The Association between Household and Community Characteristics and Children's Acculturation

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INTRODUCTION AND BACKGROUND

Acculturation has been defined as a process that consists of cultural and psychological changes that arise from ongoing intercultural contact, which is influenced by environmental factors such as family, work, and society (Berry 1997; Berry 2005; Ward & Geeraert 2016). This bidimensional framework was introduced by Berry (1997; 2005), suggesting two approaches to acculturation: 1) the individual or group prefers the culture-of-origin involvement to be present and 2) the host culture involvement is preferred to be present (Berry, 1997; Smokowki & Bacallao, 2006). Considerable research has been done to understand the effect of immigration and acculturation in the Latino population (Dillon, De La Rosa, Ibanez, 2013). Most research, especially early acculturation research, focuses on acculturation in adult immigrants and at the individual level. However, in the past decade, there has been increasing interest in examining acculturation in young immigrants and the effect the youth's environment has on acculturation, primarily at the family level (Santisteban & Mitrani, 2003). The purpose of this paper is to examine acculturation in a nationally representative sample of youth from different ethnic backgrounds and to further explore the relationship between youth's acculturation and the acculturation experienced by the adults in their household, taking into account the influence of community and parent/child sociodemographic characteristics.

Acculturation can create stress, referred to as acculturative stress, which can be further exacerbated in youth who are already experiencing the stressors of normal growth and developmental changes (e.g. physical, social, cognitive). Furthermore, stress can increase in households where a mismatch in acculturation between parent and child or gap acculturation is present, which has been associated with negative outcomes in children (Martinez, 2006). The most common gap acculturation (or mismatch of acculturation) is that of children assimilating to the U.S. culture and parents retaining the customs and practices of the culture-of-origin, which can impose parent-child conflict or strain. However, research reports positive parent-child relationship and family functioning to buffer the

negative effect of gap acculturation (Schofield, Parke, Kim, & Coltrane, 2008; Schwartz et al, 2013).

Other environmental factors (of less proximity compared to the family level), such as community, have been found to influence acculturation. Lazear (1999) suggested ethnic and linguistic presence is an incentive for immigrants to learn the dominant language. However, the Hispanic population tends to gravitate to communities of similar culture and linguistic presence, referred to as ethnic enclaves, which reduces the incentive to learn English (Iceland and Scopilliti, 2008). Akresh and Akresh (2011) found this not to be true with children though. In fact, Hispanic children learned (and preferred) English quickly in the presence of the Spanish language.

This study makes contribution to the growing literature on acculturation in youth immigrants in several ways. a) It used a nationally representative sample, including youths from different ethnic backgrounds of all languages, which was collected in the American Community Survey (ACS). This study did not focus only on one ethnic population like most, if not all, studies do. b) A methodology different from most studies is used, in that children's acculturation, measured as language spoken in the household, is the outcome/dependent variable and family, community, and child and parent characteristics are the explanatory variables. Many studies examine the opposite, in that children's acculturation is the explanatory variable to children's characteristics and outcomes. Language spoken at home is a commonly-used indicator for acculturation, where acculturated residents speak English at home and less acculturated residents speak a language other than English at home (Wallace et al., 2010). c) Community characteristics will be examined at small levels of geography (e.g. county level) in all of the U.S to capture areas in which there are high proportions of residents sharing similar language characteristics (e.g. ethnic enclaves).

METHODS

Data

Data were obtained from the 2017 American Community Survey (ACS), a nationally

representative survey of households in the United States that is administered annually to a sample of approximately 3.5 million housing unit addresses (obtaining information for every household member). The overall response rate was 93.7%. One household member over the age of 15 completes the ACS and provides information for all members in the household (including children). In addition to obtaining language information, the ACS collects information on social and demographic characteristics, including ethnicity, educational attainment, and nativity of each individual in the household. The ACS also provides reliable estimates for small levels of geography, including metropolitan and county areas in the United States.

