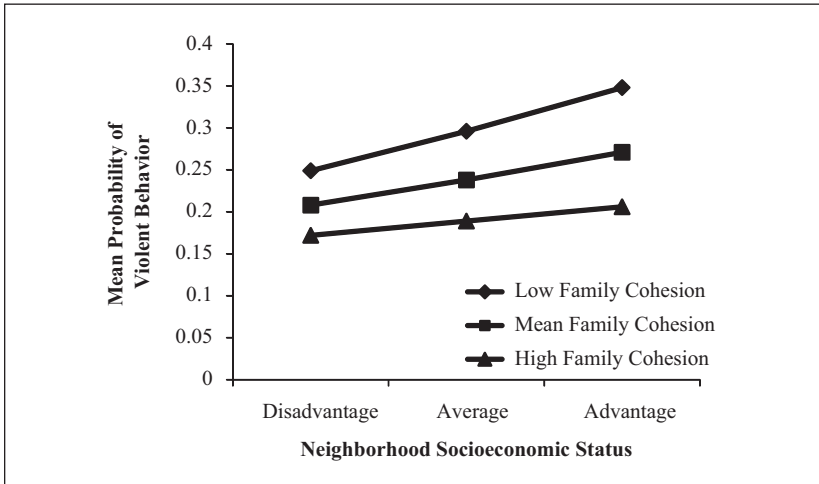


Figure 1. Interaction between neighborhood SES and family cohesion in Latino neighborhoods

To test the final research question, we ran models that included interaction terms between each family dynamic and neighborhood SES within each of the four neighborhood racial composition types. We found that all three family dynamics moderated the association between neighborhood SES and violence within Latino neighborhoods (Family Cohesion*SES: $\beta(SE) = -.15(.04)$, OR = .86, $p \leq .001$; Parental Engagement*SES: $\beta(SE) = -.10(.02)$, OR = .91, $p \leq .001$; adolescent Autonomy*SES: $\beta(SE) = .07(.01)$, OR = 1.07, $p \leq .001$). We examined the predicted probabilities of violent behavior at three levels of family cohesion ($M = 4.06$, $SD = .77$), parental engagement ($M = 2.91$, $SD = 1.78$), and adolescent autonomy ($M = 4.87$, $SD = 1.60$) and three levels of neighborhood SES in Latino neighborhoods ($M = -1.16$, $SD = -0.57$), respectively (Aiken & West, 1991). We found that adolescents reporting lower family cohesion were at higher risk in Latino neighborhoods with relatively higher SES compared to those with average or lower SES (Figure 1). Conversely, the effects of parental engagement were greatest among youth living in Latino neighborhoods with lower SES, where adolescents reporting higher engagement were at greater risk (Figure 2). We also found that level of autonomy also had a stronger influence in advantaged Latino neighborhoods, where youth who reported higher autonomy were at greater risk (results not shown).

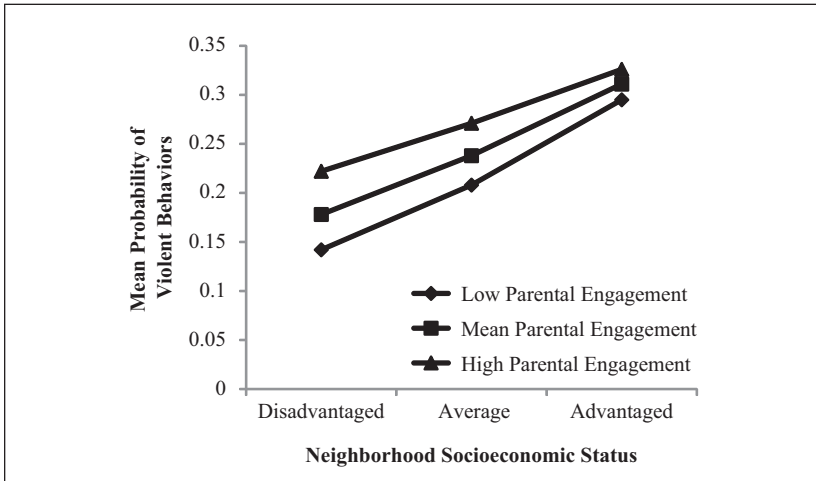


Figure 2. Interaction between neighborhood SES and parental engagement in Latino neighborhoods

Discussion

This is one of few studies to examine family and neighborhood influences on ethnic differences in youth violence focusing on Latino adolescents using a nationally representative sample. We were particularly interested in identifying similarities and differences among adolescents of different Latino ethnic backgrounds with regard to risk or protective factors for youth violent behavior and the effect of family dynamics as moderators of previously established associations between neighborhood SES and violence in neighborhoods of different racial/ethnic compositions. Several noteworthy findings from this study are described below.

