

Mexican Origin Youths' Trajectories of Perceived Peer Discrimination from Middle Childhood to Adolescence: Variation by Neighborhood Ethnic Concentration

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Abstract Developmentally salient research on perceived peer discrimination among minority youths is limited. Little is known about trajectories of perceived peer discrimination across the developmental period ranging from middle childhood to adolescence. Ethnically concentrated neighborhoods are hypothesized to protect minority youths from discrimination, but strong empirical tests are lacking. The first aim of the current study was to estimate trajectories of perceived peer discrimination from middle childhood to adolescence, as youths transitioned from elementary to middle and to high school. The second aim was to examine the relationship between neighborhood ethnic concentration and perceived peer discrimination over time. Using a diverse sample of 749 Mexican origin youths (48.9 % female), a series of growth models revealed that youths born in Mexico, relative to those born in the U.S., perceived higher discrimination in the 5th grade and decreases across time. Youths who had higher averages on neighborhood ethnic concentration (across the developmental period) experienced decreases in perceived peer discrimination over time; those that had lower average neighborhood ethnic concentration levels showed evidence of increasing trajectories. Further, when individuals experienced increases in their own neighborhood ethnic concentration levels (relative to their own cross-time averages), they reported lower levels of perceived peer

discrimination. Neighborhood ethnic concentration findings were not explained by the concurrent changes youths were experiencing in school ethnic concentrations. The results support a culturally-informed developmental view of perceived peer discrimination that recognizes variability in co-ethnic neighborhood contexts. The results advance a view of ethnic enclaves as protective from mainstream threats.

Keywords Neighborhoods · Discrimination · Mexican American · Trajectories · Ethnic concentration · Schools

Introduction

Developmental theory emphasizes the importance of examining how contexts influence child development broadly (Bronfenbrenner and Morris 1998). Culturally-informed developmental theory emphasizes the importance of examining how contexts influence the development of minority youths' cultural attitudes and identifications specifically (García Coll et al. 1996). Important indicators of minority youths' broader cultural attitudes and identifications can include, for example, ethnic identities, in-group and out-group preferences, and perceptions of discrimination (García Coll and Marks 2009a). Neighborhoods are considered important contexts for youths' development generally (Bronfenbrenner and Morris 2006; Leventhal and Brooks-Gunn 2000) and ethnically concentrated neighborhoods are theorized to have important implications for the development of cultural attitudes and identifications among U.S. minority youths specifically (García Coll and Marks 2009a). Most developmental research on neighborhood ethnic concentration effects, however, has sought to explain or predict emotional and behavioral health

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outcomes among pan-racial/ethnic samples (Leventhal and Brooks-Gunn 2000) with little attention to culturally-informed perspectives or to specific developmental processes salient to U.S. minority youths. More research is needed to advance an understanding of how neighborhood contexts, especially diversity on ethnic concentration, influence minority youths' development of cultural attitudes and identifications (e.g., Rivas-Drake and Witherspoon 2013).

Perceived discrimination, a major component of minority youths' cultural attitudes and identifications (García Coll and Marks 2009a), varies according to youths' diverse developmental ecologies (Bellmore et al. 2012; Benner and Graham 2011; García Coll et al. 1996). The transition from middle childhood into adolescence may be a sensitive period (with regards to concurrent and later developmental and health-related outcomes) in which to experience multiple forms of discrimination (Acevedo-García et al. 2013), but prior research has only documented trajectories of perceived discrimination during adolescence (Bellmore et al. 2012; Benner and Graham 2011; Greene et al. 2006). Further, that body of work has documented mixed results, depending on the source (e.g., peer, adult, institutional) of the discrimination. Also at this time, youths' social worlds are expanding: peers are becoming more salient cultural socializers (Bellmore et al. 2012; García Coll and Marks 2009a) and characteristics of youths' neighborhoods are taking on particular salience (Leventhal and Brooks-Gunn 2000). Consequently, documenting trajectories of perceived *peer* discrimination across the transition from middle childhood to adolescence and examining how neighborhood ethnic concentration relates to these trajectories represent critical gaps in the developmental literature. The current study contributes to the nascent but growing body of research examining neighborhoods as contexts that support or inhibit the development of cultural attitudes and identifications among U.S. minority youths (e.g., Rivas-Drake and Witherspoon 2013) by documenting longitudinal trajectories of perceived peer discrimination from middle childhood to adolescence among Mexican origin youths, and by examining how variability on neighborhood ethnic concentration across this period influenced those trajectories.

A focus on Mexican origin Latinos is ideal for testing major theoretical propositions concerning neighborhood ethnic concentration effects on minority youths' trajectories of perceived peer discrimination. First, ethnically or racially homogenous research designs (e.g., Rivas-Drake and Witherspoon 2013) are likely to produce more accurate conclusions about neighborhood ethnic concentration effects on minority youths' development because residence in ethnically/racially concentrated neighborhoods can mean different things to in and out-group members (Hurd

et al. 2012). Second, a large proportion of U.S. Latinos live in ethnically concentrated neighborhoods (Suro and Tafoya 2004), but Mexican origin Latinos (representing the largest Latino sub-group) reside in the full range of neighborhoods, from dense Latino enclaves to isolated European American communities (Roosa et al. 2009). Consequently, by focusing on the implications of neighborhood Latino ethnic concentration for a diverse population of Mexican origin Latinos, research can begin to decompartmentalize neighborhood theoretical perspectives (Sampson et al. 1997) and cultural theoretical perspectives (García Coll et al. 1996) on neighborhood ethnic concentration effects.

Trajectories of Perceived Peer Discrimination from Middle Childhood to Adolescence

By age 10 (approximately 5th grade in the U.S.), children are capable of recognizing both overt and covert discriminatory actions, understand that these actions may reflect others' stereotypes about groups, and employ information about context to interpret discrimination (Spears Brown and Bigler 2005). By adolescence, Latinos (data were not available specifically for Mexican origin Latinos) reported higher levels of perceived peer discrimination than their African American and non-Latino white counterparts (Fisher et al. 2000). Further, Latino youths' perceptions of peer discrimination were negatively related to their self-esteem and positively related to their depression (Fisher et al. 2000; Greene et al. 2006). Among Mexican origin Latino youths, perceived peer discrimination was concurrently related to higher depression, risky behaviors, and deviant peer affiliations during adolescence (Delgado et al. 2011), and prospectively predicted increases in internalizing and decreases in self-efficacy and grades from middle childhood to adolescence (Berkel et al. 2010). Despite the developmental salience and influence that perceived peer discrimination has during middle childhood and adolescence, there is a scarcity of research documenting the trajectories of perceived peer discrimination across this developmental period.