Analysis was limited to 205,000 native- and foreign-born youth, ages 5 to 17 years, living in U.S. households where at least one adult member speaks a language other than English (LOTE). There were 51.2% boys and 48.8% girls with an overall mean age of 10.9 (*SE*=0.03) of which 13.2% spoke LOTE and English less than very well.

Outcome measure

The outcome measure for children's acculturation was children's English ability, which was a dichotomous variable recoded from two language questions on the ACS (see Figure 1). Youth who speak only English or who speak LOTE but English "very well" were in the category English very well, whereas, youth who speak LOTE and speak English less than "very well" were coded as English less than very well. These labels are only used for this paper as a reference to the outcome groups. The Census Bureau does not apply these labels in general. For more information on how language self-classification relates to other measure of English ability see Vickstrom et al. (2015).

Predictors/explanatory variables

The predictors/ explanatory variables of children's English ability were grouped into four main categories.

- **Demographics characteristics** include community and individual characteristics. The current study specifically examined the proportion of people who speak LOTE at the county level and children's race. For race, there were 5 mutually exclusive categories: Hispanic (included any race with Hispanic origin); White (non-Hispanic White only); Black (non-Hispanic Black only); Asian (non-Hispanic Asian only); Non-Hispanic Other (includes two or more non-Hispanic races and other races).
- **U.S. exposure characteristics** include children's nativity, age at entry into the U.S., and the number of years children have been in the U.S. For native-born children, age at entry into the U.S. was 0 and number of year in the U.S. was entered as the child's chronological age (years since date of birth).
- **Parental resources** include parent education (taking the highest education of parents in the household), which was coded into four categories: less than high school, high school graduate, some college, and bachelor's degree or higher. Household income was coded into a dichotomous variable indicating whether the household income in the past 12 months is above or below the poverty level.
    - **Household English language composition** includes only one variable with four categories, each consisting of different English ability composition among the adults (ages 18 and older) in the household.

      1. At least one adult speaks only English and at least one adult speaks LOTE with English ability varying ("some English only")

      2. All adults speak LOTE and all adults speak English very well ("all very well")

      3. All adults speak LOTE and all adults have different levels of English ability ("varied ability")

      4. All adults speak LOTE and no adults speak English very well ("all less than very well").

Statistical Analyses

We conducted a series of logistic regression analyses, using the following model:

$$\boldsymbol{logit(p) = ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_n X_n}$$

The $X_1, \ldots, X_n$ were the predictor variables and p is the probability of children being proficient in English. There was a logistic regression model for each predictor category followed by a final model that included all significant predictors across all categories. The Successive Difference Replicate method (Jackknife Repeated Replication with Fay=0.5) was used for variance estimation for the logistic regression models. All analyses were conducted in SAS 9.4 software using the survey analysis procedures (e.g. SURVEYLOGISTIC, SURVEYMEANS) that take into account the complexity of survey data (SAS Institute Inc., n.d.).

RESULTS

Descriptive Statistics

Table 1 shows the descriptive statistics for all study variables by outcome, English ability (English very well versus English less than very well). The correlations to all study variables were also examined. All correlations were statistically significant, however, their magnitude was small to moderate (taking the absolute value, the mean correlation was 0.17; the median was 0.10, with a range of 0.00 to 0.74) suggesting low multicollinearity. In addition, we examined the variance inflation factors (VIF) which were low (M = 1.71; range: 1.07-3.11), indicating no problems with multicollinearity exist.

Figure 2 provides a comparison of household characteristics (e.g. household size, number of adults in the household, number of children under the age of 18 in the household) between the two groups of children (speak English very well versus speak English less than very well). Furthermore, figure 3 provides information on the different household English language compositions by children's English ability. Notice that most children who do not speak English very well are living in households where the

adults also do not speak English as well. Figure 4, provides information on the languages that are spoken in the households by English ability. Spanish is the language most spoken in households followed by Chinese for both English ability groups. The difference is in the third language--Yiddish, Penn Dutch, and other West Germanic languages comprise the household language for children who speak English very well, and Tagalog is the third most common language for households of children who speak English less than very well.

