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Neighborhood and School Ethnic Structuring and Cultural Adaptations Among Mexican-Origin Adolescents

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Abstract

The ethnic and racial structuring of U.S. neighborhoods may have important implications for developmental competencies during adolescence, including the development of heritage and mainstream cultural orientations. In particular, living in highly concentrated Latino neighborhoods during early adolescence – which channels adolescents into related school environments – may promote retention of the ethnic or heritage culture, but it also may constrain adaptation to the mainstream U.S. culture. We tested these hypotheses longitudinally in a sample of 246 Mexican origin adolescents (50.8% girls) and their parents. Data were collected four times over eight years, with adolescents averaging 12.5 (*SD* = .58) to 19.6 (*SD* = .66) years of age across the period of the study. Latino ethnic concentration in early adolescents' neighborhoods promoted the retention of Mexican cultural orientations; Latino ethnic concentration in middle schools undermined the development of mainstream U.S cultural orientations. Findings are discussed in terms of integrating cultural-developmental theory with mainstream neighborhood theory to improve understandings of neighborhood and school ethnic concentration effects on adolescent development.

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Keywords

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Ethnic-racial segregation in U.S. neighborhood environments – which channels youth into particular school environments – is pervasive and likely to have important implications for developmental competencies among U.S. ethnic and racial minority group members (García Coll et al., 1996). From childhood to early adulthood, ethnic minority individuals develop increasingly sophisticated sets of self-ideas about their ethnic group membership (i.e., ethnic identity development; Bernal, Knight, Ocampo, Garza, & Cota, 1993; Umaña-Taylor et al., 2014) and these developmental changes influence the process of dual cultural adaptation, of adapting to both the ethnic or heritage culture and the mainstream culture of the U.S. (Gonzales, Fabrett, & Knight, 2009). Yet, relatively little is known about how neighborhood and school contexts – in particular, their ethnic and racial structuring – impact cultural adaptation across adolescence and into early adulthood, representing major gaps in the developmental and neighborhood effects literatures (Murry, Berkel, Gaylord-Harden, Copeland-Linder, & Nation, 2011). Additionally, because ethnic and racial minority group members need to adapt to the U.S. by developing knowledge and skills to successfully negotiate both ethnic and mainstream environmental demands and affordances (Fuller & García Coll, 2010), it is critical to understand how ethnically and racially structured neighborhoods – and associated school environments – support or undermine such adaptations.

Reflecting sociocognitive developmental models of ethnic identity and ethnically based behaviors, which emphasize the importance of extrafamilial forces of cultural socialization during adolescence (Knight, Bernal, Garza, & Cota, 1993), we integrated culturally-informed developmental theory (García Coll et al., 1996; Super & Harkness, 1986) and neighborhood theory (Sampson, Raudenbush, & Earls, 1997) to advance hypotheses about neighborhood and school ethnic structuring effects on developmental competencies among U.S. ethnic and racial minority adolescents. Specifically, we examined the implications of Latino ethnic concentration (i.e., the percentage of Latinos) in Mexican-origin Latino adolescents' neighborhood and school environments for two aspects of cultural adaptation from early adolescence to early adulthood: enculturation and acculturation. We focused on early adolescent neighborhood and school environments because advanced socio-cognitive skills allow adolescents to begin to develop and practice developmental competencies in extra-familial environments (Steinberg, 2008). Also, early adolescents are able to explore their neighborhood environments more independently than children and have transitioned to middle schools, making neighborhoods and schools particularly salient extra-familial sources of socialization during this period (Eccles et al., 1993; Leventhal, Dupere, & Brooks-Gunn, 2009). We focused on Mexican-origin Latinos, the largest Latino subgroup (Ennis, Ríos-Vargas, & Albert, 2011), because population members reside across the full range of ethnically structured neighborhood environments, from concentrated, co-ethnically integrated Latino neighborhoods (where they are a majority) to dispersed, co-ethnically isolated neighborhoods (Roosa et al., 2009; Suro & Tafoya, 2004). Such a range is critical to

empirically address theoretically-driven (Sampson et al., 1997) tests of neighborhood ethnic structuring effects.

The Processes of Cultural Adaptation from Adolescence to Early Adulthood

As a result of dual cultural adaptation, both recent immigrants and minority group members who have been in the U.S. for generations experience *changes over time* in their ethnic (e.g., Mexican) and mainstream (i.e., Anglo) cultural orientations (Gonzales et al., 2009). Changes over time in ethnic cultural orientations are called *enculturation*; changes over time in mainstream cultural orientations are called *acculturation* (White, Knight, & Roosa, 2015). Enculturation and acculturation are distinct developmental competencies. For example, among Mexican-origin adolescents, enculturation can include learning or retaining Spanish, developing friendships with other Mexican-origin youth, and developing a sense of attachment to Mexico, whereas acculturation can include learning to use English, developing friendships with European Americans, and developing a sense of attachment to the U.S. These cultural orientation changes, which are separable but not orthogonal (Knight, Jacobson, Gonzales, Roosa, & Saenz, 2009a), occur across a wide array of psychosocial dimensions, including cultural knowledge, beliefs, values, behaviors, identity, and sense of belonging (Knight et al., 2009a). At younger ages, many of these psychosocial dimensions will reflect the parents' cultural orientations (Knight et al., 2011). Though parents' cultural orientations generally remain stable across their children's adolescence (Schwartz et al., 2013), early adolescents themselves are developing increased emotional, behavioral, and cognitive autonomies responsible for producing changes in thinking that influence their own ways of knowing, beliefs, values, and behaviors (Steinberg, 2008). Such changes extend into early adulthood (Umaña-Taylor et al., 2014). Relatedly, adolescents are negotiating increasingly complex social identities (Erikson, 1968) and feelings of belonging (Faircloth, 2009). For ethnic and racial minority adolescents, these normative developmental changes advance enculturative and acculturative developmental processes that are increasingly influenced by broader, extrafamilial socialization forces, including those taking place in neighborhoods and schools (Knight et al., 2014). Some of the primary manifestations of both enculturative and acculturative changes during adolescence are in volitional behaviors, like language preferences, social affiliations, and ethnic identifications (Knight et al., 2009a).

Though the developmental period ranging from early adolescence to early adulthood is a critical period for studying enculturative and acculturative changes, few longitudinal studies have documented the factors that influence these processes. All five studies examining enculturative and acculturative changes over time among Latino adolescents have documented substantial within-group variability (Knight, Vargas-Chanes, Losoya, Cota-Robles, Chassin, & Lee, 2009b, 2014; Matsunaga, Hecht, Elek, & Ndiaye, 2010; Schwartz et al., 2013, 2015), thereby confirming that the processes are not monolithic and may vary based on environmental exposures. In terms of explaining observed variability, the studies documented individual characteristics (e.g., gender, nativity) related to adolescents' enculturative and acculturative changes. In the only study that focused on a community based sample of Mexican-origin adolescents and assessed individuals' enculturative and acculturative changes across time, the most common patterns of change (from approximately

10 to 15 years) were higher initial Mexican orientations that were either stable or declining and lower initial mainstream orientations that were increasing (Knight et al., 2014). With respect to gender, one study found that early adolescent girls (compared to boys) were more likely to be in a group that had stronger heritage orientations (Matsunaga et al., 2010); but a separate study documented no gender differences in the longitudinal processes of dual cultural adaptation from late childhood to middle adolescence (Knight et al., 2014). Children born outside of the U.S. maintained stronger heritage orientations across time (Knight et al., 2009b) and those born in the U.S. tended to have stronger Anglo orientations across time (Schwartz et al., 2013). None of the studies was able to examine neighborhood or school community contexts, though most noted their theoretical relevance (Knight et al., 2009b, 2014; Matsunaga et al., 2010). Absent consideration of neighborhood context, however, the most common patterns of enculturative and acculturative changes include declining or stable Mexican orientations and increasing Anglo orientations, respectively, with the potential for both gender and nativity differences.

