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A Multilevel Analysis of Social Ties and Social Cohesion among Latinos and Their Neighborhoods: Results from Chicago

Joanna Almeida, Ichiro Kawachi, Beth E. Molnar,
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ABSTRACT *Research suggests that, among Latinos, there are health benefits associated with living in a neighborhood populated with coethnics. While social networks and social cohesion are the proposed explanation for the salubrious effect and are assumed to be characteristics of Latino immigrant enclaves, evidence for this is limited. We used multilevel regression to test the relative contribution of individual race/ethnicity and neighborhood concentration of Mexican Americans as predictors of social networks and social cohesion. After accounting for personal characteristics, we found a negative association between neighborhood concentration of Mexican Americans and social cohesion. Among Latinos, living in a neighborhood with increased coethnics was associated with increased social ties. Compared to non-Latino whites, Mexican Americans reported more social ties but lower social cohesion. Contrary to the assumption that Mexican immigrant enclaves beget social cohesion, we did not find this to be true in Chicago neighborhoods.*

KEYWORDS *Ethnic enclaves, Social ties, Social cohesion, Latino immigrants, Neighborhoods*

INTRODUCTION

Studies conducted by Shaw and McKay in the 1920s and Faris and Dunham in the 1930s illustrated that health outcomes varied systematically by neighborhood, often in tandem with socioeconomic status (SES).¹⁻³ Specifically, Shaw and McKay observed that urban communities with high rates of poverty and residential instability suffered from disproportionately high rates of mental illness, infant mortality, crime, and other physical and social maladies. Since then, the literature on neighborhood effects on well-being has burgeoned, and researchers have established an independent relationship between neighborhood resources, such as social networks and social cohesion, and health.⁴⁻¹² However, as Sampson et al.¹³ noted, the question of precisely what factors engender social ties and social cohesion has not been adequately addressed. Although studies have highlighted individual-level variables associated with positive social processes, there is still a dearth of information on area-level determinants.^{6,14-16}

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Urban sociologists have examined predictors of social ties and social cohesion with conflicting views on the role of area disadvantage.^{3,17} Some argue that economically deprived areas lack the elements which produce and sustain social ties and cohesion. They cite the social disorganization theory, which hypothesizes that concentrated poverty erodes positive social resources and processes, which in turn engenders fear and mistrust among residents.^{1,11,13,14,18–21} Other investigators note that strong social ties and mutual aid are “often features of poor areas, as these qualities may help people cope with poverty, unemployment and social exclusion.”^{3,17,22–24} They cite the social needs perspective which advances the idea that the social maladies associated with neighborhood disadvantage galvanize residents to band together to tackle such problems.²⁵

Ethnographic studies have found that concentrated poverty in Mexican immigrant enclaves does not always preclude development of positive social processes. Several large-scale studies, most notably the Hispanic Established Populations for Epidemiologic Studies of the Elderly (H-EPESE) found that the concentration of Mexican Americans buffered the deleterious effects of neighborhood poverty on a variety of health outcomes.^{22,23,26,27} Findings from these studies demonstrate that the Latino health paradox—the notion that, despite their low SES, Latinos have better than expected rates of morbidity and mortality—operates at the neighborhood level as well as the individual level and that the context of Mexican enclaves independently promotes well-being.^{22,23,27–33} A commonly proposed hypothesis for the beneficial effect is the strong social networks assumed to be a characteristic of Latino culture, especially among Mexicans.^{21,22,26,34–36} The norms of trust and reciprocity are also thought to transcend social networks to shape the contextual environment of the Mexican ethnic enclave to one that it is also endowed with high levels of social cohesion. While the authors of the H-EPESE studies put forth this as an explanation for their findings, they did not specifically test their assertion.

Despite studies that have demonstrated a health advantage associated with residence in a homogeneous Mexican American neighborhood, most investigations of the paradox have treated it as a phenomenon that operates only at the individual level. Findings from the H-EPESE studies, however, provide evidence that the context of Mexican American neighborhoods independently promotes well-being, over and above individual Mexican Latino ethnicity. In addition, studies of the theorized explanations for the Latino paradox at the individual and neighborhood level are scarce, often based on assumptions, and have not heretofore been purposefully or quantitatively tested using multilevel methodology.^{27,28,37,38} Finally, previous studies which proposed that the concentration of Mexican Americans in a neighborhood buffered health via social ties and social cohesion were conducted among elderly immigrants with a high degree of residential stability, in the relatively rural Southwestern border states, an area where Mexican immigrants are the predominant ethnic group and have a long-standing settlement history. As such, Mexican enclaves in more urban nonborder regions of the USA may be very different with regard to the existing social processes.

