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School Context and Individual Acculturation: How School Composition Affects Latino Students' Acculturation*

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Abstract

Understanding how schools—a key context for children—shape students' cultural trajectories is important since these trajectories are tied to youth development and achievement. This study assessed how the size of the school's group of acculturated Latino and non-Latino students influenced the acculturation of 1,720 Latino 5th-grade students from urban public schools in the Southwest United States. A longitudinal secondary data analysis revealed that controlling for wave 1 acculturation, youths in schools with larger proportions of linguistically acculturated students were more acculturated at wave 2 than youths in schools with smaller proportions of such students. This effect was independent of Latino students' baseline acculturation level and was found even in schools with minority proportions of more acculturated students.

Introduction

Latino children make up an increasingly large part of the U.S. population (Ramirez 2003; U.S. Bureau of the Census 2000), driving changes in school and workforce composition (Frey 2006; Gibson, Gándara, and Koyama 2004). Yet, little is known about how their school experiences, and in particular, school acculturation composition, relate to their acculturation. How they integrate with society influences the nature and impact of their growing presence and related changes. Issues of cultural identity and acculturation are especially salient to Latino children because many are immigrants or children of immigrants. While adolescence is viewed as a key stage for identity development (Erikson 1968), preadolescents from immigrant families face early exposure to identity issues.

Acculturation, the intragenerational process of cultural change that occurs as a person encounters a different culture (Berry 1997), has been associated with numerous psychosocial outcomes, but there is a need for a better understanding of the process of acculturation: how it occurs and under what conditions. While research has examined the context in which immigrant adaptation occurs (DeJong and Steinmetz 2004; Evans 2005; Pamuk 2004), it has not explicitly explored the effects of context—particularly, school context—on individual acculturation.

As a key social context for youths, school is the dominant institution, outside of family, in the early life course (Schneider, Stevenson, and Coleman 1993). Reflecting national demographic trends (U.S. Bureau of the Census 2000), population growth and immigration

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have made for greater ethnic, racial, and cultural diversity in American schools (American Youth Policy Forum 2000; Pinkard 2001), thus creating new social dynamics. A facet of this diversity is the mix of native-born youths, children of immigrants, and immigrant children from different cultures. The complexity of the school cultural landscape has implications for students' school experience, thus providing fertile ground for investigation into individual experience. By examining how the school environment affects acculturation, we will better understand determinants of acculturation in a key social context for youths—the school—and this understanding can provide insight into the effects of other social contexts. Furthermore, an examination of early acculturation experiences can help to better predict not only immediate psychosocial outcomes (e.g., healthy development and problem behavior) but also these outcomes during the potentially turbulent adolescent years and throughout the life course.

Guided by Blau's (1977a, 1977b) macrostructural theory, this study examines whether and how the social composition of a school—specifically the proportion of students (Latino and non-Latino) who are highly acculturated—influences the acculturation of individual Latino preadolescents.

Research on Acculturation

Early researchers Redfield, Linton, and Herskovits (1936:149) wrote that “Acculturation comprehends those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original culture patterns of either or both groups....” Newcomers acquire elements of the new culture and retain elements of the culture of origin (Berry 1997, 2003; Marín and Gamba 2003). For example, they may learn a new language but retain the old.

Acculturation involves changes in attitudes or behaviors (Marín and Gamba 2003). Change in one domain may occur more quickly than in another (Zane and Mak 2003), and its manifestation may be dependent upon context (Cabassa 2003). For example, a person may speak Spanish with family but English with friends. In other words, changes in one social sphere may not manifest themselves in another sphere. Furthermore, change is not always in the direction of the new culture. Under certain conditions, such as native members' resistance to newcomers (Portes, Hao, and Rumbaut 2001), acculturation may entail an increase in a person's adherence to their culture of origin.

While acculturation has numerous attitudinal and behavioral dimensions, language use, or linguistic acculturation, is by far the most common measure of acculturation (Zane and Mak 2003). It has been found to account for up to 65 percent of the variance in multidimensional acculturation measures that capture language use, other behaviors, and attitudes (Rogler, Cortes, and Malgady 1991). It captures the extent to which a person uses or prefers to use the language of the host country and /or the language of origin. Research on U.S. immigrants has shown that linguistic acculturation is more likely to entail adoption of English than it is to entail new acquisition or strengthening of the language of origin. Portes, Hao, and Rumbaut (2001), for example, have shown that while early generation youths may maintain their language of origin even as they learn English, later generation youths are more likely to speak English only. Linguistic acculturation is thus somewhat distinct from other acculturation domains because, when measured, it may be less likely to capture enculturation (i.e., adoption of ethnic or origin culture). It is also salient to preadolescents because they are still undergoing language development (Long 1990).

