Influence of Language and English Proficiency on Asian American's Educational Attainment and Multigenerational Assimilation

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Abstract— This study focused on college completion or higher among Asian American population and the effect of English proficiency and other Asian languages spoken at home. Whether speaking English “well” or “not well” influences individual's educational attainment. Assimilation theory and social capital theory were utilized. Data utilized from IPUMS 2011, examine six Asian ethnic languages, English proficiency, education, employment status, multigenerational, family formation, income, age, and sex among Asian Americans. Findings show overall English proficiency are statistically significant at the .001 level that Asians who speak English only, “very-well”, “well”, and “not well” are more likely to obtain a college degree. Future implications will examine ethnic behaviors and migration patterns on educational attainment

Keywords— Asian Families, Education, Bilingual, English proficiency, Multigenerational.

I. INTRODUCTION

This study examines whether speaking English “well” or “not well” matters to Asians Americans in their educational attainment and whether speaking another language other than English at home can influence educational attainment. Past studies have found a positive relationship between educational attainment and English-language proficiency among immigrants [1][2]. However, this study focused college completion or more among Asian American population and the effect of English proficiency and other Asian languages spoken at home.

The United States population will continue to grow from 308.7 million in 2010 and with 27.3 million people, or almost 10 percent, between 2000 and 2010. Within this growth, the United States is projected to one day become a nation that has a population that will be widely diverse. As we have seen the Latino population is being the front runner in minority population growth, but this study will focus on the Asian population. The Asian population's growth is similar if not higher in percentage change but not in quantity. In 2000 Asian composed of 10.2 million (3.6 percent) and in 2010 with an increase of 43.3 percent to 14.7 million people (4.8 percent) [3].

The contribution to this study is to utilize the IPUMS 2011 data to examine a deeper understanding and influence in language and educational attainment in the Asian population due to their population growth. Previous studies have shown findings in immigrant “mother tongue” and English proficiency [2][4] and analyzed data from prior-1987, 1987-1989, and 2005-2007. Shin and Ortman (2011) discussed that in 2009, an estimated 57 million people (around 20 percent of the population 5 years and older) spoke another language other than English at home [5]. Shin and Bruno (2003) found that by 2000, over 70 percent of the U.S. population was speaking Spanish, Chinese, Japanese, Korean, Vietnamese, or Tagalog [6]. Therefore, this study provided a more current analysis on English proficiency, Asian languages spoken at home other than English (Chinese, Japanese, Korean, Vietnamese, Indonesian or Tagalog), family structure, and multigenerational household on education (college completion).

H₁: Asian Americans speaking English “not well” has a higher likelihood to complete college or more than Asian Americans speaking English “only”, “very-well”, “well” and “not at all”.

H₂: Asian Americans speaking another language other than English only at home has a higher likelihood to graduate from college or higher degree than Asian Americans who do not speak another Asian language at home.

II. LITERATURE REVIEW

Why does education matter? Education is an important factor in a person's life course because it can help determine their future social economic status outcome. One stigma or assumption is the chance of completing school for immigrants tends to be very slim, even when both children and parents perceive the importance of education [7]. Kao and Thompson (2003) argued that it is important to understand other racial and ethnicity's educational achievements and attainments because the United States is becoming more diverse, within the next few decades, it has been projected that the United States will be a majority minority country [8]. In order to understand the impact of educational attainment on diverse populations, we have narrowed our focus to the Asian American population. Also focusing on how English proficiency and language spoken at home may influence Asian Americans educational outcome. In addition to this, focusing on immigrant populations, specifically their generational status and ability to assimilate to new languages may influence educational outcomes as well.

Throughout the world, immigration affects every country in some way, shape or form. For instance, within the United States, there is a particularly large immigrant population, which has transformed communities and cities [9][10]. Many of the adult immigrants of this population arrived in the United States as non-English speaking immigrants.

Moreover, about one in every eight children are foreign-born, and with their children, they account for a quarter of the United States population [10]. For the ones who came to the United States as children, they often played a significant role, serving as language and cultural brokers for their parents [11]. Meaning, that they often were the ones who had to translate the language for their parents, and also interpret the culture for them, essentially acting as cultural brokers.