Neighborhood and School Ethnic Structuring Effects on Cultural Adaptations

When theorizing about enculturative and acculturative processes during adolescence, it is important to consider the potential that multiple and diverse settings may shape these two processes. Both neighborhood effects (Sampson et al., 1997) and cultural developmental (García Coll et al., 1996) theories recognize that neighborhoods that differ on ethnic structuring will also differ in the types of social processes that occur within them, including the presence of neighborhood institutions (e.g., schools and community centers geared toward serving Latino youth; Leventhal et al., 2009; Yoshikawa, 2011), neighborhood norms (e.g., shared values; Gonzales et al., 2011; Leventhal et al., 2009), and relationships and ties (e.g., access to co-ethnic supports and peer-networks, family routines; Leventhal et al., 2009; Portes & Rumbaut, 2001). In this way, neighborhoods can be viewed as important settings that differentiate the social processes of development (Super & Harkness, 1986; Tseng & Seidman, 2007). The two theories, however, also make distinct contributions to the discussion of neighborhood ethnic structuring effects on development. Neighborhood theory specifically highlights *high* ethnic concentration in neighborhood environments as promotive of positive social processes and adolescent development (Sampson et al., 1997). Cultural developmental perspectives, on the other hand, highlight (a) that ethnic structuring may have different meanings for in- and out-group members, and (b) that an important aspect of the social processes of development is the acquisition of culture (Super & Harkness, 1986).

According to social disorganization theory (Sampson et al., 1997), ethnic concentration, residential stability, and concentrated poverty are three structural characteristics of neighborhood environments that can promote or undermine neighborhood organization and quality. As it regards ethnic concentration specifically, high ethnic concentration, or neighborhood ethnic homogeneity, should benefit resident families and youths because it supports the development of social capital, enhancing the capacity of communities to organize and coalesce around shared prosocial norms (Sampson et al., 1997). Though empirical support for this hypothesis is mixed (see Leventhal & Brooks-Gunn, 2000;

Leventhal et al., 2009 for reviews), some work has been consistent with this perspective, finding that *high* Latino ethnic concentration levels benefited youth development (Browning, Leventhal, & Brooks-Gunn, 2004), perhaps because sociocultural similarity facilitated the capacity of residents to organize and coalesce (Sampson et al., 1997). Though the theory does not specify a level of ethnic concentration needed to achieve such benefits, values at the *high* end of the Latino ethnic concentration scale, which can range from 0% to 100%, are consistent with the underlying theoretical mechanism: ethnic homogeneity. Thus, it is important to capture a wide range of Latino ethnic concentration, including high levels, when examining its potential benefits.

Though valuable for theorizing about the benefits of high ethnic concentration, extant neighborhood effects scholarship has shortcomings that can be addressed by cultural-developmental theoretical perspectives. According to cultural developmental perspectives (García Coll et al., 1996), the limited predictive value of neighborhood theory for ethnic structuring effects (see Leventhal & Brooks-Gunn, 2000; and Leventhal et al., 2009 for reviews) may reflect two predominant social disorganization assumptions. First, there is an underlying assumption that neighborhood ethnic structuring should influence development similarly for all residents, regardless of their individual racial, ethnic, or cultural backgrounds. Second, the scholarship tends to focus on the prediction of a limited set of outcomes (e.g., achievement, behavioral and emotional outcomes; see Leventhal et al., 2009 for a review), largely excluding normative developmental competencies pertinent to U.S. ethnic and racial minority group members (e.g., ethnic identity development, enculturation, acculturation). Culturally-informed perspectives, on the other hand, suggest that *co-ethnic* structuring, living among one's own ethnic group, is a highly developmentally salient feature of minority youths' neighborhoods and schools (García Coll et al., 1996) and can be a valuable resource for ethnic minority families (Portes & Rumbaut, 2001), with particular implications for the processes of cultural adaptation (García Coll & Marks, 2009). Overall, cultural developmental perspectives highlight the importance of focusing on *co-ethnic* structuring and extend the range of neighborhood effects on youth development to include enculturation and acculturation.

Together, the perspectives highlight the importance of focusing on *co-ethnic* (from cultural developmental theory) *concentrations* (from neighborhood theory) when examining the implications of neighborhood ethnic structuring for ethnic and racial minority adolescent development generally, and enculturation and acculturation specifically. Variability in neighborhood ethnic concentrations produces corresponding variability in numerous aspects of the developing adolescents' ecological niches, including institutional resources (e.g., schools), social infrastructures, social processes, behavioral norms, and interpersonal interactions (Sampson, Morenoff, & Earls, 1999; Yoshikawa, 2011). The differential exposure to cultural-institutional resources and social processes across neighborhoods should produce variability in the acquisition of culture (Super & Harkness, 1986).

One cultural-institutional resource that is closely related to the neighborhood environment is the school environment. Indeed, one way that neighborhoods differentiate the social processes of development is by channeling youths into schools (Dupere, Leventhal, Crosnoe, & Dion, 2010) that also vary on co-ethnic concentration levels. Though prior research has

not examined the impact of school ethnic concentration on enculturation and acculturation processes, a few studies have examined its implications for socioemotional development. Offering a parallel to neighborhood perspectives (Sampson et al., 1997), high co-ethnic concentration levels in school environments were positively correlated with school prosocial norms and enforced individual prosocial behavior (Spivak, White, Juvonen, & Graham, 2015). Consistent with cultural-developmental perspectives (García Coll et al., 1996), higher concentrations of co-ethnics in school environments promoted social-emotional development, including connection, belonging (Benner, Graham, & Mistry, 2008), and well-being (Benner & Crosnoe, 2011).

During early adolescence, Mexican-origin Latinos may begin to experience more independent and extra-familial exposures to their neighborhood and school environments. Increased exposures to neighborhood and school environments that vary on co-ethnic structuring means increased variability in neighborhood- and school-level aspects of cultural socialization (e.g., the need to use English/Spanish, opportunities to socialize with in/out group members, needs to think and behave in Mexican/Anglo ways). Early adolescent differences in cultural socialization in neighborhood and school environments may have long-term implications for cultural adaptations (Knight et al., 2014). Neighborhoods and schools with low concentrations of the ethnic minority groups' members (and more European Americans) support more mainstream social processes, whereas those with high concentrations of the ethnic minority groups' members support more heritage social processes (García Coll & Marks, 2009; Rumbaut & Portes, 2001; Yoshikawa, 2011). Consequently, high Latino concentration may promote more robust enculturative trajectories (e.g., higher initial Mexican orientations that are stable or increasing over time) and less robust acculturative trajectories (e.g., lower initial Anglo orientations that are decreasing). Overall, living in co-ethnically concentrated neighborhoods and/or attending co-ethnically concentrated schools during early adolescence may promote enculturation, but may also constrain acculturation processes.

Current Study

Our first aim was to examine the processes of enculturation (i.e., changes in Mexican orientations) and acculturation (i.e., changes in Anglo orientations) from early adolescence to early adulthood among a sample of Mexican-origin adolescents. Based on prior work (Knight et al., 2014) and theory (Knight et al., 1993), we expected that, on average, Mexican orientations would decline across time or remain stable and Anglo orientations would increase across time. Because prior work indicates that there may be gender (Matsunaga et al., 2010) and nativity (Knight et al., 2009b) differences in acculturative and enculturative processes during adolescence, we modeled these differences in both initial levels and changes across time in Mexican and Anglo cultural orientations. Our second aim was to examine the implications of Latino ethnic concentration in early adolescents' neighborhood and school environments for these developmental trajectories. We hypothesized that high Latino ethnic concentration would be associated with: (a) higher initial levels and stability or increases over time in Mexican orientations and (b) lower initial levels and slower growth or declines in Anglo orientations. Because parents' cultural orientations and family socioeconomic circumstances help to explain how and why Latino families select into

neighborhoods that vary on Latino concentration (White, Zeiders, Knight, Roosa, & Tein, 2014), and because these variables can also influence cultural adaptations (Knight et al., 2014; Matsunaga et al., 2010; Umaña-Taylor et al., 2014), we included mothers' and fathers' cultural orientations and family socioeconomic circumstances as covariates to reduce neighborhood selection confounds.