Acculturation, however, measured, has been linked with a variety of positive and negative individual youth outcomes, such as drug use (Marsiglia et al. 2005), obesity (Popkin and Udry 1998), lower academic achievement (Portes, Hao, and Rumbaut 2001), early sexual

activity (Adam et al. 2005), better body image (Nieri et al. 2005), greater HIV knowledge (Marsiglia et al. 1999), and less gang membership (Lopez and O'Donnell Brummett 2003). Relative to research on the effects of acculturation, research on determinants of acculturation itself is scant. Among the little research conducted is the work of Portes, Hao, and Rumbaut (2001), who demonstrated that youths' acculturation trajectories vary and are influenced by contextual factors. Their study of foreign-born and United States-born children of immigrants showed, for example, that context was related whether and how youths linguistically acculturated and in particular, that youths whose social contexts were characterized by high perceived discrimination, limited social and economic resources and opportunities, and little political power was less likely to be integrated into and successful in American society (Portes, Hao, and Rumbaut 2001).

Research on School Composition

Student body composition is perhaps the most common school characteristic explored in prior research on the effect of school context on individual outcomes. As Portes and Hao (2004) wrote, "School compositional effects constitute the aggregate influence of school peers on a student's school experience, above and beyond the effects of the individual student's own particular peers." Youths spend more time with their peers than with anyone else (Carnegie Council on Adolescent Development 1995; Schneider and Stevenson 1999); their shared time in school is a primary explanation of this fact. Both close peers and those more distant can and do influence students' patterns of participation, engagement, and achievement in school (Gibson, Gándara, and Koyama 2004), and thus, their characteristics are important in understanding individual outcomes.

Theoretical Framework

Blau's (1977a, 1977b) macrostructural theory explains social relations as a function of differentiation within a social structure. Social structures are differentiated by their members' attributes called parameters. Nominal parameters, such as ethnicity, divide members into groups with discrete boundaries but no rank order. Graduated parameters, such as socioeconomic status, differentiate members in terms of a status rank order. Greater differentiation, that is, diversity, within the social structure promotes high rates of interaction among members of different groups (Blau 1977a). Interaction is determined not by a group's defining characteristics or preferences but rather by the relative size of groups. As group size increases, its members' interaction with members of other groups decreases. Physical proximity increases the probability of interaction. Members may prefer to interact with other members of their own group. However, when they are members of a small group, they will interact more with members of other, larger groups, despite their preferences, simply because their opportunities for in-group interactions are fewer owing to their group size. Because the probability for out-group interaction is unequal across groups, the effect of such interaction is greater for the members of the small group.

Macrostructural theory has been used in various studies of inter-group relations. For example, it has been used to explain why members of certain groups are more likely to victimize out-group members (Sampson 1984; South and Messner 1992; South et al. 1982; Stolzenberg, Eitle, and D'Alessio 2006). It has also been used to examine the effect of ethnic and religious heterogeneity on inter-ethnic and inter-religious social interactions (Blum 1985). The theory is commonly used to explain intermarriage (Blau, Blum, and Schwartz 1982; Blum 1984), including, more recently, intermarriage as a form of immigrant integration (Dribe and Lundh 2008; Martinovic, van Tubergen, and Maas 2009; Muttarak and Heath 2010). Other work uses the theory to explain the effects of intergroup interaction on group members. Kalmijn (2010), for example, examined the cultural consequences of intermarriage for children. Goldsmith (2004) and Stearns (2004) applied macrostructural

theory to the school context examining the effects of school racial heterogeneity and school academic tracking of students on inter-racial conflict and inter-racial friendliness. These studies draw on macrostructural theory to explore how group size shapes social interactions between groups and how these interactions shape individual group members.

Although no study to date has employed macrostructural theory to examine school composition and its effects on individual acculturation, the theory is well suited to the topic because acculturation is, by definition, an outcome of intergroup interaction. Members of different cultural groups interact with consequent changes for members of each group (Berry 1997, 2003). As applied to acculturation, the theory would predict that individual acculturation will be influenced by the presence and size of various cultural groups and the resultant interaction between them. Here, I focus on a school's group of more acculturated students (Latino and non-Latino) and the group's relative influence on more acculturated Latino students (i.e., in-group members) and less acculturated Latino students (i.e., out-group members).

At school, students interact with each other in myriad ways. Some interactions are of their choosing (e.g., students choose their playmates at recess), but others are determined for them (e.g., students are assigned to classrooms for particular classes). Thus, students of different acculturation levels will interact with each other, despite any preferences they may have for members of their own groups. Furthermore, the interaction may be direct, as in the form of face-to-face contact, or indirect, as in the form of shared class and school activities. When a less acculturated youth attends a school with a large group of more acculturated students, he or she may become more acculturated to American culture and do so more quickly than a similar youth in a school with a large group of less acculturated students.

In terms of linguistic acculturation, less acculturated youths will have less opportunity to practice their language of origin and more opportunity to use English through their interactions with the more acculturated youths, who by definition prefer English. The larger the more acculturated group, the more its members will interact with each other, reinforcing their level of acculturation—that is, their preference for English. To the extent that the more acculturated youths interact with less acculturated youths, the interactions are likely to be in English, thus reinforcing the more acculturated group's baseline acculturation level. Therefore, it is hypothesized that among less acculturated Latino students, the school's proportion of linguistically acculturated students at baseline will positively influence individual linguistic acculturation (Hypothesis 1) and that among more acculturated Latino students, the school's proportion of linguistically acculturated students at baseline will not influence individual linguistic acculturation (Hypothesis 2).

