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English Plus: Exploring the Socioeconomic Benefits of Bilingualism in Southern California[1]

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Introduction

This chapter presents the results of a study carried out in Southern California with a multiethnic and multigenerational sample of young adults in their 20s and 30s. It merges data from two major surveys of adult children of immigrants, IIMMLA (Immigration and Intergenerational Mobility in Metropolitan Los Angeles) and CILS (the Children of Immigrants Longitudinal Study in San Diego). Both surveys utilized the same measures for key variables, and were carried out at about the same time in the six contiguous counties of Southern California with respondents who were of similar ages, ethnicities, and generations. The analysis examines the independent effects of bilingualism (measuring multiple dimensions of linguistic ability), or "English-Plus," on three socioeconomic outcomes: dropping out of high school, occupational status, and earnings. The nation's largest regional site of immigrant incorporation over the past three decades, Southern California is home to the greatest diversity of immigrants (in both national and social class origins) to have settled in the U.S. over this period, as well as to their rapidly growing second generations, providing a strategic site for research. Indeed, of the region's 21 million residents, by 2010 about half spoke a language other than English at home while the other half spoke English only–a linguistic context that lends itself to an investigation of the potential socioeconomic benefits (or not) of bilingualism vs. English monolingualism. The analysis will focus on young adults in their 20s and 30s, especially those who are the children of immigrant parents—both those who immigrated as children and those who were born in the U.S.—in comparison with young adult children of U.S.-born parents (third or higher generations).

Language Use Patterns in the United States, 1980-2010

The acceleration of international migration to the United States since the 1970s has been accompanied by renewed linguistic diversity (see Rumbaut and Massey, 2013). The 1970 census reported the lowest proportion of foreign-born in the country's history: only 4.7 percent of the population. A decade later, when the 1980 Census began asking people aged 5 or older if they spoke a language other than English at home, it found that 11 percent (23 million) of those five years or older answered in the affirmative, and nearly half of them (11 million, or 5 percent of the total population) reported that they spoke Spanish. In 1990, 14 percent (32 million) of the population reported speaking

[1] I gratefully acknowledge the support of the Russell Sage Foundation for the two surveys on which this research is based—IIMMLA (Immigration and Intergenerational Mobility in Metropolitan Los Angeles) and CILS-III (Children of Immigrants Longitudinal Study), San Diego—which were carried out in Southern California during 2001-2004. This paper was prepared for the research volume on "Exploring Possible Benefits of Bilingualism in the Labor Market and Beyond," The Civil Rights Project/Proyecto Derechos Civiles, UCLA, in collaboration with the Educational Testing Service.

a language other than English at home. These figures rose sharply again in 2000 to 18 percent (47 million). And as of 2010, more than 20 percent (60 million) of the population 5 and older reported speaking a language other than English. What is more, nearly two thirds of those non-native English speakers (37 million) reported speaking Spanish; currently Spanish speakers comprise 13 percent of the population.

Because the census never asked whether this was the "usual" language spoken at home, or how frequently it was used relative to English, or how proficiently it was spoken, it probably elicited a considerable over-estimate. With these data it is impossible to measure or determine the extent and meaning of "bilingualism," let alone determine its value, if any, in labor markets and the economy. Still, the data do point to the presence of a very substantial and growing minority of people who are not English monolinguals. Of the 60 million speakers of non-English languages in the U.S. in 2010, 57 percent were immigrants, as were 49 percent of those who spoke Spanish. However, a sizable proportion of non-English speakers are native-born. These non-English speakers are not distributed randomly throughout the country, but are concentrated in states and metropolitan areas of principal settlement, above all in California—despite a diversification in patterns of settlement to "new destinations" since the 1990s (Rumbaut and Massey, 2013; Portes and Rumbaut, 2014)—and within California, above all in Southern California. In 1990, fully a third of the total immigrant population of the United States resided in California; while their relative proportion has since declined, still more than a fourth of all immigrants live in California today. What are the levels of bilingualism of the people of Southern California? And in a country with a dubious reputation as a language graveyard (*cf*. Rumbaut 2009; Portes and Rumbaut 2014; Alba *et al.*, 2002)—and in a world where the dominance of English as a global language has long been on the rise—are there measurable economic advantages of bilingualism in the region's labor market?

Southern California encompasses a six-county region, from the Mexican border through the coastal counties of San Diego, Orange, Los Angeles and Ventura, to the "Inland Empire" counties of Riverside and San Bernardino. Of its 21 million residents, just over half (52 percent) speak English only, while the other half (48 percent) speak a language other than English at home, including 7 million (34 percent) who speak Spanish at home. Each of the six counties is "majority-minority," as California as a whole has been since 1999. Non-Hispanic whites account for 37 percent of the region's total population, blacks for about 7 percent, and the diverse population of Asian origins for 13 percent. Hispanics comprise a plurality of 43 percent (nearly 9 million, 7.3 million of whom are of Mexican origin). Indeed, nearly a quarter of the total Mexican-origin population of more than 32 million in the United States in 2010 was concentrated in Southern California.

Immigrant Nationalities, Class Origins, and Modes of Incorporation

The national and linguistic diversity of contemporary immigrants pales in comparison to the diversity of their social class origins. By far the most educated *and* the least educated groups in the United States today are immigrants; the highest and lowest rates of poverty as likewise found among immigrant nationalities. These wide disparities reflect polar-opposite types of migrations embedded in different historical contexts—and inserted in an "hourglass-shaped" labor market, which attracts both immigrant professionals and low-wage laborers. Immigrants arrive with or without legal authorization, and some as state-sponsored refugees; these legal statuses interact with their human capital to shape distinct modes of incorporation. The undocumented tend to consist disproportionately of manual laborers, whose legal vulnerability (and intensified fears of detention and deportation) makes them

economically exploitable and concentrates them in central cities; their children often grow up in neighborhoods and attend schools where they are exposed disproportionately to peer groups involved with youth gangs and intergroup violence, and where they are exposed to the weakest schools. "Brain drain" professionals mainly enter under the occupational preferences of U.S. law, and some are also found among the first waves of refugee flows; they are more likely to become naturalized citizens and, usually within the first generation, homeowners in the suburbs where their children have access to the best resourced schools. Internal group characteristics interact in complex but patterned ways with external contexts of reception (e.g., government policies and programs, the state of the economy and employer preferences in local labor markets, the extent of racial discrimination and nativist hostility, the strength of existing ethnic communities) to form the conditions within which immigrants and their children adapt to different segments of American society. An analysis of the socioeconomic benefits of bilingualism in local labor markets needs to take these complex determinants into account in order to disentangle the independent relationship of fluent bilingualism to educational, occupational and economic outcomes.

What do we know about foreign-parentage young adults in this transformed national context, of their bilingual abilities and patterns of socioeconomic mobility? How do they fare vis-à-vis native-parentage peers who are English monolinguals? Unfortunately, decennial census data on parental nativity, which had until 1970 permitted the identification of the foreign-born (the first generation) from the U.S.-born of foreign parentage (second generation) and of native parentage (third and beyond generations), have not been collected since. Moreover, neither the decennial census nor now the annual American Community Survey (U.S. Census Bureau, 2011) have ever collected language data on the level of proficiency, preference and use of non-English languages; instead they have been concerned only with ascertaining the level of English ability of those persons who report that a language other than English is spoken at home. Scholarship on adult outcomes among the new generations spawned by the current era of immigration thus needs to rely on especially designed regional surveys, such as the third wave of the Children of Immigrants Longitudinal Study (CILS-III); the Immigrant Second Generation in Metropolitan New York (ISGMNY) study; and the Immigration and Intergenerational Mobility in Metropolitan Los Angeles (IIMMLA) survey. The merged IIMMLA and CILS-San Diego samples constitute a unique data set and will be the focus of the analysis that follows below.