Logistic regression analyses by predictors

The results of the logistic regression models conducted for each set of predictor variables are reported in Table 2. Interpretation of results are done through the lens of exposure to the English language children received at different contexts. In a larger context, we found in model 1 that both proportions of LOTE speakers at the country level and race are significant predictors of children's English ability. Children living in counties with lower proportions of LOTE speakers have a higher likelihood of speaking English very well versus those living in counties with high proportions of LOTE speakers (odds ratio = 0.95, p<.05). As for race, Non-Hispanic Other children had a high likelihood of speaking English very well (odds ratio = 2.1, p<.0001) than Hispanic children, followed by White (odds ratio = 1.4, p<.01), as well as Black children (odds ratio = 1.5, p<.05). Hispanic and Asian children were not statistically different from each other.

In the context of children's exposure to the U.S., foreign-born children were less likely to speak English very well compared to native-born children (odds ratio = 0.4, p<.0001). It was also found that the younger the children were when entering into the U.S., the greater the likelihood of them speaking English very well (odds ratio = 0.95, p<.0001). The same was found for the length of time children had spent living in the U.S.— the longer that a child had spent living in the U.S., the more likely he or she was to speak English very well (odds ratio = 1.1, p<.0001). An interaction term between age of entry and years in the U.S. was examined. Results showed the effect of years in the U.S. was greater for children

who entered the country at an older age (see figure 5.)

The effect of parental resources on children's English ability was examined in model 3. Parents with high school completion had a lower likelihood of their children speaking English very well than parents with a bachelor's degree or higher (odds ratio = 0.4, p<.0001). Similarly, children of parents with less than high school education were less likely to speak English very well than those whose parents have a bachelor's degree or higher (odds ratio = 0.7, p<.0001; taking the highest education of parents in the household). Parents with a bachelor's degree or higher did not differ from parents with some college education. Household income was also examined in this context since parents (or a parent) are often the financial provider in the household. Children living in households with a household income that was below the poverty level were less likely to speak English very well than those in households not in poverty (odds ratio = 0.7, p<.0001).

Lastly, English exposure through the household context was examined in model 4. Results indicated that children in households where all adults spoke English less than very well were one-eighth as likely to speak English very well as households with at least one adult who spoke English at home. Households with varied ability were also less likely to have children who spoke English very well than households where at least one adult spoke only English at home (odds ratio = 0.4, p<.0001). Households where all adults spoke a language other than English at home but spoke English very well were not significantly different from households where at least one adult speaks only English (and at least one adult speaks a language other than English at home).

Final logistic regression analysis with all predictors

For the final logistic regression model (model 5) all predictors across all contexts were included (table 2). Most significant effects in models 1-4 remained significant in the full model (model 5). Race and poverty were the exceptions. Non-Hispanic Other, Asian, and White children were no longer statistically different from Hispanic children. The effect of being Black, however, remained significant

(odds ratio = 1.7, p<.0001). As for poverty, the effect of poverty was no longer present in the final model, indicating that the likelihood of children speaking English did not differ by household income in midst of other contextual factors.

The effects of exposure to the U.S. and exposure to English at home on children's English ability remained significant in the final model, suggesting that these two contexts were influential in children's English ability. Households where all adults speak LOTE and no adults speak English very well were one-eighth as likely to have children speaking English very well compared to households where at least one adult speaks only English in model 4, but one-fifth as likely controlling for other contextual variables. A similar pattern was found for exposure to the U.S. predictors. Foreign-born children had 37 percent the likelihood of speaking English very well compared to native-born children in model 3, but 50 percent the likelihood in the final model with other contextual variables.

