Barrios and Burbs:
Residential Context and Health-Risk Behavior among Angeleno Adolescents

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Abstract

The increasing dispersal of Latino immigrant groups across the country underscores the need for a more complete understanding of the role that social context plays in influencing the health of immigrants and their children. This analysis explores the possibility that family context and residential location influence the health-risk behaviors of Latino youth. The data come from the Los Angeles Family and Neighborhood Survey (LAFANS). We employ multivariate multilevel Rasch models to two scales of adolescent health risk-behaviors (substance use and delinquency). We find that neighborhoods characterized by high levels of Latino/immigrant residents and high poverty rates are associated with increased odds of health-risk behaviors for U.S.-born Latinos but not for foreign-born Latinos. The findings lend further support to the contention put forth in the segmented assimilation literature that it is the U.S.-born children of immigrants who are at highest risk of downward assimilation.

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Immigrants and their children are one of the fastest growing components of the U.S. population. One in five Americans under the age of 18 is an immigrant or a child of an immigrant (Jensen 2001). How they ultimately fare in American society is important, not only for immigrants and their children, but their prospects will also bear heavily on the well-being of the entire country.

In the context of health outcomes, immigrants appear to be faring quite well, with mortality and morbidity rates that are equivalent to, or lower than, those of non-Latino Whites (Singh and Siahpush 2001). These patterns occur in spite of higher rates of poverty and lower rates of education among many immigrant groups. Debates over the explanations behind the "paradoxical" patterns have been split between the protective effects of immigrant culture and patterns of immigration/migration that select for better health status (Landale, Oropesa, and Gorman 2000; Palloni and Arias 2004).

More recently, several studies have highlighted a sociospatial dimension to the positive health profiles of many immigrant groups, specifically Latinos (Bond Huie, Hummer, and Rogers 2002; Eschbach, Ostir, Patel, Markides, and Goodwin 2004; Krueger, Bond-Huie, Rogers, and Hummer 2004; Ostir, Eschbach, Markides, and Goodwin 2003; Sampson, Morenoff, and Raudenbush 2005). The high rates of racial/ethnic segregation that characterize U.S. neighborhoods have raised the possibility that one of the ways in which social factors influence health is through the types of areas in which people live (Diez Roux 2004; Fitzpatrick and LaGory 2003).

In the case of a positive immigrant/co-ethnic concentration effect, salubrious immigrant health behaviors are hypothesized to foster special "sociocultural environments" that improve the health of community residents (Eschbach et al. 2004). Others argue that the influence of residential context, and in particular immigrant/co-ethnic concentration, may be less beneficial, particularly for children of immigrants. In the case of Latinos, barrio

communities, marked by high levels of immigrants/co-ethnics, high levels of segregation, and concentrated disadvantage, are understood to expose children of immigrants to negative peer influences (Lopez and Stanton-Salazar 2001; Portes and Rumbaut 1996). The theoretical framework of "segmented assimilation" argues that residence in these communities may contribute to a process of "downward assimilation" whereby children of immigrants assimilate into social and economic hardship (Portes and Zhou 1993).

But beyond allusions to cumulative disadvantage and close proximity to other U.S. minority groups, very little is known regarding the process through which residential context may or may not influence the health and well-being of children of immigrants. Nor do we know the ways in which some neighborhoods may actually provide a buffer against such negative outcomes. Additionally, in the case of children of immigrants, the majority of attention has been given to educational and labor force outcomes. The ways in which residential context influences the health of children of immigrants has received far less attention.

The present study evaluates the role of residential context in contributing to the health-risk behaviors of children of immigrants. We examine substance use and delinquent activity, two distinct aspects of adolescent health. The high cost of health-risk behaviors, particularly for racial/ethnic minorities, and their preventable nature, has made them major concerns for parents and for policy makers and underscores the importance of preventing their onset and/or curbing their progression early (Vega and Gil 1998).

Our focus is on Latinos, who are now the largest minority youth group in the U.S., but comparisons with other racial/ethnic groups are also made. Data come from the Los Angeles Family and Neighborhood Survey (LAFANS) and, although the analysis is restricted to youth in Los Angeles, the findings will likely be of increasing interest to health care providers, educators, and child advocates across the nation. In the last 15 years, immigrant groups, and in particular Latino immigrant groups such as Mexicans, have begun to initiate new immigrant-receiving areas at the same time that older ones are being altered by

immigrant suburbanization (Alba, Logan, and Stults 2000; Alba, Logan, Stults, Marzan, and Wenquan 1999; Zúñiga and Hernández-León 2005). The increased presence of Latino immigrants in communities across the country underscores the need for a more complete understanding of the role of social context in influencing the health of immigrants and their children.

IMMIGRANTS AND SOCIAL CONTEXT

Historically, social context, and specifically *urban* social context, has been a central component of studies on immigrants and their adaptation to U.S. society (Waldinger 1989). In the early work of the Chicago school, the study of cities *was* the study of immigrants, as they worked to spatially depict the process by which immigrants were integrated into city life. More recently, urban social context has caught the attention of health researchers and criminologists in their efforts to estimate spatial influences on health and crime in the form of "neighborhood-level effects" (Browning, Leventhal, and Brooks-Gunn 2004; Sampson, Raudenbush, and Earls 1997) At the intersection of these two areas lies the question of whether or not the particular characteristics of immigrant-receiving areas influence the health outcomes of immigrants and their children.

Ethnic Immigrant Enclaves

Strong co-ethnic immigrant communities are hypothesized to be one of the key resources available to immigrant parents in their struggle to successfully raise children in disadvantaged urban communities. Zhou and Bankston (1998) illustrate the potential for a positive enclave effect in their study of Vietnamese youth living in Versailles Village, a Vietnamese community located in a predominately poor African-American area in New Orleans. The authors found that Vietnamese youth achieve positive educational outcomes through dense overlapping networks of social relations that result in community-prescribed values and norms. The values and norms then work to socially control the actions of the

community's youth and limit delinquent behavior. Portes et al. (2005) connect this situation to what James Coleman (1988) labeled "closure," whereby adult relations and their cohesion at the community level reinforce parental expectations by encouraging a cohesive set of norms (Portes, Fernandez-Kelly, and Haller 2005).

The potential for immigrant/co-ethnic communities to counterbalance the negative effects of neighborhood disadvantage has also been documented across a range of health outcomes. A recent study on the morbidity and mortality risk among older Mexican-Americans in the Southwest, found that residence in areas with higher proportions of Mexican-Americans was associated with a monotonic decrease in the odds of morbidity and mortality (Eschbach et al. 2004). The authors hypothesize that a diffusion of positive cultural practices, including a lower prevalence of smoking, drinking, and recreational drug use, superior nutrition, and higher levels of social support, function through a spatial dimension to lower the risk of negative health outcomes. In this case, the negative effects of neighborhood poverty on mortality risk are thought to be counterbalanced by the positive effects associated with the spatial diffusion of protective health practices.

The positive effect of immigrant concentration may not only be limited to immigrants and their co-ethnics. A recent study of violent behavior among adolescents residing in Chicago neighborhoods documented a positive immigrant concentration effect among all Chicago adolescents included in the study. Non-Hispanic White, African-American and Latino individuals living in neighborhoods that were 40 percent immigrant were about four-fifths less likely to engage in violent behavior as compared to their counterparts living in neighborhoods with no immigrants (Sampson, Morenoff, and Raudenbush 2005).

Barrios and Downward Assimilation

The potential of ethnic immigrant communities to mobilize toward positive ends is not without limits. In the case of children of immigrants, Portes and Zhou (1993) argue that the

existence of a "large but downtrodden co-ethnic community" may be worse than having no co-ethnic community at all. A pre-existing disadvantaged co-ethnic community raises the possibility that the local youth culture that children of immigrants are at risk of assimilating into may actually consist of their own ethnic counterparts (Lopez and Stanton-Salazar 2001). The influence of such a pre-existing community may be most influential on children of immigrants as it is espoused by people from the same national origin group.

The Mexican-American community in Los Angeles is offered as a classic example of a disadvantaged co-ethnic community and draws attention to an important distinction between an ethnic enclave and a barrio community (Dohan 2003; Moore and Vigil 1993; Ortiz 1996). Both types of communities are defined by a high concentration of immigrants and co-ethnics, but they are also different ecological spaces. Whereas ethnic enclaves hold the potential for mutual support, cooperation, and economic mobility, barrio communities are characterized by fewer resources and a spatial concentration of poverty. In their analysis of the poor educational and occupational outcomes found within the Mexican-American population, Portes and Rumbaut (2001) conclude that, while Mexican-American communities are characterized by strong social ties, they are limited in their capacity to exert social control and provide economic aid to their members. They conclude that a lack of human capital may limit the capacity of dense networks to help children of immigrants avoid the path of downward assimilation.