Aims and Objectives

The purpose of the current study was fourfold. First, we sought to determine whether individual race/ethnicity was associated with number of social ties and evaluation of social cohesion. Second, we aimed to test if neighborhood concentration of Mexican Americans was related to number of social ties and perception of cohesion. The third aim was to investigate whether the effects of neighborhood

ethnic composition on social ties and social cohesion differed by individual race/ethnicity. Our fourth aim was to disentangle the sources of neighborhood variation in the number of social ties and in social cohesion using multilevel methodology. All hypotheses were tested using a sample of community-dwelling adults in Chicago, IL, US in 1995. Neighborhood differences in social networks and social cohesion can be due to the differences that people and their personal characteristics make to communities (a compositional effect), while neighborhood variation can also be due to some inherent differences between neighborhoods over and above the people who comprise that neighborhood (a contextual effect). Addressing the aforementioned questions will help us clarify the long-held assumption that Mexican American enclaves are characterized by large social networks and strong social cohesion.

METHODOLOGY

Study Design

Data for this study came from the 1995 Community Survey (CS) component of the Project on Human Development in Chicago Neighborhoods (PHDCN). Sampling for the CS was conducted in 1994 and 1995 and consisted of structured household interviews with 8,782 adult residents from all 847 census tracts in the city of Chicago. Out of these census tracts, 343 ecologically meaningful and homogeneous neighborhood clusters (NC) were created by applying a spatial definition of neighborhood that used geographic boundaries and experts' knowledge of traditional Chicago neighborhoods. Each NC had roughly 8,000 residents. An approximately self-weighted sample of all dwelling units in the 343 NCs was selected with the goal of yielding a representative probability sample of Chicago residents and providing large enough numbers to create reliable between-neighborhood comparisons. The three-stage sampling strategy used in the CS selected city blocks within NCs, households within city blocks, and one ≥ 18 -year-old adult respondent per selected household. The overall response rate to the interviewer-administered survey was 75%. We excluded observations that were missing information on the outcomes, as well as on the main predictor and individual-level covariates for which the missing values of social cohesion were not significantly different from the nonmissing values. This resulted in a final sample size of 7,088 individuals nested within 343 neighborhoods.

The mean number of participants in each neighborhood was 21. Over 25% of the sample did not report data on income. Rather than deleting these observations from the analysis, we modeled "missing" income in the fixed part of the multilevel model, which provided information about the difference between those who did not report income compared to those who did with regard to social networks and social cohesion. A sensitivity analysis also revealed that respondents who did not report education were statistically significantly different with regard to the outcomes from those who did report this information. We retained these cases in the sample and included a "missing" education category as dummy variables in the fixed part of the multilevel model. Each participant in the PHDCN study had both an individual and neighborhood identifier, creating a hierarchical structure of individuals at level 1 nested within neighborhoods at level 2.

Measures

Outcome The two main outcomes of interest were participants' report of the number of social ties they have in the neighborhood and their perception of social

cohesion in their neighborhood. Perceived number of social ties (size of social network) was measured as the participants' report of the number of family and friends that are living in their neighborhood. This variable ranged from 1 to 5 with higher scores indicating a greater number of social ties in the neighborhood. Our second outcome of interest was measured by participants' responses to the five conceptually related items that comprised the construct of social cohesion. Each question was measured on a five-point Likert scale and asked if respondents: strongly agreed/agreed/neither agreed nor disagreed/disagreed/strongly disagreed with the following statements: (1) this is a close-knit neighborhood; (2) people around here are willing to help their neighbors; (3) people in this neighborhood generally do not get along with each other; (4) people in this neighborhood share the same values; (5) people in this neighborhood cannot be trusted. The range of values was 0–5 with higher scores indicative of higher social cohesion. We reverse-coded questions 3 and 5 for ease of interpretability.

Predictors The main predictors were individual race/ethnicity and percent Mexican in the neighborhood. Race/ethnicity was coded as non-Latino white, non-Latino black, non-Latino other, Mexican Latino, and non-Mexican Latino. Because of the skewed distribution of our second predictor of interest (percent Mexican in the neighborhood), we tried several alternative functional forms. Because there were no significant differences in the outcomes between the various forms of percent Mexican in the neighborhood, we made this continuous variable into quintiles with the intention of capturing a fine gradation of the predictor. Table 1 shows the number of neighborhoods and the range of percent Mexican in each quintile.