DISCUSSION

The major goal of this study was to examine the effects different contextual factors have on children's English ability using the American Community Survey. Most effects observed here can be interpreted as representing "exposure to English" – time in U.S., language use in household, and language use in the community (county level). Analyses revealed that a combination of contextual factors, not just one context, play a role in children's English language ability, with household and exposure to the U.S. characteristics having the strongest influence. Living in a household in which more adults who speak English very well and being in the U.S. for a long time (whether it is because the child is native-born or arrived in the U.S. at a young age) seemed to favorably predict English ability. At a broader, geographic level, the proportion of LOTE speakers at the county level seemed to also have an effect on English ability. However, further exploration would be required to determine how much interaction children have with their county environment (resources/services available). Parent's education was also associated with children's English ability. It could be that parents with higher

education understand the importance of education and are more likely to enroll their children in instructional English programs. This context is subject to other interpretations with further research.

There were variables (e.g. poverty, race) that had an effect on children's English ability when examined on their own but then disappeared in the presence of other contextual factors. That is not to say that those variables do not have a role in English language ability and should be disregarded. On the contrary, further examination is encouraged to identify possible mechanisms and processes in which they may be involved that are associated with English ability.

There are some limitations to consider when interpreting these results. First, information collected in the ACS is based on one household member's report. Therefore, children's English ability is dependent on how well the ACS respondent knows the child's English ability. Another limitation is that school data were not available for this study (other than information on the type of schooling, educational level, and educational attainment asked in the ACS). Children spend most of their day in school, therefore, having information about their academic performance and school characteristics (e.g. grades, English ability instruction, LOTE composition of the school) would provide a more complete picture of the effects of different contextual variables on acculturation.

In conclusion, this research has implications for understanding the process that leads children to learn English. Primarily, this research suggests the importance of parents learning English and speaking in the home, which has an influence on their children's English ability and at the same time minimizes gap acculturation and the negative effects associated with it (Martinez, 2006). In conclusion, children's acculturation—measured here as speaking English very well--is a result of different contextual variables. A few were examined here, and the results suggest the need for investigation of additional factors.

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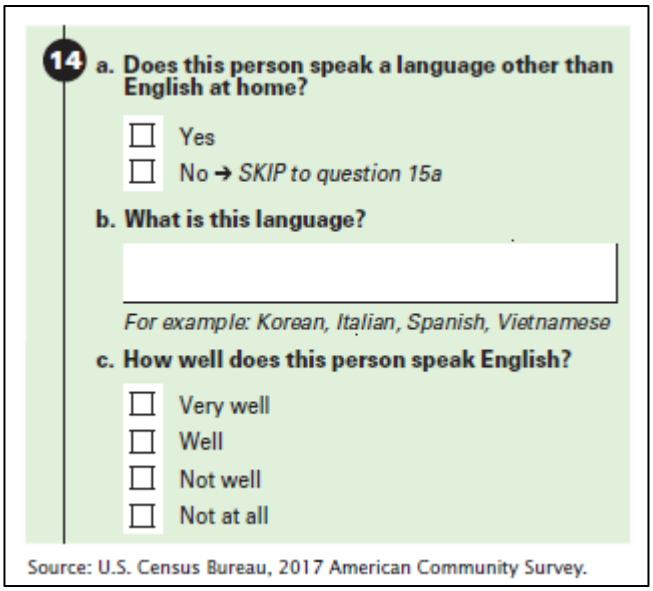
Figure 1. Questions on language spoken at home, American Community Survey



14 a. **Does this person speak a language other than English at home?**

☐ Yes
☐ No → *SKIP to question 15a*

b. **What is this language?**

For example: Korean, Italian, Spanish, Vietnamese

c. **How well does this person speak English?**

☐ Very well
☐ Well
☐ Not well
☐ Not at all

Source: U.S. Census Bureau, 2017 American Community Survey.