Method

Participants

The current study included mothers, fathers, and an adolescent child in 246 Mexican-origin families who were part of a longitudinal project on family, cultural, and gender socialization effects on and adolescent development (Updegraff, McHale, Whiteman, Thayer, & Delgado, 2005). Participating families met the following criteria: (a) mothers were of Mexican-origin; (b) target adolescents were living in the home with an older sibling and were not diagnosed with a significant learning/developmental disability (that would prevent participation in the interview); (c) biological mothers and biological or long-term adoptive fathers (i.e., more than ten years) lived at home; and (d) fathers worked at least 20 hrs/week. Although not required, most fathers (93%) were of Mexican origin. The focus on two-parent families with working fathers was consistent with local (U.S. Census Bureau, 2000) and national trends reflecting a high presence of two-parent households among Mexican origin and Latino families (U.S. Census Bureau, 2015) and a need to capture Mexican-origin Latino families from a wider range of socioeconomic circumstances than had been previously studied (Updegraff et al., 2005).

Mexican-origin families with 7th graders were recruited from schools in a southwestern metropolitan area. In the state where these data were collected, 91% of the Latinos are of Mexican origin (Pew Hispanic Research Center, 2008). To recruit families, letters and brochures describing the study in both English and Spanish were sent to families, and bilingual staff conducted follow-up phone calls to assess eligibility and interest in participation. Families' names and contact information were obtained from 19 junior high schools in five school districts and 5 parochial schools ($N = 24$). Schools were selected to represent a range of socioeconomic situations, with the proportion of students receiving free/reduced lunch varying from 8% to 82%. Of 421 families who were eligible, 284 (67%) agreed to participate, 95 (23%) refused, and we were unable to re-contact the remaining 42 families (10%). Interviews were completed by 246 families. Those who agreed but did not participate in the final sample ($n = 38$) were families that we were unable to locate or with whom we were unable to complete a home interview after repeated attempts.

At Phase 1 (P1), families represented a range of socioeconomic levels. The percentage that met federal poverty guidelines was 18.3%, similar to the 18.6% of two-parent Mexican-origin families living in poverty in the county from which the sample was drawn (U.S. Census Bureau, 2000). Annual median income was $41,000 ($M = $53,184, $SD = $45,381; range = $3000 to over $250,000). They resided in 142 census block neighborhoods. Parents had completed an average of 10 years of education ($M = 10.34$; $SD = 3.74$ for mothers, and $M = 9.88$; $SD = 4.37$ for fathers). Seventy percent of parents had been born outside the U.S.; this subset of parents had lived in the U.S. an average of 12.37 ($SD = 8.86$) and 15.17 ($SD =$

8.77) years for mothers and fathers, respectively. Almost 70% of the interviews with parents were conducted in Spanish. With respect to adolescents, the sample included 125 girls and 121 boys whose self-reported age at Phase 1 was 12.51 (*SD* = .58). Adolescents were born in the U.S. (62%; *n* = 153) or Mexico (38%; *n* = 93) and were primarily interviewed in English (83%). Among Mexico-born adolescents, the average number of years living in the U.S. was 6.85 (*SD* = 5.43).

We followed up with families and adolescents three times over an eight year period. Approximately two years after P1, Phase 2 (P2) interviews were conducted with target adolescents when they were in the 9th grade and averaged 14.64 years of age (*SD* = .59). Phase 3 (P3) interviews were completed about five years after P1, when adolescents were 17.72 years of age on average (*SD* = .57), and Phase 4 (P4) interviews were conducted approximately seven years after P1, when youths averaged 19.60 years of age (*SD* = .66). Sample retention rates were 91%, 75% and 70% for P2-P4, respectively. Those who did not participate: could not be located, had moved to Mexico, could not presently participate or were difficult to contact, or refused. Across the study period 54.6% of adolescents moved out of their P1 neighborhoods, a rate comparable to prior work (White et al., 2014).

Procedure

Families participated in structured in-home interviews lasting two to three hours. Parents and adolescents gave informed consent/assent and reported on parent-youth relationships, cultural backgrounds and values, and adjustment. Interviews were conducted separately with each family member. Bilingual interviewers read questions aloud to maximize uniformity and prevent potential error due to variability in participants' reading levels. Families received $100 for in-home interviews at P1, target adolescents received $40 at P2, families received $125 at P3, and each family member received $75 at P4. The university's Institutional Review Board approved all procedures.

Measures

Measures were forward and back-translated into Spanish for local Mexican dialect (Knight, Roosa, & Umaña-Taylor, 2009c) and reviewed by a third Mexican-origin translator. Discrepancies were resolved by the research team. Cronbach's alphas for all measures were acceptable for English-and Spanish-speaking participants; thus, for efficiency, alphas are reported for the overall sample.

Adolescents' Mexican and Anglo orientations (P1 – P4)—The Acculturation Rating Scale for Mexican Americans – II (ARSMA– II; Cuellar, Arnold, & Maldonado, 1995) was used to assess adolescents' *Mexican* (17 items) and *Anglo* (13 items) orientations. The scale includes items assessing an array of psychosocial dimensions, including language preferences (e.g., “I enjoy listening to music in Spanish/English”), social affiliations (e.g., “I associate with Mexicans and/or Mexican Americans/Anglos”), and ethnic identifications (e.g., “I like to identify myself as a Mexican/Mexican American/Anglo American/ American”). Items were rated on a 5-point scale (1 = *not at all*, 5 = *extremely often or always*), with higher scores reflecting stronger Mexican and Anglo orientations, respectively. Cronbach's alphas indicated acceptable reliability at P1 (Anglo α = .82; Mexican α = .90),

P2 (Anglo α = .78; Mexican α = .90), P3 (Anglo α = .79; Mexican α = .91), and P4 (Anglo α = .75; Mexican α = .90).

Neighborhood Latino ethnic concentration (P1)—Families provided residential addresses that were geo-coded to assign adolescents to census blocks. Because field work began in 2002, data on the percent Latino in each census block were obtained from the 2000 decennial census, representing the co-ethnic concentration level of target adolescents' neighborhood environments. The percentage ranged from 0.00% to 88.83%. Consequently, high scores on this variable correspond to having high concentrations of Latinos in the neighborhood. In the sample, the percent Latino in each census block was strongly negatively correlated with the percent non-Latino White in each census block (r = -.90, p < .01), indicating that neighborhoods with lower Latino concentration levels represented more mainstream, or European American, neighborhood settings.

School Latino ethnic concentration (P1)—The state's Department of Education, Research and Policy Division provided aggregates of student enrollment characteristics for public schools. The percent Latino in each school represented the co-ethnic concentration level of target adolescents' school environments. The range was similar to that observed for the neighborhood context (7.79% to 81.03%), as was the correlation with non-Latino White (r = -.97, p < .001), indicating that schools with lower Latino concentration levels represented more European American settings.