To consider the possibility that the relationship between neighborhood ethnic composition (percent Mexican American) and social ties and social cohesion reflected differing neighborhood ethnic composition and not simply area economic conditions, we included three neighborhood-level variables in the analysis: percent poverty, residential stability (based on percent of homeowners in the neighborhood and percent residents who lived at the same address 5 years earlier), and age structure (% residents >65 years). Neighborhood-level covariates were obtained from the 1990 Census data, represented as continuous variables and centered about their mean. Individual-level covariates including age, gender, marital status, number of years residing at the same address, education, household income, occupation, and home ownership were considered in our analysis. Information on all individual-level variables was self-reported during the structured household interview.

Data Analysis Multilevel statistical modeling was used to partition the compositional and contextual sources of variation. Analyses were conducted using

TABLE 1 Number of neighborhoods and range of percentage of Mexican Americans in each quintile

	Number (%)	Range of percentage of Mexican American in quintile
Quintile 1	73 (21)	0–0.26
Quintile 2	76 (22)	0.27–2.18
Quintile 3	76 (22)	2.25–10.54
Quintile 4	61 (18)	10.60–24.40
Quintile 5	56 (17)	24.57–91.48

maximum likelihood estimation with MLwiN software, version 2.0, which uses the iterative generalized least squares algorithm and accounts for clustering by neighborhoods.³⁹ We used multilevel linear regression in the analysis to estimate the following models separately for each of the two outcomes of interest (social ties and perception of social cohesion in the neighborhood), both of which were modeled as individual-level variables:

- Model 1: a two-level random intercepts model with the main neighborhood-level predictor in the fixed part of the model
- Model 2: a single-level model with the main individual-level predictor in the fixed part of the model
- Model 3: a two-level model as in model 1, but with individual race/ethnicity added to the fixed part of the model
- Model 4: a two-level model as in model 3, but with individual compositional and neighborhood contextual variables added in the fixed part of the model
- Model 5: a two-level model as in model 4, but with a cross-level interaction between individual race/ethnicity and neighborhood percent Mexican American added to the fixed part of the model

Below is a representation of a generic regression model that was estimated: a two-level random intercepts model with a continuous response for individual i living in neighborhood j .

$$Y_{ij} = \beta_0 X_{0ij} + \alpha_1 X_j + \mu_{0j} + e_{0ij}$$

The equation consists of predictors in the fixed part ($\beta_0 X_{0ij} + \alpha_1 X_j$), estimating the conditional coefficients for the exposure variable and covariates and two random intercepts for individuals e_{0ij} and neighborhoods μ_{0j} which are assumed to have an independent and identical distribution and variance estimated at each level.

RESULTS

Table 2 describes the sample's sociodemographic and economic characteristics, as well as the mean number of social ties in the neighborhood and mean social cohesion value by these variables.

We found significant correlations between the main neighborhood-level predictor and neighborhood-level covariates. Percent Mexican in the neighborhood was inversely associated with elderly concentration and residential stability, but positively associated with percent poverty ($r^2 = -0.36$, $p < 0.001$; $r^2 = -0.17$, $p < 0.001$; $r^2 = 0.04$, $p < 0.001$, respectively). Neighborhood percent poverty was also inversely correlated with elderly concentration and residential stability ($r^2 = -0.41$, $p < 0.001$; $r^2 = -0.28$, $p < 0.001$, respectively).

Social Ties

Table 3 shows results of the fixed and random multilevel associations between neighborhood Mexican concentration and number of reported social ties, as well as the relationship between individual race/ethnicity and reported social ties in the neighborhood. The first model shows the crude effect of neighborhood percent Mexican on social ties, for which the highest quintile of the predictor was associated with an increased number of perceived family and friends one had in the neighborhood relative to the lowest quintile ($b = 0.135$, $p < 0.05$). In model 2, we

TABLE 2 Demographic characteristics of sample and mean social cohesion and social ties ($n=7,088$)