Changes in perceived peer discrimination from middle childhood through adolescence occur in tandem with the development of cultural attitudes and identifications more broadly (García Coll and Marks 2009a). Consequently, changes in perceived peer discrimination across time, like changes in other aspects of cultural attitudes and identifications, reflect both socialization patterns and cognitive maturation (Bernal and Knight 1997; Tajfel and Turner 1986). For example, changes in perceived peer discrimination may reflect increased exposure to and salience of extra-familial socialization forces and networks (Juang and Cookston 2009) as well as maturation facilitating youths' understandings of societal attitudes toward minority group members (Spears Brown and Bigler 2005). Consequently,

research that attempts to study longitudinal associations between neighborhoods (as contexts of socialization) and perceived peer discrimination must model the developmental changes in perceived peer discrimination that occur across time.

Regarding developmental changes that occur across time, it is not clear whether perceived discrimination by minority youths increases, decreases, or stays the same across the developmental period ranging from middle childhood to adolescence. Contrary to their expectations, García Coll and Marks (2009a) found that a sample of Dominican youths enrolled in U.S. elementary schools reported lower levels of perceived discrimination in the 3rd and 6th grades relative to the same students' reports a year earlier (2nd and 5th grades, respectively). Rumbaut (2005) found that a sample of 8th grade Mexican origin adolescents reported higher levels of perceived discrimination 4 years later (12th grade). Because both analyses focused on comparisons across the sample, however, it is not clear whether all subgroups of *individuals* actually experienced decreases in middle childhood or increases in adolescence.

Three studies have examined *trajectories* across high school, estimating changes across adolescence in perceived discrimination. These longitudinal growth trajectories described whether individuals' perceptions of discrimination increased, decreased, or stayed the same as they matured. Focusing on general perceptions of discrimination, Benner and Graham (2011) found that Latino (62 % Mexican origin, all fluent in English) individuals perceived increased discrimination from 9th to 10th grade, that girls increased more slowly than boys, and that nativity had no impact on these changes. Focusing specifically on perceived peer discrimination, one study found that boys and girls (45 % Latino) experienced no change across high school (Greene et al. 2006) and another study found that boys and girls (54 % Latino) perceived decreases across high school (Bellmore et al. 2012). The reason for different results across these studies (i.e., increases, no change, decreases) is not directly clear, but they likely reflect some combination of the following: the need to distinguish between discrimination sources, a pan-racial/ethnic focus on minority youths development, and the critical need to consider the ecology in which development occurs to better predict the developmental course of perceived discrimination.

Neighborhoods Ethnic Concentration and Trajectories of Perceived Peer Discrimination

The ethnic contexts of minority youths' neighborhoods are deemed critical for accurate prediction of their development of cultural attitudes and identifications broadly (García Coll et al. 1996) and their trajectories of perceived discrimination specifically (García Coll and Marks 2009a).

At the level of the neighborhood, social disorganization theory asserts that high concentrations of ethnically similar neighbors (or neighborhood ethnic homogeneity) should support the development of social networks capable of promoting shared values and supporting residents broadly (Sampson et al. 1997). Research based on social disorganization theory, which typically examines Latino and/or foreign-born neighborhood concentrations (e.g., % Latino, % foreign-born; Sampson et al. 1997) and focuses on pan-racial/ethnic development (Browning et al. 2005), has not consistently supported this hypothesis (Leventhal and Brooks-Gunn 2000). The lack of support may reflect underlying differences in what residence in ethnically/racially concentrated neighborhoods means to in- and out-group members (Hurd et al. 2012), highlighting the need to conduct culturally-informed ethnic homogenous research on Latino ethnic concentration effects. Consequently, there is a need to decompartmentalize neighborhood and cultural theoretical perspectives to develop more accurate hypotheses concerning the relationship between ethnic concentration and the development of cultural attitudes and identifications among U.S. minority youths.

Culturally-informed sociological perspectives on neighborhood ethnic concentration suggest that the networks and shared values that emerge in ethnically concentrated, enclave neighborhoods should represent an important source of support specifically to co-ethnic community members (Portes and Rumbaut 2001; Rumbaut and Portes 2001). Similarly, culturally-informed psychological perspectives on enclave communities (García Coll et al. 1996) suggest that racially or ethnically concentrated neighborhoods can act as promoting environments for co-ethnic youths' development of cultural attitudes and identifications. Residence in ethnically concentrated neighborhoods during middle childhood and adolescence may support co-ethnic youths to (a) develop positive ethnic identities, (b) develop positive attitudes toward in-group members, and (d) perceive less discrimination (García Coll and Marks 2009a). Consequently, neighborhood Latino ethnic concentration, rather than having one-neighborhood-fits-all implications for youth development reflected in social disorganization theoretical perspectives (see Browning et al. 2013 for a recent discussion), may have specific and unique implications for co-ethnics (García Coll et al. 1996).

Though there is emerging evidence that neighborhoods matter for minority youths' development of cultural attitudes and identifications in middle childhood (García Coll and Marks 2009a) and adolescence (Rivas-Drake and Witherspoon 2013), there is no research that directly addresses how neighborhood co-ethnic concentration, or changes in neighborhood co-ethnic concentration across development, relate to youths' trajectories of perceived (peer) discrimination. Instead, there is a modicum of

evidence, some of it contradictory, that youths from neighborhoods that vary on co-ethnic concentration may perceive different amounts of discrimination. Juang and Alvarez (2011) found that neighborhood co-ethnic concentration did not relate to Chinese American adolescents' perceptions of discrimination; however, their sample of neighborhoods had a restricted range of co-ethnic concentration (15–63 % Asian American), such that “high” levels were probably a poor representation of the underlying neighborhood theoretical mechanism, ethnic homogeneity (Sampson et al. 1997). In contrast, three other studies' findings lend support to theoretical perspectives on co-ethnic concentrations as supportive and non-discriminating (Hurd et al. 2012; Seaton and Yip 2009; Stewart et al. 2009). None of these studies, however, focused specifically on Latinos, Mexican origin Latinos, or on perceived peer discrimination; and all of these studies focused on neighborhood characteristics cross-sectionally. Partly as a consequence of the cross-sectional designs, the studies have only documented that differences across groups on neighborhood co-ethnic concentration might be related to differences across groups on perceived peer discrimination.