Panethnic categories such as "Asians" and "Hispanics or Latinos" (or "black" or "white" for that matter) are not homogeneous, but lump together many different nationalities, migration histories, legal statuses, phenotypes, class and cultural backgrounds, and local contexts of adaptation in the U.S. *Table 1* begins to unpack these categories by examining the largest immigrant nationalities in the U.S. and in California, and identifying three main immigrant types based on (1) legal status at entry as classified by the government (with or without authorization, or as state-sponsored refugees), and (2) human capital (indicated by their level of education, ranging from professionals to manual laborers). While each type is represented by several nationalities, each nationality may also include individuals representing different types. A first type is composed of a majority of unauthorized laborers with less than a high school education (e.g., Mexicans, Salvadorans and Guatemalans); a second type encompasses a majority of legal permanent residents with college degrees or more advanced credentials (e.g., Filipinos, Chinese, Koreans, and Indians); and a third type represents those admitted with refugee status (and access to public assistance on the same basis as U.S. citizens), albeit with a mixed (often low) human capital profile (e.g., Vietnamese, Cambodians, Laotians, and Cubans). These

nationalities (the Indians and Cubans excepted) make up the bulk of the IIMMLA and CILS-III samples that provide the focus of analysis below.

[Table 1 about here]

While the 40 million foreign-born in the U.S. in 2010 came from some 190 countries, 11.7 million (29 percent) came from only one: Mexico. As Table 1 shows, another 11.2 million (28 percent) came from China (including Taiwan), the Philippines, India, Vietnam, Korea, El Salvador, Guatemala and Cuba.[2] Thus, more than half (57 percent) of the foreign-born population of the U.S. has come from these nine countries—all with close historical ties to the U.S., including prior neo-colonial episodes and wars (India is a main exception in that regard). Those are also the principal sources of international migration to California (except for Cuba), accounting for more than three-fourths of the state total. Indeed, while California is home to 10 percent of the native-born population of the U.S., it is also home to between a third and a half of each of the major foreign-born groups of interest to our study.

In 2011, data from the Department of Homeland Security estimated the unauthorized population of the U.S. at 10.8 million—down from an estimated 11.8 million in 2007, but tripling since the early 1990s. Over a fourth (27 percent) of the foreign-born residing in the U.S. may be undocumented. Legal status is a critical factor in shaping mobility trajectories; unauthorized status can affect virtually every facet of an immigrant's life. As Table 1 indicates, all of the principal sources of legal immigration to the U.S. are also among the top sources of unauthorized migration. More than half of all Mexican, Salvadoran and Guatemalan immigrants in the U.S. today lack legal status—together they account for nearly three fourths of the unauthorized population—but so are non-trivial proportions of the Filipinos (16 percent), Koreans (16 percent), Vietnamese (13 percent), Indians (11 percent) and Chinese (8 percent).

Given pronounced differences in migration histories and statuses, human capital, family backgrounds, and contexts of exit and of reception in the United States among these nationalities, we can hypothesize possible mobility trajectories for their 1.5- and 2nd-generation adult children as they acculturate and make their way in the Southern California economy and labor markets. However, since we cannot ascertain those mobility outcomes intergenerationally with available official statistics, nor the effect of bilingualism on those outcomes (cf. Stevens, 1999), we turn to two specialized surveys, IIMMLA and CILS.

Sample, Data and Measures: The IIMMLA and CILS-III Surveys in Southern California

Data for the analysis that follows is drawn from two sources: the third wave of the Children of Immigrants Longitudinal Study (CILS) in San Diego, a decade-long panel study whose last phase of data collection ended in 2003; and the Immigration and Intergenerational Mobility in Metropolitan Los Angeles (IIMMLA) survey, a cross-sectional study whose data collection was carried out in 2004. [More detailed information about each study is presented in the *Appendix*.] Both surveys were conducted in the six contiguous counties comprising Southern California (San Diego, Orange, Los Angeles, Ventura, Riverside and San Bernardino), which include the largest communities of Mexicans,

[2] Cuba and the Dominican Republic ranked 8th and 9th in size of their foreign-born populations in 2010—but the Cubans and Dominicans are concentrated in Florida and New York, respectively.

Salvadorans, Guatemalans, Filipinos, Taiwanese, Koreans, Vietnamese, and Cambodians outside of their countries of origin. Adjacent to the Mexican border, Southern California has been the nation's largest net receiver of immigrants over the past three decades; by 2000, on the eve of these surveys, nearly one of every five U.S. immigrants resided here.

For purposes of this analysis the two data sets were merged, yielding larger sample sizes(N=6,135) for significant subgroups and greater precision and reliability for estimates of socioeconomic outcomes by group and generation. They are based on representative samples of respondents evenly divided by gender, of the same approximate age (28.6 years for IIMMLA respondents and 24.2 years for CILS) and national origins (Mexicans, Salvadorans, Guatemalans, Filipinos, Chinese, Koreans, Vietnamese, Cambodians and Laotians make up 76 percent of the merged sample, and other Latin American and Asian nationalities 10 percent), who were surveyed at about the same time (IIMMLA in 2004, CILS-III in 2001-2003) in the same metropolitan region (the six contiguous Southern California counties). In IIMMLA and CILS-III the focus was on patterns of adaptation of adult children of contemporary immigrants—both those who were born abroad but arrived in the U.S. as children (the 1.5 generation), and those who were born in the U.S. of immigrant parents (the second generation); although in IIMMLA sizable random samples of native-parentage white, black and Mexican-American respondents (3rd and higher generations) were added. Both surveys used identical measures of all relevant variables, including—among many others—language use, preference and proficiency (ability to understand, speak, read and write in that language), parental background (including immigrant parents' citizenship status, length of time in the U.S., and English-language ability), and the respondents' educational, occupational and economic outcomes in adulthood.

[Table 2 about here]

Table 2 shows the number and distribution of IIMMLA and CILS respondents by gender and generational cohort (1.5, 2nd, 3rd and higher) for the main ethnic groups used in this analysis. Overall, their mean age was 27.5. Of the 6,135 respondents in the merged sample, 80 percent were either 1.5 generation (n=2,356) or 2nd generation (n=2,566), and 20 percent were 3rd or higher generations (n=1,213). Among the 1.5 and 2nd generations (n=4,922), Mexicans, Salvadorans and Guatemalans accounted for 1,621; Filipinos, Chinese [including Taiwanese] and Koreans numbered 1,824; and those from Vietnam, Laos and Cambodia totaled 790. The "Other Latin Americans" (n=240) came from all of the other Spanish-speaking countries of Central and South America and the Caribbean. Other nationalities (n=447) included respondents from Canada and dozens of countries from Europe, Asia, the Middle East, and the non-Spanish Caribbean. For all groups except Mexicans and non-Hispanic whites and blacks, immigration is so recent that sampling was not feasible beyond the second generation. (Indeed, for those groups without exception, more than 70 percent of their total population in the U.S. is foreign-born, and of the remainder nearly all belong to the U.S.-born second generation.) Of the 2,566 born in the U.S. and classified as second generation, 76 percent had two foreign-born parents (the "2.0" cohort), while 24 percent had one U.S.-born parent (the "2.5" cohort). The immigrant parents in this Southern California sample are not recent arrivals: they had resided in the U.S. for an average of 26 years (over 95 percent had been in the U.S. for more than 10 years, and 75 percent for more than 20 years). Finally, of the 1,213 respondents classified as third or higher generations (U.S.-born persons with two U.S.-born parents), half of the Mexican Americans (47 percent) had four U.S.-born grandparents ("4th+" generation), as did two thirds (69 percent) of the non-Hispanic whites, and almost all (95 percent) of the black respondents.

Linguistic Characteristics and Measures of Bilingualism

Table 3 summarizes relevant survey evidence on bilingualism for our sample—comparing the percent that grew up speaking a non-English language at home vs. their current language preferences and level of proficiency in the non-English language. The data are broken down by ethnicity and detailed generational cohorts: in addition to the 1.5 and 3rd+ generations, the U.S.-born second generation is divided here into those with two foreign-born parents ("2.0"), and those with one foreign-born and one U.S.-born parent ("2.5"). Overall, among foreign-parentage respondents, 94 percent of the 1.5 cohort and 87 percent of the "2.0" cohort grew up speaking a language other than English at home (somewhat less among the Filipinos)—but the proportion dropped to 58 percent among the "2.5" cohort, suggesting that English rapidly becomes the sole language in homes where one parent is U.S.-born. By the 3rd+ generations, only 14 percent reported speaking a language other than English at home growing up. However, examination of actual language preferences in adulthood shows a reversal; overall, more than half (52 percent) of the foreign-born 1.5 cohort now prefer to speak English only at home, as do more than two thirds of the 2.0 (70 percent), 89 percent of the 2.5, and 98 percent of the 3rd+ cohort.