Characteristic	Number (%)	Mean (SD)	Social cohesion	Social ties
Gender				
Male (reference)	2,916 (41)		3.40	2.54
Female	4,172 (59)		3.30*	2.47*
Age	7,088 (100)	42.6 (16.7)		
Race				
Non-Latino white (reference)	1,976 (28)		3.58	2.54
Non-Latino black	2,803 (39)		3.28*	2.45
Mexican Latino	1,133 (16)		3.31*	2.75*
Non-Mexican Latino	626 (9)		3.25*	2.49
Non-Latino other	550 (8)		3.32*	2.52
Marital status				
Married (reference)	2,964 (42)		3.44	2.61
Divorced/separated	1,169 (16)		3.27*	2.41*
Single	2,259 (32)		3.29*	2.51*
Widowed	696 (10)		3.50	2.50
Education level				
<High school (reference)	1,703 (24)		3.27*	2.61
>High school	4,845 (68)		3.40	2.51*
Missing education	540 (8)		3.44	2.52
Occupation				
Unemployed (reference)	2,959 (42)		3.31	2.56
Blue collar	1,804 (25)		3.37*	2.58
White collar	2,325 (33)		3.44*	2.45*
Income				
Very low (<\$15,000; reference)	1,659 (23)		3.17	2.51
Low (\$15,000–35,000)	1,808 (26)		3.35*	2.6
Middle (\$35,000–75,000)	1,367 (19)		3.56*	2.57
High (\$75,000+)	316 (5)		3.78*	2.54
Missing income	1,938 (27)		3.35*	2.46
Residential stability	7,088 (100)	10.2 (12.0)		
Home ownership				
Rent (reference)	3,847 (54)		3.22	2.41
Own	3,241 (46)		3.55*	2.60

* $p=0.05$, significantly different from the referent group at this level

assessed the unadjusted relationship between individual race/ethnicity and perceived social ties in the neighborhood. Non-Latino blacks reported significantly fewer social ties compared to non-Latino whites ($b=-0.125$, $p<0.001$). Conversely, Mexican Americans reported having significantly larger social networks in their neighborhood than non-Latino whites ($b=0.193$, $p<0.001$). While non-Latino others reported fewer social ties and non-Mexican Latinos reported more social ties in the neighborhood compared to the referent group, these differences were not statistically significant. Model 3 shows the combined effects of neighborhood percent Mexican and individual race/ethnicity on report of social ties in the neighborhood. Accounting for individual race/ethnicity, the independent effect of neighborhood Mexican concentration on size of social network was negative at all levels of the predictor but only significantly different from the referent in the third and fourth quintiles ($b=-0.203$, $p<0.01$; $b=-0.152$, $p<0.05$, respectively). Account-

TABLE 3 Effects of individual race/ethnicity and neighborhood Mexican concentration on social ties unadjusted and mutually adjusted

	Model 1	Model 2	Model 3
Parameter	<i>b</i> coefficient (SE)	<i>b</i> coefficient (SE)	<i>b</i> coefficient (SE)
Constant	2.52	2.68	2.68
Neighborhood Mexican concentration			
1st quintile (lowest)	Referent		Referent
2nd quintile	0.057 (0.060)		-0.011 (0.061)
3rd quintile	-0.067 (0.060)		-0.203 (0.065)**
4th quintile	0.009 (0.062)		-0.152 (0.067)*
5th quintile (highest)	0.135 (0.063)*		-0.100 (0.071)
Race/ethnicity			
Non-Latino white		Referent	Referent
Non-Latino black		-0.125 (0.038)**	-0.181 (0.042)***
Non-Latino other		-0.020 (0.030)	-0.041 (0.052)
Non-Mexican Latino		0.009 (0.050)	0.008 (0.051)
Mexican Latino		0.193 (0.044)***	0.188 (0.046)***
-2LL	20,585.92	20,546.36	20,532.14
Level 1 variance (SE)	1.03 (0.018)	1.018 (0.018)	1.018 (0.018)
Level 2 variance (SE)	0.070 (0.010)	0.071 (0.010)	0.071 (0.010)

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

ing for individual race/ethnicity did not further explain between neighborhood variation which remained statistically significant ($p < 0.0001$). Adjusting for neighborhood concentration of Mexicans did not change the association between individual race/ethnicity and reported number of social ties one had in the neighborhood.

Table 5 presents the coefficients for the predictors of reported social ties by race/ethnicity and neighborhood percent Mexican fully adjusted for individual- and neighborhood-level covariates. The addition of sociodemographic, economic, and neighborhood factors changed the relationship between ethnic concentration and perceived number of social ties in the neighborhood such that the association was not statistically significant at the conventional $p < 0.05$ level, but, compared to the lowest quintile, respondents in the third quintile reported significantly fewer social ties in their neighborhood ($b = -0.122$, $p < 0.10$). The association between individual race/ethnicity and size of social network in one's neighborhood was not altered by the addition of other compositional and contextual factors; non-Latino blacks still reported fewer perceived social ties while Mexican Americans reported significantly more social ties in their neighborhood compared to non-Latino whites ($b = -0.134$, $p < 0.01$; $b = 0.146$, $p < 0.01$, respectively).