It is important to move beyond the simple comparisons across groups that inhabit different neighborhoods at one-point-in time to the examination of relationships between individuals' own (intra-individual) changes in neighborhood ethnic concentration and perceived peer discrimination across time. First, estimation of the relationship between intra-individual changes in neighborhood ethnic concentration and perceived peer discrimination is less susceptible to selection confounds than comparisons made across groups. In the latter case, observed *neighborhood effects* are confounded by the fact that families with different characteristics (e.g., parents' intelligence, beliefs, personality, education levels, and immigrant status; Dupere et al. 2010) self-select into neighborhoods. In the former case, however, all stable child and family characteristics that may influence neighborhood selection (e.g., parents' intelligence, beliefs, personality, education levels, and immigrant status) are held constant (Duncan et al. 2004). Consequently, they do not confound observed associations. Second, the focus on a neighborhood characteristic at one-point-in time ignores the dynamics of residential neighborhood experiences across development that can be due either to internal neighborhood changes or to individual moves (Dupere et al. 2010). An ecologically valid model recognizes that both residential addresses and neighborhoods (indeed, developmental contexts in general) are fluctuating (Dearing et al. 2006).

We were not able to identify any studies that examined the relationship between neighborhood ethnic concentration and trajectories of perceived peer discrimination, but two studies examined the ethnic context of adolescents'

schools as predictors of perceived discrimination. One examined the association between trajectories of perceived discrimination and school ethnic diversity (at one-point in time) and found that higher diversity (indicating a lack of homogeneity) was associated with higher perceived discrimination in the 10th grade, but not changes in discrimination from 9th to 10th grade (Benner and Graham 2011). Another focused specifically on peer discrimination and looked at changes in school ethnic concentration over time (Bellmore et al. 2012). The study found that an individual's levels of perceived peer discrimination across time were related to his or her own changes in school ethnic concentration. When individuals experienced increases in school co-ethnic concentrations they reported lower levels of perceived peer discrimination. Extending this line of research to include a focus on co-ethnic concentration in neighborhoods is seen as a critical next step, as the transition from middle childhood to adolescence is a period where neighborhoods are increasingly influential (Leventhal and Brooks-Gunn 2000) and co-ethnic neighborhoods represent a critical aspect of minority youths' unique developmental ecologies (Yoshikawa 2011).

Current Study

In light of the literature reviewed, we have advanced a set of research aims and associated hypotheses that can contribute to the nascent but growing body of literature that has begun to investigate neighborhood effects on minority youths' development of cultural attitudes and identifications (García Coll and Marks 2009a; Rivas-Drake and Witherspoon 2013). Situating social disorganization perspectives on neighborhood Latino ethnic concentration (Sampson et al. 1997) within culturally-informed perspectives on ethnic enclaves (Rumbaut and Portes 2001) and co-ethnic youth development (García Coll et al. 1996), we investigated the association between developmental trajectories of perceived peer discrimination and youths' levels of neighborhood ethnic concentration across time. We studied these neighborhood Latino ethnic concentration effects on perceived peer discrimination in a sample of Mexican origin youths, assessed in the 5th, 7th, and 10th grades, that was diverse on nativity status; generational status; economic, educational, and parent employment status; language preference; household structures; neighborhood residence; and attendance at public, religious, and charter schools (Roosa et al. 2008), all aspects that are critical to capturing the full range of diversity within a targeted minority group (García Coll and Marks 2009a).

We had two aims. Aim 1 was to model the developmental changes in perceived peer discrimination by estimating longitudinal trajectories from middle childhood

(5th grade) to adolescence (10th grade). We did not offer a specific hypothesis about whether perceived peer discrimination would increase, decrease, or remain stable over developmental time because both theory and empiricism suggest that the exact nature of individuals' changes should vary according to their ethnic context (Bellmore et al. 2012; García Coll et al. 1996; Greene et al. 2006). Aim 2 was to examine the implications of neighborhood ethnic concentration for developmental trajectories of perceived peer discrimination. Consistent with social disorganization theoretical views on ethnic homogeneity and culturally-informed views on ethnic enclaves, we expected that residence in ethnically concentrated Latino neighborhoods would be associated with lower levels of perceived peer discrimination across time among Mexican origin Latino youths; we tested this hypothesis in two ways. First, we examined whether individuals' own levels of perceived peer discrimination could be explained, in part, by their own changes in neighborhood ethnic concentration, expecting that individuals' own fluctuations (up-ticks/down-ticks) in neighborhood ethnic concentration would be associated with lower/higher (respectively) levels of perceived peer discrimination. Second, we examined whether overall trajectories of perceived peer discrimination differed between those that tended to live in more or less ethnically concentrated neighborhoods across the developmental period, expecting a decreasing trajectory among those that tended to live in more concentrated neighborhoods and an increasing trajectory among those that tended to live in less concentrated neighborhoods.

A few analytical notes are worth mentioning here. First, because youths were experiencing corresponding changes in school Latino ethnic concentration as they transitioned from elementary (5th grade), to middle (7th grade), and high (10th grade) schools, we controlled for youths' intra-individual changes in school ethnic concentration in both tests of neighborhood ethnic concentration effects. Second, given noted theoretical (Bronfenbrenner and Morris 1998; García Coll et al. 1996) and empirical (Bellmore et al. 2012; Benner and Graham 2011; Greene et al. 2006) interest in nativity and gender as child characteristics that may influence youths' trajectories of perceived peer discrimination, we tested the invariance of all study findings across nativity and gender groups.

Method

Participants and Procedures

Data were from three waves (W1–W3; 5th, 7th, and 10th grades) of a longitudinal study of culture, context, and Mexican origin child development (Roosa et al. 2008).

Students and their families ($N = 749$) were recruited from 5th grade rosters of elementary schools in a large metropolitan area of the southwestern U.S. Eligibility criteria were: (a) the family had a 5th grader in a sampled school; (b) mother and youth agreed to participate; (c) the participating mother was the youth's biological mother, lived with the youth, and identified as Mexican or Mexican American; (d) the youth's biological father was of Mexican origin; (e) the youth was not severely learning disabled; and (f) no step-father or mother's boyfriend was living with the youth (unless he was the biological father of the target youth). From the W1 sample, 710 (94.8 %) were re-interviewed at W2 and 641 (85.6 %) at W3. At W1, 48.9 % of the youths were female and the mean age was 10.9 ($SD = 0.46$) years. Most (70.2 %) youths were born in the U.S. and most (82.4 %) were interviewed in English. Most (74.4 %) mothers were born in Mexico, and most (69.9 %) completed the interview in Spanish. The average annual family income was 6.73 (e.g., \$30,000–\$35,000) on a scale of 1 (\$0,000–\$5,000)–20 (\$95,001+).