There are often different outcomes for immigrant populations depending on how well they may assimilate to the culture. Such as the age of immigration, the language proficiency, the socioeconomic status and other factors often cause variability in educational attainment [12]. There is also significant debate over roles that children assume. One example of this is children serving as a translator for their

parents, there are negative aspects such as being a burden, source of stress, and cause of familial conflicts [11]. While at the same time increasing outcomes cognitively, emotionally and socially. For children, immigrating to another country tends to allow them to assimilate into society much quicker than if they arrived as adults.

Past studies have found a positive relationship between educational attainment and English-language proficiency among immigrants [1][2]. Among various determinants of native language maintenance over time and generation, the role of the family structure has brought more attention [13][14]. Furthermore, Lopez (1996, 1999) found that the amount of mother-tongue used at home is influenced by the presence of foreign-born person in the household [15][16]. Essentially, there is a higher likelihood of the use of the mother-tongue at home if the children understand the native language. Lopez (1996) also points out that Asian language maintenance is harder beyond the ethnic enclave because of the absence of a common Asian language and the linguistic distance from English [15].

Endo (2016) found that 1.5 generation Japanese immigration youth are more likely to fluidly integrate into the society of where they moved as children [17]. The 1.5 generational status meaning that they arrived within the United States before they turned fifteen years old. The primary factor of why they gracefully integrate into their society is due to the fact that they were able to learn how to speak English and adopt "American" cultural values. Having these opportunities to immerse themselves, which older immigrants did not have at their time of relocation, enabled them to assimilate much easier [17][11]. This assimilation was often the biggest indicator on younger immigrant's ability to achieve higher levels of education.

Acclimatization undoubtedly has a great effect on one's ability to achieve high marks in school significantly. Borgna (2016) looked at second generation immigrants and found that they often face marginalization from a multitude of different sources for a plethora of different reasons [18]. One such factor being that late or delayed entry into the school system affects their level of educational attainment. In addition to this, the school system plays a vital role in how children, especially second-generation immigrants, learn the history, traditions, language, and values of the United States or whichever country that they are residing within [18][19]. However, schools do not always do a respectable job when it comes to being inclusive of diversity. When asking the children of immigrants in the United States what being

American should be defined as, children often view being American as someone who is English-speaking, US-born, and white. Conversely, these children are often at a disadvantage, due to their parents being first generation immigrants who speak a language at home that is different from the language of instruction at their school. Although, using a different language at home typically does not have any effect on English acquisition, it significantly encourages retention of their native language [18][10]. This makes assimilation into not just the community, but the educational system much more challenging as well and creates near insurmountable obstacles.

Kao and Thompson (2003) found that many racial minority groups tend to come from poor families or families where parents do not speak English “well” or “not at all” [8]. They also showed that parents with higher social economic status had better education which leads to better qualifying for jobs. Parents, who have higher socioeconomic attainments, have higher educational and occupational as more motivation and resources to encourage language fluency for the child [20][21][22]. One stigma or assumption is the chance of completing school for immigrants are very slim, even when both children and parents perceive the importance of education [7]. Other research has found that English proficiency can be negatively related to immigrants’ socioeconomic status. It showed that those who have less English proficiency also have lower socioeconomic status [23]. This is quite evident when examining the types of occupations of individuals who do not have the greatest proficiency in English. Many times, the jobs they acquire are for long hours, and very little pay. However, English proficiency does vary across culture and individual’s human capital and their immigration pattern, whether the English language acquirement was prior or post to migrating to the United States [2].