The rapid switch to English is accompanied by the rapid atrophy of respondents' speaking, reading and writing abilities in their non-English mother tongue. Without exception, respondents' English proficiencies are greater than those in the non-English language. Among the 1.5 cohort, less than half (47 percent) could speak the non-English language "very well," and only a third could read it "very well" (34 percent); by the 2.0 generation only a third (34 percent) could speak the non-English language "very well," and only a quarter could read it "very well" (25 percent); among the 2.5 cohort those proportions decreased more sharply still to 16 percent and 13 percent, respectively; and the 3rd+ generations had become largely English monolinguals (less than 3 percent had either speaking or reading fluency in the non-English language, and less than 2 percent had writing fluency).

[Table 3 about here]

Of the four dimensions of language proficiency measured (each on a 4-item scale from "very well" to "well," "not well" and "not at all"), respondents reported greater ability in *understanding* a language, followed by *speaking*, then *reading*, and then *writing* in that language. We present a dichotomous measure of *balanced bilingual* in the last column of table 3, defined as the ability to understand, speak, read and write a non-English language "very well" or "well" on all 4 dimensions, for a combined score of 3.0 or higher on the 4 point scale. Balanced bilinguals in turn encompass *fluent bilinguals* (defined as having a proficiency of "very well" on all 4 dimensions—a combined score of 4.0), and *moderate bilinguals* (who do "well" on average on all 4 dimensions—for a combined score between 3.0 and 4.0). By this measure, those who are not balanced bilinguals include *English monolinguals* as well as *limited bilinguals* (who understand, speak, read and write a non-English language "not well" or poorly—who thus score 2 or less on all dimensions of proficiency).[3] .

[3] The surveys measure self-reported ability to understand, speak, read and write in both English and a non-English language, as was done in the CILS surveys in 1992, 1995 and 2001-03. Longitudinal surveys employing the identical methodology carried out with large samples of Southeast Asian refugee adults from Vietnam, Laos and Cambodia in the 1980s, and studies of Southeast Asian youth from multiple ethnic groups, have been shown to produce valid and reliable results by, for example, correlating self-report survey data to objective test results of linguistic proficiency for the same dimensions measured. See Rumbaut and Ima, 1988; Ima and Rumbaut, 1989; Rumbaut, 1989; Portes and Rumbaut, 2001.

The patterns described above hold without exception across all of the ethnic groups, and demonstrate the rapidity with which English is acquired and comes to be preferred by immigrants who arrive at a young age and especially by the U.S.-born children and grandchildren of immigrants. As Table 3 also documents, all of the Asian-origin groups are much more likely than all of the Spanish-speakers to lose bilingual skills (especially literacy skills) by the second generation, and to effectively become English monolinguals among the 2.5 cohort. Thus, among those of Mexican descent, between half and two thirds of the 1.5 and 2.0 cohorts can still speak and read Spanish very well, but those proportions fall to between a quarter and a third in the 2.5 cohort, and decrease to single digits by the 3rd+. Indeed, in a recent study of "linguistic life expectancies" (Rumbaut *et al*., 2006), also using the merged CILS-San Diego and IIMMLA data sets, we estimated the average number of generations a mother tongue can be expected to survive after the arrival of an immigrant in Southern California—home for the nation's largest concentration of immigrants, including Spanish-speakers. The analysis showed that even among those of Mexican origin, the Spanish language "died" by the third generation; all other languages "died" between the second and third generations.

In sum, the proportion of those who have grown up speaking a non-English language at home plummets from over 90 percent in the 1.5 generation to just over 10 percent by the 3rd+ generations. At the same time, the preference for English increases rapidly, becoming nearly universal by the 3rd generation. The proportion of "balanced bilinguals" (as previously defined) decreases generationally from just over 50 percent in the 1.5 generation, to about 25 percent in the 2.5 generation, and 5 percent by the 3rd+ generations. Each of the measured dimensions of linguistic proficiency (understanding, speaking, reading and writing) clearly atrophies from generation to generation, with the most rapid decrease occurring in the 2.5 generation. Once a respondent is raised in a family where one parent is not an immigrant or native speaker of a non-English language, it becomes very difficult to sustain balanced bilingualism in the home. By the 3rd generation, the shift to monolingual English appears almost irreversible—even in a high-immigration region such as Southern California.

Socioeconomic Characteristics of the Sample, by Gender, Age and Ethnicity

Education, and particularly the attainment of a college degree, increasingly determines the occupational and economic opportunities and payoffs available to young adults in the U.S., and hence their prospects for upward (or downward) mobility in relation both to their peers and to their parents. Access to and success in higher education, in turn, is shaped by a complex of factors, including all of those examined here—as well as by early school achievement. Before moving to a multivariate analysis of the effects of bilingualism on selected outcomes, including education, *Table 4* presents a sketch of key social and economic characteristics of the sample: parental socioeconomic status, high school GPA, years of education attained in adulthood, high school dropout status, college graduate status, part-time or full-time employment, and annual earnings—broken down by gender, age and ethnicity.

[Table 4 about here]

Table 4 provides first a socioeconomic status ranking of the groups in the sample, as measured by a composite index of father's and mother's education, occupational prestige, and home ownership. Standardized z scores (mean = 0, standard deviation =1) are here converted into a 0 to 1 scale for ease of interpretation. As the data show, the Chinese have the highest SES score (.806), followed closely by non-Hispanic whites and Filipinos (.798), and Koreans (.789). At the bottom, with scores just

above .500, are Vietnamese, Mexicans, Salvadorans and Guatemalans, and the "other Asians" (mainly Cambodians, Lao and Hmong) lower still. Blacks and the "other Latin Americans" are in between.

Four measures of educational attainment are also presented in Table 4 by gender, age, and ethnicity: their average grades in high school[4] (during adolescence); their highest level of education attained (in adulthood), in years; the percentage of those who dropped out of high school; and of those who graduated from college (with a bachelor's or higher degree). There are very significant ethnic differences, observable both in their high school grades during adolescence as well as in the highest level of education completed in adulthood.

Intergroup differences in early achievement are clearly discernible in high school grades. Females had significantly higher GPAs than males. Getting mostly A's in high school were Asian students (40 percent), followed by whites (31 percent), with Hispanics (15 percent) and blacks (13 percent) trailing well behind. Hispanics were more likely than other groups to get mostly D's and F's (10 percent), and blacks to get mostly C's (34 percent). Mexicans in both the 1.5 and 2nd generations, as well as Cambodians and Laotians, were the groups most likely to get mostly D's and F's (14 percent)—but not the Salvadoran and Guatemalans, the majority of whom (53 percent) were B students. At the other end of the scale, fully half of the Chinese (51 percent) and Koreans (50 percent) were A students, followed closely by the Vietnamese (45 percent), but only a third of the Filipinos (32 percent) received mainly A's, slightly above the proportion for whites.

After leaving high school, a decade or so later on average, what was the highest level of educational attainment respondents had attained? Overall, 10 percent were high school dropouts, 17 percent had attained only a high school diploma, and 41 percent had some college experience (but no college degree). At the other end, among those 25 and older, 27 percent had earned a Bachelor's degree, and 13 percent an advanced degree (or were enrolled in graduate or professional school). Virtually the same wide achievement gaps seen in high school are observable between groups in adulthood. Gender is an exception: Female respondents significantly outperformed males in high school GPA, and in adulthood a slightly higher percent earned college degrees (while a smaller proportion had dropped out of high school). However, women were significantly less likely to be working full-time, and reported significantly lower annual earnings than men (about $2,500 less).