Race/ethnicity and violence in context. Consistent with Felson and colleagues (2008), Puerto Ricans have the highest risk of violence among the Latino subgroups, and their overall risk closely follows those for Blacks. Puerto Ricans have higher rates of violence than Whites within ethnically mixed neighborhoods, but the trend is not significant in White neighborhoods. Within Latino neighborhoods, Puerto Rican youth are at greater risk than Cubans and Mexicans. Together, results suggest that Puerto Rican youth are at heightened risk for violence across multiple neighborhood contexts.

Risk for violence among Cuban youth does not differ from that of White youth overall, and these patterns hold for comparisons within predominantly White and ethnically mixed neighborhoods. Risks for violence among Mexican

youth are heightened in predominantly White and ethnically mixed neighborhoods, compared to White youth in those same environments; within predominantly Latino neighborhoods, Mexican youth do not differ significantly in risk compared to Cuban youth.

Descriptive findings for the study suggest that Mexican and Cuban youth living in primarily Latino neighborhoods may be living in ethnic-specific enclaves. Our findings on the effect of immigrant concentration in Latino neighborhoods suggest that ethnic enclaves may exert a protective effect against youth violence. Conversely, Puerto Rican youth in this study are more likely to live in neighborhoods with a more heterogeneous population. Consequently, the protections ethnic enclaves afford to Cuban and Mexican youth may be less readily available to Puerto Rican youth. Mexican youth living in Latino neighborhoods were not at increased risk; yet those in less segregated environments (i.e., White and mixed neighborhoods) were at [increased] level of risk compared to White youth. Puerto Ricans who live in White neighborhoods did not differ in risk, which may be due to the impact of higher levels of family and neighborhood SES for youth in these contexts. Consistent with previous literature, Black youth in this study were at greater risk of violence overall. Black youth living in predominantly White and ethnically mixed neighborhoods are at increased risk for violent behavior compared to White youth. Within primarily Black neighborhoods, there is some suggestion that Blacks may not differ in risk from youth of other racial/ethnic groups, although more research is needed to confirm this.

Neighborhood SES and family dynamics. Relative neighborhood SES and family dynamics were not universally protective across neighborhoods of different racial/ethnic composition. Among youth living in White neighborhoods, relative neighborhood SES was negatively associated with risk for violence. However, in Black or Latino neighborhoods, with lower absolute levels of SES, neighborhood SES was positively associated with risk of violence. This finding is intriguing and not widely found in the youth violence literature (Sampson, Morenoff, & Gannon-Rowley, 2002). One plausible explanation may be differences in the distribution of neighborhood SES across neighborhoods of various racial/ethnic compositions. This could occur if, for example, the protective effects of neighborhood SES are apparent only after some threshold level. There is very little overlap between the neighborhood SES of White youths and their Black and Latino counterparts nationally (Williams et al., 2010) and this is reflected in this study where the mean SES in minority neighborhoods was substantially below that of White neighborhoods. McNulty (2001) notes that because Black neighborhoods are clustered in SES disadvantage measures, whereas White neighborhoods are clustered in advantage measures (which he calls *restricted distribution*), a “ceiling effect” causes unit

changes in SES to produce a larger impact on violence in White neighborhoods than the corresponding unit changes in Black neighborhoods. Other studies comparing White-Black neighborhoods have found a curvilinear association in Black neighborhoods, with a decrease in risk at high levels of disadvantage (Kaufman, 2005; McNulty, 2001). To our knowledge, prior studies have not examined this type of interaction in Latino or mixed neighborhoods.

Other structural factors determined outside of ethnic minority neighborhoods may partially account for this trend. On the one hand, residents of higher SES minority neighborhoods are subject to poorer quality institutional resources, service provisions, and quality housing than residents of non-minority neighborhoods with comparable SES (Williams et al., 2010). Disproportionate sentencing among Black and Latino youth, lack of trust in police departments, and inadequate response time of emergency services may strain relationships between community residents and police departments and hinder efforts to reduce serious violence among youth. On the other hand, social interactions (e.g., collective efficacy, networks of support) may play a strong protective role through institutions such as churches and civic organizations in disadvantaged Black and Latino neighborhoods, monitoring and guiding adolescents when parents are not present. Furthermore, although Latino neighborhoods are likely to have lower SES, they are also likely to have a large presence of first generation immigrants in the community, which has previously been found to be protective against crime and violence (Sampson et al., 2005).