Covariates and neighborhood selection controls (P1)—The ARSMA– II (Cuellar et al., 1995), described above for adolescents, was used to assess parents' *Mexican* and *Anglo orientations*. Cronbach's alphas indicated acceptable reliability for mothers (Anglo α = .90; Mexican α = .87) and fathers (Anglo α = .91; Mexican α = .91). To assess family SES, parents reported on their education in years and their annual household income. A log transformation was applied to household income to correct for skewness. A composite SES score was created by standardizing and summing mothers' and fathers' education levels and household income (α = .76).

Analytic Strategy

To examine developmental changes in enculturative and acculturative processes, we estimated Mexican orientation and Anglo orientation growth trajectories from early adolescence to early adulthood. We conducted growth models in a multilevel modeling (MLM) framework (Raudenbush & Bryk, 2002) using PROC MIXED in *SAS* 9.2. Growth modeling takes into account the nested nature of the data and allows for an unbalanced design (i.e., assessments can be unequally spaced across time and/or individuals can differ in age at the initial assessment). Maximum likelihood estimation was used to account for missing data (Enders, 2010). We specified a 2-level growth model with time nested within individuals.[1] Adolescents' age at each phase was used as the metric of time; individuals' exact ages were computed by subtracting birth dates from interview dates. Time was

[1]Based on preliminary examinations of within-school clustering (N = 24 schools), we observed one design effect > 2.0 (DE = 1.29 to 2.07 for P1 – P4 Anglo and Mexican orientation variables), which suggested that three-level models (time nested within individuals; individuals within schools) should be explored (Muthén & Satorra, 1995). In a majority of the 3-level growth models, the level-three

centered at the average age at P1 (13 years old). Separate growth models were tested for Mexican and Anglo orientations.

For Aim 1, a growth model was conducted to examine the samples' average growth trajectory in Mexican and Anglo orientations, accounting for potential gender (0 = male, 1 = female) and nativity (0 = Mexico-born, 1 = U.S.-born) differences in both initial levels (intercept) and growth parameters (slope; Model 1). These growth trajectories represented the processes of enculturation and acculturation, respectively. In these models, the *intercept* represents the average level of Mexican or Anglo orientation at age 13 and *time* represents the slope, or developmental changes in Mexican and Anglo orientations from early adolescence (P1, approximately age 13) to early adulthood (P4, approximately age 20). For Aim 2 we examined the role of early adolescent neighborhood Latino ethnic concentration and school Latino ethnic concentration (both at P1) on Mexican and Anglo orientation trajectory intercepts and slopes (Model 2). To account for neighborhood selection confounds, Model 2 included family SES, mothers' cultural orientations, and fathers' cultural orientations (all at P1) as covariates after they were grand-mean centered.

Some adolescents experienced residential moves across the study period. We, therefore, performed mobility analyses by examining the stability of neighborhood ethnic concentration findings on enculturative and acculturative changes across adolescents who stayed in their P1 neighborhoods (“non-movers,” 45.4%) versus those who moved out of their P1 neighborhoods (“movers,” 54.6%). We interacted a binary moving variable (0 = non-mover; 1 = mover) with neighborhood ethnic concentration effects on both the intercepts and slopes.

Results

We performed preliminary attrition, missing data, and descriptive analyses. Attrition analyses examined whether adolescents who participated at P2, P3, and P4 versus those that did not were different on P1 adolescent demographic (i.e., age, gender, nativity, family SES), and mother and father demographic variables (age, nativity). With regards to family demographic information, P2 participating and non-participating families did not differ in P1 demographic characteristics; P3 and P4 participating families had significantly higher P1 maternal education and family income than non-participating families. Regarding current study variables, our missing data analyses showed that P1 mothers' Anglo and Mexican orientations significantly predicted missing data at P2; P1 family SES significantly predicted missing data at P3 and P4. P1 neighborhood and school ethnic concentration variables were not significant predictors of missing data at P2, P3, or P4. In light of these patterns, we examined a Missing Completely at Random (MCAR) test (Little, 1998), which resulted in a failure to reject the null hypothesis that data are MCAR (χ^2 (39) = 51.28, p = .09). Consequently, maximum likelihood estimation would not produce biased results as long as the variables associated with missingness (P1 family SES and mothers' Anglo and Mexican orientations) were included as control variables (Enders, 2010). For these reasons, though

(school) intercept variance was reported to be zero, suggesting it should be removed from the model (SAS Institute). In the limited models that were able to estimate this random effect, the conclusions were always that the school intercept variance was not significantly different from zero. Thus, we present the two-level models (times nested within individuals).

we had conceptualized family SES and parents' cultural orientations as neighborhood selection controls in Model 2, family SES and mothers' Anglo and Mexican orientations were also included as controls in the Model 1 growth model. Descriptive statistics are presented in Table 1. Because school ethnic concentration and neighborhood ethnic concentration were highly correlated, we estimated a series of Model 2 tests, in which we tested neighborhood and school ethnic concentration effects (on the intercept and slope) together and separately. We used these models to determine whether multicollinearity was affecting our statistical conclusions.

Finally, we performed preliminary analyses on the growth curve models. First, we examined whether the functional form of the growth trajectories was best represented by linear or quadratic growth. Models were run with a linear effect for time; then the quadratic time effect was entered. Because the quadratic terms were not significant and the linear models fit the data better (χ^2 Δ (1) = .12, p = .73 for enculturation, χ^2Δ (1) = .55, p = .46 for acculturation), we proceeded with a linear growth model. Second, we examined whether the linear growth component should be fixed or random at L2. For both enculturation and acculturation growth trajectory, L2 linear slope variance was fixed because estimation of it did not result in improved model fit (χ^2Δ (2) = 3.87, p = .14 for enculturation; χ^2Δ (2) = 3.95, p = .14, for acculturation).

Enculturation

As seen in Table 2, Model 1_E, the initial growth model for adolescents' Mexican orientation revealed that, on average, adolescents scored above the midpoint on a five-point scale at age 13, b = 3.812, Standard Error (*SE*) = .064, p < .001, and that Mexican orientation declined across time, b = -.031, *SE* = .010, p < .01. Adolescent nativity (b = -.375, *SE* = .073, p < .001) and gender (b = .173, *SE* = .063, p < .01) had an effect on the intercept: at age 13, U.S.-born adolescents reported lower levels of Mexican orientation than Mexico-born adolescents and girls reported higher levels of Mexican orientation than boys. Nativity (but not gender) had an effect on the slope, b = .024, *SE* = .012, p < .05: U.S.-born youths reported no changes in growth over time, b = -.007, *SE* = .009, *ns*, whereas Mexico-born youth reported a significant decline, b = -.03, *SE* = .010, p < .01. Given that Mexico-born adolescents started off with higher Mexican orientations than their U.S.-born counterparts and experienced significant declines in Mexican orientations that their U.S.-born counterparts did not experience, it was of interest to know if Mexico-born adolescents still had higher Mexican orientations at P4 (approximately age 20). To examine this, we re-centered the time variable at P4 and examined the effect of nativity on the intercept, which, in these re-centered models represented the average level of Mexican orientations at age 20. At age 20, those born in the U.S. continued to demonstrate lower Mexican orientations than their counterparts born in Mexico (b = -0.218, *SE* = .080, p < .01).

Model 2_E, results revealed no effect of neighborhood Latino ethnic concentration on the intercept (i.e., age 13 Mexican orientation), but there were neighborhood Latino ethnic concentration effects on the slope (b = .001, *SE* = .000, p < .001), suggesting that the enculturation slope was different, depending on the level of neighborhood Latino concentration. School Latino ethnic concentration had no significant effect on the intercept

or slope. The findings for both neighborhood and school ethnic concentration replicated when each was entered separately in their own models. In the mobility analyses, neighborhood ethnic concentration findings on the intercept and slope were not moderated by move status (b = .11, SE = .062, p > .05; b = -.000, SE = .000, p > .05, respectively); thus, findings were invariant across movers and non-movers.