Limits on the positive effects of co-ethnic immigrant communities are observed in an analysis of mortality risk among U.S. adults. Although a study of Mexican-Americans in the Southwest found that older Mexican-Americans were protected by co-ethnic concentration, a nationally representative analysis of mortality risk found a protective immigrant concentration effect on adult mortality for older ages only (ages 45-64) (Bond Huie, Hummer, and Rogers 2002; Eschbach et al. 2004). For younger ages (18-44), neighborhood immigrant concentration was actually associated with an increased risk of death. This finding raises the possibility that immigrant/co-ethnic concentration may not

always be associated with positive outcomes, particularly with regard to health. In certain communities or for particular age groups, i.e. youth and adolescents, the negative effects of neighborhood disadvantage may not be counterbalanced by the existence of a co-ethnic community.

Family and Neighborhood Contexts

Children with immigrant parents often confront substantial linguistic and acculturative gaps that may exacerbate intergenerational conflict (Kao 2004). The effect of familial conflict on child of immigrants has also been linked to the characteristics of the broader co-ethnic community. A strong co-ethnic community may help to reinforce parental authority and ease the potentially negative effects associated with acculturative stress (Portes and Rumbaut 1996). Alternatively, the negative effects associated with residence in disadvantaged communities may be exacerbated in cases where acculturative stress is more pronounced. For example, in a study of children of immigrants in San Diego, children in families where the parental authority was undermined by generational gaps in acculturation were understood to be at greater risk of being influenced by negative residential context (Portes and Rumbaut 2001). The possibility that residential context may blunt or exacerbate the effect of parental relationships and family background on the behaviors of youth means that any analysis of the effects of urban social context on the outcomes of immigrant youth must account for the nature of the parent-child relationship.

ADOLESCENTS AND RISK-TAKING BEHAVIOR

Adolescence is a period in the life course marked by increasing independence from family and increasing engagement with the larger social environment. During this time of heightened exploration and change many adolescents begin to experiment with health risk-behaviors that have subsequent consequences on their life-time well-being.

There is considerable variation across racial/ethnic/nativity groups in the propensity to engage in risky behavior, with the exact pattern depending on the outcome under study (Harris 1999). Data from the National Longitudinal Study of Adolescent Health (AddHealth) demonstrate that, with regard to substance use, non- Latino Whites are significantly more likely to use illicit substances than any of the other 24 racial/ethnic groups examined. With respect to delinquent behavior (e.g. theft, running away from home, selling drugs), the patterns shifts, with many racial/ethnic minority groups exhibiting higher rates as compared to non-Latino Whites.

The racial/ethnic patterns are all contingent on nativity status, with the general pattern reflecting monotonic increases in health-risk behaviors, from foreign-born to the second-generation and from the second- to the third-generation. For Latino youth in particular, foreign-born adolescents have lower rates of substance use, health problems, delinquency, violence, and sexual activity than second- and third-generation Latino adolescents. As compared to non-Latino Whites, third-generation Latino youth have significantly higher odds of every outcome with the exception of asthma.

One of the leading the explanations for the monotonic increases in risk-taking behavior with time in the U.S. and across generations is that the social values and normative standards of U.S. mainstream society are more permissive of problem behavior than those of the adolescents' immigrant parents (Vega, Gil, and Wagner 1998). What has yet to be considered is if the health-risk behaviors of children of immigrants are influenced by their residential context, above and beyond individual- and family-level influences. The absence of such an investigation is all the more surprising given the central role afforded to social context in formulations of immigrant adaptation.

Where the relationship between residential context and adolescent development has been treated systematically is in the extensive body of research on neighborhood-level effects (Kawachi and Berkman 2003). Evidence of neighborhood-level effects has been particularly strong in the case of children and adolescents, who partially sidestep the ever-present

selection issue by residing in neighborhoods chosen by their parents. A range of child and adolescent outcomes have been shown to be associated with neighborhood-level structural disadvantage, including infant mortality, low birth weight, teenage childbearing, and adolescent delinquency (see Leventhal and Brooks-Gunn 2000 for a comprehensive review).

Local neighborhood conditions, such as concentration of affluence/poverty, racial/ethnic isolation, immigrant concentration, residential stability, and population density, have been shown to affect adolescent health and behavior both directly through material conditions and indirectly through local social mediators. Sampson and his colleagues have gone the farthest in articulating the role of social and institutional processes in mediating the structural affects of neighborhoods on well-being in their development of the concept of collective efficacy (Sampson 2003; Sampson, Raudenbush, and Earls 1997). The degree of collective efficacy in a neighborhood captures the capacity of residents to achieve social control over the environment and to engage in collective action to attain a specific collective goal that has positive effects on individual well-being. Collective efficacy has proven to be a powerful component of the neighborhood-level effects literature and has been shown to influence a range of outcomes from the probability of experiencing a violent crime (Sampson, Raudenbush, and Earls 1997) to the risk of giving birth to a low weight infant (Morenoff, Sampson, and Raudenbush 2001).

The present analysis brings together the neighborhood-effects and immigration literatures to inform an analysis of the health-risk behaviors among adolescents in Los Angeles. According to Portes and Zhou "the different contextual situations facing today's second generation" are key predictors of their social adaptation (Portes and Zhou 1993: 74). Our primary focus is on testing this contention by determining if residential context influences adolescent problem behavior differently for particular racial/ethnic/nativity groups. The present study also broadens the focus of neighborhood factors beyond neighborhood structural characteristics to empirically evaluate whether levels of social organization differentially influence the outcomes of children of immigrants. In addition, we

explore the possibility that the effect of parental relationship and family background on health-risk behaviors varies by racial/ethnic/nativity group and by residential context.

DATA AND METHODS

Data

The data for this analysis come from the Los Angeles Family and Neighborhood Survey (LAFANS). The LAFANS is a representative study of families in 65 different census tracts in Los Angeles County, the country's most populous county, with 9.8 million residents, and 88 different cities within the County. Described as a "polymorphic and centrifugal metropolis," Los Angeles County includes a diverse set of neighborhoods, varying from densely populated central cities to the more suburban neighborhood type of the San Fernando Valley (Li 1998). This diversity in neighborhoods is important because it will allow us to model the effects of more concentrated barrio communities on adolescent outcomes as compared to surrounding suburbs (Logan, Wenquan, and Alba 2002).

The LAFANS was designed explicitly to model multilevel processes and utilized a multistage clustered sampling scheme that involved sampling, first, by neighborhoods, then selecting families within the neighborhoods, and finally sampling children within these families. 3,250 households were chosen to participate in the survey, with 3,090 eventually completing the survey. In households with children under age 17, a randomly selected child (RSC) was chosen to be included in the child sample. If the RSC had any siblings in the household, one of his/her siblings was also randomly selected (SIB). Interviews were conducted with the RSC and SIB if they were between the ages of 9-17 (n=1,454). For the purposes of this analysis, we only use information collected on children ages 12-17 (n=890) who were asked questions on their health-risk behaviors. Estimation of an over-dispersion parameter allowed us to adjust for the slight clustering that occurrs at the family level.

Los Angeles County is unique in that it contains a large, concentrated and historically mature Latino population. Over 80 percent of all Latinos in Los Angeles County are either Mexican or Central American and the L.A.FANS sample closely corresponds to this percentage (U.S. Census Bureau 2001). Both Mexican and Central American immigrants have had a long history of migration to L.A. County and both groups continue to post remarkably high rates of current immigration into the area. As a result, the Latino population boasts considerable generational depth at the same time that it is characterized by a high number of foreign born immigrants. While we would prefer to distinguish our Latino sample by national-origin group, sample size precludes this possibility.

The age distribution of Los Angeles County is heavily influenced by the age distribution of the Latino population, so that over half of the youth in Los Angeles were Latino in 2000. This pattern of "graying Anglos and youthful Latinos" gives added weight to the importance of understanding how these children fare in navigating their adolescence in Los Angeles (Sabagh and Bozorgmehr 1996).

Measures

Outcome Variables. The present study is primarily interested in how the residential environments and family contexts of Latino youth affect their individual well-being and determining if these influences vary by generational group. In order to assess this relationship, we concentrate on two indices of health-risk behaviors. Each respondent between the ages of 12-17 answered a series of questions regarding their drug and alcohol use as well as their participation in various "high-risk" activities.

Given the sample size and interrelatedness between these items, viewing each item as a separate outcome would be inappropriate. There are also differences in the prevalence of each item that make a summary measure of health risk-behavior equally inappropriate. For example, alcohol use has a considerably higher incidence than use of other illicit drugs, such as crack/cocaine. To address these issues, we create two multi-item scales and use a

multivariate multilevel Rasch model that accounts for differences in item severities and person propensities (Raudenbush, Johnson, and Sampson 2003). The log-odds of endorsement of an item for a particular scale depends on item severities and the unique effects associated with the individual child and neighborhood.

We conducted a factor analysis of thirteen different risky behaviors asked to the LAFANS respondents and found two distinct scales. The first scale captures substance use behavior and includes four items: 1) cigarette use in the previous month 2) alcohol use in the previous month 3) marijuana use in the previous months and 4) other drug use in the previous month. The second scale taps delinquency and includes 4 items: 1) sex in the past year 2) gang membership in the past year 3) ran away from home 4) gun ownership in the past year. All questions in the child module were self-administered by respondents who read the questions and entered their own answers on the computer. Surveys were conducted in either Spanish or English.