Method

The study was a secondary analysis of data collected for the Drug Resistance Strategies Project IV, a 5-year longitudinal youth substance use prevention study involving students from 30 center-city elementary schools. Both the original project and the secondary analysis were approved by the university institutional review board. The project was conducted in a large metropolitan area in the state of Arizona. Data for the present study came from the first wave (Fall 2004) and second wave (Spring 2005), about 6 months apart. Participating schools constituted approximately one-half of all schools within their districts. They tended to serve lower-income neighborhoods and ranged in size from 146 to 1,124 enrolled students. The proportion of students in the school speaking other than English at home ranged from 28 to 79 percent. Every 5th grader in these schools at the onset of the study was eligible to participate.

University-trained survey proctors administered the 1-hour, written questionnaire in the school classroom. Students could take the survey in either English or Spanish. Active parental consent and student assent were obtained in accordance with university and school district policies and human subject protection requirements. Parents of 82 percent of enrolled children consented for their children to participate in the study. Survey administrators informed students that the survey was part of a research project, their participation was voluntary, and their answers were confidential. Consented students who were absent on the initial survey date could complete the survey in class within 2 weeks of the initial survey date. Ninety-six percent of consented children (i.e., 79% of enrolled children) took the wave one survey, and 88 percent of consented children (72% of those enrolled) took the wave two survey.

The sample included 1,720 students who in waves one or two self-identified as either “Mexican American or Chicano,” “Mexican,” or “Other Latino or Hispanic” on either a single-choice ethnicity measure (“Which one best describes you”) and a multiple-choice measure (“Mark all that apply to you”). Other response options were White or Anglo, African American or Black, Asian/Pacific Islander, American or Alaskan Native, and Other ethnicity (specified by respondent). The vast majority (95%) of the sample was Mexican or Mexican American, whereas the remainder was another, unspecified Latino group. The small number of students in the latter group and the lack of further information precluded an analysis of national subgroups.

In terms of acculturation, a third (29%) of the sample students were immigrants with immigrant parents; 53 percent were American-born children of immigrants; and 18 percent were American-born children with American-born parents. Twenty-two percent were Spanish dominant (spoke Spanish all or most of the time); 44 percent were bilingual English-Spanish (spoke the two languages equal amounts of time); and 34 percent were English dominant (spoke English all or most of the time). The mean age was 10.37 years ($SD = .59$).

The outcome examined in this study, linguistic acculturation, was measured as a continuous variable capturing the average of two items from wave 2: “When talking with family members, what language do you usually speak?” and “When talking with friends, what language do you usually speak?” (Sabogal et al. 1987). The items’ original response values included 1 = Spanish only, 2 = Mostly Spanish, 3 = Both Spanish and English, 4 = Mostly English, and 5 = English only. These two items are commonly combined to create a single measure of linguistic acculturation (Zane and Mak 2003). Family and friends are highly salient domains for elementary school-aged youths; therefore, measures of behavior in these domains are considered to be not only developmentally appropriate indicators of acculturation but also capable of capturing change over time (Knight et al. 2009). Changes in behavior here may be due to changes in ability, preference, or, in the case of friends, changes in association.

School-level predictors were based on data from all surveyed students (5th graders). Evidence suggested that the surveyed students adequately represented the set of 5th graders in each school. The students were with the same set of classmates all day long. High rates of study participation in the schools suggested that the school measures based on aggregated individual survey data were minimally biased owing to non-participation.

School context was measured as the proportion of students (Latino and non-Latino) who were linguistically acculturated (defined below). Based on students’ wave-one report of linguistic acculturation, as measured by the average of friends and family acculturation, the student survey respondents in each school were divided into groups based on cut-points of

the average of the original language use variables for the total sample. Youths were categorized as less acculturated or Spanish dominant if the average of the two linguistic acculturation items (language use with family and with friends) indicated they used Spanish exclusively, mostly, or about equally as often as they used English. The threshold for the less acculturated group was a score ≤ 3 (based on the original response anchors). Exploratory analyses indicated that students scoring 3 were more similar to students scoring 2 and below than to students scoring 4 and above. Students were categorized as more acculturated or English dominant if the average was >3 , indicating they used English mostly or exclusively.

The proportion of more acculturated youth in each school was then calculated, with higher values indicating a more acculturated school population. The more acculturated group ranged from about 30 to 90 percent of students in the school. Nineteen of the 30 participating schools had proportions of more acculturated students that were greater than half of the students.

Measures of other school characteristics, based on 2004–2005 data from the state department of education, were included in multivariate models as controls: school type, enrollment size, and percent Title 1. School type captured the grade levels served by the school: Kindergarten through 5th grade (K-5), Kindergarten through 6th grade (K-6), Kindergarten through 8th grade (K-8), and 4th through 8th grades (4–8). Dummy variables for each type were created. As 58 percent of the students were in a K-8 school and 60 percent of the schools were K-8, this category served as the reference in multivariate analyses. Percent Title 1 was a continuous indicator of school socioeconomic status, measuring the percentage of students in the school eligible for participation in the federal school free- and reduced-price lunch program. In all of the schools greater than 60 percent of the students were Title 1 eligible. Enrollment captured the number of students enrolled in the school. Descriptive statistics of school type, enrollment, and percent Title 1 are contained in Table 1. Academic performance, dollars expended per student, percent Latino, and percent non-Latino White were also investigated but were not included in the final models as they were not predictive of individual acculturation.