High family cohesion decreased risk in all neighborhood types; however, low family cohesion presented stronger challenges in advantaged Latino neighborhoods. A widely identified value in the literature on Latino culture is the concept of *familism*. Consistent with SCT, the dimensions through which *familism* is expressed (i.e., emotional, attitudinal, and demographic) may strengthen the attachment to the family unit and ensure that it continues to serve as a strong source of values and expectations throughout adolescence. Contrary to SCT theoretical proposition, we found that adolescents who live in disadvantaged Latino neighborhoods, but reported more parental engagement, are at increased risk for engaging in violent behaviors than those with low parental engagement. The use of cross-sectional data for this analysis precludes testing the temporal order of these relationships: It is possible that parents who perceive their adolescents to be at risk for violent behaviors may engage in purposive activities intended to deter problem behaviors (Coley & Medeiros, 2007). The effects of living in high-risk environments may still overwhelm these efforts. We also found that among youth living in advantaged Latino neighborhoods, autonomy is positively associated with violent activities. These findings may be indicative of parental monitoring, and may also

reflect structural conditions influencing ethnic minority families. For example, parents and other adults who work multiple jobs to garner the resources to achieve middle class status and ensure a better future for their children, may have little time to oversee adolescents' daily activities or engage in other community-oriented activities that could increase common social controls. Policies or interventions that increase parents' abilities to more directly supervise their children (e.g., flexible work hours) would be especially useful within this context.

Limitations. A number of study limitations merit mentioning. Our violence measure was a dichotomous indicator of whether adolescents reported any of five violence items. Although this allowed us to combine information for all item responses, the factors associated with different severity and frequency of violent behaviors cannot be indicated. Violence outcomes are relatively infrequent at the population level and highly skewed (Sampson et al., 2005). Given the stratified analytic approach and distribution of violence across ethnic subgroups, attempts to use three- and five- level measures that specified escalating severity of violence did not converge in Black and Latino neighborhoods. However, our current measure is similar to others used in the youth violence literature using the same data set (McNulty & Bellair, 2003) and allowed us to capture the majority of violent acts in the sample.

Our measures of family SES included parental reports of family income and mother's education, and may not fully capture the complexity of social class. Although highly correlated with family income for all subgroups, neighborhood SES was not always correlated (or in the expected direction) with levels of mother's education across Latino subgroups. Other measures may be more indicative of family SES (e.g., fathers' educational level, occupational prestige scores), may be more highly related to the type of neighborhoods Latino subgroups reside in, and should be examined in future studies of youth violence. Studies that examine the extent to which these factors operate among the different Latino subgroups are urgently needed.

This study is cross-sectional, thus causal arguments cannot be made. Subsequent waves of Add Health did not gather information on the key family dynamics and sample attrition significantly reduced statistical power to make inferences about Cubans and Puerto Ricans. Because this study sought to identify how neighborhood and family factors are associated with the risk of youth violence across racial/ethnic subgroups, we opted to conduct analysis on the first wave of data to maximize sample size. The surge of the Latino population and increased ethnic and geographic diversity in the 15 years since the data in this study was collected highlights the urgent need to conduct new data collection efforts. Furthermore, Add Health did not gather independent measures of neighborhoods dynamics, which would greatly expand our understanding of

the role of neighborhoods across Latino subgroups. As previously mentioned, Add Health is a school-based sample and neighborhoods are not meant to be representative of all neighborhoods in the country (only schools are).

Finally, as in other observational studies of neighborhood effects, high levels of residential segregation in the United States coupled with vast economic inequalities make it difficult to compare the rates of violence between White and minority youth while holding neighborhood structural characteristics constant (Peterson & Krivo, 2005). The confounding and limited overlap in individual-level and neighborhood-level SES and racial/ethnic distributions is a limitation (Oakes, 2004) in comparing effects of neighborhood characteristics and in estimating the contributions of neighborhood characteristics to race/ethnic differences. We attempt to minimize this bias by stratifying the analysis and specifying factors that have received theoretical and empirical support to disparities in violent behaviors.