Individual-Level Explanatory Variables. Each respondent is distinguished by his/her racial/ethnic background. There are four racial/ethnic groups in the L.A.FANS data with sufficient sample sizes to enable separate analysis: non-Latino White, non-Latino Black, Latino (over three-quarters are Mexican-Origin, with those remaining represented by a handful of Central American countries), and Asian.

Only Latinos in the LAFANS sample have a large enough sample size to distinguish by generational status. The analysis relies on the primary care giver as the determining factor in the nativity categorization, as country of birth was not asked of both of the children's parents (Kao and Tienda 1995). If the child was born outside of the U.S., then they are categorized as foreign-born. The second-generation is defined as consisting of Latinos who were born in the United States and whose primary care giver was born outside of the U.S. Respondents are classified as third-or-later generation if they were born in the U.S. and their primary care giver was also born in the U.S.

To examine whether or not the traditional generational categories (i.e. foreign-born, second generation, third generation) capture meaningful differences between groups of adolescents, we examined three indicators of acculturation: the year of initial arrival for the primary care giver, whether the household spoke only Spanish, and whether the primary care taker was undocumented. We were particularly interested in determining if there were substantive differences between foreign-born and second-generation children, both of whom have foreign-born parents. We found significant differences between the two groups along all the three measures. These differences become even clearer when we look at familial socioeconomic differences across generations.

Family-Level Variables. Family structure has been shown to exert considerable influence on a range of adolescent outcomes. Children from single-parent households display the highest levels of vulnerability to poor outcomes, such as lower school performance and higher levels of psychological distress (Barrett and Turner 2005). Dual-parent families are less likely to be socioeconomically disadvantaged and also display higher levels of child supervision; two of the primary mechanisms through which family structure is understood to influence adolescent behavior (Ginther and Pollak 2004; Knoester and Haynie 2005). One of the explanations behind the more positive outcomes of immigrant children as compared to their native-born counterparts is that immigrant children are more likely to live in dual-parent households (Rumbaut 1999). Household structure was captured with a dichotomous variable indicating whether or not the primary care giver is married or not.

In addition to family structure, the quality of parent-child relationships has also been shown to be a key factor influencing adolescent development. This is particularly true in the case of children of immigrants where parent-child relationships are potentially stressed by differing rates of acculturation, including different language abilities. An analysis of data on children of immigrants in San Diego, found that the single strongest determinant of both self-esteem and depression was level of parent-child conflict, above and beyond the effect of

non-intact family structure (Rumbaut 1994). We include two different measures that tap into the nature of the parent-child relationship. The first is a validated scale that captures the quality of the child/parent relationship. It is based on eight questions the respondent answered in regard to his/her primary care giver (PCG). The first three questions asked whether the adolescent thought highly of his/her PCG, wanted to be like his/her PCG, and/or enjoyed being with his/her PCG. The next three questions asked how often the child was praised, ridiculed, and/or received help from his/her PCG. Finally two questions were asked concerning whether the PCG knew where the respondent was at different times and whether or not the PCG knew the respondent's friends. The answers to these questions were then summed. Validation of this instrument as a measure of parent/child relations is detailed in the National Longitudinal Survey of Youth (NLSY97) codebook (Child Trends 1999). High scores on this scale indicate a positive parent/child relationship. In the models we dichotomize the scale using the median as a cut-point. The reference category includes those respondents with positive parent/child relationships.

The second measure of family-level processes is a scale created from a set of questions developed by the Population Survey of Income Dynamics (PSID) that captures how well the family gets along. Each respondent was asked a series of six questions regarding how often the family fought, whether family members lost their tempers, threw things, said mean things to each other, discussed problems calmly (reverse coded) and/or sometimes hit each other. We summed the answers to these questions to create a scale of how well the family gets along, with a higher score on the scale indicating more problems. In the models we dichotomize the scale using the median as a cut point. The reference category includes those respondents with fewer family problems. There are likely reciprocal effects between familial relationships and risky behavior. However, we are less concerned with the issue of causal ordering as our primary focus is on how the association between familial relationship quality and risky behavior may differ between children of different racial/ethnic/nativity groups and/or by neighborhood context.

Neighborhood-Level Variables. Aspects of social environment that are important for adolescent development include both the structural features of a neighborhood as well as the social processes that characterize the neighborhood. Information on the structural conditions of the neighborhood come from the 2000 census and are based on 1990 census boundaries in accordance with the initial sampling strategy of the L.A.FANS data collection effort. Information on neighborhood social processes come from an aggregation of responses from all randomly selected adults interviewed (n=3,557).

One of the issues we faced, and that plagues many analyses of neighborhood-level effects, is the high level of racial and economic segregation in the U.S. While a high level of spatial social patterning highlights the importance of accounting for the possibility of unique neighborhood-level influences, it also complicates the quantification of these influences. Because of the lack of distributional overlap for many neighborhood properties, it is difficult to distinguish differences in the distribution of a variable from differences in the effects of that variable. It also makes comparisons unreliable if there are insufficient numbers of members of one group living in a particular type of neighborhood (Brewster 1994; McNulty 2001; Sucoff and Upchurch 1998). In order to address this issue we categorized our neighborhood-level predictors in such a way as to minimize a lack of distributional overlap. Instead of continuous measurement schemes that would result in sparse data at the extremes, we chose to distinguish neighborhoods using location quotients (LQ), which are measures of under-and over-concentration of particular variables in comparison to the county distribution (Wright, Ellis, and Parks 2005). The LQs have a range of 0 to over +1, where 1 refers to a place where the concentration of a certain characteristic is comparable to the concentration at the county level. We include LQs for the following measures: 1) poverty 2) Latino concentration 3) African-American concentration 4) immigrant concentration 5) residential stability 6) non-Latino White concentration.

We also include a set of neighborhood-level variables that measure three different social interactional processes (Sampson, Morenoff, and Earls 1999). The first, labeled social cohesion, measures the degree to which adults and children in a community are linked to one another. It is a scale constructed from each adult's opinion to a series of five statements, e.g. "Parents in this neighborhood know their children's friends" "Parents in this neighborhood generally know each other…" The second dimension of neighborhood social organization is reciprocated exchange and captures the intensity of interfamily and adult interaction with respect to childrearing. Also measured as a scale, reciprocated exchange is constructed from questions such as, "How often do you and people in your neighborhood do favors for each other?" "How often do you and other people in your neighborhood visit each other…" The third dimension of neighborhood social organization captures informal social control and mutual support of children. This scale is constructed from a series of five opinions on whether or not residents could count on their neighbors to, "do something if children were skipping school or children were showing disrespect to an adult...." In the models presented here we examine the separate effects of each of these three measures as well as their aggregate in a variable that measures overall neighborhood "collective efficacy" (Sampson, Raudenbush, and Earls 1997).

There are likely interactions between familial characteristics and contextual measures, i.e. the effect of family relationships on risky-behavior may change depending on neighborhood-level influences. The degree to which neighborhoods may blunt or exacerbate the effect of family context on behavior will be addressed by analyzing interactions between family- and neighborhood-level conditions where appropriate.

ANALYTIC STRATEGY

To account for variation in the propensity to engage in risky behaviors, we use a three-level Rasch model with random effects (Raudenbush, Johnson, and Sampson 2003). Within this framework it is possible to test whether covariates relate differently to different types of

behavior. The first level entails item responses, which depend on item difficulties and person propensities. The second level describes variation and covariation between person propensities within clusters (within neighborhoods). The third level describes variation and covariation between clusters (across neighborhoods).

The models that include neighborhood and familial context measures also include controls for the propensity to live in a particular neighborhood or be part of a type of family, i.e. "propensity scores" (Oakes and Johnson Forthcoming). Propensity scores allow us to 1) assess whether sufficient numbers of subjects were sampled at different levels of the characteristic of interest, in order to allow us to conduct a robust estimation of the association between such a characteristic and the behavioral outcome; 2) adjust for confounding by individual characteristics of neighborhood residents and family members in a single score, and thus increase statistical power. We are able to test whether the family and/or neighborhood effects are robust to the inclusion of a measure for the propensity to live in a particular type of family and/or neighborhood, e.g. a higher poverty neighborhood. Confounders in the propensity score include the following: number of children in the household, sex of parent, age of parent, race/ethnicity of parent, nativity of parent, education of parent, occupation of parent, language spoken in household, welfare receipt, marital status of parent, residential history of parent, family income, home ownership, family structure, church attendance, documented status for immigrant parents, and time since arrival to the U.S. for immigrant parents. Additionally, the propensity score for family problems includes parental relationship as a confounder and vice versa for the propensity score for parental relationships. Each propensity score was modeled as a continuous variable in order to allow for fine stratification of subjects by the established set of confounders.