Although there was no association between income and education and social ties, owning a home and residential stability were both associated with perception of larger neighborhood social networks ($b = 0.016$, $p < 0.001$; $b = 0.108$, $p < 0.001$, respectively). Interestingly, neighborhood poverty was positively related to reported number of social ties as was neighborhood concentration of the elderly ($b = 0.005$, $p < 0.001$ and $b = 0.010$, $p < 0.01$, respectively). Finally, we explored whether the effects of neighborhood concentration of Mexicans on reported number of social ties one had in the neighborhood differed by individual race/ethnicity. Results of this cross-level interaction demonstrated that, for Mexican and non-Mexican Latinos,

living in an area with higher percentage of Mexicans was significantly associated with a larger reported social network in the neighborhood compared to non-Latino whites (Figure 1).

Social Cohesion

Table 4 presents the coefficients for the prediction of social cohesion by neighborhood percent Mexican and individual race/ethnicity. Model 1 shows the unadjusted association between neighborhood ethnic concentration and perceived social cohesion. Compared to the lowest quintile, each subsequent quintile of percent Mexican had a positive effect on evaluation of social cohesion, with the exception of neighborhoods with the highest percent of Mexicans ($b=0.249, p<0.001$; $b=0.190, p<0.001$; $b=0.102, p<0.10$; and $b=-0.023$). There was significant between-neighborhood variation in the model with ethnic concentration as the only predictor ($p<0.0001$). In model 2, we examined the relationship between individual race/ethnicity and perception of social cohesion in the neighborhood. Compared to non-Latino whites, all other racial/ethnic groups had significantly lower assessment of the level of social cohesion in their neighborhood (black $b=-0.191, p<0.001$; other races $b=-0.150, p<0.001$; non-Mexican Latino $b=-0.159, p<0.001$; and Mexican Latinos $b=-0.111, p<0.001$). The combined model altered the association between neighborhood ethnic concentration and perception of social cohesion and also further explained the between-neighborhood variation in this outcome ($p<0.0001$). Compared to the lowest quintile, the second quintile of percent Mexican still had a statistically significant positive association with report of social cohesion ($b=0.177, p<0.001$). Accounting for individual race/ethnicity rendered the magnitude of the effect of the third quintile statistically insignificant and in the fourth and fifth quintiles reversed the direction of the association ($b=-0.007$ and $b=-0.126; p<0.05$, respectively).

In the final model (Table 5), we added personal sociodemographic and economic factors as well as neighborhood structural characteristics which might

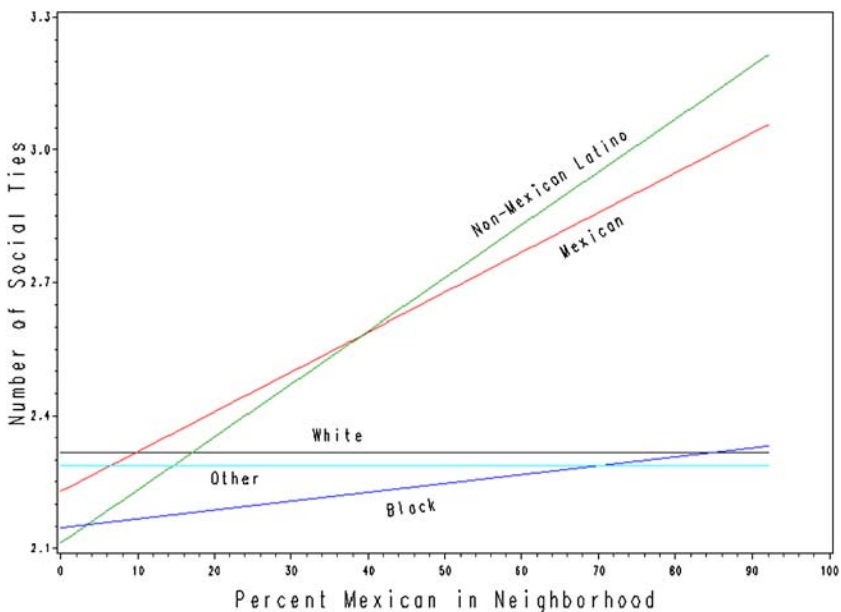


FIGURE 1. Differential effect of Mexican concentration on social ties by race/ethnic.