Concluding comments. Despite these limitations, this study extends existing literature by examining variations within Latino subgroups in multiple neighborhood contexts. Furthermore, it examined the direct and interactive effects of family dynamics and neighborhood SES within neighborhoods of different racial/ethnic composition, highlighting how these factors affect Latino populations in multiple developmental contexts vis-à-vis other major populations in the country. It is important to understand risk and protective factors that are relevant to the development of interventions and increase the effectiveness of programs that promote positive youth development among Latino families and communities. The findings reported here suggest a number of potential points of intervention for reducing risk among Latino adolescents, and that although social contexts matter, they do so differently across ethnic subgroups. Specifically, we suggest focusing resources on interventions that strengthen family cohesion and provide support for parents, particularly those who may have reduced access to support from other adults, and those transitioning to neighborhoods with higher levels of SES, who may begin to be exposed to a number of stressors through acculturation processes.

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References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: SAGE.
- Arbona, C., & Power, T. G. (2003). Parental attachment, self-esteem, and antisocial behaviors among African American, European American, and Mexican American adolescents. *Journal of Counseling Psychology, 50*(1), 40-51.
- Blum, R. W., Beuhring, T., Shew, M. L., Bearinger, L. H., Sieving, R. E., Resnick, M. D. (2000). The effects of race/ethnicity, income, and family structure on adolescent risk behaviors. *American Journal of Public Health, 90*, 1879.
- Burton, L. M., & Jarrett, R. L. (2000). In the mix, yet on the margins: The place of families in urban neighborhoods and child development research. *Journal of Marriage and the Family, 62*, 1114-1135.
- Ceballos, R., & Hurd, N. (2008). Neighborhood context, SES, and parenting: Including a focus on acculturation among Latina mothers. *Applied Developmental Science, 12*, 176-180.
- Centers for Disease Control and Prevention. (2008). Youth risk behavioral surveillance—United States, 2007. *MMWR, Surveillance Summaries, 57*, (SS-4).
- Coley, R. L., & Medeiros, B. L. (2007). Reciprocal longitudinal relations between nonresident father involvement and adolescent delinquency. *Child Development, 78*, 132-147.
- Dahlberg, L. L. (1998). Youth violence in the United States: Major trends, risk factors, and prevention approaches. *American Journal of Preventive Medicine, 14*, 259-272.
- Dahlberg, L. L., & Potter, L. B. (2001). Youth violence: Developmental pathways and prevention challenged. *American Journal of Preventive Medicine, 20*, Suppl 1, 3-14.
- De Coster, S., Heimer, K., & Wittrock, S. M. (2006). Neighborhood disadvantage, social capital, street context, and youth violence. *Sociological Quarterly, 47*, 723-753.

- Earls, F., & Buka, S. L. (1997). *Project on Human Development in Chicago Neighborhoods: Technical report*. Rockville, MD: National Institute of Justice.
- Estrada-Martínez, L.M., Padilla, M.B., Caldwell, C.H., & Schulz, A.J. (in press). Examining the influence of family environments on youth violence: A comparison of Mexican, Puerto Rican, Cuban, non-Latino Black, and non-Latino White Adolescents. *Journal of Youth and Adolescence*, DOI 10.1007/s10964-010-9624-4
- Felson, R. B., Deane, G., & Armstrong, D. P. (2008). Do theories of crime or violence explain race differences in delinquency? *Social Science Research*, 37, 624-641.
- Frank, R., Cerdá, M., & Rendón, M. (2007, September). Barrios and burbs: Residential context and health-risk behaviors among Angeleno adolescents. *Journal of Health and Social Behavior*, 48, 283-300.
- Harris, K. M., Halpern, C. T., Entzel, P., Tabor, J., Bearman, P. S., & Udry, J. R. (2008). The National Longitudinal Study of Adolescent Health. Research Design. Retrieved from <http://www.cpn.unc.edu/projects/addhealth/design>
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley: University of California Press.
- Ingoldsby, B.B. (1991). The Latin American family: Familism vs. machismo. *Journal of Comparative Family Studies*, 22(1), 57-62.
- Kapinus, C., & Gorman, B. (2004). Closeness with parents and perceived consequences of pregnancy among male and female adolescents. *Sociological Quarterly*, 45, 691-717.
- Kaufman, J. M. (2005). Explaining the race/ethnicity-violence relationship: Neighborhood context and social psychological processes. *Justice Quarterly*, 22, 224-251.
- Leventhal, T., & Brooks-Gunn, J. (2000). The neighborhoods they live in: The effects of neighborhood residence on child and adolescent outcomes. *Psychological Bulletin*, 126, 309-337.
- López-Turley, R. N., Desmond, M., & Bruch, S. K. (2010). Unanticipated educational consequences of a positive parent-child relationship. *Journal of Marriage and Family*, 72, 1377-1390.
- McNulty, T. L. (2001). Assessing the race-violence relationship at the macro level: The assumption of racial invariance and the problem of restricted distributions. *Criminology*, 39, 467-489.
- McNulty, T. L., & Bellair, P. E. (2003). Explaining racial and ethnic differences in serious adolescent violent behavior. *Criminology*, 41, 709-747.
- Mirabal-Colón, B., & Vélez, C. N. (2006). Youth violence prevention among Latino youth. In N. G. Guerra & E. P. Smith (Eds.), *Preventing youth violence in a multicultural society*. (pp. 103-126) Washington, DC: American Psychological Association.
- Oakes, J. M. (2004). The (mis)estimation of neighborhood effects: causal inference for a practicable social epidemiology. *Social Science & Medicine*, 58, 1929-1952.
- Pabón, E. (1998). Hispanic adolescent delinquency and the family: A discussion of sociocultural influences. *Adolescence*, 33, 941-955.