Table 1. Descriptive statistics of study predictors by English ability of children in households with a least one adult who speaks a language other than English

Contextual variables/predictors	Children's English ability	
	Very well English Mean or %	Less than very well English Mean or %
Demographic		
Percent of LOTE speakers at county level	29.1%	30.8%
Child's race		
White	15.8%	11.8%
Black	6.1%	4.4%
Asian	12.8%	14.5%
Non-Hispanic other	5.2%	2.6%
Hispanic	60.1%	66.7%
U.S. Exposure		
Child's nativity (native-born = 0)		
Native-born	90.8%	68.0%
Foreign-born	9.2%	32.0%
Child's age of entry	0.56	2.57
Child's time in the U.S. (years)	10.52	7.49
Parental Resources		
Parent education		
Less than High school	20.2%	36.0%
High school grad	22.5%	25.0%
Some college	25.4%	18.0%
Bachelor's degree or more	31.9%	21.5%
Household Income		
Not in poverty	79.3%	66.7%
In poverty	20.7%	33.3%
Household English Language Composition (adults in household)		
Some English only	24.7%	8.3%
All very well	28.8%	10.5%
Varied ability	25.9%	23.2%
All less than very well	20.7%	58.3%
Total # of cases		205,000

Note. For native-born children, age of entry = 0 and age in the U.S. = chronological age (years since date of birth). Estimates are based on survey which included statistical uncertainty. The coefficient of variation for all estimates was 18% or less.
Source: U.S. Census Bureau, 2017 American Community Survey

Table 2. Results of logistic regression analyses predicting children speaking English very well

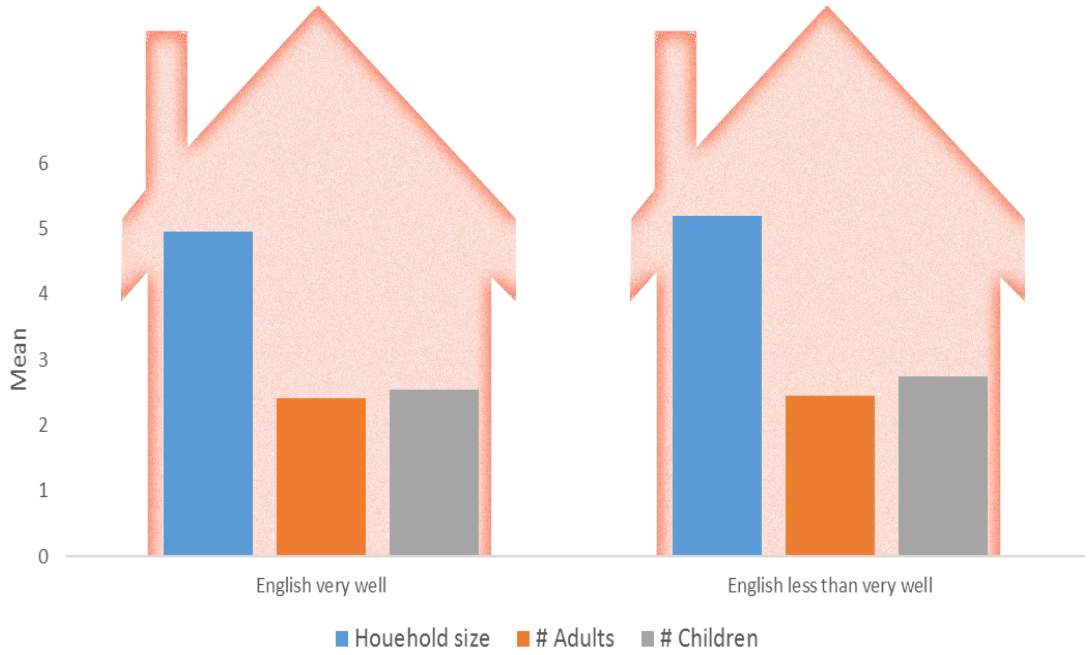
Variable	Model 1 Odds ratio[1]	Model 2 Odds ratio	Model 3 Odds ratio	Model 4 Odds ratio	Model 5 Odds ratio
Demographic characteristics					
Proportion of county speaking language other than English	0.95*				1.0**
Race					
Hispanic [omitted]	--				--
Non-Hispanic White	1.4**				0.9
Non-Hispanic Black	1.5*				1.7**
Non-Hispanic Asian	1.0				1.0
Non-Hispanic Other	2.1**				1.3
U.S. exposure					
Child's nativity					
Native-born [omitted]		--			--
Foreign-born		0.4**			0.5**
Child's age of entry		0.95**			0.95**
Child's time in the U.S. (years)		1.1**			1.1**
Child's age of entry * child's years in U.S.		1.05**			1.05**
Parental Resources					
Parent education					
Less than high school completion			0.4**		0.6**
Completed high school			0.7**		0.7*
Some college or associate's degree			1.1		0.8
Bachelor's degree or higher [omitted]			--		--
Poverty status					
Household income at or below poverty level			0.7**		0.9
Household income above poverty level [omitted]			--		--
Household English					
Some English-only [omitted]				--	--
All very well				0.9	1.0
Varied ability				0.4**	0.5**
All less than very well				0.1**	0.2**
Nagelkerke R^2	1%	14%	4%	15%	26%
N (thousands)	205	205	205	205	205