Individual-level control variables were based on wave 1 data and included baseline linguistic acculturation, gender, generation status, family visits abroad, age, academic performance, and time in the United States.¹ Except when used as a subsample measure (see below), baseline linguistic acculturation was measured the same as the corresponding outcome variable (described above)—that is, as a continuous variable. It was used to control for baseline differences in individual acculturation, since the hypotheses were testing for school effects on individual acculturation over time. Correlations (not shown in tables) between the school-level and individual-level measures of linguistic acculturation indicated that the two levels were related but not so highly related that their measures were interchangeable for each other.

Gender (1 = Female and 0 = Male) was included as a control since females are more likely to maintain their origin culture and acculturate slowly (Burnam et al. 1987). The sample was gender balanced.

¹Preliminary mixed model analyses included a dichotomous control variable indicating whether the student participated in the prevention program that formed the basis of the larger study from which these data came. Approximately 60 percent of the sample participated in the intervention. A similar amount in each sub-sample participated. Because the intervention, which was implemented between waves 1 and 2, was designed to be culturally grounded, it included specific Mexican / Mexican American, African American, and European American content that could have influenced the youths' outcomes at wave 2. However, because treatment was not statistically significant in any of the exploratory models, it was not included in the final models presented here.

Generation status and family visits abroad were proxy measures of cultural exposure. Because individuals of the same generation status or with the same amount of family visits abroad may have different acculturation levels (Cabassa 2003), the inclusion of these control variables in the models accounted for the possibility that cultural influences may derive from sources other than the school and influence outcomes. Generation status was captured by dummy variables based on the answers to three questions about where the student, the mother, and the father were born. The second generation included children of immigrant parent(s)—that is, American-born children with one or both foreign-born parents. The third or higher generation included native children—that is, American-born children with American-born parents. In multivariate analyses the reference group was first generation which included immigrant youths—that is, foreign-born children with foreign-born parents. The largest group in the sample, making up just over half, was second generation (see Table 1). The first generation comprised about a third of the sample, and the third generation comprised about one-fifth.

The variable “Family visits abroad” was measured by a single item: “Have you visited family or friends who live outside the United States?” Responses options were 0 = Never, 1 = In the last year, 2 = In the last 3 years, and 3 = More than 3 years ago. On average students did not visit outside the United States (see Table 1). However, the variable’s distribution was somewhat bimodal: 37 percent of the sample never visited and 33 percent visited in the last year, with smaller percentages in the in-between categories.

Age was measured in years. Student academic performance was measured by students’ reports of their usual grades received in school. Responses were an ordinal score from 1–9, with the lowest response being “Mostly F’s” and the highest response being “Mostly A’s.” Time in the United States was measured by an ordinal measure, with values ranging from 1 = “Less than a year” to 5 = “All my life.”

Because a school acculturation effect was hypothesized for less acculturated youths but not more acculturated youths, a dummy variable distinguishing more acculturated and less acculturated youths was created to divide the sample for analyses of the two groups separately. This same variable was used to test for an interaction of the school acculturation effect with the individual’s baseline linguistic acculturation. Thus, the dummy variable was also used in models of the full sample as a control for baseline linguistic acculturation and as a part of the interaction term. This dichotomous measure was based on the previously described measure of individual-level baseline linguistic acculturation. Youths with a value of 3 (bilingual) or less (Spanish dominant) on this measure were coded as less acculturated ($N = 938$). English dominant youths were coded as more acculturated ($N = 782$). Because the sub-samples were defined in terms of language use, the more acculturated group was conceptualized as acculturated (i.e., not undergoing change) because they were already English speakers. The less acculturated group was conceptualized as acculturating (i.e., undergoing change).

The hypotheses were tested using multi-level regression modeling. The model was tested first in each sub-sample, the less acculturated versus the more acculturated students. These two models indicate whether there is a school effect in each sub-sample, but they do not formally test whether the effect differs by sub-sample. Two subsequent models, run on the full sample, achieve this end. The first tests whether there is a statistically significant school effect in the full sample. The second adds to the model an interaction term (school effect $\times$ subsample variable), which provides a statistical test of the difference in the school effect between the sub-samples. Because students were sampled within schools, the assumption of independence in regression was violated, and this violation deflates standard errors. I employed the Mixed Procedure in SAS to account for the violation and produce robust

standard errors (Bryk and Raudenbush 1992; Singer 1998). This technique models a random intercept, which allows the dependent variable to vary across schools and handles the clustering of data. All independent variables, except dummy and interaction terms, were centered at the grand mean for inclusion in the multilevel models (Bryk and Raudenbush 1992).

Ninety percent of the 1,677 students who completed the wave 1 survey completed a wave 2 survey. Among students who completed both surveys, the vast majority (99%) completed it in the same school. Multiple imputation was used to address missing data owing to item non-response and attrition (Little and Rubin 2002). SAS's PROC MI and PROC MIANALYZE were used to create and combine 10 imputed datasets, based on all variables used in the analyses, and to combine the complete-data analysis results to arrive at a single estimate that properly incorporated the imputed values' uncertainty. The imputation procedure was separate from the analysis and was performed separately for the total sample and each of the sub-samples.