TABLE 4 Effects of individual race/ethnicity and neighborhood Mexican concentration on social cohesion, unadjusted and mutually adjusted

Parameter	Model 1	Model 2	Model 3
	<i>b</i> coefficient (SE)	<i>b</i> coefficient (SE)	<i>b</i> coefficient (SE)
Constant	3.27	3.50	3.47
Neighborhood Mexican concentration			
1st quintile (lowest)	Referent		Referent
2nd quintile	0.249 (0.05)***		0.177 (0.047)***
3rd quintile	0.190 (0.05)***		0.071 (0.049)
4th quintile	0.102 (0.05)****		-0.007 (0.051)
5th quintile (highest)	-0.023 (0.054)		-0.126 (0.054)*
Race/ethnicity			
Non-Latino white		Referent	Referent
Non-Latino black		-0.191 (0.026)***	-0.204 (0.028)***
Non-Latino other		-0.150 (0.033)***	-0.153 (0.033)***
Non-Mexican Latino		-0.159 (0.032)***	-0.141 (0.032)***
Mexican Latino		-0.111 (0.028)***	-0.080 (0.029)**
-2LL	13,907.79	13,890.16	13,852.48
Level 1 variance (SE)	0.38 (0.007)	0.38 (0.007)	0.38 (0.007)
Level 2 variance (SE)	0.070 (0.007)	0.064 (0.007)	0.055 (0.006)

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; **** $p < 0.10$

TABLE 5 Effects of race/ethnicity and neighborhood Mexican concentration on social ties and social cohesion fully adjusted for individual and neighborhood variables

Parameter	Social ties ^a	Social cohesion ^a
	<i>b</i> coefficient (SE)	<i>b</i> coefficient (SE)
Constant	2.37	3.38
% Mexican in neighborhood		
1st quintile (lowest)	Referent	Referent
2nd quintile	0.051 (0.060)	-0.002 (0.039)
3rd quintile	-0.122 (0.070)****	-0.155 (0.046)***
4th quintile	-0.060 (0.082)	-0.149 (0.054)**
5th quintile (highest)	-0.048 (0.108)	-0.252 (0.070)***
Race/ethnicity		
Non-Latino white	Referent	Referent
Non-Latino black	-0.134 (0.046)**	-0.060 (0.029)*
Non-Latino other	-0.041 (0.052)	-0.073 (0.032)*
Non-Mexican Latino	0.027 (0.052)	-0.032 (0.032)
Mexican Latino	0.146 (0.049)**	0.015 (0.030)
% Poverty in neighborhood	0.005 (0.001)***	-0.007 (0.001)***
Neighborhood residential stability	0.016 (0.038)	0.060 (0.025)*
-2LL	20,074.43	13,301.83
Level 1 variance (SE)	0.981 (0.017)	0.37 (0.006)
Level 2 variance (SE)	0.054 (0.008)	0.026 (0.003)

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; **** $p < 0.10$

^aModel adjusted for all individual and neighborhood variables

help explain the remaining area variation in social cohesion. This increased the magnitude of the effect of neighborhood percent Mexican on social cohesion and, compared to the first quintile, each subsequent quintile was significantly associated with lower social cohesion, with the exception of the second quintile ($b=-0.002$; $p \leq 0.001$; $b=-0.155$, $p < 0.001$; $b=-0.149$, $p < 0.01$; $b=-0.252$, $p < 0.001$, respectively). Accounting for individual- and neighborhood-level covariates altered the association between individual race/ethnicity and assessment of social cohesion so that non-Latino blacks and others still reported significantly lower levels compared to non-Latino whites ($b=-0.060$, $p < 0.05$; $b=-0.073$, $p < 0.05$, respectively). Non-Mexican Latinos' perception of social cohesion was lower but not significantly different than non-Latino whites, and Mexican Latinos reported higher but not significantly different social cohesion compared to the referent group ($b=0.015$, $p > 0.10$). Net of individual SES and residential stability, neighborhood poverty and residential stability exerted strong, albeit opposite effects on perception of social cohesion in the neighborhood ($b=-0.007$, $p < 0.001$; $b=0.060$, $p < 0.05$, respectively). Furthermore, over and above one's own age, increasing proportion of elderly in the neighborhood was positively associated with report of social cohesion ($b=0.009$, $p < 0.001$). The addition of personal and area characteristics further reduced the between-neighborhood variance which remained statistically significant ($p < 0.0001$). Finally, the addition of a cross-level interaction revealed that the relationship between evaluation of social cohesion in the neighborhood and percent neighborhood Mexican was not modified by individual race/ethnicity as indicated by nonsignificant interaction terms (results not shown).