We probed the significant neighborhood Latino ethnic concentration-by-time interaction by examining the simple enculturation slopes in neighborhoods that are ethnically concentrated (i.e., 75% Latino concentration) and in neighborhoods that are low on ethnic concentration (i.e., 25% Latino concentration; Aiken & West, 1991). We chose these values (75% and 25%) because they were both well-represented in our sample distribution (Aiken & West, 1991) and they corresponded clearly to being predominantly co-ethnic Latino neighborhoods vs. predominantly non-Latino neighborhoods, respectively. Adolescents living in ethnically concentrated neighborhoods had a positive, nonsignificant slope (b = .018, SE = .018, p = .32) and adolescents living in neighborhoods low on ethnic concentration had a significant negative slope (b = - .038, SE = .010, p < .001; Figure 1A). We re-centered the time variable at P4 and examined the difference in the intercept values (for the original model centered at P1 and the subsequent model centered at P4) among those adolescents living in neighborhoods low on ethnic concentration. These adolescents had a P1 intercept of 3.78 and a P4 intercept of 3.52 (-.26). The significant .26 decrease corresponded to a 1/3 of a SD reduction in Mexican orientations from age 13 to age 20.

Though social disorganization theory stresses the need to capture a broad range of Latino concentrations, it does not offer any guidance on *how high* Latino concentration needs to be to be beneficial or organizing. We, therefore, performed sensitivity analyses by calculating additional simple slopes at +/- 5% and +/- 10% around the above cut-points. The pattern of findings in high-and low- ethnically concentrated neighborhood environments replicated. These results are not reported in detail herein, however, because sample sizes were small at the lowest (e.g., 25% - 10% = 15%) and highest (75% + 10% = 85%) values in those sensitivity analyses. Nevertheless, the replication of findings across small perturbations in high and low neighborhood Latino ethnic concentration strengthens the evidence and is preferred to applying (even theoretically-driven) cutoffs blindly (Pornprasertmanit et al., 2013).

Acculturation

As seen in Table 2, Model 1_A, the initial acculturation model revealed that, on average, adolescents scored above the midpoint of the five-point scale at age 13, b = 3.753, SE = .057, p < .001, and there were increases in Anglo orientation across time, b = .021, SE = .010, p < .05. There were no gender differences in the intercept or slope. There were nativity differences in the intercept (b = 0.360, SE = .065, p < .001) and slope (b = -.031, SE = .011, p < .01): U.S.-born youth reported greater levels of Anglo orientation than Mexico-born youth at age 13. U.S.-born adolescents' Anglo orientation levels remained stable across time (b = -.0009, SE = .008, *ns*), whereas Mexico-born adolescents' levels increased over time (b = .021, SE = .010, p < .05). Given that Mexico-born adolescents started off with lower Anglo orientations than their U.S.-born counterparts and experienced significant increases in

Anglo orientations that their U.S.-born counterparts did not experience, it was of interest to know if Mexico-born adolescents still had lower Anglo orientations at P4 (approximately age 20). To examine this, we re-centered the time variable at P4. At age 20, those born in the U.S. continued to demonstrate higher Anglo orientations than their counterparts born in Mexico ($b = 0.158$, $SE = .073$, $p < .05$).

Model 2_A results revealed no effect of neighborhood ethnic structuring on the intercept, meaning there were no differences at age 13 in Anglo orientations at diverse levels of Latino concentration. Additionally, there were no neighborhood ethnic structuring effects on the slope, meaning that acculturation trajectories were similar regardless of the level of neighborhood Latino concentration. In the mobility analyses, the coefficient for the neighborhood ethnic concentration by time by move interaction was significant ($b = .001$, $SE = .000$, $p < .01$); however, when probed, findings for movers versus non-movers suggested that neither group had a significant neighborhood ethnic concentration by time effect ($b = .0007$, $SE = .0005$, *ns*, for movers; $b = -.0007$, $SE = .0004$, *ns*, for non-movers). Thus, we concluded that neighborhood ethnic concentration did not have an effect on acculturative changes in either group. There was, however, a marginally significant school ethnic concentration effect on the slope ($b = - 0.001$, $SE = .000$, $p < .10$). The findings for both neighborhood and school Latino ethnic concentration replicated when each was entered separately in their own models, with the marginally significant school ethnic concentration effect becoming significant at conventional levels ($b = - 0.001$, $SE = .0002$, $p < .05$). Consequently, we probed the interaction (shown in Table 2) following the same procedures as above (Figure 1B). At high levels of school Latino ethnic concentration (75%) there was no change in Anglo orientation ($b = 0.006$, $SE = .014$, $p = .66$); at low levels of school Latino concentration (25%) there was a positive acculturation slope ($b = 0.031$, $SE = .011$, $p < .01$). These patterns were replicated across small (+/- 5% and +/-10%) perturbations in high and low school Latino ethnic concentration. Using the same re-centering approach described above, adolescents attending schools with low levels of Latino concentration had a P1 intercept of 3.74 and a P4 intercept of 3.94 (+.20). The significant .20 increase corresponded to an approximate 1/3 of a *SD* increase in Anglo orientations from age 13 to age 20.

Discussion

To advance both developmental and neighborhood effects scholarship, it is critical to study U.S. racial and ethnic minority youths' developmental competencies in neighborhood and school environments (García Coll et al., 1996; Murry et al., 2011). To this end, we examined the implications of Latino ethnic concentration levels in early adolescents' neighborhood and school environments for their cultural adaptions, including enculturative and acculturative trajectories, from adolescence to early adulthood. We drew from neighborhood theory, which recognizes the potentially organizing and beneficial forces of intra-neighborhood ethnic homogeneity (i.e., *high* Latino concentration; Sampson et al., 1997) for adolescent development (Browning et al., 2004) and highlights the importance of neighborhood institutions (e.g., schools geared toward serving Latino youth). We also drew from cultural-developmental theories (García Coll et al., 1996; Super & Harkness, 1986), which recognize that neighborhood and school ethnic structuring may have different meanings for in- and

out-group members and have important implications for the acquisition of culture. We found that neighborhood Latino ethnic concentration in early adolescence, above and beyond parents' cultural orientations and family SES, had important implications for enculturation, but not acculturation. Conversely, school Latino ethnic concentration had important implications for acculturation, but not enculturation.

Processes of Cultural Adaptation from Adolescence to Early Adulthood

Dual cultural adaptation represents an important developmental competency among U.S. racial and ethnic minority group members because it supports knowledge and skill acquisition needed to successfully negotiate both the ethnic and mainstream worlds (Fuller & García Coll, 2010). To this end, our first aim was to estimate enculturative and acculturative changes from early adolescence to early adulthood among a community-based sample of Mexican-origin youths. These findings establish the average enculturation and acculturation trajectories for U.S.- and Mexico-born boys and girls, absent consideration of neighborhood and school ethnic structuring effects. Thus, the work offers a comparison to prior published studies, but also extends beyond those that focused on different Latino sub-groups (Schwartz et al., 2013; 2015); specialized at-risk samples (Knight et al., 2009b); and earlier developmental stages (e.g., Knight et al., 2014). Our findings for enculturation and acculturation in this community-based sample were largely consistent with these prior findings, suggesting that the patterns are fairly robust and extend into early adulthood.

Enculturation trajectories were characterized by relatively high levels of Mexican orientation in early adolescence with declines in Mexican orientation across adolescence and into early adulthood. Our enculturation trajectories replicate the most common patterns of enculturation observed in prior work (Knight et al., 2014's examination of acculturation and enculturation values; Schwartz et al., 2013's examination of biculturalism among predominantly Cuban and Nicaraguan Latino youth). Regarding nativity differences, U.S. born adolescents had lower initial levels of Mexican orientations that did not decline across time, whereas Mexico-born adolescents had enculturation declines into early adulthood. These findings are consistent with nativity patterns observed in prior work (Knight et al., 2009b; 2014). Despite the fact that only Mexico-born adolescents experienced enculturation declines from adolescence to early adulthood, they still had higher Mexican orientations in early adulthood relative to their U.S. born counterparts.