High school dropout rates were much higher among Hispanics (18 percent) and blacks (15 percent) than among whites (8 percent) and Asians (under 3 percent). Asians (41 percent) and whites (31 percent) were twice as likely as Hispanics (14 percent) and blacks (18 percent) to have earned a bachelor's degree, and in addition Asians (18 percent) and whites (17 percent) were more than twice as likely as Hispanics and blacks to have earned advanced degrees (or be in the process of earning them). [These results for a Southern California sample are only slightly more positive than those seen with national-level survey data, and the interethnic group rank order matches the results precisely; see Rumbaut, 2008.]

Examining educational attainment and earnings more closely by national origin and generation reveals wider differences—suggestive of widening future socioeconomic inequalities segmented by ethnicity. By far the most outstanding level of achievement is observed among the Chinese, with the

[4] High school grades were measured for CILS-San Diego respondents by official academic grade point averages calculated by the school district at the end of high school, on a 4-point scale (where A=4). IIMMLA respondents provided self-reports.

lowest high school dropout rate (a miniscule 0.7 percent), along with an extraordinarily high 33 percent who had earned or were earning an advanced degree, another 49 percent who had already earned a bachelor's degree, and the highest earnings of any group in the sample—even though, as seen earlier in Table 3, the Chinese also had a low proportion of balanced bilinguals (less than a third). They were followed closely by the Koreans (27 percent earned or were earning an advanced degree, 51 percent earned a bachelor's, and only 2 percent failed to complete high school), and then the Vietnamese (14 percent earned or was earning an advanced degree, 44 percent had a bachelor's, and only 3 percent had dropped out of high school). The Filipinos most closely resembled majority-group whites, and the Salvadorans and Guatemalans resembled minority-group blacks, in their patterns of educational attainment and earnings. The Mexicans, Cambodians and Laotians were at the bottom of the hierarchy, with the Mexicans having the highest dropout rates of any group.

In the Mexican case, data permit a more detailed analysis by generation, from the 1.5 to the second to the 3rd+ cohorts. Here the patterns are not linear, but reflect, first, a very significant improvement in high school dropout rates from the 1.5 to the second generation (in half from 30 to 15 percent), and a slight improvement in college graduation rates (from about 14 to 18 percent). But achievement peaks in the second generation: by the 3rd+, high school dropout rates increase to 18 percent, while involvement in advanced-level education declines somewhat (*cf.* Telles and Ortiz, 2008).

Effects of Bilingualism on Dropping Out of High School

Dropping out of high school is a key turning point in the transition to adulthood, and a key predictor for future life chances, particularly in the labor market. Our prior research has shown (e.g., Rumbaut 2005b, 2008), as has the prevailing research literature, that dropping out of high school is strongly linked to higher unemployment, the likelihood of being laid off, or having never worked; with the lowest level of earnings and lifetime income; with being disabled, and with worse health outcomes. High school dropouts are more likely to be divorced or separated, to not have been raised in an intact family with both natural parents present, to come from low-SES families, and to have grown up in more dangerous neighborhoods. They are four to five times more likely to be incarcerated, to have had a teen pregnancy, and a non-marital birth (Rumbaut 2005b, 2008). Given the strong link of dropping out of school with future economic outcomes, what is the relationship of balanced bilingualism to the likelihood of dropping out?

[Table 5 about here]

Table 5 presents a logistic regression analyzing the effects of balanced bilingualism and other key predictors on the likelihood of dropping out of school. English monolinguals (or limited bilinguals) and non-Hispanic whites are the primary reference groups. Both models control for age and gender, ethnicity, parental SES, family structure (growing up in a two-parent family), and an index of problems with drugs, gangs, and crime in the neighborhood where the respondent grew up. The second model enters high school GPA, given the extremely strong influence of early achievement (as measured by high school grades) on dropping out (the Wald statistic is 231). In the equation on the left panel predicting the odds ratios of dropping out, the strongest (negative) determinant is parental SES (the Wald statistic is 169.8). Latinos, blacks, and men are significantly more likely to drop out even after controlling for other predictors, while Chinese and Vietnamese are less likely. Gender washes out of the equation once GPA is entered into the model (females had higher GPAs than men).

However, in both models, the dichotomous measure of balanced bilingualism retains a strong and significant negative effect on dropping out; the odds ratio (.603) can be interpreted to mean that English monolinguals and limited bilinguals are 66 percent more likely than balanced bilinguals to drop out of high school.

This finding confirms other research (*cf.* Portes and Rumbaut 2001; Portes and Hao, 2002; Rumbaut 2005a; Rumberger and Larson 1998; but see also Mouw and Xie, 1999; Peal and Lambert, 1962) that illustrates the positive association of bilingualism with adolescent academic achievement, family cohesion, parent-child relations (including a lower incidence of parent-child conflict), self-esteem, aspirations, and other factors that are protective against the decision to drop out of school. Feliciano (2001), for example, found that bilingual students are less likely to drop out than English-only speakers; students in bilingual households are less likely to drop out than those in English-dominant or English-limited households, and students in immigrant households are less likely to drop out than those in nonimmigrant households.

Effects of Bilingualism on Occupational Status and Annual Earnings

Table 6 provides a direct assessment of the effects of different levels of bilingualism (fluent, moderate and limited bilinguals, as previously defined) on (1) *occupational status* (as measured by the Duncan Socioeconomic Index, applied to respondents' current paid jobs), and on (2) *annual earnings* (measured in dollars). Multiple linear regressions are presented, each with the same set of predictors, and two models; in each equation high school GPA (which serves in part as a proxy for cognitive ability) and total years of education attained in adulthood are entered into the second model. Again, English monolinguals are the reference group, as are non-Hispanic whites.

[Table 6]

The first regression (left panels) focuses on occupational status (measured by the Duncan SEI). The strongest predictor in the first equation is parental SES: the higher the parental socioeconomic status (a standardized composite measure of father's education, mother's education, and home ownership), the higher the respondent's SEI score. In the second model, the respondent's years of education attained emerge as the main predictor. Once high school GPA and highest education attained are entered into the model, gender washes out, as does Vietnamese, Salvadoran and Guatemalan ethnicity. However, the multivariate analysis shows very strong and significant effects for fluent bilingualism (i.e., understanding, speaking, reading and writing a non-English language "very well"), followed by moderate bilingualism (i.e., "well"), on occupational status; the effects are attenuated but remain positive and significant even after entering high school GPA and years of education into the equation (cf. Feliciano and Rumbaut, 2005).

The second regression, predicting annual earnings, shows similarly strong and significant effects for the different levels of bilingualism, with the greater the level of bilingualism, the higher the annual earnings. Fluent bilingualism, net of other predictors in the equation, is associated with an annual gain of $2,827; when GPA and years of education are entered into the second model, the effect is reduced but fluent bilinguals still are seen to earn $2,234 more than English monolinguals. Even a lesser level of bilingual proficiency carries an economic payoff. Moderate bilingualism, net of other predictors in the equation, is associated with an added annual gain of $2,425; once GPA and years of education are entered into the second equation, moderate bilinguals still earn $1,876 more than English

monolinguals. Indeed, even limited bilingualism shows a more modest but statistically significant annual earnings advantage. The models also show, as expected, that when controlling for other predictors, including educational attainment, women earn about $3,000 less than men; Latinos and African Americans earn significantly less, and Chinese and Vietnamese earn more, than the reference group of non-Hispanic whites. What was unexpected were the resiliently positive results for bilingualism.

Related research examining the effects of balanced bilingualism on earnings has reported parallel results based on two separate data sets: one is the National Educational Longitudinal Study (NELS), based on the final follow up of a nationally representative sample when respondents were 26 years old on average; and the other is the full CILS-III study, with respondents from both the San Diego and South Florida samples, when they were in their mid-twenties (Agirdag, 2013). Regression analyses indicate that balanced bilingual students earn significantly more as young adults at the beginning of their careers than linguistic minorities who were dominantly proficient in English only. Even after controlling for cognitive ability, educational attainment, and parental socioeconomic status, the cost of monolingualism was estimated at $2,100 to 3,300 dollars annually—findings very much in line with those reported here for Southern California.

Discussion and Conclusion

These are remarkable findings. In all three distinct measures of socioeconomic outcomes examined here – educational, occupational, and economic – even after controlling for age and gender, social class, and other hypothesized predictors, and despite a substantial literature that has largely and solely focused on English ability as a human capital asset, the results presented above offer consistent, convergent and compelling evidence for the benefits of fluent bilingualism – and even of moderate or balanced bilingualism – in the labor markets and local economy of Southern California.