DISCUSSION

Following a widely cited explanation for a Mexican health advantage, we directly tested one assumption proposed for this phenomenon, specifically that Mexican immigrants and their enclaves in the US are characterized by large social networks and strong social cohesion.^{22,23,27-30,40-42} The first premise we tested was that Mexican Americans would report an increased number of social ties in their neighborhood relative to individuals of other race/ethnicities. Second, we examined whether living in a neighborhood with a high concentration of Mexicans was related to the perceived size of one's social network in that neighborhood. Although the overall crude association between concentration of Mexicans in the neighborhood and reported number of social ties was positive, it did not reach statistical significance. Despite this, the effect of neighborhood context on reported number of social ties varied by individual race/ethnicity, such that Mexican and non-Mexican Latinos reported having bigger social networks with increasing percentage of coethnics in their neighborhood. Consistent with previous qualitative data, we found that individual Mexican Americans reported having larger social networks in their neighborhoods compared to non-Latino whites.^{21,24,43-45}

The second assumption we tested involved the widely held idea that Mexican immigrants and their enclaves are inherently socially cohesive. Contrary to this premise, after controlling for individual race/ethnicity, sociodemographic, and economic variables, as well as neighborhood factors, we found an inverse relationship between neighborhood concentration of Mexicans and an individual's perception of social cohesion in their neighborhood. This finding points to the idea that social cohesion is not entirely explained by the composition of a neighborhood. Additionally, over and above individual SES and residential tenure, neighborhood

poverty and residential stability both exerted independent effects on evaluation of social cohesion in the neighborhood. Increased neighborhood concentration of elderly residents was also independently associated with perceived social cohesion. These findings demonstrate a true contextual effect and provide some insight into understanding how neighborhood environment shapes residents' report of social cohesion in their community. Previous studies which found that high-density Mexican immigrant enclaves are protective of health and well-being suggested strong social cohesion to explain this phenomenon.^{21-23,28,34} However, our direct test of whether individuals perceive higher social cohesion in Mexican enclaves relative to more ethnically heterogeneous neighborhoods did not support this proposition.

Because our data lacked any health outcomes, future research should investigate whether residence in a Mexican immigrant enclave in the city of Chicago is at all associated with a health advantage, as has been found in the Southwestern border states. If living in a dense Latino neighborhood in Chicago confers a health advantage, given the findings of the present study, it is possible that any derived benefits may be through the perception of having social ties, more so than through the social resources that those ties generate. In light of the fact that perception of social ties is more strongly associated with health than receipt of actual support (a marker for quality of the ties), this idea has some merit.⁴⁶⁻⁴⁸ Additionally, understanding the mechanisms underlying the observed health advantage found in the Southwestern border states would begin to put together certain pieces of the puzzle of the Latino health paradox.

Interpretation of our results should take several considerations into account. First, while we have information on the percent of Mexicans in the neighborhood, we do not know the exact racial/ethnic composition of the area. Therefore, it is possible that areas with a low percentage of Mexicans were actually racially mixed. In this case, individuals may experience competition for economic and social resources, resentment towards fellow residents, and thus diminished social cohesion. In addition, the broad idea that Mexican immigrant enclaves have relatively high rates of home ownership and residential stability despite their economic disadvantage may have led to the assumption that these communities are cohesive.^{21,22,34,49,50} While this might be true in well-established Mexican enclaves in Southwestern border states, our study found that these communities in Chicago are characterized by residential instability, low rates of home ownership, a young age structure, and high rates of poverty. Hence, structural characteristics which can lead to the perception of social cohesion in Mexican enclaves may vary by geographic location and the migration history of the broader receiving context. Moreover, it may be that facilitation of social cohesion within an ethnic neighborhood depends on aspects such as relative size and standing of the ethnic group within the city. For example, Latinos formed only 25% of our sample which was designed to be representative of the racial/ethnic composition of Chicago. Unlike the numeric predominance and long settlement history of Mexicans in the Southwestern US, immigrants from Mexico are not the largest ethnic group in this Midwestern city, and their arrival to Chicago was much later than to US states along the Mexico border.