[1] Odds ratios between 0.9 and 1.1 are shown as 0.95 or 1.05 when they are significantly different from 1.0.

* $p < 0.05$, ** $p < 0.01$

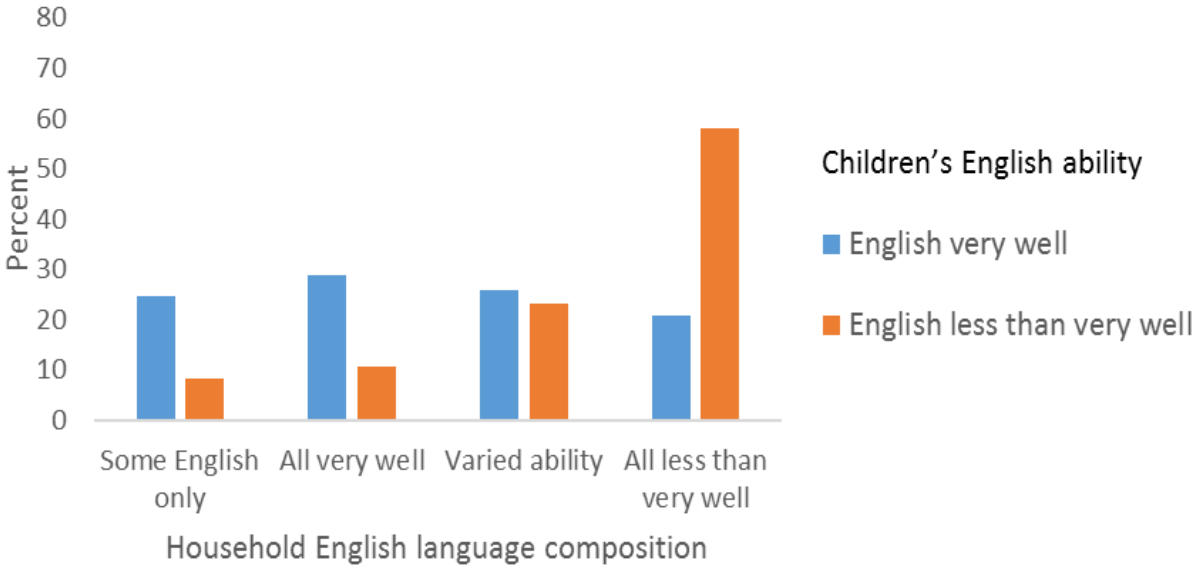
Note. Source: U.S. Census Bureau, 2017 American Community Survey.