Our analytic plan is to first examine the racial/ethnic/nativity differences in the probability of engaging in substance use and delinquency, respectively. Next, we include predictors that measure familial context, including a measure that specifies the propensity of

each individual to live in that particular familial context. In the third model, we test for interactions between familial context and individual racial/ethnic/nativity variation. We only test for interactions between variables that have sufficient sample size (n>20) in order to conduct a stable comparison (Teachman and Crowder 2002). In the next set of models, the relationship between risky behavior and neighborhood-level characteristics is specified, controlling for individual racial/ethnic/nativity affiliation and the propensity to live in a particular neighborhood. The neighborhood measures are entered separately to ensure stable estimates. The final set of models tests for interactions between neighborhood context and individual racial/ethnic/nativity affiliation and familial context. Again, only those interactions with a sufficient sample size are tested.

RESULTS

Descriptive Results

Individual. Table 1 presents the distributions for the individual-level predictors included in the analysis, distinguished by the respondent's racial/ethnic/nativity background. Nearly one-half of the LAFANS child sample consists of Latino children with foreign-born parents (i.e. first and second-generation Latinos). There are considerably less Latino children with native-born parents in the sample (11 percent). There are also a limited number of children identified as Asian (6 percent).

Over one-quarter of the sample have parents who have not completed high school, although this pattern is highly dependent on individual race/ethnic/nativity affiliation. The starkest disparity in education level and household income is found between children with non-Latino White and foreign-born Latino immigrant parents. On average, non-Latino white children live in households with median annual incomes of 66,000 while foreign-born Latino children reside in households with median incomes of less than 25,000. There is some improvement in household income when one compares foreign-born Latino children

with second-generation U.S.-born Latino children. Third-generation Latino children live in households with median household incomes that are similar to that of non-Latino Blacks, but still considerably lower than that of non-Latino Whites. There are also remarkable differences across the Latino generations in education so that three-fourths of native-born Latinos' parents complete high school as compared to only one-third of foreign-born Latinos' parents.

Table 1 also presents the distribution of family variables included in the analysis. Nearly two-third of children live in households with married parents, but among African-American children this proportion drops to less than one-half. Nearly half of the adolescents surveyed report that their families have problems with fighting and arguing and over half of all adolescent respondents reported that they had a problematic relationship with their primary care giver.

Table 2 presents the distribution of health-risk behaviors by respondents' racial/ethnic background. The rates of risky behavior in our sample are uniformly lower than those found in national samples. This is true for every racial/ethnic group. One possible explanation is that our sample is not nationally representative but rather representative of Los Angeles County. Rates of substance abuse in California are, on a whole, lower than national rates, which may help explain the difference (Brindis, Ozner, et al. 2004; MMWR 2004). Even if the adolescents in the LAFANS sample did not accurately report their participation in these health-risk behaviors, the problem of non-reporting bias in the findings is reduced because we are concerned with differences between racial/ethnic/nativity groups and there is no evidence of differential underreporting in the sample.

Non-Latino White children in the LAFANS sample have the highest mean number of high-risk behaviors. They are followed by third-generation Latinos. These distributions are largely driven by substance use as there are few differences in delinquent behavior by group. For both behavior types (substance use and delinquency), first-generation Latinos

and Asian adolescents exhibit the lowest averages. Among the Latino sub-groups, the general pattern in health risk-behavior corresponds to what has been previously documented, i.e. foreign-born adolescents have lower mean numbers of health risk-behaviors than native-born adolescents (i.e. second-generation and third-generation).

Neighborhoods. To determine if the respondents cluster in particular communities and whether their health-risk behavior outcomes are correlated with these communities, we conducted a hierarchical tree cluster analysis of the 65 sampled census tracts to identify "types" of neighborhoods. A set of diagnostics, including the pseudo-F and pseudo-t statistics and the R-squared statistic, were used to determine the initial optimum number of clusters. The clusters were then grouped into larger sets that had face comparability on neighborhood variables. The analysis produced 6 neighborhood clusters, which are distinct in terms of a range of structural characteristics and neighborhood social processes (see Table 3). The neighborhoods in each cluster are not necessarily geographically proximate to each other. Each neighborhood cluster contains a varying number of census tracts, ranging from 6 to 22 tracts per cluster.

The first column presents the proportion of each characteristic for the entire county and columns 2-7 present the proportion for each of the six neighborhood clusters. The tract-level characteristics are presented as location quotients (LQs), which have a range of 0 to over +1, where 1 refers to a neighborhood where the concentration of a certain characteristic is comparable to the concentration at the county level (Wright, Ellis, and Parks 2005). The tract-level proportion of each characteristic is presented in parentheses underneath each LQ. The neighborhood social processes measures are presented as the mean scale value for the census tracts in the cluster.

The census tracts sampled in LAFANS match up to a range of neighborhood types. Illustrating the depth and size of the Latino population in Los Angeles County, there are two distinct types of Latino neighborhood clusters (Clusters 1 and 2), and they encompass the

largest number of census tracts in the LAFANS sample. The neighborhoods that fall within the two distinct Latino clusters are largely distinguished from each other by their socioeconomic profiles. While both clusters have neighborhoods with numbers of Latino residents that are 50 percent above the county-level average (i.e. over three-quarters of tract residents are Latino), one (Cluster 1) exhibits a poverty level that matches the county average, whereas the other (Cluster 2) has a poverty level that is twice the county average. Accordingly, given the lower socioeconomic status of immigrants as compared to the native-born, the more socioeconomically disadvantaged Latino cluster also has a higher level of foreign-born inhabitants, although both clusters have immigrant levels that are above the county average (i.e. above 36 percent). The more socioeconomically disadvantaged and higher foreign-born Latino cluster (Cluster 2) also has lower mean values of neighborhood social control, reciprocity and cohesion than the more advantaged Latino neighborhoods (Cluster 1).

There are two clusters that emerge with above-county-average levels of non-Latino White inhabitants, although only one of these clusters (Cluster 4) has a level of non-Latino White inhabitants that is over twice the county average and levels of all other racial/ethnic groups that are considerably lower than the county average. This predominately non-Latino White cluster is also characterized by a low level of foreign-born residents, a low level of poverty, a high level of owner occupied dwellings, and the highest mean values for neighborhood social control, social cohesion and reciprocity. The other cluster with high levels of non-Latino White residents (Cluster 3) is characterized by numbers of Asian residents that are over twice the county average.

Illustrating the high levels of residential segregation that characterize African-Americans nation-wide, the one neighborhood cluster with the highest concentration of any particular racial/ethnic group is for African-Americans, with levels of concentration that are over three times the county average (Cluster 6). As African-Americans only account for 10 percent of Los Angeles County's residents, these high rates of concentration translate into

one-third of the clusters' residents. The rest of the residents are Latino (over 60 percent). The neighborhoods in this cluster are also characterized by high rates of poverty, and low levels of non-Latino Whites and Asians. There is only one cluster (Cluster 5) that exhibits a degree of residential integration between African-Americans and non-Latino Whites.

The cluster typology appears to correspond with the distribution of the LAFANS sample. Table 4 presents the distribution of the LAFANS adolescent sample according to the six defined clusters. Three-quarters of our non-Latino White respondents live in neighborhoods that fall into the two predominately non-Latino White clusters. Foreign-born Latino adolescents tend to live in the socioeconmically disadvantaged Latino neighborhoods (Cluster 2), whereas the second-generation Latinos adolescents are more concentrated in the less socioeconomically disadvantaged Latino neighborhoods (Cluster 1). There is a markedly different pattern in the residential distribution of the third-generation Latino respondents, who are considerably more dispersed, with more than one-half living in neighborhoods that fall into clusters characterized by low levels of poverty and high levels of non-Latino Whites and Asians (Clusters 3 and 4). Our Asian respondents are the most geographically concentrated, with 82 percent living in neighborhoods that fall into the cluster characterized by higher than county average levels of Asians and non-Latino whites and low levels of socioeconomic disadvantage (Cluster 3).

The outcome variable distribution by residential cluster is presented at the bottom of the table. The first two rows display the percent distribution of the respondents who reported engaging in at least one health-risk behavior. Respondents who have used at least one substance in the last year were more likely to live in the non-Latino White, socioeconomically advantaged, and residentially stable neighborhoods (Clusters 3 or 4). The opposite pattern appears for delinquent behavior. Respondents who have engaged in at least one delinquent behavior were most likely to reside in neighborhoods that fall into one of the two Latino clusters, with respondents living in the more socioeconomically disadvantaged cluster posting the highest percent (Cluster 2).

Multivariate Analysis

Individual-level Main Effects. In order to examine the relationships between neighborhood characteristics and adolescent health-risk behavior, we model individual behavior as a function of individual, familial and neighborhood characteristics. Table 5 presents the results from the Rasch models that specify the relationship between the predictor variables and the risk of substance use and delinquent behavior. These results are in reference to an underlying propensity to engage in risky behavior. For each scale, the reference category is the behavior with the highest prevalence (alcohol use and sex in last year, respectively).