- Portes, A., & Zhou, M. (1993). The new second generation: Segmented assimilation and its variants. *Annals of the American Academy of Political and Social Science*, 530, 74-96.
- Peterson, R. D., & Krivo, L. J. (2005). Macrostructural analysis of race, ethnicity, and violent crime: Recent lessons and new directions for research. *Annual Review of Sociology*, 31, 331.
- Raghunathan, T. E. (2004). What do we do with missing data? Some options for analysis of incomplete data. *Annual Review of Public Health*, 25, 99-117.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd ed). Thousand Oaks, CA: SAGE.
- Rivera, F. I., Guarnaccia, P. J., Mulvaney-Day, N., Lin, J. Y., Torres, B., & Alegría, M. (2008). Family cohesion and its relationship to psychological distress among Latino groups. *Hispanic Journal of Behavioral Sciences*, 30, 357-378.
- Roche, K. M., Ensminger, M. E., & Cherlin, A. J. (2007). Variations in parenting and adolescent outcomes among African American and Latino families living in low-income, urban areas. *Journal of Family Issues*, 28, 882-909.
- Rodríguez, O., & Weisburd, D. (1991). The integrated social control model and ethnicity: The case of Puerto Rican American delinquency. *Criminal Justice and Behavior*, 18, 464-479.
- Sampson, R. J. (2003). The neighborhood context of well-being. *Perspectives in Biology and Medicine*, 43(3), S53-S64.
- Sampson, R. J., & Lauritsen, J. L. (1994). Violent victimization and offending: individual, situational, and community-level risk factors. In A. J. Reiss Jr., & J. Roth (Eds.), *Understanding and preventing violence: Social influences* (Vol. 3, pp. 1-114). Washington, DC: National Research Council, National Academy Press.
- Sampson, R. J., Morenoff, J. D., & Gannon-Rowley, T. (2002). Assessing "neighborhood effects": Social processes and new directions in research. *Annual Review of Sociology*, 28, 443-478.
- Sampson, R. J., Morenoff, J. D., & Raudenbush, S. (2005). Social anatomy of racial and ethnic disparities in violence. *American Journal of Public Health*, 95, 224-232.
- Smith C., & Krohn, M. D. (1995). Delinquency and family life among male adolescents: The role of ethnicity. *Journal of Youth and Adolescence*, 24(1), 69-93.
- Spear, H. J., & Kulbok, P. (2004). Autonomy and adolescence: A concept analysis. *Public Health Nursing*, 21, 144-152.
- Tienda, M., & Mitchell, F. (eds.). (2006). *Hispanics and the future of America*. Washington, DC: National Academies Press.
- Vega, W. A. (1990). Hispanic families in the 1980s: A decade of research. *Journal of Marriage and the Family*, 52, 1015.
- Vega, W., Gil, A. G., Warheit, G. J., Zimmerman, R. S., & Apospori, E. (1993). Acculturation and delinquent behavior among Cuban American adolescents: Toward an empirical model. *American Journal of Community Psychology*, 21(1), 113-125.

- Walker, S. C., Maxson, C., & Newcomb, M. N. (2007). Parenting as a moderator of minority, adolescent victimization and violent behavior in high-risk neighborhoods. *Violence and Victims, 22*, 304-317.
- Williams, D. R., Mohammed, S. A., Leavell, J., & Collins, C. (2010). Race, socioeconomic status, and health: Complexities, ongoing challenges, and research opportunities. *Annals of the New York Academy of Sciences, 1186*, 69-101.

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