Families came from 154 diverse neighborhoods (i.e., census tracts) at W1, where the mean level of neighborhood ethnic concentration was 52.9 % ($SD = 22.8$). Few youths (25.8 %) stayed in the same neighborhood across all three waves, consistent with prior work on neighborhood mobility (Leventhal and Brooks-Gunn 2001). Between W1 and W2, 30.0 % of families moved to another neighborhood. Between W2 and W3, 62.1 % of families moved to another neighborhood. Individuals' levels of change in neighborhood ethnic concentration ranged from decreases of 76.6 percentage points to increases of 82.2 percentage points. Across the study period, 52.9 % of the sample experienced at least a one half SD change (11.4 percentage points higher or lower) in neighborhood ethnic concentration, 20.4 % experienced at least a 1 SD change (± 22.8), and 5 % experienced at least a 2 SD change. The mean of the absolute value of change was 15.2 percentage points ($SD = 13.1$). In terms of absolute values, movers experienced significantly more ($\bar{x} = 16.9$, $SD = 15.0$) change than non-movers ($\bar{x} = 11.7$, $SD = 6.7$), but the modal experience in the sample was residential mobility across neighborhoods.

The study procedures were approved by the institutional review board at the first author's university. The complete research procedures are described elsewhere (Roosa et al. 2008). Using a stratified random sampling strategy, the research team identified economically, culturally, and socially diverse communities served by 47 public, religious, and charter schools throughout the metropolitan area. Youths were sampled from different school types because an accurate representation of the cultural, socioeconomic, and linguistic diversity of ethnic minority youths requires access to a broad range of school types

(García Coll and Marks 2009a; White et al., in press). All of the study materials were available in English and Spanish. Recruitment materials were sent home with all 5th graders in these schools, and interested families were screened for eligibility. We completed the initial interview with 73 % of eligible families. Informed consent and assent were obtained from parents and youths. Each participating family member completed Computer Assisted Personal Interviews (about 2½ h long) separately in different locations in families' homes by trained interviewers who were blind to our study hypotheses. Interviewer training included a minimum of 40 h in professional interviewing principles (e.g., establishing rapport, familiarity of the battery and meaning of items, asking questions properly and with exact wording, neutral probes, listening attentively, consistency/accuracy of data collection, and confidentiality) and on the computer software used for data collection. Each participating family member was paid \$45, \$50, and \$55 for participation at W1, W2, and W3, respectively. The sample was similar to the census description of the population of Mexican origin families in the Southwestern metropolitan area (Roosa et al. 2008).

Measures

Perceived Peer Discrimination

A five-item scale assessed ethnic-based discriminatory experiences from peers. The measure has demonstrated good psychometric properties in samples of Mexican origin youths (Delgado et al. 2011). Adolescents were asked to indicate how true or how often events happened in their neighborhoods and at their schools (e.g., kids called you names because you are Mexican or Mexican American) on a scale from 1 to 5 (e.g., 1 = *almost never or never* to 5 = *almost always or always*). A mean score was computed with higher scores reflecting greater experiences of perceived peer discrimination. Cronbach's alphas were .76 (W1), .78 (W2) and .77 (W3).

Neighborhood Ethnic Concentration

Families provided residential addresses at each wave; addresses were geo-coded to assign families to census tracts. Because field work began in the Falls of 2004 (W1), 2006 (W2), and 2009 (W3), data on the percent Latino in each census tract, representing Mexican origin Latinos' co-ethnic concentrations, were obtained from Census 2000 for W1 (U.S. Census Bureau 2002) and American Community Survey (ACS) period estimates for W2 (U.S. Census Bureau 2010) and W3 (U.S. Census Bureau 2011). The American Community Survey period estimates are recommended for inter-census use in small areas because they

offer timely assessments with comparably high accuracy (U.S. Census Bureau 2009). Consequently, individuals' changes in neighborhood ethnic concentration were due to residential moves and/or to changes in internal neighborhood conditions. Both were considered meaningful for studying developmental changes (Dupere et al. 2010).

Covariates

Mothers reported on youths' *nativity* (0 = Mexico-born; 1 = U.S. born), *gender* (0 = male; 1 = female), and *economic pressure*. Youths provided the names and locations of their schools at each wave and that information was used to obtain data on *school ethnic concentration*.

Economic Pressure Scholars often control for family income to reduce endogeneity problems in neighborhood research (Duncan et al. 2004; Dupere et al. 2010) and, because family incomes are not stable across time, this particular confound is not eliminated by a focus on intra-individual changes in neighborhood ethnic concentration. Reports on income, however, are likely to be differentially reliable across multigenerational Mexican origin samples. For this reason, a measure of psychological distress resulting from financial difficulties or pressures is preferred (Roosa et al. 2005). In the current study, mothers reported on their perceptions of economic pressure using three subscales from a measure of economic hardship (Barrera et al. 2001; Conger et al. 1994): Inability to Make Ends Meet (2 items; e.g., “tell us how much difficulty you had with paying your bills”), Not Enough Money for Necessities (7 items; e.g., “You had enough money to afford the kind of food you needed”), and Financial Strain (2 items; e.g., “how often do you expect that you will have to do without the basic things that your family needs”). All items in these subscales had 5-point, Likert-type response options; higher scores indicated higher levels of pressure. Averages were calculated for all items. Cronbach's alphas were .92 (W1), .92 (W2) and .93 (W3).¹

School Ethnic Concentration Data on school ethnic concentration were obtained from the Arizona Department of Education (2005, 2007, 2010) and reflect the percentage of Latino students in youths' schools during the springs of their fifth-, seventh-, and tenth-grade years.

¹ Because most research on neighborhood effects is based on pan-racial/ethnic samples and assumes measures of reported income work equally well for diverse groups, we replicated all analyses with parent reports on annual family income [on a scale of 1 (\$0,000–\$5,000)–20 (\$95,001+)] to facilitate comparisons across the literature. The substitution did not alter any reported model findings for time, gender, nativity, or neighborhood ethnic concentration.

Analytic Plan

We utilized growth models under the multilevel modeling (MLM) framework (Raudenbush and Bryk 2002) using PROC MIXED in SAS 9.2 (Cary, NC). We specified a 2-level growth model with occasions (time), nested within individuals. At Level 1, we included an indicator of time (wave) to describe intra-individual developmental changes in perceived peer discrimination from middle childhood to adolescence. Given that youths were assessed at 5th, 7th, and 10th grades, time was coded 0, 1, and 1.5, respectively. Time was centered at W1; thus, the intercept reflected the average level of perceived peer discrimination at 5th grade. Additionally, Level 1 included any *time-varying* model predictors (i.e., economic pressure, school ethnic concentration, and neighborhood ethnic concentration). In line with recommendations (Hoffman and Stawski 2009), time-varying predictors were group-mean centered (individual's score at particular time—individual's cross-time mean) and therefore represented a *within-person* (WP) effect. Level 2 included any cross-time averages of time-varying model predictors. These were grand-mean centered (individual's cross-time mean—overall sample mean) and are referred to as *between-person* (BP) effects (Hoffman and Stawski 2009).