The first model illustrates the extent of racial/ethnic/nativity variation in the odds of engaging in risky behavior. Column 1a presents the overall propensity for substance use and column 1b presents the overall propensity for delinquent behavior. In the case of substance use (column 1a), every racial/ethnic group, with the exception of third-generation Latinos, is significantly less likely to engage in substance use than non-Latino whites. The starkest difference is between non-Latino Whites and Asian adolescents, who have over 80 percent lower odds of using substances than non-Latino Whites (coeff.=-2.08 ; OR=0.12). Among the Latino subgroups, the results demonstrate a monotonic increase in risk of substance use across immigrant generations. Foreign-born Latinos exhibit over 60 percent lower odds of using substances as compared to non-Latino Whites (coeff=-0.93; OR=0.39), while third-generation Latinos exhibit health behavior-risk that is closest to, and not significantly different from, non-Latino Whites.

There is considerably less racial/ethnic/nativity variation in the overall propensity for delinquent behavior (column 2). Only Asian adolescents demonstrate a significantly different risk from non-Latino Whites and are less likely to engage in delinquent behavior. None of the other racial/ethnic/nativity groups in this sample of Los Angeles adolescents are at a significantly higher risk of delinquency as compared to non-Latino Whites.

Models 2 and 3 add controls for the presence of familial problems and poor parental relationship quality, respectively. Each of these models also includes a control for the propensity to live in such families. Poor parental relationship quality and familial problems with fighting/arguing are significantly related to both substance use and delinquent behavior. Adolescents whose families have problems with fighting/arguing have two times the odds of using substances and engaging in delinquency as compared to adolescents who reported that their families did not experience any problems with fighting/arguing (coeff=0.71; OR=2.03 and coeff=0.79; OR=2.20). Poor parental relationship quality has an even stronger relationship to substance use, nearly tripling the odds of using illicit substance compared to adolescents who had more positive relationships with their parents (coeff.=1.11; OR=3.03).

Family Processes and Individual Racial/Ethnic/Nativity Interaction Effects. Important for the present analysis is the possibility that the effect of family difficulties on risky behavior varies by the racial/ethnic/nativity status of the child. Qualitative work on children from immigrant families suggests that acculturative gaps have the potential to heighten the negative effect of parent-child conflict on the outcomes of children of immigrants (Portes and Rumbaut 1996; Portes and Rumbaut 2001; Rumbaut 1999). To examine this possibility, we tested for interactions between each racial/ethnic/nativity category and the two family relationship measures for each scale of risky behavior (Model 4). The only significant interaction term occurred between family problems with fighting/arguing and second-generation Latino status in the case of substance use. Being second-generation Latino in a family with problems fighting/arguing nearly washes out the positive effect associated with second-generation status in the risk of substance abuse. While second-generation Latinos without family problems have significantly lower odds of substance use than non-Latino white adolescents (OR=0.29), second-generation Latinos with family problems have only slightly lower odds than non-Latino whites (OR=0.92).

Neighborhood Main Effects. Tables 6-9 address the crux of the present analysis, namely whether the characteristics of an adolescent's residential context influence his/her health-risk behaviors, and whether these influences operate differently depending on family context and racial/ethnic/nativity affiliation. The neighborhood measures are entered separately to ensure stable estimates. Each model also includes a measure for the propensity to live in that particular type of neighborhood, which controls for all measurable confounders in a single composite and provides robust estimates of the neighborhood-level effects.

The main effects, which evaluate the effect of neighborhood characteristics on high-risk behaviors for the *general* sample of Los Angeles adolescents, are presented in Table 6. The only neighborhood structural features that are significantly related to adolescent risk-behavior are neighborhood non-Latino Black concentration and neighborhood Latino concentration. In the case of substance use, adolescents living in neighborhoods with above-county-average levels of non-Latino Black residents have 70 percent higher odds of using substances than otherwise similar individuals living in neighborhoods with below-county-average levels of non-Latino Black residents (OR=1.70). This neighborhood-wide effect of non-Latino Black concentration occurs in spite of the finding that individual non-Latino Black affiliation significantly decreases the odds of substance use. In the case of delinquent behavior, residence in a neighborhood with above-county-average levels of Latino concentration significantly increases the odds of engaging in delinquent behavior by 80 percent (OR=1.83).

The bottom half of Table 6 evaluates whether particular neighborhood social processes, such as neighborhood social cohesion or social control, are related to adolescent risk-taking behavior. We find no evidence for such a relationship in the case of substance use but neighborhood social processes do appear to be consequential in deterring delinquent behavior among adolescents. In the case of delinquent behavior, every social process measured, with the exception of neighborhood reciprocity, significantly decreases the odds of delinquency. The effects are similar in magnitude, with residence in neighborhoods

characterized by above-median levels of social cohesion, social control, and overall collective efficacy, nearly halving the odds of engaging in delinquent behavior.

Neighborhood and Individual Race/Ethnic/Nativity Interaction Effects. Of particular interest to the present analysis is the possibility that adolescents, and Latino adolescents in particular, are differentially influenced by their social context, net of individual and family-level processes. Previous work on children of immigrants suggests that their outcomes are highly dependent on the nature of their surrounding community (Portes and Rumbaut 2001). Tables 7 and 8 address this possibility by testing for cross-level interactions between the race/ethnic/nativity status of the respondent and characteristics of his/her neighborhood. If an interaction term is significant in predicting the odds of either substance use or delinquency, its effect on risky-behavior is included in the table, with estimates provided for both outcomes (even if only one was significant, as indicated by asterisks for significance level). Interaction terms that are not significant in predicting either outcome are not included in the table. We present the interaction effects by calculating estimates for two different types of neighborhoods. For example, the first row of Table 7 illustrates the odds of risky behavior for second-generation Latino children who live in neighborhoods with *below*-county-average concentration of Latinos as compared to non-Latino whites who reside in the same type of neighborhood (i.e. the main effect of second-generation Latino in the interaction model). The row directly below, presents the odds of risky behavior for second-generation Latino adolescents who reside in neighborhoods with *above*-county-average concentration of Latinos as compared to non-Latino white adolescents who live in the same type of neighborhood (i.e. the main effect of second-generation Latino plus the interaction term between second-generation Latino and neighborhood Latino concentration (Jaccard 2001)).

The role that the Latino and immigrant composition of a neighborhood plays in influencing adolescent health-risk behavior appears to vary by individual

racial/ethnic/nativity affiliation. Among U.S.-born Latinos (i.e. second- and third-generation Latinos), the effect of Latino neighborhood concentration is uniformly disadvantageous for both substance use and delinquency. Whereas U.S.-born Latinos in low-concentration Latino neighborhoods exhibit odds of substance use that are lower, or not significantly different from, non-Latino Whites, U.S.-born Latino adolescents living in high Latino neighborhoods have odds of substance use that are on the magnitude of five to six times higher than non-Latino whites (OR=5.2 for second-generation, OR =6.7 for third-generation). The same pattern is evident in the case of delinquent behavior for second-generation Latinos, whose odds of delinquent behavior are over 50 percent higher than those of non-Latino Whites in high Latino neighborhoods (OR=1.79), as well as in high immigrant neighborhoods (OR=1.53). Far from a positive immigrant/co-ethnic effect, the pattern in Los Angeles County is for immigrant and co-ethnic concentration to increase the risk of negative health behaviors in the case of children of Latino immigrants.

A similar pattern is evident for neighborhood poverty level. In the general sample, poverty level is not significantly associated with either substance use or delinquency. Testing for non-uniformity of effects demonstrates that, for second-generation Latinos and African-American adolescents, residence in high poverty neighborhoods is associated with a two-fold increased risk of delinquency as compared to non-Latino Whites(OR=1.93 and OR=2.11, respectively). In low-poverty neighborhoods there is no difference in the risk of delinquent behavior between second-generation Latinos/non-Latino Blacks and non-Latino whites. For these two U.S. minority groups, neighborhood poverty appears to play a consequential role in influencing their odds of risk-taking behavior in a way that it does not for the general sample of Los Angeles adolescents.

A differential effect of non-Latino White neighborhood concentration is evident in the case of Latino and Asian adolescents. Residence in neighborhoods with above-county-average levels of non-Latino Whites reduces the difference in the odds of substance use for

second-generation Latinos and for Asian adolescents as compared to non-Latino White adolescents (OR=0.58 and OR=0.07, respectively).

The cross-level interactions between individual racial/ethnic/nativity affiliation and neighborhood social processes are presented in Table 8. The results demonstrate that African-American adolescents continue to experience decreased odds of substance use as compared to non-Latino whites, but this effect is more pronounced in neighborhoods with *low* levels of collective efficacy and social control. In areas characterized by high levels of collective efficacy and social control, non-Latino Black adolescents have around thirty percent lower odds of substance use than non-Latino Whites (OR=0.66). But in neighborhoods with low levels of social control and collective efficacy these Black-White differences increase dramatically so that non-Latino Black adolescents have over 90 percent lower odds of substance use than non-Latino Whites (OR=0.07).