Acculturation trajectories were characterized by initial levels of Anglo orientation that were above the midpoint on the scale with increases across adolescence and into early adulthood. This pattern of findings was consistent with the most common patterns observed in prior work (Knight et al., 2009b; Schwartz et al., 2013). We found that U.S. born adolescents have higher initial levels of Anglo orientations that did not change across time, whereas Mexico-born adolescents have lower initial Anglo orientations that increased across time. These patterns tend to replicate earlier findings (Knight et al., 2009b, 2014; Schwartz et al., 2013). Despite the fact that only Mexico-born adolescents experienced acculturation growth from adolescence to early adulthood, they still had lower Anglo orientations in early adulthood relative to their U.S. born counterparts.

Regarding gender differences, our findings add to the growing literature suggesting that gender is variably related to cultural development. Specifically, our findings showed that girls had stronger Mexican orientations than boys in early adolescence, which is consistent with Matsunaga and colleagues (2010), but there were no gender differences in enculturative changes across time, which is consistent with Knight and colleagues (2014). Also, like Knight et al.'s examination of cultural values, we did not observe gender differences in initial Anglo orientations, or in the acculturation process. Thus, gender differences in ethnic orientations, when characterized by a broad set of culturally-related values (Knight et al., 2014), or by a broad set of volitional behaviors (i.e., language preferences, social affiliations, and ethnic label preferences), may be most pronounced in early adolescence. As early adolescence is characterized by increased pressure to conform to gender-typed role expectations (Hill & Lynch, 1983; Updegraff et al., 2014), and Mexican culture places a strong emphasis on females' roles as transmitters of culture (Umaña-Taylor & Guimond, 2010), it may not be surprising that girls endorse stronger Mexican orientations than boys during this developmental period. In addition, when cultural orientations are defined with greater specificity, gender differences in patterns of growth have been observed for some dimensions of enculturation, including ethnic identity exploration and commitment among Latino adolescents (Umaña-Taylor, Gonzales-Backen, & Guimond, 2009) and traditional gender role attitudes in the current sample (Updegraff et al., 2014). Our findings add to the growing literature highlighting the importance of continually assessing gender differences in cultural orientation status *and* cultural development processes, across multiple definitions of culture and contexts, to develop greater specificity in our understanding of the importance of this indicator of social position. Thus, in future work it may be important to look at gender differences in trajectories of specific aspects of enculturation and acculturation to identify when girls and boys are similar versus different in their patterns of growth.

Neighborhood and School Ethnic Structuring Effects on Cultural Adaptation

During adolescence, enculturation and acculturation processes are increasingly socialized in extrafamilial environments, such as neighborhoods and schools (Knight et al., 1993). Thus, the second aim of this study was to examine how neighborhood and school ethnic structuring influenced these developmental processes. Consistent with our expectations, we found that the nature of the enculturation changes from early adolescence to early adulthood varied by levels of co-ethnic Latino concentration in neighborhood environments. When Mexican-origin early adolescents lived in neighborhood environments characterized by low levels of Latino concentration, they displayed small (- 1/3 *SD*) significant declines in Mexican orientation across time. Their counterparts in Latino concentrated neighborhoods, however, maintained stable and high Mexican orientations. Also consistent with our expectations, co-ethnic concentration levels in the school environment had important implications for acculturation processes from early adolescence to early adulthood. When Mexican-origin early adolescents attended schools characterized by low levels of Latino concentration, they displayed small (+ 1/3 *SD*), but significant increases in Anglo orientation across time. Their counterparts in schools that were high on Latino concentration, however, did not experience these gains. Though the magnitude of these changes was small, they are noteworthy because prior works suggest that even very small changes predict important cultural-developmental processes (Knight et al., 2014) and can produce within-family

discrepancies that disrupt family functioning and undermine development (Schwartz et al., 2015).

Neighborhoods high on Latino concentration appear to support enculturation, but have no effect on acculturation. Consistent with social disorganization theoretical perspectives, high levels of Latino ethnic concentration, or Latino ethnic homogeneity in neighborhood environments, may promote residents' ability to maintain socially organized neighborhood environments (Sampson et al., 1997) that benefit the families and adolescents residing therein (Browning et al., 2004). Consistent with cultural-developmental perspectives, the *co-ethnic* structuring of the early adolescent neighborhood environment appears to be a salient feature of Mexican origin youths' social ecology (García Coll et al., 1996), one that promotes retention of ethnic orientations. Those neighborhoods that are high on co-ethnic concentrations are likely to maintain culturally supportive institutional, social, and behavioral resources (Stevenson et al., 2005; Yoshikawa, 2011). It is likely that resources at each of these levels work to socialize adolescents in the ethnic or heritage culture and, thus, maintain high Mexican orientations. The absence of such resources in low Latino ethnic concentration, more mainstream neighborhoods (García Coll & Marks, 2009; Yoshikawa, 2011) may mean that minority adolescents have fewer opportunities to adapt to their ethnic or heritage cultures. The lack of extra-familial ethno-cultural resources may be especially critical during early adolescence, as youth are looking outside of the family context to develop their own knowledge, beliefs, behaviors, and belongingness associated with their ethnic worlds (Knight et al., 2009a).

Schools high on Latino concentration appear to undermine acculturation, but have no effect on enculturation. Though prior work suggests that high co-ethnic concentration levels in school environments were positively correlated with prosocial norms, adolescents reports of co-ethnic concentration were used instead of objective indicators of school ethnic concentration (Spivak et al., 2015). Perhaps perceived co-ethnic concentration taps more into adolescents' own friendship networks, rather than the school-wide ethnic concentration levels. The current findings, which relied on objective data from schools, suggest that Latino concentrated schools may not support the types of prosocial norms and behaviors that are consistent with acculturation to mainstream society, including those that might facilitate the development of English language preferences, affiliations with non-Latino Whites, and a U.S. national identity. Further, though prior research suggests that higher co-ethnic concentration in school environments promotes socio-emotional development, there is also evidence that school segregation undermines cognitive development (Benner et al., 2008; Benner & Crosnoe, 2011). It may be that ethnically segregated school environments do not support sociocognitive affordances (e.g., opportunities for learning) capable of promoting acculturation. These may include, for example, opportunities to interact with non-Latino White group members, to learn about mainstream norms, and to practice thinking and behaving in Anglo ways.

Though the process of enculturation was supported in Latino concentrated neighborhoods, the process of acculturation was undermined in Latino concentrated schools. These patterns, though not anticipated, are noteworthy. First, the patterns confirm that enculturation and acculturation processes are separable psychological constructs that are taking place in

distinct aspects of the adolescent niche. Second, they suggest that, in terms of extrafamilial cultural socialization, enculturation is influenced primarily in the types of ethnic community contexts supported in Latino concentrated neighborhoods, while acculturation is influenced primarily in the types of mainstream community contexts supported by schools that are not Latino concentrated. Consequently, ethnically concentrated neighborhoods may support access to ethnic minority institutions and individuals that communicate critical information about ethnic group membership and facilitate access to cultural resources, like opportunities to develop Spanish-language proficiency, learn what it means to be a member of an ethnic group, and access co-ethnic peers (García Coll & Marks, 2009; Knight et al., 1993). Conversely, segregated, predominantly Latino schools may constrain access to mainstream institutions and individuals that communicate critical information about the dominant group (Knight et al., 1993).