Using these specifications, we estimated three models. Model 1 addressed Aim 1: we estimated youths' average developmental trajectories of perceived peer discrimination from 5th to 10th grade. We tested invariance of these trajectories across youth gender and nativity by adding gender by time and nativity by time interactions to the model (Model 1a). We addressed Aim 2 with additional models. In Model 2, we added a WP neighborhood ethnic concentration term and a set of covariates (gender, nativity, a WP school ethnic concentration term, and both the WP and BP economic hardship terms) to Model 1 to examine whether intra-individual changes in neighborhood ethnic concentration related to concurrent levels of perceived peer discrimination (above and beyond the effects of time and the covariates). In Model 3 we added two terms (a BP neighborhood ethnic concentration term and its interaction with time) to test whether overall trajectories of perceived peer discrimination differed between those that tended to live in more or less ethnically concentrated neighborhoods. Additionally, we tested the invariance of our neighborhood ethnic concentration effects (estimated in Models 2 and 3) across gender and nativity groups. In Model 2a we added neighborhood ethnic concentration (WP) by individual characteristic (i.e., gender or nativity) two-way interactions. In Model 3a we added neighborhood ethnic concentration (BP) by individual characteristic two-way interactions and time by neighborhood ethnic concentration (BP) by individual characteristic three-way interactions.

Non-significant interactions indicated invariance of neighborhood ethnic concentration effects across gender and nativity groups.

Results

Descriptives and correlations are presented in Table 1. On average, perceived peer discrimination appeared relatively low. Mean levels of perceived peer discrimination were consistent with experiencing discrimination “once in a while.” Mean levels, however, provided no indication of whether or not sub-groups of individuals experienced increases or decreases across time. Latino neighborhood ethnic concentration ranged from 1.08 to 96.95 % across the study. Consequently, the sample of neighborhoods was not restricted: high levels of neighborhood ethnic concentration accurately indicated increasing co-ethnic homogeneity. As expected, neighborhood ethnic concentration and school ethnic concentration were highly positively correlated at each wave. Those families who tended to report higher economic pressure at one wave also tended to report higher economic pressure at another wave. And, those families who tended to have higher neighborhood ethnic concentration at one wave also tended to have higher ethnic concentration at another wave.

MLM growth model results are presented in Table 2. Model 1 addressed Aim 1 and shows that perceived peer discrimination, on average across the sample, did not change across time. We tested the stability of this average growth trajectory across gender and nativity groups (Model 1a). Only nativity differences emerged and those differences were on both the intercept (nativity main effect) and growth parameter (nativity by time interaction). Probing the interaction (Aiken and West 1991) revealed that Mexico-born youths reported higher levels of 5th grade perceived peer discrimination (relative to their U.S.-born counterparts) and significant declines across time ($b = -.11$ (Standard error (SE) = .03), $p < .001$) and U.S.-born youths reported no change across time ($b = .03$ ($SE = .02$), ns).

Models 2 and 3 (Table 2) addressed Aim 2. In Model 2 both the WP and BP economic pressure covariates were significant, but the WP school ethnic concentration covariate was not. Controlling for these covariates, the WP neighborhood ethnic concentration effect was significant: on occasions in which individuals lived in neighborhoods with a greater proportion of Latinos (as compared to their own average) they reported lower levels of perceived peer discrimination. This finding held across gender and nativity groups (Model 2a). In Model 3, time remains non-significant and the BP neighborhood ethnic concentration main effect was not significant. These findings suggest that there is no significant growth trajectory (increase or decrease) in

Table 1 Correlation matrix, means, and standard deviations for study variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Eco W1	–											
2. Eco W2	.64***	–										
3. Eco W3	.59***	.58***	–									
4. Disc W1	.14***	.13***	.12**	–								
5. Disc W2	.10**	.15***	.09*	.29**	–							
6. Disc W3	–.02	.02	.03	.16**	.35**	–						
7. SEC W1	.20***	.15***	.17***	.02	–.07	–.23***	–					
8. SEC W2	.15***	.14***	.15***	.00	–.10*	–.26***	.66***	–				
9. SEC W3	.17***	.15***	.17***	.05	–.08	–.34***	.63***	.75***	–			
10. NEC W1	.21***	.18***	.15***	.00	–.02	–.17**	.78***	.56***	.55***	–		
11. NEC W2	.21***	.19***	.20***	.01	–.11**	–.22**	.61**	.73***	.68***	.66***	–	
12. NEC W3	.22***	.20***	.17***	.05	–.08*	–.20**	.54**	.63***	.69***	.63***	.74***	–
Mean	2.64	2.60	2.98	1.86	1.62	1.82	72.79	65.66	58.15	52.91	57.36	55.24
SD	0.88	0.86	0.88	0.86	0.71	0.66	22.42	25.54	24.96	22.81	23.28	23.79
Min values	1.00	1.00	1.00	1.00	1.00	1.00	20.74	6.82	00.00	1.08	3.98	1.85
Max values	4.82	4.82	5.00	5.00	4.80	4.20	96.07	97.32	94.10	90.71	96.95	95.42
Skewness	.10	.07	–.26	.99	1.39	.81	–.77	–.46	–.10	–.31	–.34	–.27
Kurtosis	–.77	–.80	–.67	.32	1.82	.33	–.87	–1.17	–1.28	–1.13	–1.02	–1.13

Eco economic pressure, Disc perceived peer discrimination, SEC school ethnic concentration, NEC neighborhood ethnic concentration, W1–W3 Wave 1–Wave 3, Min Minimum, Max Maximum. Sample size ranged from 513 to 749 due to list-wise deletion. MLM analyses utilized the full sample ($N = 749$) and accounted for missing data using full information maximum likelihood

* $p < .05$

** $p < .01$

*** $p < .001$

perceived peer discrimination at average levels of neighborhood ethnic concentration. The BP neighborhood ethnic concentration by time interaction effect was significant, suggesting that the growth trajectory of perceived peer discrimination was different between youths that tended to inhabit more or less ethnically concentrated neighborhoods. This finding held across gender and nativity groups (Model 3a). Figure 1 shows the simple slopes for the interaction: at high levels of neighborhood ethnic concentration (1 SD above the mean), youths’ perceived peer discrimination declined over time ($b = -.10$ (.02), $p < .001$). At low levels (1 SD below the mean) of neighborhood ethnic concentration, however, youths’ trajectory of perceived peer discrimination was in the positive direction ($b = .05$ (.02), $p = .05$).