Since separately imputed datasets were required for each subsample and a subsample measure was required for the imputation procedure that was to address issues of missing data, the dummy variable distinguishing more acculturated and less acculturated youths was created prior to imputation.

Results

Table 1 shows the means and standard deviations of the study variables for the total sample, the less acculturated sub-sample, and the more acculturated sub-sample. A comparison of wave 1 and wave 2 mean acculturation at the individual level reveals a slight decline across time for the total sample, indicating enculturation (i.e., increased use of Spanish), rather than acculturation on average. This decline appeared to be driven by the more acculturated youth in the sample whose means declined. The mean in the less acculturated youth subsample increased at wave 2. *T*-tests revealed that the differences between the subsample means were statistically significant. The more acculturated sub-sample, relative to the less acculturated sub-sample, had a higher mean level of linguistic acculturation both at baseline ($t = -54.24$, $df = 1,718$, $p < .0001$) and at wave 2 ($t = -23.63$, $df = 1528.6$, $p < .0001$).

In terms of the school-level predictors in Table 1, these data show that the average student in the sample was in a school in which 52.2 percent ($=.522 \times 100$) of the school population was linguistically acculturated. *T*-tests revealed that the means were statistically significantly different between sub-samples ($t = 11.52$, $df = 1597.9$, $p < .0001$). Again, the more acculturated sub-sample, relative to the less acculturated sub-sample, had a higher mean school proportion of linguistically acculturated students. An analysis using the full sample revealed a statistically significant, positive correlation of .248, between the school proportion acculturated and the wave 2 individual acculturation score. Thus, students in schools with greater proportions of more acculturated students were more acculturated at wave 2.

Several other differences between the sub-samples were found. There were 8 percent more girls in the less acculturated subsample than in the more acculturated sub-sample, and this difference was statistically significant ($t = 10.45$, $p < .000$). Although roughly half of each subsample was comprised of second-generation youths, the sub-samples each had few members at the extremes of generation status. The less acculturated subsample had only 3 percent from the third generation whereas the more acculturated subsample had 14 percent from the first generation. These differences were statistically significant (second generation: $t = 7.43$, $p < .000$; third generation: $t = -56.16$, $p < .000$). With regard to family visits

abroad, the more acculturated group had a bimodal distribution that matched the full sample's distribution. However, in the less acculturated group the largest percentage was in the "visited in the last year" category rather than in the "never visited" category. The difference between sub-samples was statistically significant ($t = 13.47, p < .000$). Less acculturated youths were slightly older than more acculturated youths ($t = 2.04, p = .041$). In addition, more acculturated youths reported higher grades than their less acculturated peers ($t = -4.25, p < .000$). Finally, relative to less acculturated youths, more acculturated youths reported longer times in the United States ($t = -41.51, p < .000$).

Table 2 shows the mixed-model estimates and standard errors when predicting wave-two linguistic acculturation. The first column shows the results of the test of Hypothesis 1 that among the less acculturated, the larger the group of more acculturated students in the school, the more acculturated a student would be at wave 2. The school acculturation effect was positive and statistically significant. The second column shows the results of the test of Hypothesis 2 that among the more acculturated youths, there would be no effect of the proportion of the more acculturated students in the school. Here, the school acculturation effect was positive but not statistically significant. Thus, the school effect differed between the two sub-samples in terms of statistical significance but was similar in terms of direction of the coefficient.

The third column shows the results of the model testing for main effects of school proportion acculturated in the full sample. The school acculturation effect was positive and statistically significant. Consistent with the descriptive results, there was a statistically significant difference in wave-two linguistic acculturation between the more acculturated and less acculturated sub-samples, as indicated by the significant dummy term for the sub-samples.

The model in the fourth column shows the results of the model testing for interaction effects in the full sample. The interaction term, measuring the product of the standardized school proportion of acculturated youth and the dummy variable distinguishing the more acculturated and less acculturated sub-samples, provided a statistical test of difference in the effect of school proportion linguistically acculturated between sub-samples. The interaction was not statistically significant. Thus, the effect of the size of the acculturated group in the school was not significantly different for groups of more and less acculturated youths. That is, the school acculturation effect was not dependent on the individual's baseline linguistic acculturation. This result was consistent with the presence of positive coefficients for the school effect in both of the separate subsample models and the positive and statistically significant coefficient for the school effect in the full sample model. The positive school effect's failure to reach statistical significance in the more acculturated sub-sample model may be explained by reduced statistical power associated with dividing the sample into two groups.

Among the individual-level predictors, baseline linguistic acculturation was positively related with the outcome in both sub-samples. Gender, age, and usual grades were not statistically significant in any model. Second generation and third generation positively predicted the outcome in the more acculturated subsample but not the less acculturated subsample. In the full-sample models, however, only third generation was associated with the outcome. Thus, youths who were third and higher generation reported higher acculturation at wave 2 than first generation youths. The coefficient for family visits abroad was negative and statistically significant in all but the first model, indicating that students with more exposure to family and friends from the country of origin, via visits outside the United States, were less acculturated at wave 2. Time in the United States was statistically

significantly associated with the outcome in all models; longer time in the United States was associated with higher wave-2 acculturation.