The only other significant cross-level interactions involve racial/ethnic/nativity affiliation and neighborhood reciprocity. In neighborhoods with low levels of reciprocity, non-Latino Blacks, second-generation Latinos and third-generation Latinos all experience higher odds of delinquency as compared to non-Latino whites. But in neighborhoods with high levels of neighborhood reciprocity, these groups all demonstrate lower odds of delinquent behavior than non-Latino whites (OR=0.66, OR=0.68, OR=0.74, respectively). In the case of delinquent behavior, neighborhood reciprocity appears to be particularly consequential in lowering the risk of delinquent behavior for U.S.-born minority adolescents.

Neighborhood and Family Process Interaction Effects. The possibility that the influence of familial context on adolescent outcomes may vary by neighborhood-level characteristics is addressed in Table 9. The results demonstrate that the detrimental effect of poor familial relationships on substance use risk is exacerbated in neighborhoods with high levels of Latinos (OR=5.7) and tempered in neighborhoods with high levels of non-Latino White residents (OR=0.93).

All of the cross-level interactions between neighborhood social processes and family problems are significant. In the case of every measure of neighborhood social action, the negative effect of family problems on both substance use and delinquency is substantially reduced in neighborhoods with higher levels of social action. For example, adolescents with family problems living in neighborhoods with low levels of collective efficacy have three times the odds of substance use and four times the odds of delinquency than do adolescents without family problems living in these same neighborhoods (OR=3.5, OR=4.4, respectively). In neighborhoods with high levels of collective efficacy the differentials between adolescents with and without family problems are reduced substantially (OR=1.6, OR=1.3).

In the case of parent-child relationship quality, a counter-intuitive relationship emerges between neighborhood poverty and delinquent behavior. The difference in the odds of delinquent behavior for adolescents with poor parental relationships is higher in neighborhoods with lower levels of poverty (3.9). So the negative effect of family problems on delinquent behavior is more attenuated in neighborhoods with higher levels of poverty.

DISCUSSION

As was the case nearly a century ago, the prospects of immigrants today are proving to be increasingly contingent on geography (Goodwin-White 2005). Potentially most consequential for the country's future well-being is the possibility that the influence of residential context extends to the health of children of immigrants. The present study conducted one of the first empirical evaluations of this possibility in the case of health-risk behavior among adolescents growing up in Los Angeles County.

In the case of Angeleno adolescents, we find no evidence in support of the existence of a uniformly positive spatial immigrant/co-ethnic effect, as has been documented in several recent studies (Bond Huie, Hummer, and Rogers 2002; Browning, Leventhal, and Brooks-Gunn 2004; Doty and Upchurch 2003; Eschbach et al. 2004; Krueger, Bond-Huie,

Rogers, and Hummer 2004; Patel, Eschbach, Rudkin, Peek, and Markides 2003; Sampson, Morenoff, and Raudenbush 2005). Instead, the role of co-ethnic/immigrant concentration in influencing adolescent health behavior appears to be highly dependent on individual race/ethnic affiliation. In the case of U.S.-born Latino adolescents, residence in areas with high levels of other Latino co-ethnics and/or immigrants is uniformly disadvantageous, substantially increasing the disparity between these U.S. minority groups and non-Latino Whites in their odds of risky-behavior.

These findings illustrate the limits of the beneficial effects associated with the spatial concentration of immigrants/co-ethnics in the case of U.S.-born Latinos adolescents in Los Angeles; the only U.S. metropolitan area characterized by hypersegregation of Latinos residents (Wilkes and Iceland 2004). In this respect, our findings provide strong support for the possibility articulated by Portes and Zhou (1993) that children of Latino immigrants in Los Angeles are disadvantaged by close proximity to their own co-ethnic counterparts. In lieu of a protective effect emanating from "salubrious" cultural practices and strong social networks, the spatial concentration of Latinos in Los Angeles illustrates the harsh realities associated with U.S. racial/ethnic segregation for Latino adolescents. The finding that neighborhood structural features, such as above-county-average proportions of Latinos, immigrants, and poverty, differentially predispose U.S.-born Latinos, and not foreign-born Latinos, to increased risky-behavior lends further support to the contention put forth in the segmented assimilation literature that it is the U.S.-born children of immigrants who are at highest risk of downward assimilation.

The analysis highlights the key role played by the local ecological landscape in determining the direction and magnitude of neighborhood-level influences on health outcomes. Hyper-segregation of Latinos into barrio communities in Los Angeles draws attention to the negative consequences associated with the fundamental lack of resources in these communities, particularly for U.S.-born Latino youth. Yet not all of the neighborhoods in our sample with high levels of Latinos/immigrants were characterized by

economic disadvantage. The cluster analysis revealed two types of Latino communities, one with neighborhoods characterized by poverty rates over two-times the county average and the other with poverty rates close to the county average. These differences raise unanswered questions regarding how barrios are defined and the nature of differences between majority-Latino communities (Logan, Wenquan, and Alba 2002). Our study was unable to support an analysis that examined multiple neighborhood-level indicators simultaneously, and as a result, we are unable to distinguish the negative effects associated with spatial concentration of immigrants/co-ethnics from the spatial concentration of poverty for U.S.-born Latinos. Future research on the health of Latino immigrants and their U.S-born children will undoubtedly be faced with an increasing need to disentangle the origins, mechanisms, and consequences of Latino barrio communities.

Whether similar "barrio" effects are present in areas that are not characterized by Los Angeles' long history of Mexican immigration is not yet known. One way to determine the degree that our findings are applicable to Latino neighborhoods outside of Los Angeles is to begin to conduct comparative analyses with other metropolitan areas. As immigrants and their children begin to spread to out across the country (e.g. the Southeast), many communities have begun to experience an influx of immigrants and their children for the first time. How the processes of social adaptation for Latino adolescents differ by geographic region will be an important part of future research on children of immigrants.

Unlike the structural features of Los Angeles neighborhoods, community social processes appear to operate more uniformly in influencing adolescent health-risk behaviors, irrespective of individual racial/ethnic affiliation. While the extent of social control, cohesion and reciprocity among a neighborhood's residents do not appear to influence substance use behavior, they are significantly and negatively associated with the odds of engaging in delinquent behavior, for all racial/ethnic/nativity groups. The uniformity of effects suggests that all youth at risk for delinquent behavior have the potential to benefit from improvements in levels of neighborhood collective action. This is particularly true in

the case of neighborhood reciprocity for U.S.-born minority groups. Our measure of reciprocity is constructed from questions such as whether neighbors did favors for each, watched each property, or asked each other for advice. These social processes appear to be particularly consequential for non-Latino Blacks, second-generation Latinos, and third-generation Latinos, all of whom demonstrate substantially lower odds of delinquent behavior when they reside in neighborhoods with higher levels of reciprocity.

The singular exception to the beneficial effect of neighborhood social processes on youth at-risk behavior is in the case of African-American adolescents and substance use. Residence in neighborhoods with higher levels of social control and overall collective efficacy increases the odds of African-American substance abuse to the point that they are closer to the odds of non-Latino Whites. One explanation for this result may be confounding by other characteristics that are related to high levels of neighborhood social action and are also linked to higher odds of substance use. Non-Latino White adolescents have the highest incidence of substance use and tend to live in neighborhoods with higher levels of social action. It is possible to that increased association with non-Latino adolescents increases the risk of substance abuse among non-Latino Black adolescents in neighborhoods with higher levels of social control and collective efficacy. The importance of accounting for peer-level influences and inter-group contact is important given that peer relationships and school context are two well-established contributors to adolescent risk-behavior and likely interact with familial and neighborhood context. While the LAFANS does not provide information on peers or school characteristics, other recent surveys have begun to collect data from multiple contexts (eg. AddHealth) which will help us to untangle the interactive influences of families, peers, neighborhoods and schools in the lives of today's youth.

The finding that neighborhood social processes moderate the association between family problems and risk-taking behavior lends preliminary support to the contention, first articulated in the immigration literature that strong community social control may influence the effect of family processes on adolescents (Zhou and Bankston 1998). Our findings

indicate that for substance use and delinquency, residence in neighborhoods characterized by high levels of control, cohesion, and overall collective efficacy, has the potential to attenuate the negative effects associated with living in families who have problems with fighting and arguing. The finding that neighborhood social organization has the potential to compensate for negative aspects of family life in the case of adolescent risk-taking behavior implies that intervention and prevention efforts should focus on residential context in addition to the individual themselves.

One of the key derivations of segmented assimilation theory is that children of immigrants may differentially suffer from familial conflict brought upon by acculturative stress. But past work on parental-child conflict among children of immigrants has focused primarily on immigrants, and as such, the degree to which parent-child conflict is specific to children of immigrants, or extends to all adolescents, is not clear. In our descriptive statistics we found that second-generation Latinos have the highest rates of reporting poor relationships with their parents, across all groups. We also found the risk of substance abuse for second-generation Latinos is considerably exacerbated if they live in families with problems fighting/arguing. These results offer preliminary support for the possibility that familial conflict is more consequential for children of immigrants as compared to other racial/ethnic/nativity groups.