Discussion

Developmental theory (Bronfenbrenner and Morris 2006; García Coll et al. 1996) and emerging empiricism (Rivas-Drake and Witherspoon 2013) suggest that neighborhoods have important implications for U.S. minority youths’ development of cultural attitudes and identifications from

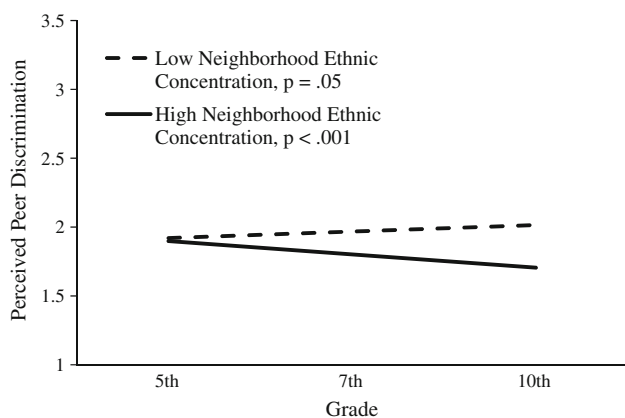
middle childhood to adolescence, including their perceptions of discrimination. It is important to conduct developmental research on perceived peer discrimination during this period (Acevedo-Garcia et al. 2013) because it is a particularly salient experience for minority youths (Fisher et al. 2000) that influences concurrent and future developmental outcomes (Berkel et al. 2010; Delgado et al. 2011). Therefore, we drew from both neighborhood theory (Sampson et al. 1997) and culturally-informed sociological (Rumbaut and Portes 2001) and psychological (García Coll et al. 1996) perspectives on ethnic enclaves to test the implications of neighborhood Latino ethnic concentration for Mexican origin youths’ trajectories of perceived peer discrimination from middle childhood to adolescence. We expected that residence in more ethnically concentrated neighborhoods would be associated with lower levels of perceived peer discrimination across time.

Our hypotheses were largely supported. First, individuals’ own fluctuations in neighborhood ethnic concentration (i.e., up-ticks/down-ticks) were associated with their concurrent levels (lower/higher, respectively) of perceived peer discrimination across the period (above and beyond the effects of any changes associated with developmental time, gender, nativity, economic pressure, and school

Table 2 MLM growth models of perceived peer discrimination growth trajectories with predictors

	Model 1	Model 1a	Model 2	Model 2a	Model 3	Model 3a
Fixed effects						
Intercept	1.778 (.028)***	2.036 (.057)***	1.910 (.048)***	2.038 (.060)***	1.909 (.048)***	2.026 (.060)***
Time	−0.008 (.015)	−0.108 (.032)***	−0.026 (.019)	−0.129 (.034)***	−0.024 (.019)	−0.116 (.034)***
Gender		−0.023 (.056)	−0.011 (.041)	−0.013 (.058)	−0.004 (.041)	−0.011 (.058)
Nativity		−0.351 (.061)***	−0.139 (.047)**	−0.321 (.064)***	−0.145 (.046)**	−0.309 (.064)***
Gender × time		0.010 (.030)	–	−0.001 (.032)	–	0.003 (.032)
Nativity × time		0.134 (.034)***	–	0.146 (.035)***	–	0.128 (.035)***
Economic pressures (WP)			0.075 (.034)*	0.069 (.034)*	0.068 (.034)*	0.062 (.034)
Economic pressures (BP)			0.067 (.029)*	0.066 (.029)*	0.098 (.029)***	0.097 (.029)***
School ethnic concentration (WP)			−0.002 (.001)	−0.002 (.001)	−0.001 (.001)	−0.002 (.001)
NEC (WP)			−0.005 (.002)**	−0.007 (.003)*	−0.004 (.002)**	−0.006 (.003)*
NEC (BP)					−0.001 (.001)	−0.001 (.001)
NEC (WP) × gender				0.003 (.003)	–	0.002 (.003)
NEC (WP) × nativity				0.001 (.003)	–	0.001 (.003)
Time × NEC (BP)					−0.003 (.001)***	−0.004 (.001)**
Time × NEC (BP) × gender						0.001 (.001)
Time × NEC (BP) × nativity						0.000 (.001)
Random effects						
Residual variance	0.395 (.022)***	0.395 (.022)***	0.384 (.023)***	0.384 (.023)***	0.385 (.023)***	0.385 (.023)***
Intercept variance	0.296 (.036)***	0.271 (.035)***	0.290 (.037)***	0.285 (.037)***	0.286 (.037)***	0.282 (.037)***
Slope variance	0.029 (.011)**	0.025 (.011)*	0.033 (.012)**	0.029 (.012)**	0.027 (.012)*	0.024 (.012)*

Time centered at W1. Gender coded 0 = male; 1 = female. Nativity coded 0 = Mexico-born; 1 = U.S.-born = 1. *WP* within-person predictor, *BP* between-person predictor, *NEC* neighborhood ethnic concentration. * $p < .05$, ** $p < .01$, *** $p < .001$. Because the BP school ethnic concentration and neighborhood ethnic concentration terms were highly collinear (Table 1), as expected, the BP school ethnic concentration effect was excluded from these models. Preliminary analyses, however, did include this term and findings for neighborhood ethnic concentration (both BP and WP) were the same as those presented here

**Fig. 1** Trajectories of perceived peer discrimination from 5th to 10th grade by high and low neighborhood ethnic concentration

ethnic concentration). Second, youths' who tended to live in more ethnically concentrated neighborhoods from middle childhood to adolescence showed decreases in perceived peer discrimination across the developmental period; those youths that tended to live in less concentrated neighborhoods showed evidence of increases. The implications of neighborhood ethnic concentration for perceived peer discrimination generalized to boys and girls and to

youths born in the U.S. and Mexico. The consistency of findings across these two tests and across gender and nativity groups paints a strong picture of neighborhood ethnic concentration effects on perceived peer discrimination. Further, our findings suggest, consistent with prior work on ethnic identity development among African Americans (Rivas-Drake and Witherspoon 2013), that neighborhoods have important implications for the development of cultural attitudes and identities among U.S. minority youths.

Aim 1: Trajectories of Perceived Peer Discrimination from Middle Childhood to Adolescence

We started by estimating developmental trajectories of perceived peer discrimination from middle childhood (elementary school) to adolescence (high school). Three prior studies examined trajectories of perceived discrimination in high school, documenting three different patterns: no changes for boys or girls (Greene et al. 2006); increases for boys and girls, but steeper increases for boys (Benner and Graham 2011); and decreases for boys and girls (Bellmore et al. 2012). We found that, on average across the sample, there were no changes in perceived peer

discrimination from 5th to 10th grade; the developmental trajectory was flat. This set of findings, which held for boys, girls, and U.S. born youths, replicates and extends Greene et al.'s (2006) findings based on a mixed racial/ethnic sample followed during the high school years that also focused on discrimination from peers. Still, we observed some differences in this average trajectory when we considered youths' individual (i.e., nativity) and neighborhood characteristics. Our findings suggest that developmental time alone is inadequate for accurate prediction of perceived peer discrimination trajectories.