The research literature has largely focused on examining the workplace and economic benefits of English (or host country language) fluency among immigrant workers (e.g., Chiswick, 1991; Chiswick and Miller, 2002; Dustmann and Van Soest, 2002). Proficiency in the host language is seen as a human capital variable, a resource in the labor market. That literature regularly finds that the more proficient immigrants are in the language of the host country, the higher their wages. However, fluency in a second language combined with English proficiency has been largely ignored as a competitive resource. Some new studies—including those in this volume—are now providing evidence of the economic benefits of bilingualism.

This study presented findings from Southern California on the mobility trajectories of foreign-parentage young adults, focusing on key ethnic groups (Mexican, Salvadoran and Guatemalan, Filipino, Chinese, Korean, Vietnamese, Cambodian and Laotian) with distinct modes of incorporation, compared to native-parentage peers (white, black and Mexican-American). The outcomes examined are not reducible to a simple or single unilinear trend, but are complex, multidirectional, and sharply segmented by class, ethnicity, and gender. These highly stratified results are not accounted for by differences in English language acculturation. On the contrary, for all groups without exception, even in a region of extraordinaly high immigrant settlement such as Southern California, we showed that proficiency in and preference for English is well established by the second generation, and effectively completed by the third among those of Mexican origin, with balanced bilingualism rapidly atrophying.

What is novel is that fluent bilingualism is positively associated with educational, occupational and economic attainment, despite strong pressures toward English monolingualism by the third generation.

That English is important for socioeconomic success in the U.S. is axiomatic. Immigrants who come to the U.S. with aspirations of a better life -- for themselves but especially for their children -- do so fully aware of the dominance of English. You cannot earn a college degree in the U.S. without English proficiency, let alone advanced or professional degrees, or pass professional licensing examinations. Much the same applies to economic success in the labor market generally – aside from niches in ethnic enclaves or in subcontracted work where the clientele or the job may not require it. The question, rather, is whether there is value in *additive* as opposed to *subtractive* acculturation – i.e., in the case of language, in English-plus vs. English-only. That is the core question this study has sought to address. The results of our analyses strongly suggest economic as well as social and cultural advantages for English-plus, which paradoxically seem to be dissipated intergenerationally. In the absence of a sizable and economically potent co-ethnic community to support language maintenance, fluent bilingualism in the second generation is likely to prove an elusive goal. But then, persistent economic advantage may yet turn an elusive goal into an enduring one.

References

Agirdag, Orhan. 2013. 'The long-term effects of bilingualism on children of immigration: Student bilingualism and future earnings.' *International Journal of Bilingual Education and Bilingualism*, 1-16.

Alba, Richard, John Logan, Amy Lutz, and Brian Stults. 2002. 'Only English by the Third Generation? Loss and Preservation of the Mother Tongue among the Grandchildren of Contemporary Immigrants.' *Demography* 39, 3: 467-484.

Chiswick, Barry R. 1991. ' Speaking, Reading, and Earnings among Low-Skilled Immigrants.' *Journal of Labor Economics* 9, 2: 149-170.

Chiswick, Barry R. and Paul W. Miller. 2002. 'Immigrant Earnings: Language Skills, Linguistic Concentrations and the Business Cycle.' *Journal of Population Economics* 15, 1 (): 31-57.

Dustmann, Christian, and Arthur Van Soest. 2002. 'Language and the Earnings of Immigrants.' *Industrial & Labor Relations Review* 55, 3: 473-492.

Feliciano, Cynthia. 2001. "The Benefits of Biculturalism: Exposure to Immigrant Culture and Dropping Out of School among Asian and Latino Youths." *Social Science Quarterly* 82, 4: 865-879.

Feliciano, Cynthia, and Rubén G. Rumbaut. 2005. 'Gendered Paths: Educational and Occupational Expectations and Outcomes among Adult Children of Immigrants.' *Ethnic and Racial Studies* 28, 6: 1087-1118.

Hoefer, Michael, Nancy Rytina and Brian C. Baker. 2011. 'Estimates of the Unauthorized Immigrant Population Residing in the United States: January 2010.' Office of Immigration Statistics, Policy Directorate, U.S. Department of Homeland Security. Accessed at: http://www.dhs.gov/xlibrary/assets/statistics/publications/ois_ill_pe_2010.pdf

Ima, Kenji and Rubén G. Rumbaut. 1989. 'Southeast Asian Refugees in American Schools: A Comparison of Fluent English Proficient (FEP) and Limited English Proficient (LEP) Students.' *Topics in Language Disorders* 9, 3: 54-77.

Kasinitz, Philip, John H. Mollenkopf, Mary C. Waters, and Jennifer Holdaway. 2008. *Inheriting the City: The Children of Immigrants Come of Age*. Cambridge and New York: Harvard University Press and Russell Sage Foundation.

Mouw, Ted and Yu Xie. 1999. 'Bilingualism and the Academic Achievement of First- and Second-Generation Asian Americans: Accommodation with or without Assimilation?' *American Sociological Review* 64, 2: 232-252.

Peal, Elizabeth and Wallace E. Lambert. 1962. *The Relation of Bilingualism to Intelligence*. Washington: American Psychological Association.

Portes, Alejandro and Lingxin Hao. 2002. 'The Price of Uniformity: Language, Family and Personality Adjustment in the Immigrant Second Generation.' *Ethnic and Racial Studies* 25, 6: 889-912.

Portes, Alejandro, and Rubén G. Rumbaut. 2001. *Legacies: The Story of the Immigrant Second Generation*. Berkeley and New York: University of California Press and Russell Sage Foundation.

_____ 2005. 'Introduction: The Second Generation and the Children of Immigrants Longitudinal Study.' *Ethnic and Racial Studies* 28, 6: 983-999.

_____ 2014. *Immigrant America: A Portrait*. 4th ed. Berkeley: University of California Press.

Rumbaut, Rubén G. 1989. 'Portraits, Patterns, and Predictors of the Refugee Adaptation Process: Results and Reflections from the IHARP Panel Study.' Pp. 138-182 in David W. Haines, ed., *Refugees as Immigrants: Cambodians, Laotians and Vietnamese in America.* Totowa, NJ: Rowman and Littlefield.

_____ 2005a. 'Children of Immigrants and Their Achievement: The Roles of Family, Acculturation, Social Class, Gender, Ethnicity, and School Contexts." Pp. 23-59 in Ronald D. Taylor, ed., *Addressing the Achievement Gap: Findings and Applications.* Charlotte, NC: Information Age Publishing.

_____ 2005b. 'Turning Points in the Transition to Adulthood: Determinants of Educational Attainment, Incarceration, and Early Childbearing among Children of Immigrants.' *Ethnic and Racial Studies*, 28: 1041-1086.

_____ 2008. 'The Coming of the Second Generation: Immigration and Ethnic Mobility in Southern California.' *The Annals of the American Academy of Political and Social Science* 620, 1: 196-236.

_____ 2009. 'A Language Graveyard? The Evolution of Language Competencies, Preferences and Use among Young Adult Children of Immigrants.' Pp. 35-71 in Terrence G. Wiley, Jin Sook Lee, and Russell Rumberger, eds., *The Education of Language Minority Immigrants in the United States.* Clevedon, UK: Multilingual Matters

Rumbaut, Rubén G., *et al*. 2003. *Immigration and Intergenerational Mobility in Metropolitan Los Angeles*. Accessed at: http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/22627

Rumbaut Rubén G., and Kenji Ima. 1988. *The Adaptation of Southeast Asian Refugee Youth: A Comparative Study.* Washington, D.C.: U.S. Office of Refugee Resettlement.

Rumbaut, Rubén G. and Douglas S. Massey. 2013. 'Immigration and Language Diversity in the United States.' *Daedalus: Journal of the American Academy of Arts and Sciences*, 142, 3: 141-154.

Rumbaut, Rubén G., Douglas S. Massey, and F.D. Bean. 2006. 'Linguistic Life Expectancies: Immigrant Language Retention in Southern California.' *Population and Development Review* 32, 3: 447-460.