Among school-level controls, the effect of school type was statistically significant and positive in all but the second model. Youths in K-6 schools were more linguistically acculturated at wave 2 than youths in K-8 schools. Youths in the other school types did not differ from youths in K-8 schools. Percent Title I only had a significant effect in the less acculturated subsample model: less acculturated youths in schools with a greater percentage of Title I students had greater wave-2 linguistic acculturation. School enrollment size was not statistically significant.

The random effect of school was not statistically significant (results not shown), indicating that the schools did not differ in their average linguistic acculturation at wave 2.

Discussion

This study assessed the effect of the size of school groups distinguished by acculturation level. Higher proportions of more acculturated students were expected to relate to greater acculturation, but only among less linguistically acculturated youths. Results were that youths in schools with larger proportions of linguistically acculturated students were more acculturated across time as compared to youths in schools with smaller proportions of such students, and this was true regardless of the youths' baseline linguistic acculturation. Thus, Hypothesis 1, but not Hypothesis 2, was supported. The school acculturation effect was not explained by other school characteristics which were also related to individual acculturation. The significant effects of generation status, family visits abroad, and time in the United States demonstrated that in addition to school context, they are salient influences on the youths' acculturation.

With regard to group size, the finding of an effect of school proportion acculturated partially conforms to the predictions derived from Blau's macrostructural theory. The relative size of groups in the school mattered for individual acculturation. However, the school effect did not differ for the two sub-samples. More acculturated students, like their less acculturated counterparts, were similarly affected by the larger group of more acculturated students.

It may be that the school proportion more acculturated, which here is measured in terms of language use, is influential for its social status, regardless of its size. Despite whatever ethnic or language diversity there may be in the school populations, English is the dominant language in school. School business is, by law, conducted in English, and implicit in the schools' aim to educate their students is the assumption that the students will be English-fluent upon graduation. Add to this the increased pressure on schools to do their part to integrate immigrant children by teaching them English (Thomas and Collier 1997) and the pressure on schools to meet performance requirements (Nichols, Glass, and Berliner 2005), and you have an environment that privileges English and perhaps sends a message that other languages are undesirable. English speakers, consequently, may enjoy a dominant social status. This social status may thus motivate less acculturated students to develop their English skills over time. If so, it may explain how larger proportions of more acculturated students affect individual acculturation, even when they comprise a numeric minority in school. Eleven of the 30 schools had majorities of less acculturated students. Yet, the multivariate models showed that any unit increase in the proportion of more acculturated students had an effect on individual acculturation. The less acculturated group acculturated even when it was in the numeric majority and thus, less likely to interact with more acculturated students.

A slightly different interpretation of the findings is that the students may have been influenced by a pro-English-language school culture. This culture could be communicated or reinforced through student interactions, but interactions between groups would not be required for it to exist. Students may be exposed to the culture in other ways, such as teachers' expectations of students' language use, school policies about language use in and around school, the provision of English-only materials, etc. Whether such a culture exists and how it may relate to individual acculturation should be further explored.

The large numbers of Latinos in the schools and, more specifically, in the more acculturated group, may explain the relationship between the school effect and linguistic acculturation among the more acculturated subsample of individuals. Had the school populations included larger numbers of other ethnic groups, including those least likely to contain immigrants (i.e., European Americans), the school-level measures of proportion more acculturated would have been less heavily influenced by Latinos and the dichotomy between more and less acculturated youths at the individual level may have been more clear. If so, it is possible that no school effect would have been found for more acculturated youths because the group would have been comprised of truly English monolingual students.

This scenario of more ethnically heterogeneous schools raises a question about the group influence: Are the groups that influence individuals primarily acculturation groups (more acculturated versus less acculturated) or acculturation groups within ethnic groups (e.g., more acculturated Latinos versus less acculturated Latinos)? The findings here may only support the latter possibility, which could be tested by restricting the school-level measures to Latinos only. Further research with more ethnically heterogeneous schools would be needed to confirm the former possibility. Blau's theory doesn't clearly indicate the level at which group characteristics become salient. Such research could address this issue.

As mentioned previously, school effects were found even though the sample included schools whose more acculturated population was not the larger of the two groups. A question remains as to whether the effect is consistent across the spectrum of group size. Is there perhaps a threshold upon which the effect of school proportion more acculturated begins to operate? Future research could compare the school effect when more acculturated students constitute <50 percent, when they constitute an amount about equal to that of less acculturated students, and when they constitute <50 percent of the school population. This analysis would inform the interpretation of the school effect. If the presence of more acculturated students influences individual acculturation even when they constitute a numerical minority, then cultural learning through interaction between groups may not be the explanatory mechanism.

The effect of school proportion more acculturated persisted even after controlling for other school characteristics. The possibility of selection—students select into schools based on their composition—as an explanation for the school effect was ruled out given that the sample schools are comparable both in terms of socioeconomic status and language programming (since bilingual education is prohibited by law) and that school choice is severely limited by the requirement that parents assume the costs for transportation to alternative schools.