While investigating the generalizability of the average trajectory (Model 1) of perceived peer discrimination across theoretically salient child characteristics (García Coll et al. 1996), we found that Mexico-born youths did not have a flat trajectory. Instead Mexico-born youths reported higher levels of perceived peer discrimination in the 5th grade (than their U.S.-born counterparts) and significant declines over time. Benner and Graham (2011) documented increases in perceived discrimination among Latinos from 9th to 10th grade and found no nativity differences in the pattern. Their sample, however, was required to be fluent in English and that requirement may have limited representativeness, especially of the Mexico-born and less acculturated subsamples (White et al., in press). Employing a more representative sample of Mexico-born youths in the current study, ones that could vary on English fluency and language preference, we documented decreases across time in perceived peer discrimination.

Some research that focuses on differences between individuals at a point in time on perceived discrimination (but not on longitudinal trajectories) indicates that Latino youths born outside of the U.S. report higher levels of discrimination than their U.S. born counterparts (Edwards and Romero 2008; Romero and Roberts 2003); other research documents no relationship between adolescents' generational status and perceived discrimination (Umaña-Taylor and Updegraff 2007). Our findings support early differences in perceived peer discrimination that diminish over time, offering a more complete view of nativity differences. Mexico-born youths, as immigrants, may be the targets of greater discrimination (Padilla and Perez 2003), and the Mexico-born youths in our study likely experienced changes related to acculturation and identity development between the 5th and 10th grades (especially as students in U.S. schools) that had important implications for their trajectories (García Coll and Marks 2009a). Future work should examine how the development of other aspects of youths' cultural attitudes and identities (e.g., ethnic identity development, in-group and out-group preferences, and acculturation) may help to shed light on these nativity differences. Diverse aspects of minority youths' cultural attitudes and identities, forces of socialization, and

maturational abilities are converging in a complex developmental orchestra during middle childhood and adolescence (García Coll and Marks 2009a; Spears Brown and Bigler 2005). Work that is able to examine multiple components simultaneously and longitudinally is viewed as a critical area for future research.

Aim 2: Neighborhood Ethnic Concentration and Trajectories of Perceived Peer Discrimination

The ethnic contexts of minority youths' neighborhoods are theorized to be critical for understanding the development of cultural attitudes and identifications broadly (García Coll et al. 1996) and our findings suggest that neighborhood ethnic concentration has important implications for perceived peer discrimination specifically. For example, the direction of the developmental trajectory of perceived peer discrimination from middle childhood to adolescence depended upon whether youths tended to live in more or less ethnically concentrated neighborhoods during that developmental period. At average levels of neighborhood ethnic concentration, the slope was flat; youths' perceptions were stable. Youths who had high cross-time averages in neighborhood ethnic concentration, however, experienced significant decreases in perceived peer discrimination; those who had low cross-time averages in neighborhood ethnic concentration evinced (trending) increases over time. Our results suggest that youths' developmental courses of perceived peer discrimination vary according to the degree of co-ethnic concentrations in their neighborhoods. The findings shed light on prior inconsistencies, suggesting diversity in neighborhood ethnic context as a mechanism via which no changes (Greene et al. 2006), decreases (Bellmore et al. 2012), and increases (Greene et al. 2006) have been observed across different samples. Still, this particular test of neighborhood ethnic concentration effects (Model 3), though it does take a broader view of neighborhoods than a single-point-in time assessment, represents a comparison across groups that tended to live in more or less ethnically concentrated neighborhoods. As such, findings are potentially confounded by the fact that families self-select into neighborhoods (as is usually the case in neighborhood research).

A stronger test of the association between neighborhood ethnic concentration and developmental trajectories of perceived peer discrimination, one that offers a more rigorous test than is typically available in non-experimental research designs (Dupere et al. 2010), focuses on the relationship between intra-individual changes in neighborhood ethnic concentration and perceived peer discrimination. In the current study, individuals were followed across time and their fluctuations in their *own* levels of neighborhood ethnic concentration (up-ticks/down-ticks

across development) were linked to their concurrent levels of perceived discrimination. Consequently, the findings are robust to unobserved time-invariant family and child confounds (Singer and Willett 2003). Many factors that have documented implications for neighborhood selection are relatively stable, including parents' race, intelligence, competence, personality, beliefs, preferences (Duncan et al. 2004; Dupere et al. 2010), and immigrant status. Family economics also influence parents' selection into neighborhoods, but our results controlled for time-varying economic pressure (or income) effects. Second, our measure of ethnic concentration represents an "approximately ancillary" variable because its values were probably not influenced by the children being studied (Singer and Willett 2003; p. 178). Consequently, the design strongly limits, but does not entirely eliminate, reciprocal causation and selection effects (Duncan et al. 2004; Singer and Willett 2003).

Focusing on the relationship between intra-individual changes in neighborhood ethnic concentration and perceived peer discrimination, we found that, on occasions in which they lived in more concentrated neighborhoods (relative to their own average), individuals reported lower levels of perceived peer discrimination. Alternatively, individuals' own upward (or downward) fluctuations in neighborhood ethnic concentration from middle childhood to adolescence related to lower (or higher) levels of perceived peer discrimination. Bellmore et al.'s (2012) work, which also focused on intra-individual changes in co-ethnic context, offers the most suitable comparison to the current findings. Their study showed parallel results: when individuals experienced increases (decreases) in co-ethnic student concentrations at school, they reported lower (higher) levels of perceived peer discrimination. Though the findings for school ethnic concentration (Bellmore et al. 2012) and neighborhood ethnic concentration are parallel, we should note that Bellmore et al. did not control for the concurrent changes that youths may have been experiencing in their neighborhoods. When we had both types of changes in our models (intra-individual changes in neighborhood and school ethnic concentration), individuals' fluctuations in school ethnic concentration were not significant. Our findings suggest that broader community contexts, not just those changes taking place in schools, may be critical for understanding developmental changes in perceived peer discrimination. In the future, scholars studying perceived discrimination in school contexts are encouraged to consider whether their findings are proxies for changes that are taking place in youths' neighborhoods.