Figure 2. Household characteristics by children's English ability



Source: U.S. Census Bureau, 2017 American Community Survey

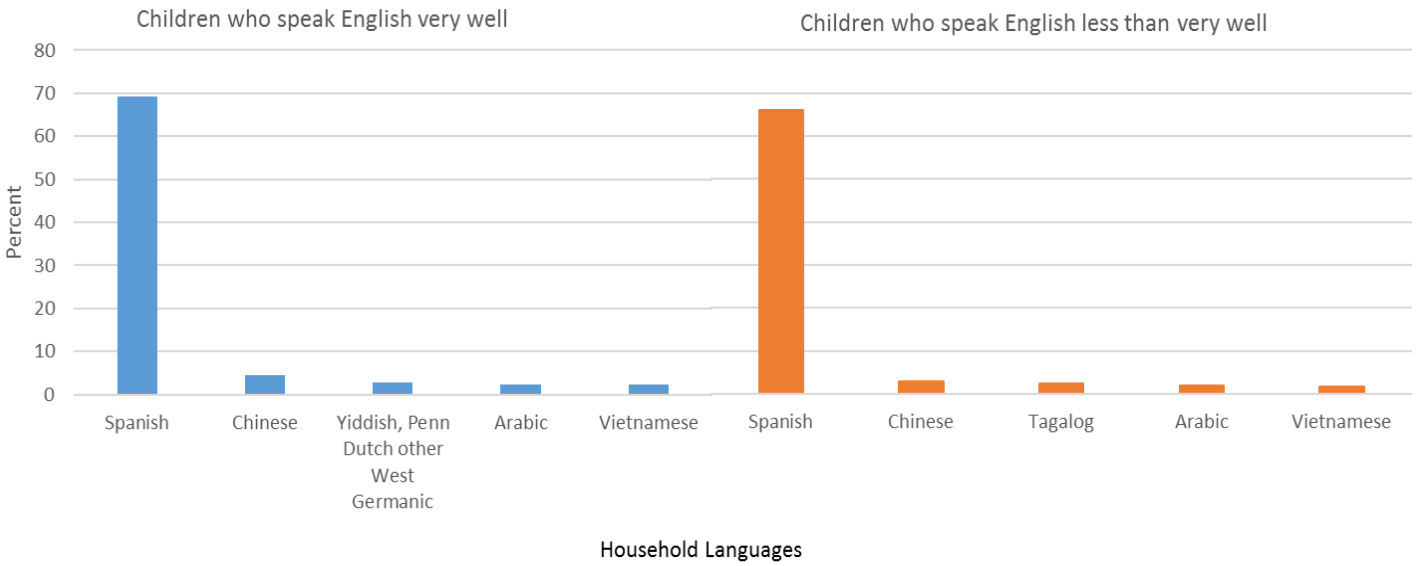
Figure 3. Household English language composition by children's English ability



Note. Household English language composition definitions: Some English only- At least one adult household member speaks only English and at one adult household member speaks a language other than English with English ability varying. All very well- All adults in the household speak another language other than English and all adults speak English very well. Varied ability- All adults in the household speak another language other than English and all adults have different levels of English ability. All less than very well- All adults in the household speak another language other than English and all adults do not speak English very well.