Rumberger, Russell W. and Katherine Larson. 1998. 'Toward Explaining Differences in Educational Achievement among Mexican American Language-Minority Students.' *Sociology of Education* 71, 1: 68-93.

Stevens, Gillian. 1999. 'A Century of U.S. Censuses and the Language Characteristics of Immigrants.' *Demography* 36(3): 387-397.

Telles, Edward E. and Vilma Ortiz. 2008. *Generations of Exclusion: Mexican Americans, Assimilation, and Race.* New York: Russell Sage Foundation.

U.S. Census Bureau. 2011. 'American Community Survey.' Washington, DC: U.S. Census Bureau. (http://www.census.gov/acs/www/)

Appendix. The IIMMLA and CILS-San Diego Surveys.

As explained in the text, the IIMMLA and CILS-III San Diego data sets were merged for this Southern California-based study. Both data sets with full documentation are available online:

IIMMLA: http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/22627
CILS: http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/20520

The IIMMLA Survey. The Immigration and Intergenerational Mobility in Metropolitan Los Angeles study was a computer-assisted telephone survey conducted in 2004 among targeted random samples of 1.5, 2nd, and selected 3rd and higher generation adults in the five-county Los Angeles metropolitan area, which encompasses Los Angeles, Orange, Riverside, San Bernardino and Ventura counties (Rumbaut *et al*., 2003). For purposes of sample design, eligible adult immigrants were defined as "1.5 generation" if they came to the United States to live prior to the age of 15; as "2nd generation" if they were born in the United States and had at least one parent who was foreign-born; and as "3rd+ generations" if both they and their parents were U.S.-born.

Prior to the start of interviewing, targeted quotas for ten ethnic strata were established for eligible respondents between the ages of 20 and 40 in the five-county area, with emphasis on the largest case—the Mexican-origin population. The IIMMLA project also sampled a strategic set of other large immigrant and refugee origin-groups that were expected to differ in their modes of incorporation to the United States (the Filipinos, Chinese, Koreans, Vietnamese, and Salvadorans and Guatemalans taken together). All groups were assigned a separate sampling stratum for 1.5-to-2nd generation respondents, and targeted quotas of 3rd+ generation respondents were also established for Mexican Americans, non-Hispanic whites, and non-Hispanic blacks, following the model of the New York Second Generation Study (Kasinitz et al. 2008). The final design called for completing approximately 4,700 closed-ended telephone interviews with random samples of eligible respondents, about 3,500 with 1.5-2nd-generation respondents and around 1,200 with 3rd+ generation respondents.

Multi-frame sampling procedures were used to improve the chances of finding and interviewing members of targeted populations. The first stage used random digit dialing (RDD) to sample and screen households in the five-county area, and using this approach the IIMMLA was able to complete sample quotas for Mexicans, whites, and black of all generations. For other groups, samples were compiled using RDD until the incidence rates of eligible respondents became prohibitively low. At this point, more specific geographic and race-ethnic sampling frames were used, targeting RDD to households in high-density Asian residential areas and those on lists of Filipino, Chinese, Korean, and Vietnamese surnames.

The surveys were administered in English or Spanish using a computer-assisted telephone interviewing system. A total of 4,655 interviews were completed between the start of full-scale interviewing in April 2004, and its conclusion in October 2004. Of these, 2,822 (61percent) were derived from interviews using solely first-stage RDD sampling, while 1,833 (39percent) resulted from interviews using the augmented samples. To achieve this, a total of 263,783 different telephone numbers were dialed at least once, including 122,984 listings from the first-stage RDD sampling frame and 140,799 from the augmented samples. These calls resulted in the identification of 10,893 adults meeting the eligibility requirements of one of the ten targeted sample subgroups. Efforts were made to complete interviews with 8,815 of these adults (in 2,078 cases the quota for the subgroup had already been filled).

The CILS Survey. The Children of Immigrants Longitudinal Study followed for more than a decade the progress of a large panel of youths representing several dozen nationalities in two main areas of immigrant settlement in the United States: Southern California (San Diego) and South Florida (the Miami and Fort Lauderdale metropolitan area). The baseline survey, conducted in Spring 1992, interviewed eligible students enrolled in the 8th and 9th grades of all the schools of the San Diego Unified School District (N=2,420). [A parallel sample was drawn from the Dade and Broward County Unified School Districts in South Florida.] The sample was drawn in the junior high grades, when dropping out of school is rare, to avoid the potential bias of differential dropout rates between ethnic groups at the senior high school level. Students were eligible to enter the sample if they were U.S.-born but had at least one immigrant (foreign-born) parent, or if they themselves were foreign-born and had come to the U.S. at an early age (before age 13). The resulting sample was evenly balanced between males and females, and between foreign-born and U.S.-born children of immigrants. Reflecting the geographical clustering of recent immigration, the principal nationalities represented in the San Diego sample (as is largely the case in the IIMMLA sample) are Mexican, Filipino, Vietnamese, Laotian, Cambodian, Chinese, and smaller groups of other children of immigrants from Asia (mostly Korean, Japanese, and Indian) and Latin America (most of the Spanish-speaking countries of Central and South America and the Caribbean).

Three years later, a second survey of the same panel of children of immigrants was conducted. By this time the youths, who were originally interviewed when most were 14 or 15 years old, were now 17 to 18 years old and had reached the final year of high school (or had dropped out of school). The follow-up survey in San Diego succeeded in re-interviewing 2,063 or 85.2percent of the baseline sample, with almost identical proportions of males and females, of native-born and foreign-born youth, of U.S. citizens and non-citizens, and of main nationalities. There was a slight tendency for children from intact families (2 parents present) to be overrepresented in the follow-up survey; other differences were statistically insignificant (Portes and Rumbaut 2001).

During 2001-03, a decade after the original survey, a final follow-up was conducted. The respondents now ranged from 23 to 27 years of age, and most had to be contacted individually in their places of work or residence. Mailed questionnaires (which included detailed questions on language use, proficiency and preference) were the principal source of completed data in this third survey. Respondents were also interviewed by phone when possible; teams of trained interviewers visited respondents for whom no telephone numbers were available, but for whom their last known address or that of their parents was known. Over a period of more than 24 months of fieldwork, CILS-III in San Diego retrieved complete or partial information on 70percent of the original sample and 82percent of the first follow-up.

For our purposes here, we merged the 1,480 cases from the San Diego sample for which complete survey data over the span of a decade was available. Unlike the first follow-up, where effects of sample attrition were negligible, the time elapsed between the last two surveys and the significant sample mortality relative to the original one, suggested the need for adjusting results for sample selection bias. Family composition and early academic performance were the principal predictors of presence/absence in CILS-III in San Diego. Subsequent analyses indicated, however, that adjusted averages do not differ significantly from those unadjusted for this source of error. (For details on CILS-III, see Portes and Rumbaut 2005.)

Table 1.
Major Immigrant Nationalities in the U.S. and California, by Legal Status and Education, 2010

Immigrant Types / Country of birth	Foreign-born population in the United States							California	
	Foreign-born total		Undocumented proportion			Education (ages 25-64)		% of all US immigrants in California	% in Southern California
	N (000s)	%	N (000s)	%	% of group that is undoc.	% college graduate	% less than high school		
All immigrants	39,956	100.0	10,790	100.0	27.0	27.3	31.9	25.6	15.8
I: *Low education, irregular entry*									
Mexico	11,711	29.3	6,640	61.5	56.7	5.5	59.2	36.9	23.8
El Salvador	1,214	3.0	620	5.7	51.1	6.7	54.7	35.1	27.0
Guatemala	831	2.1	520	4.8	62.6	7.3	56.6	31.8	26.0
II: *High education, regular entry*									
Philippines	1,778	4.4	280	2.6	15.7	51.9	5.2	45.7	25.7
China, Taiwan	2,167	5.4	130	1.2	8.1	54.3	16.9	35.4	18.2
Korea	1,100	2.8	170	1.6	15.5	54.4	5.3	31.0	23.8
India	1,780	4.5	200	1.9	11.2	77.8	5.9	18.4	6.1
III: *Refugees, state-sponsored*									
Vietnam	1,241	3.1	160	1.5	12.9	24.9	29.0	39.6	23.7
Cambodia, Laos	355	0.9	NA	NA	NA	8.4	53.7	33.5	19.2
Cuba	1,105	2.8	NA	NA	NA	23.4	19.0	3.7	3.1

Sources: American Community Survey 2010 (US Census Bureau 2011); Office of Immigration Statistics, DHS (Hoefer et al. 2011).