The present analysis makes no clear distinction between neighborhoods (as physically defined by census tract boundaries) and communities. Ethnic enclaves, in particular, may not be spatially defined in a way that corresponds to census tracts. The implication of a lack of overlap between these two concepts likely depends on the process being studied (Diez Roux 2004). Past qualitative work on the role of community social control in influencing the outcomes of children of Vietnamese immigrants focuses on ethnic enclaves which are located in predominately poor African-American neighborhoods in New Orleans (Zhou and Bankston 1998). If we expect certain ethnic groups to participate in collective action and exclusively reap the benefits of such action, then a neighborhood-wide

measure of social cohesion is unlikely to register this ethnic community-specific effect. The difficulty in distinguishing between ethnic enclave communities and neighborhoods underscores the importance of continuing qualitative work on immigrant communities even as the quantitative analysis of spatial effects continues to improve.

Multi-level methodology is appealing because it allows researchers to account for the most basic of sociological theorems; that individuals are not isolated from one another (Boardman 2004; Fitzpatrick and LaGory 2003). They give researchers the opportunity to describe complex social relationships by modeling individual outcomes as a function of individual *and* group-level characteristics. But the analytical insight provided by hierarchical linear modeling must be balanced alongside the substantial challenges they pose to their proper estimation. One of the most threatening is the issue of selection. Residential choice poses a threat to unbiased neighborhood-level effects if respondents make choices based on characteristics which may also influence their outcomes (Duncan and Raudenbush 2001). These selection processes may lead to either an underestimation or overestimation of neighborhood-level effects, although the latter is more common. The problem is somewhat minimized in the present analysis because we analyze the outcomes and behavior of adolescents who, in contrast to adults, rarely decide where they will live. Additionally, our inclusion of family-level controls as well as controls for the propensity to live in a neighborhood with particular characteristics provide us with more robust estimates. Another way to minimize selection issues is to utilize longitudinal data (Wheaton and Clarke 2003). As future waves of the LAFANS become available, the ways in which these processes unfold over time will be an important aspect of future work.

As the number of children in immigrant families in the U.S. reaches unprecedented levels, increasing attention will undoubtedly be given to the considerable differences in the health, educational and developmental outcomes of children of immigrants. It will be important to remember that individual racial/ethnic/nativity status on its own provides very little predictive power of adolescent outcomes at the individual level. The substantial

heterogeneity that exists within groups means that to truly understand the unique challenges facing children of immigrants, continued attention must be given to contributing factors, such as neighborhoods, family, and peers, and to how these variables interact within groups. To restrict the focus to identifying racial/ethnic/nativity differences, and not on the sources of difference, runs the risk of essentializing race/ethnic categories and building interventions for at-risk behaviors based on variables that are not amenable to change (Blum, Beuhring, Shew, Bearinger, Sieving, and Resnick 2000).

Table 1. Percent Distribution of Selected Variables, by Race/Ethnicity and Generational Group.

	Total	Non-Latino White	Non-Latino AA	Latino			Asian
				1st	2nd	3rd	
Percent of Sample	100.0	22.9	11.2	16.8	31.2	11.2	6.6
Primary Caregiver Education							
<12 years	65.6	9.9	8.9	68.2	69.3	20.1	2.6
12 ≥ years	34.4	90.1	91.2	31.8	30.8	80.0	97.5
Median HH income	36,800	66,000	44,500	23,000	27,388	44,403	52,000
Primary Care Giver Marital Status							
Not Wed	33.2	20.6	56.5	34.6	30.7	43.0	24.9
Wed	66.8	79.4	43.5	65.5	69.3	57.0	75.1
Respondent Age [Mean]	14.43	14.39	14.54	14.66	14.34	14.27	14.56
Respondent Grade Level [Mean]	8.36	8.26	8.53	8.52	8.28	8.19	8.61
Family Problems							
Yes	49.1	58.9	57.3	44.5	44.9	38.2	47.1
No	51.0	41.2	42.8	55.5	55.1	61.8	52.9
Parental Relationship Quality							
Poor	60.9	62.4	57.6	61.5	66.8	54.5	52.6
Not Poor	39.1	37.6	42.4	38.5	33.2	45.5	47.4
Unweighted N	820	188	92	138	256	92	54

Data source: Los Angeles Neighborhood and Family Survey (L.A.FANS 2001).

Table 2. Frequency of Risky Behavior, by Race/Ethnicity and Generational Group.

	Total	Non-Latino White	Non-Latino AA	Latino 1st	Latino 2nd.	Latino 3rd	Asian
Mean for All Behaviors	0.51	0.69	0.47	0.44	0.54	0.56	0.09
Mean for Substance Use	0.28	0.45	0.20	0.21	0.25	0.33	0.05
Mean for Delinquency	0.24	0.24	0.28	0.23	0.29	0.23	0.04
Substance Use in Past Month							
Smoke	6.5	10.2	4.3	6.8	4.2	10.5	1.1
Alcohol	12.7	20.8	7.0	11.6	11.7	14.6	2.1
Marijuana	6.4	9.2	8.5	1.9	7.2	5.9	1.4
Other Drugs	2.2	5.3	0.0	0.8	2.1	1.7	0.0
Delinquency in Last Year							
Ran away from home	6.2	5.3	6.6	5.3	9.5	4.9	1.4
Gun Ownership	2.3	2.1	1.4	1.2	4.8	0.8	0.0
Gang in past yr.	11.7	0.8	1.4	2.2	2.5	0.0	0.0
Sex in past yr.	13.9	15.4	18.4	14.0	12.5	17.2	2.7
Unweighted N	820	188	92	138	256	92	54

Data source: Los Angeles Neighborhood and Family Survey (L.A.FANS 2001).

Table 3. Location Quotients and Mean Concentration (in parentheses) for 6 Prototypical Neighborhood Clusters.

	County	Neighborhood Clusters					
	Total	1	2	3	4	5	6
Number of tracts within cluster	65	11	22	12	8	6	6
Structural characteristics							
Concentration of 5+ yrs residents	1.0 (0.52)	1.08 (0.56)	0.87 (0.45)	1.03 (0.54)	1.09 (0.57)	0.76 (0.39)	1.06 (0.55)
Owner-occupied housing units	1.0 (0.46)	1.11 (0.51)	0.42 0.19)	1.39 (0.64)	1.39 (0.67)	0.96 (0.47)	0.92 (0.43)
Concentration poverty	1.0 (0.18)	1.09 (0.20)	2.01 (0.36)	0.55 (0.10)	0.29 0.05)	1.09 (0.20)	1.83 (0.33)
Concentration of Foreign-born	1.0 (0.36)	1.18 (0.43)	1.50 (0.54)	1.00 (0.36)	0.54 (0.20)	0.66 (0.24)	1.03 (0.37)
Concentration of Latinos	1.0 (0.45)	1.85 (0.83)	1.70 (0.77)	0.55 (0.25)	0.31 (0.14)	0.72 (0.33)	1.40 (0.63)
Concentration of Blacks	1.0 (0.10)	0.15 (0.02)	0.68 (0.07)	0.48 (0.05)	0.44 (0.04)	1.67 (0.17)	3.52 (0.35)
Concentration of Whites	1.0 (0.32)	0.34 (0.11)	0.23 (0.07)	1.26 0.40)	2.4 (0.76)	1.16 (0.37)	0.03 (0.01)
Concentration of Asians	1.0 (0.13)	0.32 (0.04)	0.68 (0.09)	2.24 (0.29)	0.45 (0.06)	0.96 (0.13)	0.03 (0.00)
Social processes							
Mean of Social Control	n/a	3.59	3.30	3.86	4.03	3.57	3.16
Mean of Social Cohesion	n/a	3.43	3.20	3.73	3.90	3.47	3.28
Mean of Reciprocity	n/a	3.61	3.50	3.82	3.93	3.57	3.62
Mean of collective efficacy	n/a	10.62	10.01	11.41	11.86	10.62	10.07

Data source: Los Angeles Neighborhood and Family Survey (L.A.FANS 2001).

Table 4. Weighted Row Percentages of Select Characteristics of LAFANS sample by 6 Prototypical Clusters.