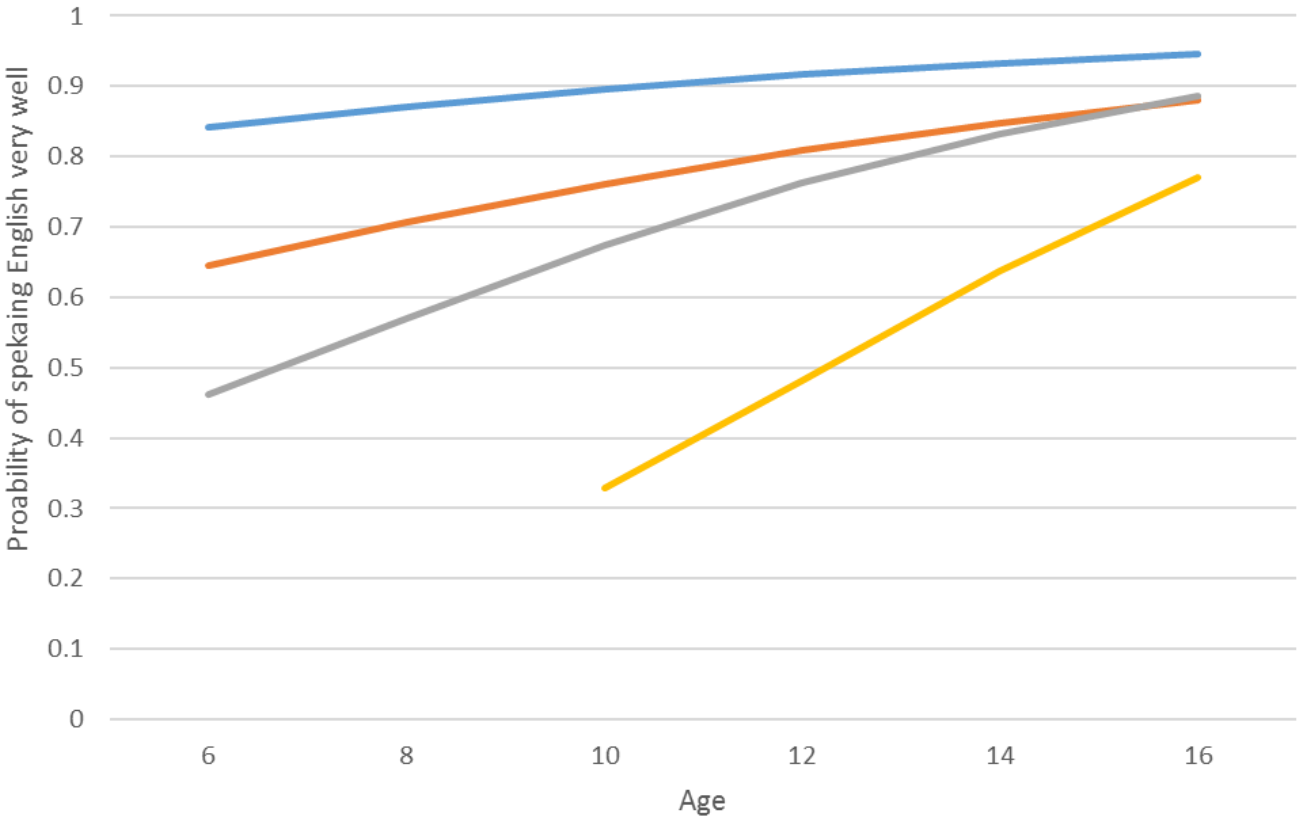
Source: U.S. Census Bureau, 2017 American Community Survey

Figure 4. Languages spoken in households (at least one adult speaks a language other than English) by children's English ability



Source: U.S. Census Bureau, 2017 American Community Survey

Figure 5. The probability of speaking English very well while controlling U.S. exposure characteristics



Trajectory 1: native-born, age of entry = 0, total yrs in the U.S.= 16 yrs.
Trajectory 2: foreign-born, age of entry = 1yr, total numbers of yrs in the U.S. = 15 yrs.
Trajectory 3: foreign-born, age of entry = 5yrs, total number of yrs in U.S.= 11 yrs.
Trajectory 4: foreign-born, age of entry = 10yrs, total numbers of yrs in the U.S. = 6 yrs.
Source: U.S. Census Bureau, 2017 American Community Survey