With regard to acculturation change, the finding of an average decrease in linguistic acculturation across time among the more acculturated youths was unexpected because they were, by definition, assumed to be at the end of the acculturation process. The average acculturation level at wave 2 for this group was still well above the average level for less acculturated youths. The decline in the scores could be attributed to slight variations in the occasional use of Spanish, since the group included “mostly English”-speaking youths as

well as “only English”-speaking youths. Given pro-English forces in the schools, one might attribute the result to a possible underreporting of Spanish use at wave 1 and more accurate reporting of it at wave 2, after the research team established rapport with the youths. Alternatively, in this environment, these more acculturated youths may have discovered the subversive power of speaking Spanish and begun to strategically employ it as a form of early youthful rebellion. The result may also be attributed to developmental progress such that this group gave a more nuanced assessment of their language use at the later wave.

This study examined acculturative change in Arizona, a rapidly growing area that receives a regular influx of new immigrants. Notably, however, even in an environment with many recent immigrants, the school proportion of more acculturated students influenced all Latino students in the direction of greater acculturation. Thus, while schools and neighborhoods form overlapping contexts for children, they do not necessarily influence individual acculturation in the same ways. That said, the patterns observed here may differ from those in traditional immigrant-receiving areas, such as Texas, where there are more Latinos and especially Latinos who have been there for generations. For example, there may be greater support for bilingualism and English may not be as prominent in the schools. However, given that new immigrants are increasingly heading to non-traditional destinations within the United States (Fischer and Tienda 2006), research such as this is important for illuminating patterns of acculturation in these areas.

This study has several limitations. First, the study examined the relationship between school composition and individual acculturation experience among a majority Mexican-heritage sample of 5th graders in the Southwest United States. Because Mexican-heritage people form the largest immigrant group in the United States and are heavily geographically concentrated in the study area, their experiences may not represent those of other ethnic or immigrant groups or of Mexican-heritage people in other geographic areas. Similarly, the extent to which these results may apply to other age groups or to schools with more diverse ethnic composition is not known. Despite the limitation on generalizability, this study's focus on preadolescents, who are still undergoing language development (Long 1990), is an advantage given that the acculturation measure is language based and that with age, language acquisition becomes more difficult. Furthermore, since much research on acculturation focuses on adolescents, this study expands on the relatively few studies of preadolescent acculturation (Coll and Marks 2009).

Second, this study relied on language use as a measure of acculturation. The sample included children who were still at an age at which language acquisition occurs relatively easily (Long 1990), and the 6 months between waves is a substantial amount of time for considerable change in language use to occur. Furthermore, research has documented the robustness of language use as an acculturation measure (Rogler, Cortes, and Malgady 1991; Samaniego and Gonzales 1999). Nonetheless, language use represents only a single dimension of acculturation. Had other domains, namely attitudes and behavior other than language use, been available for analysis, the study results and implications may have been different. For example, if acculturation were measured in terms of the espousal of certain American values, could it be argued that those values have the same high status as English language use and would thus be influential at the school level? In the case of values and attitudes, consideration would have to be given to how and to what extent they could be recognized in interaction, since they are less obvious. Thus, their effects at the school level may be more dependent on a certain minimum degree of interaction between the groups, enough to make the values and attitudes recognizable to and subsequently adopted by the youths. There is fertile ground for future research examining school-level effects using different domains of acculturation. However, an advance in this direction is dependent on advances in the area of acculturation measurement. The contribution of this study lies not in

its advancement of acculturation measurement but in its exploration of a level of analysis beyond the individual—specifically, the school level.

A third study limitation is that the models testing for differences in the school effects between the sub-samples used a dichotomous measure of linguistic acculturation whereas the models testing school effects in the separate sub-samples used a continuous measure. The models are, therefore, conceptually but not technically comparable. This strategy was employed because linguistic acculturation was the indicator of acculturation, and a distinction was made between youth who were acculturating (i.e., undergoing change) versus youth who were acculturated (i.e., not undergoing change). Consequently, the categories of more acculturated and less acculturated were viewed as nominal rather than as ordinal for reasons relating to macrostructural theory, as described earlier. The alternative approach would employ an interaction term that was the product of the school effect with the continuous measure of linguistic acculturation rather than the subsample dummy variable. It would address the question of whether the school effect is stronger or weaker as a function of the level of linguistic acculturation, including among members of the same acculturation sub-group. Although this approach would yield technically comparable models, it would not conceptually address the study hypotheses, as informed by Blau's theory, about distinct effects for discrete groups. Therefore, it was not pursued.

Finally, individual acculturation is a complex process resulting from cultural interaction in various contexts of which school is but one. The models tested here included control variables aimed to account for potential alternate influences (generation status and family visits abroad). However, these measures may not capture the influence on acculturation of all other contexts. Studies of individual contexts, such as this one on school, may be complemented by studies of multiple contexts to assess their relative influence on individual acculturation.

Another area for future research is the effect of school composition on bicultural youths. Although the final models included an individual-level baseline acculturation control variable that captured variation within the sub-sample, bicultural youths were included in the less acculturated subsample rather than analyzed separately. Bicultural youths endorse elements of both the origin culture and host culture (Birman 1998). Some researchers believe biculturalism to be an optimal cultural category, protecting against undesirable psychosocial outcomes (Castro, Boyer, and Balcazar 2000; Portes, Hao, and Rumbaut 2001). Analyses in this area could explore biculturalism not only at the individual level but also at the school level since schools with large proportions of bicultural students may be different from schools with large proportions of more acculturated students and since bicultural youths are themselves a diverse group, with varying levels of preference and ability for the two cultures.