The pattern of school and neighborhood ethnic concentration effects on enculturation and acculturation, in tandem with the strong, positive correlation observed between school and neighborhood ethnic concentration suggests a new hypothesis, a *cultural isolation* hypothesis. Extending beyond prior conceptualizations of social isolation in urban neighborhoods (Wilson, 1987), our findings suggest that cultural isolation may occur when there is a lack of contact and sustained interaction with individuals and institutions capable of socializing either the mainstream (e.g., Anglo) or ethnic cultures. For example, Mexican-origin adolescents living in predominantly Latino neighborhoods *and* attending predominantly Latino schools may experience isolation from mainstream affordances capable of promoting acculturation, while those living in predominantly White neighborhoods *and* attending predominantly White schools may experience isolation from extra-familial ethnic affordances capable of promoting enculturation. Adolescents may need access to developmental niches (Super & Harkness, 1986) that transcend *dual* cultural affordances (mainstream and ethnic) to support both enculturation and acculturation, or *dual* cultural adaptation.

Summary, Limitations, and Future Directions

In the current study we integrated social disorganization (Sampson et al., 1997) and cultural developmental (García Coll et al., 1996) perspectives to theorize about the implications of neighborhood and school ethnic structuring, particularly Latino ethnic concentration, for a set developmental processes that are not typically considered in extant scholarship on neighborhood or school effects, including acculturation and enculturation (Leventhal et al., 2009). Our findings suggest that above and beyond parents' Mexican and Anglo orientations and family socioeconomic circumstances, living in predominantly Latino neighborhoods during early adolescence promotes enculturation, while attending predominantly Latino middle schools undermines acculturation. Future work should explore the potential for racial and ethnic minority adolescents to experience different forms of *cultural isolation*. The extent to which an adolescents' neighborhood and school are *simultaneously* predominantly co-ethnic (or predominantly White) may limit adolescents' exposure to important socialization processes that support acculturation (or enculturation). Due to the importance of developing both enculturative and acculturative competencies, either form of cultural

isolation could undermine long-term well-being for Latino youth (Fuller & García Coll, 2010).

This study had several strengths that need to be viewed in light of its limitations. The current study focused on a sample of adolescents from two-parent families who varied in their cultural backgrounds and socioeconomic resources; study controls included both mothers' and fathers' cultural orientations and family socioeconomic status on initial levels and changes over time in mainstream and ethnic cultural orientations. These design choices addressed several confounds, but did not eliminate the neighborhood selection confound, or the possibility that our observed neighborhood effects emerged because certain kinds of families self-selected into ethnically concentrated neighborhoods and others did not. Only experimental designs can eliminate this selection confound (Dupere et al., 2010). In addition, future research should include single-parent families and examine whether Mexican-origin youths in these families experience similar effects. Finally, we examined the ethnic structuring of neighborhood and school environments at a critical period of adolescent development but, as is the case with most neighborhood research (Leventhal et al., 2009), we did not have measures of changes in neighborhood and school ethnic concentration experienced over time, or of neighborhood-level and school-level social processes that might help to explain our observed associations. Longitudinal work that can capture changes over time, starting from middle childhood, in relevant aspects of the family context, in neighborhood and school ethnic concentration levels and relevant social processes, and in the processes of dual cultural adaptation is a critical area for future scholarship.

Importantly, retention of one's heritage or ethnic orientation, along with development of a mainstream or Anglo orientation, represent a pattern of dual cultural adaptation that is theorized to be beneficial to U.S. minority group members (Fuller & García Coll, 2010). In this way, ethnically concentrated neighborhoods may represent promoting environments (García Coll et al., 1996) for Mexican origin Latino adolescents' adaptation to the ethnic culture. Conversely, ethnically-concentrated schools may represent inhibiting environments (García Coll et al., 1996) for Mexican origin adolescents' adaptation to the U.S. mainstream culture. Despite that the current study, and others (Hurd et al., 2012a, 2012b; Stevenson & Arrington, 2009; White et al., 2014; White, Deardorff, & Gonzales, 2012; White, Deardorff, Liu, & Gonzales, 2013), have highlighted benefits associated with living in co-ethnically or co-racially concentrated neighborhood environments, ethnic or racial segregation, which continue to manifest in real estate and zoning practices across the U.S (Massey, Rothwell, & Domina, 2009; Oh & Yinger, 2015), remain indefensible practices. Further, such residential segregation may be especially egregious when it also leads to school segregation. It is, therefore, critical that future scholarship develop tools for assessing malleable institutional, social, and behavioral resources that may help to explain the observed associations between neighborhood and school ethnic or racial structuring and development broadly (Hurd et al., 2012a, 2012b; Stevenson & Arrington, 2009; White et al., 2012, 2013), and processes related to dual cultural adaptation specifically (White et al., 2014). Such work could offer appropriate targets for interventions aimed at promoting (and not undermining) ethnic minority adolescent development. For example, findings from a recent randomized controlled trial support intervention efforts designed to promote adolescents' ethnic-racial identity development by increasing youths' exploration of their ethnic heritage and

supporting the development of greater clarity and understanding of ethnic-racial background in the context of the U.S. (Umaña-Taylor, Douglass, Updegraff, & Marsiglia, 2016); such a program could be targeted to Latino youth living in non-Latino neighborhoods.

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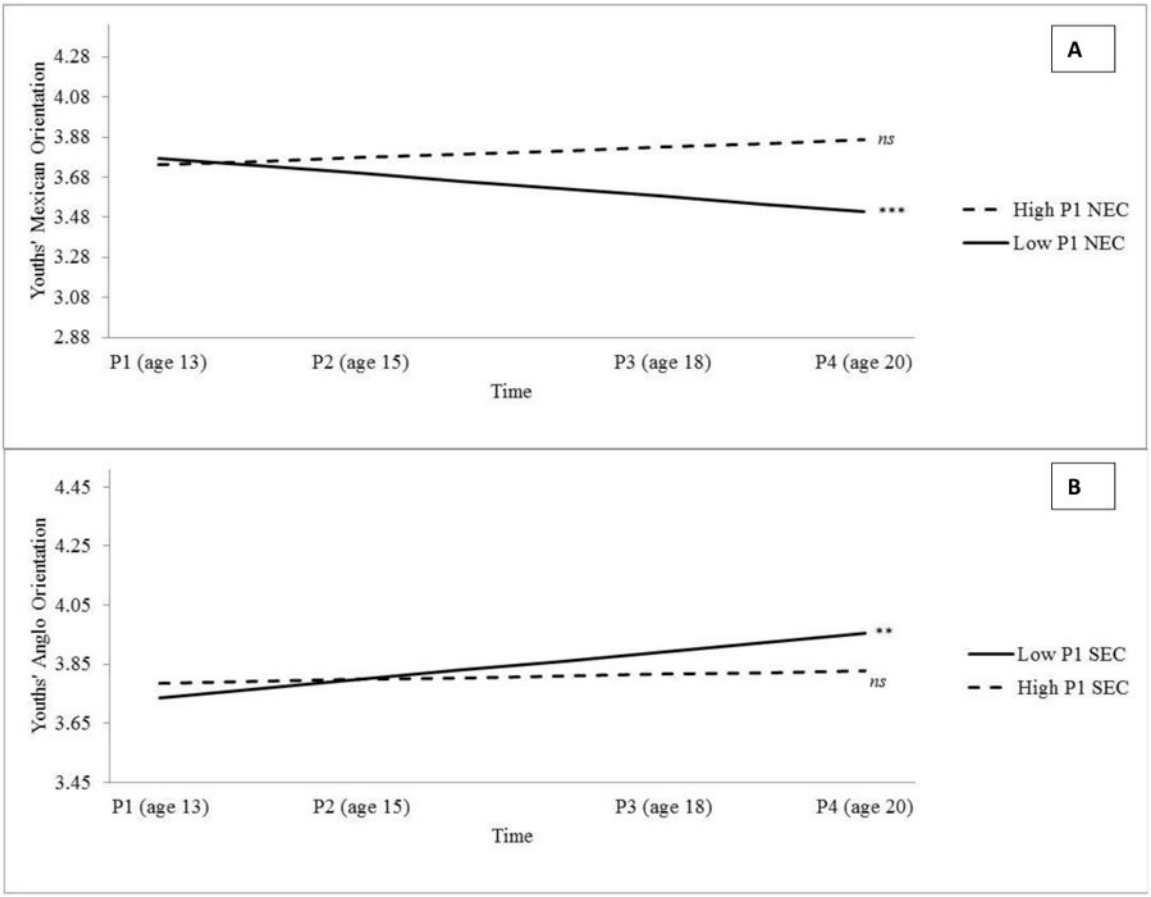