Furthermore, previous studies that documented a health advantage associated with living in a neighborhood populated with Mexican immigrants were mainly conducted among the elderly, in contrast to the present study among adults with a mean age of 43 years.^{22,23,27,51} Our study showed that age composition of the neighborhood exerted an independent effect on the number of social ties and perception of social cohesion in one's neighborhood. It is possible that the elderly spend more time in their

communities than middle-aged adults and may be more sensitive to ambient neighborhood conditions such as social networks and social cohesion.⁵²

Neighborhood concentration of Mexicans was positively associated with reported number of social ties in the community but only for Mexican and non-Mexican Latinos. This finding leads us to question why large social networks do not necessarily generate a sense of social cohesion among Mexican and non-Mexican Latinos in neighborhoods concentrated by their coethnics. There are several ways to interpret this result. First, the poverty and instability that we found in Mexican communities in Chicago may preclude conditions under which mutual exchange and trust can be actualized.⁵³ In the face of economical and social disadvantage, despite the strength, Latinos' social ties may not engender a sense of social cohesion. For example, the multiple obligations placed on Latino immigrants in large social networks may hinder reciprocity when one lacks ample resources for themselves.⁵³ It is possible that the large social networks present among Latinos in ethnic enclaves may produce emotional social support, which may not require provision of the material resources or aid inherent in social cohesion. While Mexican enclaves in the Southwestern states are also characterized by extreme poverty, the social environment in this geographic region may help residents to retain their deeply ingrained cultural norms to promote ethnic solidarity and cohesion which may supersede the existing economic disadvantage.

Several limitations warrant mention. First, NCs were created by grouping two to three census tracts together based on geographic boundaries and knowledge of traditional Chicago neighborhoods. The goal of this approach was to form ecologically meaningful homogeneous neighborhoods. For the present study, however, this might not have been the most germane way to define neighborhoods, as when the outcome of interest is related to social interactions or processes, people's perceptions may be the most relevant way to define a neighborhood.⁵⁴ Conversely, in light of the extreme residential segregation in Chicago, clustering census tracts together based on internally homogeneous indicators such as race may actually be a virtue of the current study's definition of neighborhood.¹⁴ Because we lacked data on nativity status, number of years in the US, or acculturation level and these factors are associated with Mexicans' health advantage, we were unable to capture their potential influence on report of neighborhood social ties and social cohesion.^{29,49,55-58} In addition, the study was conducted in a single city and therefore generalizability is limited. Comparisons to other Midwestern cities may be valid due to the similar histories and racial/ethnic compositions. However, the relationship between Mexican enclaves and social ties and cohesion in Chicago is likely very different than in other regions of the country, most notably the Southwestern border states. Mexican settlement in states such as Texas, New Mexico, and Arizona dates back centuries, while migration from Mexico to Chicago began in the early 1900s and only surged in the 1990s.^{21,55} As such, Mexican enclaves in the Southwest US have had much longer to establish strong social cohesion than those in Chicago. Our findings support the notion that the broader social context in which ethnic enclaves are embedded may influence dynamics that occur within these communities. It is also possible that a similar study conducted in one of the southwestern border states would yield very different findings. Lastly, we must address the issue of generalizability to social processes in Mexican enclaves in Chicago today. Data for this study were collected in 1995 and both the profile of Latinos (e.g., US- vs. foreign-born) and the environment in which they reside (neighborhoods as well as the larger social and economic milieu of the US) have undoubtedly changed in the years since then. Therefore, our findings relate to the

social processes which occurred in Chicago's Mexican enclaves during the 1990s. In addition, if we conducted the same study today, in light of the economic recession, increased influx of Mexican immigrants, and outmigration of Mexican immigrants and Mexican Americans to suburbs of Chicago, the results would likely paint a different picture. Finally, Mexican concentration was measured using 1990 census data and was used to predict the outcome approximately 5 years later; neighborhoods may have changed during that time period, and we may have not captured their true composition.

Findings from this study provide several insights into whether the concentration of Mexicans in Chicago neighborhoods engenders perception of social networks or sense of social cohesion in those areas. Overall, our results suggest that neighborhood concentration of Mexicans is not associated with stronger perception of social cohesion, even among Mexican immigrants. However, for Mexican and non-Mexican Latinos, living among coethnics is associated with having more social ties in one's neighborhood. The latter finding provides evidence for the idea that Mexican Americans do report larger social networks. Nevertheless, we cannot assume that the reported social ties are beneficial, and our study suggests that Latinos in Chicago may not intrinsically trust or assist one another strictly based on their friendship, kinship, or coethnic status. Many studies of health among Latino immigrants use pan-ethnic groupings and fail to acknowledge ethnic group differences.⁵⁵ A strength of our study is the fact that we were able to disaggregate Mexicans from other Latinos and found differential effects between these subgroups. In conclusion, our study heeded the recommendations of previous authors to investigate certain assumptions about Mexican immigrants and their enclaves in the US. Nevertheless, future research on Latino enclaves in other parts of the country is warranted given the dispersal of immigrants to many new destination states such as Georgia and North Carolina that have heretofore not experienced the influx of Latino immigrants that they are currently seeing.⁵⁹

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