In conclusion, as the first study, to the author's knowledge, of the effect of school context on individual acculturation experience, it shows that characteristics of the school context—most notably, the proportion of more linguistically acculturated students—shape individual youths' linguistic acculturation. The study supports Portes and Hao's (2004) argument that schools can affect students not merely through an individual's immediate peers but also through an aggregate effect, and it expands the category of individual characteristics shaped by the school to include acculturation. The finding of a trend toward English in the school effect, regardless of baseline acculturation, is consistent with results from studies of immigrant youth that examined changes in language use over generations (Alba et al. 2002). The present study shows how not only within a single generation, but also within a school year, fellow students in the aggregate significantly influence changes in youths' acculturation. This knowledge may inform debates about how to manage acculturation's

consequences for children and youths and foster the social integration of diverse ethnic and immigrant groups, especially in and via the schools.

The results, in important respects, conform to the predictions informed by macrostructural theory, indicating that the distribution of groups and in particular, the size of groups matter. However, important questions were raised about the mechanisms by which the schools' more acculturated population exerts its influence. Are the effects truly structural (i.e., a function of group size), or are there cultural mechanisms (i.e., pro-English-language school culture or high social status associated with being more acculturated) at work in the school? Does the school's size of the more acculturated group actually lead to more interaction of the less acculturated students with the more acculturated students? Further research will be needed to test whether the proposed mechanism for the school effect on individual acculturation—cultural learning through greater interaction—actually explains the effect. Future research can also address whether school composition affects attitudinal domains and other behavioral domains of individual acculturation. For now, this study represents a first step toward understanding how fellow students shape youths' acculturation.

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Table 1

Means and Standard Deviations

	Total sample	Less acculturated sample	More acculturated sample
<i>N</i>	1720	938	782
Individual level			
Wave 2 acculturation	3.286 (.903)	2.870 (.712)	3.781 (.855)
Wave 1 acculturation	3.333 (.958)	2.613 (.555)	4.180 (.569)
Female	.506 (.500)	.542 (.498)	.462 (.499)
First generation *	.285 (.451)	.411 (.492)	.135 (.342)
Second generation	.525 (.499)	.553 (.497)	.490 (.500)
Third + generation	.190 (.393)	.036 (.186)	.375 (.484)
Family visits abroad	1.397 (1.285)	1.517 (1.262)	1.249 (1.295)
Age in years	10.365 (.592)	10.373 (.605)	10.359 (.575)
Usual grades	6.819 (1.860)	6.771 (1.857)	6.891 (1.851)
Time in United States	3.967 (1.303)	3.615 (1.391)	4.395 (1.042)
School level			
School proportion acculturated	.522 (.144)	.487 (.133)	.565 (.146)
School type			
K-8 *	.580 (.494)	.620 (.485)	.531 (.499)
K-6	.172 (.377)	.156 (.363)	.192 (.394)
K-5	.227 (.419)	.206 (.404)	.253 (.435)
4-8	.021 (.143)	.018 (.133)	.024 (.154)
Percent Title I	87.3 (9.5)	88.6 (8.5)	85.7 (10.3)
Enrollment	735.455 (176.651)	763.016 (188.272)	702.395 (155.301)

* Reference group.

Table 2

Estimates and Standard Errors, Predicting Wave 2 Linguistic Acculturation

	Less acculturated	More acculturated	Full-sample
Intercept	2.918 (.143) ***	2.995 (.163) ***	2.741 (.105) ***
School level			
School type: K-6	.184 (.072) *	.143 (.089)	.196 (.055) ***
K-5	.055 (.058)	.069 (.077)	.096 (.046) *
4-8	-.033 (.181)	.095 (.194)	.121 (.138)
Percent Title I	.010 (.003) **	-.002 (.004)	.004 (.003)
Enrollment	.000 (.000) +	.000 (.000)	.000 (.000)
School proportion linguistically acculturated	.858 (.288) **	.418 (.312)	.617 (.215) **
Individual level			
Wave 1 linguistic acculturation ^a	.402 (.043) ***	.566 (.053) ***	.540 (.042) ***
Female	.017 (.045)	-.018 (.050)	-.002 (.036)
Second generation	-.029 (.072)	.235 (.106) *	.069 (.059)
Third + generation	.172 (.128)	.632 (.126) ***	.712 (.078) ***
Family visits abroad	.003 (.019)	-.049 (.021) *	-.033 (.014) *
Age in years	.033 (.036)	-.024 (.047)	.005 (.030)
Usual grades	-.020 (.012)	.008 (.015)	-.015 (.010)
Time in the United States	.098 (.026) ***	.089 (.032) **	.136 (.020) ***
Interaction			
School proportion linguistically acculturated * More acculturated sub-sample			-.147 (.261)

Note: All models contained a random intercept for Wave 2 individual linguistic acculturation.

+ $p < .10$.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

^a Measured as a continuous variable in the subsample models and as a dummy variable in the full-sample model.