Cluster	1	2	3	4	5	6	Total
Distribution of Race/Ethnic Affiliation by Cluster							
White	3.5	2.7	37.0	38.4	18.3	0.11	100.0
Black	2.9	14.7	29.1	2.8	34.9	15.7	100.0
Latino For.-born	32.0	49.8	7.2	0.4	6.9	3.7	100.0
Latino 2nd gener	43.8	31.7	9.1	4.8	7.7	2.8	100.0
Latino 3rd gener	18.7	7.6	40.1	12.9	20.2	0.5	100.0
Asian	4.7	7.3	81.7	0.0	6.3	0.0	100.0
Distribution of Demographic Characteristics by Cluster							
Unwed Parents	21.2	23.4	27.1	7.3	15.7	5.3	100.0
No high school	31.9	37.5	5.5	1.8	20.1	3.2	100.0
Family Problems	19.1	19.3	29.4	13.9	14.3	4.1	100.0
Poor Relationship	21.6	21.4	25.0	13.8	14.1	4.1	100.0
Distribution of Respondents with at Least One Risky Behavior by Cluster							
Substance Use	18.1	14.9	21.4	28.2	15.9	1.6	100.00
Delinquency	21.0	27.0	18.6	15.8	13.9	3.7	100.00
Mean of Risky Behavior Scales by Cluster							
Substance Use	0.24	0.18	0.24	0.63	0.28	0.11	-------
Delinquency	0.25	0.37	0.13	0.28	0.21	0.26	-------

Data source: Los Angeles Neighborhood and Family Survey (L.A.FANS 2001).

Table 5. Coefficients for Multi-level Logistic Regression Analysis of Substance Use and Delinquency: Main Race/Ethnic Effects, Main Family Effects, and Interaction Effect.

Models	Substance 1a	Delinquency 1b	Substance 2a	Delinquency 2b	Substance 3a	Delinquency 3b	Substance 4
Race/Ethnicity [White]							
Black	-1.11*	-0.01	-1.10*	-0.02	-1.18*	-0.03	-1.04
	(0.47)	(0.37)	(0.55)	(0.38)	(0.51)	(0.35)	(1.00)
FB Latino	-0.93**	-0.38	-0.91*	-0.34	-0.89*	-0.31	-1.34*
	(0.31)	(0.32)	(0.36)	(0.38)	(0.36)	(0.35)	(0.56)
2nd Latino	-0.60*	0.10	-0.59*	0.10	-0.69*	-0.07	-1.22*
	(0.27)	(0.28)	(0.28)	(0.32)	(0.27)	(0.25)	(0.48)
3rd Latino	-0.43	-0.08	-0.38	-0.03	-0.34	0.09	-0.97
	(0.30)	(0.35)	(0.31)	(0.40)	(0.29)	(0.34)	(0.59)
Asian	-2.08***	-1.61**	-2.06***	-1.63**	-2.12***	-1.58**	-2.28***
	(0.31)	(0.51)	(0.32)	(0.52)	(0.29)	(0.50)	(0.56)
Family							
Problems			0.71**	0.79**			
			(0.27)	(0.26)			
Poor Relationship					1.11***	0.72**	
					(0.17)	(0.20)	
*Interaction Term. Odds of substance use for **second-generation Latino adolescents** with:*							
No Family Problems							0.29*
Family Problems							0.92*

Data source: Los Angeles Neighborhood and Family Survey (L.A.FANS 2001).
* p<.05, ** p<.01, ***p<.001. Standard errors in parentheses.

Table 6. Coefficients for Multi-level Logistic Regression Analysis of Substance Use and Delinquency: Main Neighborhood Effects.

	Substance	Delinquency
Neighborhood Structural Features		
LC Latino	-0.41	0.61*
	(0.24)	(.28)
LC Black	0.53*	0.24
	(0.23)	(.22)
LC White	0.40	-0.40
	(0.23)	(0.23)
LC Immigrant	-0.23	0.33
	(0.22)	(0.22)
LC Poverty	-0.15	0.34
	(0.25)	(0.29)
LC Stability	0.21	-0.32
	(0.25)	(0.28)
Neighborhood Social Processes		
Social Control	-0.16	-0.61*
	(0.23)	(0.24)
Social Cohesion	-0.24	-0.71**
	(0.24)	(0.22)
Reciprocity	0.30	-0.34
	(0.22)	(0.27)
Collective Efficacy	-0.10	-0.58*
	(0.23)	(0.24)

Data source: Los Angeles Neighborhood and Family Survey (L.A.FANS 2001).
* p<.05, ** p<.01, ***p<.001. Standard errors in parentheses.

Table 7. Odds Ratios for Multi-level Logistic Regression Analysis of Substance Use and Delinquency: Cross-level Interactions between Individual Racial/Ethnic/Nativity Affiliation and Neighborhood Structural Characteristics.

Interaction Results for Neighborhood Structural Features	Substance	Delinquency
*Odds of risky-behavior for **2nd Generation Latinos** who live in neighborhoods with:*		
Below County-Average Latino Concentration	0.58	0.32*
Above County-Average Latino Concentration	5.24**	1.79**
*Odds of risky-behavior for **3rd Generation Latinos** who live neighborhoods with:*		
Below County-Average Latino Concentration	0.59	0.64
Above County-Average Latino Concentration	6.67**	1.63
*Odds of risky-behavior **for 2nd Generation Latinos** who live in neighborhoods with:*		
Below County-Average Immigrant	0.55	0.43*
Above County Average Immigrant	0.91	1.53**
*Odds of risky-behavior for **2nd Generation Latinos** who live in neighborhoods with:*		
Below County-Average Poverty	0.49	0.39
Above County Average Poverty	0.95	1.93**
*Odds of risky-behavior **for non-Latino Blacks** who live in neighborhoods with:*		
Below County-Average Poverty	0.31	0.36
Above County Average Poverty	0.51	2.11*
*Odds of risky-behavior for **2nd Generation Latinos** who live in neighborhoods with:*		
Below County-Average non-Latino White	2.56	1.67 [i]
Above County Average non-Latino White	0.58*	0.40 [i]
*Odds of risky-behavior for **Asians** who live in neighborhoods with:*		
Below County-Average non-Latino White	0.42	0.33 [i]
Above County Average non-Latino White	0.07**	0.16 [i]
*Odds of risky-behavior for **Asians** who live in neighborhoods with:*		
Below County-Average Immigrant	0.06***	0.11
Above County Average Immigrant	0.26*	0.37

[i] For these two cases, reference group includes non-Latino Whites and foreign-born Latinos. Data source: Los Angeles Neighborhood and Family Survey (L.A.FANS 2001). * p<.05, ** p<.01, ***p<.001.

Table 8. Odds Ratios for Multi-level Logistic Regression Analysis of Substance Use and Delinquency: Cross-level Interactions between Individual Racial/Ethnic/Nativity Affiliation and Neighborhood Social Processes.

Interaction Results for Neighborhood Social Processes	Substance	Delinquency
Odds of risky-behavior for ***non-Latino Blacks*** *who live in neighborhoods with:*		
Below Median Social Control	0.07***	1.22
Above Median Social Control	0.69**	0.97
Odds of risky-behavior for ***non-Latino Blacks*** *who live in neighborhoods with:*		
Below Median Collective Efficacy	0.07**	1.13
Above Median Collective Efficacy	0.66**	0.94
Odds of risky-behavior for ***non-Latino Blacks*** *who live in neighborhoods with:*		
Below Median Reciprocity	0.38	3.46**
Above Median Reciprocity	0.48	0.66**
Odds of risky-behavior for ***Foreign-born Latinos*** *who live in neighborhoods with:*		
Below Median Reciprocity	1.48	1.49
Above Median Reciprocity	0.48*	0.63
Odds of risky-behavior for ***2nd Generation Latinos*** *who live in neighborhoods with:*		
Below Median Reciprocity	1.67	3.52***
Above Median Reciprocity	0.84	0.68***
Odds of risky-behavior for ***3rd Generation Latinos*** *who live in neighborhoods with:*		
Below Median Reciprocity	2.55	2.49*
Above Median Reciprocity	0.75	0.74*

Data source: Los Angeles Neighborhood and Family Survey (L.A.FANS 2001).
* p<.05, ** p<.01, ***p<.001.

Table 9. Odds of Substance Use and Delinquency: Cross-level Interactions between Family Processes and Neighborhood Structural Characteristics and Neighborhood Social Processes.

Interaction Results for Neighborhood -Family Processes	Substance	Delinquency
*Odds of risky-behavior for **adolescents with family problems** who live in neighborhoods with:*		
Below County-Average Latino Concentration	1.06	1.41
Above County-Average Latino Concentration	5.73***	3.2
Below County-Average non-Latino White Concentration	4.47***	3.51***
Above County-Average non-Latino White Concentration	0.93***	0.93*
Below Median Reciprocity	4.37***	3.92***
Above Median Reciprocity	1.60**	1.71*
Below Median Social Cohesion	3.96***	4.45***
Above Median Social Cohesion	1.63*	1.42**
Below Median Social Control	3.60***	4.04***
Above Median Social Control	1.62*	1.46*
Below Median Collective Efficacy	3.52***	4.37***
Above Median Collective Efficacy	1.61*	1.31**
*Odds of risky-behavior for **adolescents with poor parental relationships** who live in neighborhood with:*		
Below County-Average Poverty Concentration	3.07***	3.92***
Above County-Average Poverty Concentration	3.02	1.55**

Data source: Los Angeles Neighborhood and Family Survey (L.A.FANS 2001).
* p<.05, ** p<.01, ***p<.001.

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