Table 2.

Young Adults in Southern California: Sample Size by Ethnicity, Gender, Age and Generation

(Merged IIMMLA and CILS-III San Diego Samples, N=6,135)

Ethnicity	Total	Gender		Age	Generation[1]		
	N	Female	Male	*(years)*	1.5	2nd	3rd+
Mexican	1,642	855	787	27.5	423	818	401
Salvadoran, Guatemalan	380	193	187	26.8	181	199	0
Other Latin American	240	133	107	28.6	91	149	0
Chinese[2]	433	188	245	27.6	235	198	0
Korean	408	207	201	27.6	257	151	0
Vietnamese	590	296	294	26.0	434	156	0
Filipino	983	508	475	25.5	411	572	0
Other Asian[3]	329	183	146	25.3	232	97	0
Black (non-Hispanic)	432	239	193	30.5	11	24	397
White (non-Hispanic)	698	362	336	30.3	81	202	415
Total	6,135	3,164	2,971	27.5	2,356	2,566	1,213

[1] Generational cohorts: 1.5 = foreign born, arrived in U.S. in childhood; 2nd = U.S.-born, with one or both parents foreign-born; 3rd or higher = U.S.-born, both parents U.S.-born. Of 2,566 classified as 2nd generation, 659 had one U.S.-born parent ("2.5" gen.). Of the 1,213 classified as "3rd or higher" generations, half of the Mexican Americans (47%) had four U.S.-born grandparents ("4th+" generations), as did two thirds (69%) of the non-Hispanic white respondents, and almost all (95%) of the black respondents.

[2] Including Taiwanese.

[3] Including 200 Cambodians and Laotians (Lao and Hmong).

Table 3.
Language Spoken at Home Growing Up, Current Language Preference, and Bilingual Proficiency, by Generation and Ethnicity
(Merged IIMMLA and CILS-III San Diego Samples, N=6,135)

Ethnicity and Generation[1]	Growing up spoke non-English language at home	Currently prefers to speak English at home	Current non-English language proficiency				Balanced bilingual[2]
			understand "very well"	*speak* "very well"	*read* "very well"	*write* "very well"	
Total	72.3%	70.8%	40.0%	30.7%	23.0%	17.3%	37.0%
Generation:[1]							
1.5	94.1%	52.4	54.8%	46.6	34.3	25.8%	50.6%
2.0	87.3%	69.6	49.1%	33.8	25.3	19.1%	44.5%
2.5	58.4%	88.9	24.5%	15.9	13.3	10.5%	24.5%
3rd+	13.7%	98.4	5.4%	2.8	2.6	1.6%	5.3%
Ethnicity:							
Mexican	77.2%	60.7%	52.9%	43.3%	40.0%	31.5%	55.1%
Salvadoran, Guatemalan	94.5%	51.3%	70.5%	60.3%	53.7%	40.8%	75.3%
Other Latin American	86.7%	68.8%	65.0%	50.4%	42.5%	32.1%	66.7%
Chinese	91.7%	56.4%	43.9%	36.5%	18.0%	9.2%	31.2%
Korean	89.2%	63.7%	36.3%	31.4%	21.8%	15.9%	40.2%
Vietnamese	96.3%	53.4%	41.5%	33.7%	14.7%	11.4%	35.6%
Filipino	78.3%	88.8%	31.6%	14.4%	12.1%	9.4%	23.8%
Other Asian	89.7%	60.2%	49.5%	39.8%	9.4%	6.7%	27.7%
White (non-Hispanic)	24.1%	95.6%	13.5%	8.6%	5.0%	3.0%	10.2%
Black (non-Hispanic)	8.8%	98.8%	3.0%	0.9%	1.9%	1.2%	3.0%

[1] Generational cohorts: 1.5 = foreign born, arrived in U.S. in childhood; 2.0 = U.S.-born, both parents foreign-born; 2.5 = U.S.-born, one parent foreign-born, one parent U.S.-born; 3rd or higher = U.S.-born, both parents U.S.-born.

[2] "Balanced bilingual" = understands, speaks, reads *and* writes a non-English language "very well" or "well" (on all 4 dimensions). Conversely, those who are not include English monolinguals and "limited bilinguals" (who understand, speak, read and write a non-English language "not well" or at all). "Balanced bilinguals" encompass "fluent bilinguals" (proficiency of "very well" on all 4 dimensions), and "moderate bilinguals" ("well" on average).

Table 4.

Educational Attainment, Labor Force Status and Annual Earnings, by Gender, Age and Ethnicity

(Merged IIMMLA and CILS-III San Diego Samples, N=6,135)

Gender, Age, and Ethnicity	Parents' Socioeconomic Status[1]	GPA in school (1 to 4)	Years of education attained	High school dropout (%)	College graduate (%)	Lives with parents (%)	Working part-time (%)	Working full-time (%)	Annual earnings ($) (N=4,554)
Total	0.655	2.93	14.2	9.6%	31.8%	44.1%	20.4%	52.2%	$19,339
Gender:									
Female	0.647	3.05	14.3	8.7%	33.6%	41.6%	21.9%	45.9%	$18,112
Male	0.662	2.81	14.1	10.6%	29.8%	46.7%	18.7%	59.0%	$20,576
Age:									
20-24	0.637	2.94	14.0	7.5%	21.4%	66.1%	28.5%	39.8%	$16,650
25-32	0.643	2.91	14.3	10.6%	37.3%	35.6%	15.9%	59.8%	$20,616
33-40	0.706	2.97	14.6	12.2%	43.0%	15.1%	11.9%	64.2%	$21,369
Ethnicity:									
Mexican	0.538	2.59	13.1	19.6%	13.9%	36.8%	16.8%	58.1%	$17,009
Salvadoran, Guatemalan	0.509	2.79	13.5	15.5%	16.3%	50.5%	20.0%	51.1%	$15,313
Other Latin American	0.656	2.93	14.3	7.1%	30.8%	42.1%	24.6%	55.4%	$18,067
Chinese	0.806	3.40	15.8	0.7%	63.0%	54.3%	21.0%	49.0%	$25,680
Korean	0.789	3.39	15.5	2.2%	59.6%	55.9%	18.9%	44.9%	$22,566
Vietnamese	0.550	3.28	15.1	2.7%	45.8%	61.4%	23.1%	42.0%	$23,088
Filipino	0.798	2.96	14.7	2.3%	33.0%	55.5%	25.8%	50.9%	$20,103
Other Asian	0.484	2.90	14.0	7.0%	27.4%	51.4%	18.5%	56.8%	$20,331
White (non-Hispanic)	0.798	3.06	14.7	8.0%	42.1%	24.1%	20.2%	54.4%	$20,560
Black (non-Hispanic)	0.660	2.76	13.7	14.6%	21.1%	22.5%	18.1%	49.3%	$16,447

[1] Standardized SES measure of father's education, mother's education, and homeownership (here on a 0 to 1 scale from lowest to highest SES).