Figure 1. Enculturative (A) and Acculturative (B) Developmental Trajectories across Low and High Levels of Latino Concentration

Notes: NEC = Neighborhood ethnic concentration; SEC = School ethnic concentration. The y-axes are scaled at +/- 1 *SD* of the P1 mean scores on Mexican orientation (A) and Anglo orientation (B).

Table 1

Correlations, Means, Standard Deviations, and Ranges among Study Variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13	14.	15.	16.	17
1. SES P1	–																
2. Gender	.86	–															
3. Nativity	.39***	.04	–														
4. SEC P1	-.31***	.05	-.21**	–													
5. NEC P1	-.49***	-.01	-.22***	.59***	–												
6. M AO P1	.63***	.04	.48***	-.32***	-.36***	–											
7. F AO P1	.61***	.03	.45***	-.28***	-.34***	.68***	–										
8. M MO P1	-.36***	-.06	-.26***	.20**	.18**	-.50***	-.48***	–									
9. F MO P1	-.48***	-.11	-.33***	.25***	.30***	-.59***	-.56***	.62***	–								
10. A AO P1	.34***	.08	.45***	-.17**	-.25***	.39***	.40***	-.28***	-.29***	–							
11. A AO P2	.35***	-.06	.37***	-.23**	-.26***	.43***	.42***	-.33***	-.28***	.57***	–						
12. A AO P3	.33***	.03	.31***	-.32***	-.33***	.44***	.36***	-.33***	-.29***	.52***	.60***	–					
13. A AO P4	-.37***	.01	.31***	-.30***	-.32***	.47***	.40***	-.37***	-.31***	.56***	.61***	.64***	–				
14. A MO P1	-.51***	.07	-.48***	.23***	.27***	-.62***	-.60***	.55***	.65***	-.33***	-.42***	-.39***	-.41***	–			
15. A MO P2	-.51***	.08	-.50***	.18**	.27***	-.67***	-.59***	.57***	.67***	-.37***	-.28***	-.36***	-.38***	.81***	–		
16. A MO P3	-.52***	.03	-.46***	.18*	.43***	-.67***	-.58***	.61***	.64***	-.37***	-.32***	-.27***	-.44***	.77***	.82***	–	
17. A MO P4	-.57***	.10	-.40***	.24**	.37***	-.66***	-.61***	.67***	.67***	.67***	-.38***	-.40***	-.41***	.79***	.82***	.84***	–
Mean	-0.01	0.50	0.62	37.77	32.31	2.92	2.97	4.02	3.90	3.98	3.99	4.02	4.01	3.66	3.65	3.51	3.46
SD	0.83	0.50	0.49	22.02	21.45	0.96	0.92	0.70	0.79	0.59	0.51	0.51	0.49	0.78	0.78	0.79	0.74
Min	-2.12	0.00	0.00	7.79	0.00	1.00	1.00	1.94	1.29	2.00	2.23	2.00	2.08	1.65	1.71	1.65	1.82
Max	2.12	1.00	1.00	81.03	88.83	4.77	4.92	5.00	5.00	4.92	5.00	5.00	4.92	4.94	5.00	4.88	4.94

Note. P1- P4 = Phase 1 – Phase 4; SES = Family socioeconomic status; SEC= School ethnic concentration (% Latino); NEC = Neighborhood ethnic concentration (% Latino); M AO = Mothers' Anglo orientation; F AO = Fathers' Anglo orientation; M MO = Mothers' Mexican orientation; F MO = Fathers' Mexican orientation; A AO = Adolescents' Anglo orientation; A MO = Adolescents' Mexican orientation. Gender is coded 0 = male, 1 = female; Nativity is coded 0 = Mexico-born, 1 = U.S. born.

* $p < .05$,

** $p < .01$,

$^{***}p < .001$.

Table 2

Enculturation and Acculturation Trajectories from Early Adolescence to Early Adulthood (N = 246)

	Enculturation Trajectories		Acculturation Trajectories	
	Model 1_E	**Model 2_E**	**Model 1_A**	**Model 2_A**
Fixed effects				
Intercept	3.812 (.064)***	3.771 (.059)***	3.753 (.057)***	3.748 (.058)***
Time	-0.031 (.010)**	-0.030 (.010)**	0.021 (.010)*	0.025 (.010)*
Gender	0.173 (.063)**	0.185 (.059)**	0.024 (.056)	0.043 (.058)
Nativity	-0.375 (.073)***	-0.346 (.069)***	0.360 (.065)***	0.356 (.067)***
Family SES at P1	-0.129 (.049)**	-0.129 (.053)*	0.068 (.044)	0.019 (.052)
P1 Mothers' Mexican Orientation (MO)	0.350 (.052)***	0.164 (.057)**	-0.093 (.047)*	-0.101 (.055)†
P1 Mothers' Anglo Orientation (AO)	-0.224 (.048)***	-0.112 (.049)*	0.072 (.043)†	0.040 (.047)
Gender × Time	-0.005 (.010)	-0.005 (.010)	-0.011 (.009)	-0.010 (.010)
Nativity × Time	0.024 (.012)*	0.023 (.012)†	-0.031 (.011)**	-0.037 (.012)**
SES × Time	-0.006 (.008)	0.005 (.010)	0.000 (.008)	-0.006 (.010)
P1 Mothers' MO × Time	0.003 (.008)	0.016 (.010)†	0.006 (.008)	0.008 (.010)
P1 Mothers' AO × Time	-0.005 (.008)	-0.006 (.009)	0.011 (.008)	0.008 (.008)
P1 Fathers' MO		0.330 (.054)***		0.027 (.053)
P1 Fathers' AO		-0.089 (.047)		0.081 (.046)†
P1 Fathers' MO × Time		-0.013 (.009)		0.002 (.010)
P1 Fathers' AO × Time		-0.001 (.008)†		0.008 (.008)
P1 Neighborhood Ethnic Concentration (NEC)		-0.001 (.002)		-0.003 (.002)
P1 NEC × Time		0.001 (.000)***		0.000 (.000)
P1 School Ethnic Concentration (SEC)		-0.002 (.002)		0.001 (.002)
P1 SEC × Time		-0.001 (.000)		-0.001 (0.000)†
Random effects				
Residual variance	0.114 (.007)***	0.114 (.007)***	0.110 (.007)***	0.112 (.007)***
Intercept variance	0.154 (.017)***	0.115 (.015)***	0.107 (.014)***	0.106 (.014)***
Model fit				
AIC	940.9	852.3	850.5	825.7
BIC	989.9	928.1	899.5	901.6

Note. Time centered at W1 mean age (13 years old). Gender coded 0 = male; 1 = female. Nativity coded 0 = Mexico-born; 1 = U.S.-born.

† $p < .10$,

* $p < .05$,

** $p < .01$,

*** $p < .001$.