Neighborhood ethnic concentration (both fluctuations and influences over time) may impact youths' perceived peer discrimination trajectories because it alters the types of peer networks that youths access (Juang and Cookston 2009), because youths become more cognitively aware

(Spears Brown and Bigler 2005) of neighbors' views (positive or negative) of minorities, or because living among in-group versus out-group members alters their sense of belonging and identity development (Tajfel and Turner 1986; Umaña-Taylor et al. 2004). It is likely that both socialization (from neighbors, parents, and peer networks) and cognitive maturation play important parts in these processes (Bernal and Knight 1997; Tajfel and Turner 1986). Future work should examine neighborhood-, family-, and peer-level socialization factors that may mediate neighborhood ethnic concentration effects. At the neighborhood-level, it may be that ethnically concentrated neighborhoods, despite tending to have higher concentrated poverty (White et al. 2013), develop shared values and co-ethnic resources (Gonzales et al. 2011; Rumbaut and Portes 2001) that shelter co-ethnic youths from mainstream challenges, like discrimination. Parents may mediate ethnic concentration effects via ethnic and/or racial socialization messages (Hughes et al. 2006). Neighborhood peers may influence in-group and out-group preferences that are also developing during this period (García Coll and Marks 2009a). Continued attention to modeling developmental changes over time in minority youths' ethnic attitudes and identifications will also benefit from the inclusion of a direct measure of cognitive maturation and other psychological variables, like youths' sense of belonging (García Coll et al. 1996). Overall, identification of the underlying social and psychological mechanisms is considered critical, as policies promoting ethnic segregation are untenable.

Our findings have important implications for future theorizing about neighborhood ethnic concentration effects. Research based on social disorganization perspectives has produced inconsistent findings regarding the influence of neighborhood ethnic concentration (usually indicated by the percentage Latino in the neighborhood) on pan-racial/ethnic children's development (see Leventhal and Brooks-Gunn 2000 for a review), perhaps because neighborhoods do not have one-size-fits-all implications for youth development (Browning et al. 2013). Though social disorganization theory recognizes that neighborhood ethnic homogeneity should support the development of social networks capable of promoting positive youth development (usually operationalized in terms of behavioral and emotional health), it requires incorporation of culturally-informed perspectives on enclave communities to recognize that the percentage Latino in the neighborhood may have important and specific implications for co-ethnic youths' development of cultural attitudes and identities (García Coll et al. 1996; Portes and Rumbaut 2001; Rumbaut and Portes 2001). Our study supports this culturally-informed neighborhood effects hypothesis.

Prior research on ethnic concentration and perceived discrimination is somewhat mixed, but some of that

ambiguity may reflect a focus on culturally-informed perspectives that ignored relevant neighborhood theory. For example, contrary to our findings, one prior study found that neighborhood co-ethnic concentration (% Asian in the neighborhood) did not relate to Asian American adolescents' perceived discrimination (Juang and Alvarez 2011). In that study, however, the range of co-ethnic concentration was restricted in such a way that ethnic homogeneity, the underlying neighborhood theoretical mechanism (Sampson et al. 1997), was probably not well represented in the data.² Our study, by including youths from the full range of neighborhood Latino ethnic concentration, was more consistent with prior cross-sectional and prospective research that drew from neighborhood theory and captured a range of ethnic/racial concentration levels that better reflected neighborhood homogeneity (Hurd et al. 2012; Stewart et al. 2009). In the future, scholars are encouraged to sample minority youths from the full range of neighborhoods to test culturally-informed neighborhood effects hypotheses. Further, scholars are encouraged to test these hypotheses in other areas of the country (e.g., newer Latino receiving areas) to see if they generalize to settings that do not have a long history of co-ethnic settlement (Yoshikawa 2011).

The need to decompartmentalize social disorganization and culturally-informed theoretical perspectives on ethnically concentrated neighborhoods is critical, given that research based on social disorganization theory has been the basis of major experimental and policy initiatives aimed at moving children out of poverty-stricken neighborhoods (Kling et al. 2007). Though experimental and policy initiatives aimed at reducing the effects of poverty are important, we caution against continued efforts that involve reassignment of families to socioeconomically advantaged settings (Kling et al. 2007) until more is known about the implications of co-ethnic concentration for minority children's health and development. For example, higher SES neighborhoods also tend to have fewer Latinos (White et al. 2013). Our work suggests downward fluctuations in neighborhood ethnic concentration associated with, for example, reassignment to more socioeconomically advantaged neighborhoods, may be accompanied by iatrogenic increases in perceived peer discrimination among Mexican origin youths. Given the strong links between perceived discrimination and health/adjustment (Acevedo-Garcia et al. 2013; Pachter and Coll 2009), policy makers and researchers may want to avoid these types of programs until more is known. Our results are, however, policy relevant in more immediately useful ways

(Dearing et al. 2006). Specifically, they move beyond a discussion of ethnic concentration as a protective factor for Mexican origin youths to a discussion of whether actual changes in neighborhood ethnic concentration would be meaningful to youths. Further, neighborhood-, family-, and peer-based initiatives aimed at supporting Latino and Mexican origin youths, especially those that do not have the benefit of residing in established enclave communities, may want to focus on identifying ways to connect families and youths with co-ethnic resources and community organizations designed specifically to serve them (Yoshikawa 2011).

Conclusions

Overall levels of neighborhood Latino ethnic concentration are important for describing trajectories of perceived peer discrimination from middle childhood to adolescence among diverse Mexican origin Latino youths; and intra-individual changes in neighborhood ethnic concentration across this developmental period are important for understanding individuals' concurrent levels of perceived peer discrimination. The study results consistently point to Latino enclaves as promoting environments (García Coll et al. 1996) because they protect Mexican origin youths from mainstream discrimination-based challenges. Future work should examine the implications of neighborhood co-ethnic concentration for other sources of perceived discrimination (adults, teachers, institutional) among diverse groups. Though the current study makes a substantial contribution to understanding individual processes linking changes in neighborhood ethnic concentration to perceived peer discrimination, more work is needed to identify the culturally distinguished neighborhood-level social processes that may help to explain them (Browning et al. 2008). Indeed, variability in neighborhood co-ethnic concentrations implies variability in residents' exposures to social processes that promote or undermine minority adolescents' opportunities for participation versus alienation (Fuller and García Coll 2010). Ultimately, because ethnic segregation is not a useful or tenable intervention/policy recommendation, it is critical to identify the underlying sociological and psychological mechanisms that explain neighborhood ethnic concentration effects. Such work can inform policies and programs that effectively support ethnic minority adolescents as they negotiate both ethnic and mainstream settings and challenges (García Coll and Marks 2009b). Co-ethnic resources (Portes and Zhou 1993) and culturally distinguished forms of neighborhood social capital (Martinez and Valenzuela 2006; Portes and Rumbaut 2001), in addition to individual psychological processes, are important areas for future research.

² Additionally, there may be differences between what is "high" co-ethnic concentration for Latino and Asian origin populations living in the U.S., highlighting the need for additional ethnic homogenous research that moves beyond a one-neighborhood-fits-all approach to neighborhood effects.

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Author Contributions RMBW conceived of the study, oversaw its design, and coordinated and drafted the manuscript; KHZ participated in the design of the study, performed the statistical analysis, and helped to draft the manuscript; GPK participated in the design of the study and interpretation of the data; MWR participated in the design of the study; J-YT participated in the design of the study and performed statistical analysis. All authors read and approved the final manuscript.

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