Table 5.
Odds Ratios of Dropping Out of School: Effects of Balanced Bilingualism and Selected Predictors
(Merged IIMMLA and CILS-III San Diego Samples, N=6,135)

	Dropped out of high school							
Model:	I				II			
Predictors	*B*	Wald[1]	Sig.	Odds ratio	*B*	Wald[1]	Sig.	Odds ratio
Balanced bilingual:[2] *(ref: English monolinguals and limited bilinguals)*	-0.506	23.40	***	0.603	-.481	19.50	***	.618
Age, Gender:								
Age (years)	0.039	22.90	***	1.040	.044	26.91	***	1.045
Gender (male)	0.282	9.07	**	1.326	.065	0.43	NS	1.067
Ethnicity:								
Chinese	-1.796	9.30	**	0.166	-1.507	6.39	*	.222
Vietnamese	-0.919	11.20	**	0.399	-.587	4.40	*	.556
Mexican	1.218	105.29	***	3.382	.987	64.82	***	2.684
Salvadoran, Guatemalan	0.895	23.72	***	2.446	.898	22.32	***	2.454
African-American	0.716	16.47	***	2.046	.622	11.72	**	1.862
Parents' Status/Family Contexts:								
Parents' SES index[3]	-0.658	169.79	***	0.518	-.557	111.39	***	.573
Grew up in 2-parent family	-0.338	12.29	***	0.713	-.259	6.67	**	.772
Neighborhood drugs, gangs, crime[4]	0.585	32.12	***	1.796	.527	24.09	***	1.694
Early Achievement:								
Grades in high school (GPA)					-1.054	230.97	***	.349
Constant	-3.903	219.85	***	0.020	-1.174	13.69	***	.309

Significance: *** p < .001, ** p < .01, * p < .05, NS = not significant.

[1] Measure of strength of association (square of the logistic regression coefficient divided by its standard error).

[2] "Balanced bilingual" = understands, speaks, reads *and* writes non-English language "well" or "very well" (on all four dimensions).

[3] Standardized (z score) composite measure of father's education, mother's education, and homeownership (mean = 0, std. dev. = 1).

[4] Summed index of reported "big problems" with drugs, gangs, *and* crime in the neighborhood where the respondent grew up.

Table 6.
Regressions of Occupational Status and Annual Earnings on Bilingualism and Selected Predictors
(Merged IIMMLA and CILS-III San Diego sample)

	Occupational status (SEI)						Annual earnings ($)					
Model:	I			II			I			II		
Predictors	*B*	t[1]	Sig.	*B*	t	Sig.	*B*	t	Sig.	*B*	t	Sig.
Bilingualism:[2]												
Fluent bilingual (very well)	2.35	4.23	***	1.21	2.35	*	$2,827	4.10	***	$2,234	3.29	***
Moderate bilingual (well)	1.85	3.79	***	0.97	2.14	*	$2,425	3.96	***	$1,876	3.12	**
Limited bilingual (not well)	1.10	2.42	*	0.85	2.02	*	$1,258	2.22	*	$1,078	1.94	*
English monolingual	*ref.*			*ref.*			*ref.*			*ref.*		
Age and Gender:												
Age (years)	0.47	14.98	***	0.38	12.85	***	$200	5.12	***	$149	3.87	***
Gender (male)	-1.07	-3.29	***	-0.23	-0.75	NS	$2,572	6.34	***	$3,192	7.89	***
Ethnicity:												
Chinese	3.83	5.72	***	1.38	2.22	*	$4,056	4.51	***	$2,263	2.53	**
Vietnamese	2.70	4.32	***	0.26	0.45	NS	$3,663	4.49	***	$2,313	2.87	**
Mexican	-4.36	-10.27	***	-1.27	-3.13	**	-$3,579	-6.83	***	-$1,860	-3.51	***
Salvadoran, Guatemalan	-2.32	-3.26	***	-0.21	-0.32	NS	-$5,146	-5.64	***	-$3,778	-4.19	***
African-American	-4.24	-6.10	***	-1.94	-3.00	**	-$4,386	-5.13	***	-$3,202	-3.80	***
Parents' Status:												
Parents' SES index[3]	2.33	12.82	***	0.71	4.02	***	$1,217	5.41	***	$263	1.13	NS
Resides with parents	-2.30	-6.23	***	-1.92	-5.63	***	-$4,630	-10.18	***	-$4,311	-9.65	***
Educational Attainment:												
Grades in high school (GPA)				0.96	4.35	***				$1,110	3.78	***
Years of education attained				2.25	26.30	***				$1,204	10.55	***
Constant	33.09	32.31	***	-0.10	-0.07	NS	$13,988	11.04	***	-$5,510	-2.88	**

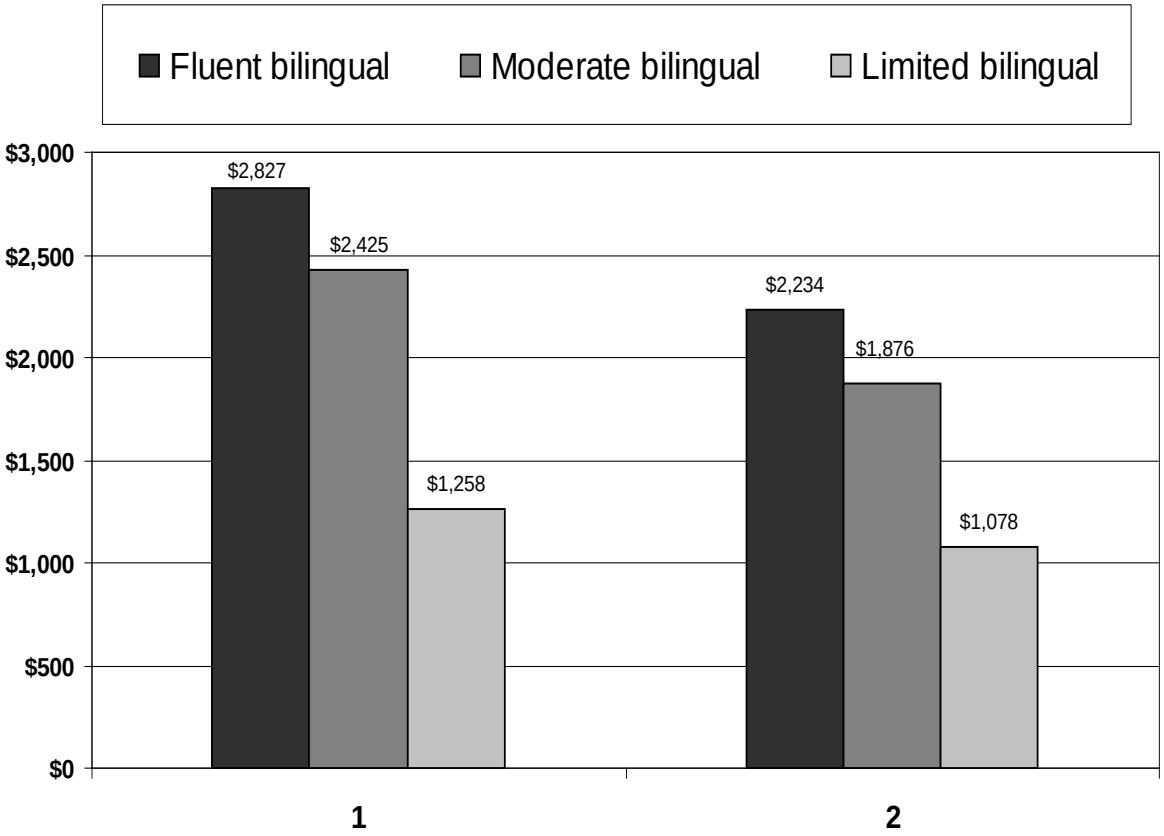
Significance: *** p < .001, ** p < .01, * p < .05, NS = not significant.

[1] Measure of strength of association (unstandardized regression coefficient *B* divided by its standard error).

[2] Bilingualism level measured on 4-item scale of ability to understand, speak, read and write non-English language (4 = very well, 3 = well, 2 = not well, 1 = not at all).

[3] Standardized (z score) composite measure of father's education, mother's education, and homeownership (mean = 0, std. dev. = 1).

Regressions of Annual Earnings on Level of Bilingualism among Young Adults in Southern California



Model 1 controls for age, gender, ethnicity, parents' socioeconomic status, and living with parents (white native-parentage English monolinguals are the referent group).
Model 2 controls in addition for high school GPA and total years of education attained in adulthood.
Bilingualism levels are measured on a 4-item scale of ability to understand, speak, read and write the non-English language (fluent bilingual = "very well" on all 4; moderate = "well" on all 4; limited = less than well).
Earnings (regression coefficients) in annual dollars, net of other variables in the models.
Results for fluent and moderate bilinguals are significant at $p < .001$; for limited bilinguals at $p < .05$.

Source: IIMMLA and CILS-San Diego merged samples.