Another focus in this study is Asian languages spoken at home other than English and as previously stated that there is a large growth of the United States population who speaks another language at home other than English. Furthermore, language is a strong indicator of cultural assimilation [24], which can be measured by the transition to English as the language usually spoken by United States immigrants and their offspring’s [14]. With this, many children identify language as a significant indicator of identity, specifically speaking English as American identity [19]. However, a small number of children see American identity as being able to speak multiple languages. However, such transformation

from native languages to English (monolingualism) for most U.S. immigrants may take a few generations [25]. Researchers found that being bilingual has a positive effect on academic achievement among immigrant children [26]. However, Feliciano (2001) found that those who only speak English at home are 43 percent more likely to drop of school than bilinguals [27]. Conversely, youths living with everyone who is bilingual are half as likely to drop out of school as youths living with no bilinguals. However, from her findings Chinese immigrants were the least likely to drop out of school compared to Vietnamese, Korean, Filipino, Japanese, and native born (reference category).

Family structure was also examined in this study because we want to examine whether different household type can influence Asian Americans educational outcome. Popenoe (1993) examined family trends in America and that single women-headed households are one of the fastest growing family formation [28]. Other types of family formation such as homosexual families are becoming more common and accepting, and it is not due to the quantities but rather people are more open to the discussion [29]. Conversely, Cherlin (2004) argued the deinstitutionalization of marriage in the US from the increase in cohabitation, same-sex marriages, and stepfamilies [30]. These family transitions can all play a role in the educational outcome. Individuals living without two biological parents have been found to have a more negative outcome in educational attainment and are more likely to experience school failure [31]. Other researchers argue that individuals living without a male figure may have a higher economic and social disadvantage in behavioral problems and school failures compared to living with married couple household (two parents) [32][33].

Classically, when looking at immigration of individuals, there are three different statuses that are attached to them. The three being: born and naturalized citizens; authorized immigrants; and unauthorized immigrants. These statuses often result in individuals having different access to resources and outcomes that are available [9]. Many times, this lack of resources result in immigrant children, or children of immigrants to be placed in schools with fewer resources. These schools, with their lack of resources, are often poorly equipped to handle diverse populations that may have students with limited English proficiency [12]. This ultimately results in second generation immigrants performing poorly on standardized tests that measure achievement within schools, these poor scores end up having a direct effect on the educational attainment of immigrant

populations.

There are a variety of factors that contribute to performance within schools. Children who face many stressful situations and conditions often have a harder time with school success [12]. One example of a stressful situation is children who often serve as a translator for their families [11]. They are relied on by their parents to communicate with many people such as teachers, doctors, and other public officials. This undoubtedly puts a significant amount of pressure on children who are trying to assimilate to their surroundings. This added stress and responsibility at such a young age ultimately only serves to hinder their ability to have a greater performance within their schooling and future educational aspirations.

With this, when looking at minority groups within society, one can expect differences when it comes to performance in many institutions, such as schooling. When it comes to the differences of Asian Americans specifically, they are many times marginalized within society as a “model minority.” This broadly means that they are perceived to achieve a higher level of success within society compared to the population as a whole. This higher degree of success is usually looked at through their income, family life, and education. Wong, Lai, Nagasawa, and Lin (1998) specifically examined the idea of the model minority between Asian Americans and Caucasian students [34]. Surprisingly, it shows that compared to whites, Asian Americans view themselves as being more prepared, motivated, and far more likely to have success with their career and education [34]. This can largely speak to the value that is placed upon education within the family of Asian Americans by their families, and by society as well. For they are ultimately pressured and singled-out by society to do just as good, if not better, when it comes to outcomes within life. Moreover, they are socialized from a young age by both their families and society to strive for great amounts of success. Ultimately, whether there are cultural, social, or educational aspects to adapt to, the strain put on children ultimately impact their attainment within school greatly. Conversely, there are many positives that often help with academic performance as well. For instance, many immigrant families often have close, cohesive families. This strong family bond is something from which the child can draw strength and support from, which is something that is essential in order to assure academic success [12]. In addition to this, the impact of socialization with friends and others whom students share similar interests with are important as well. Without this

strong sense of belonging, many students can be at quite a disadvantage in their schooling. For if they were to have that lack of strength or bond with someone, it will undoubtedly affect their ability to attain higher forms of education down the road.

III. THEORETICAL FRAMEWORK

With the classical assimilation theory, this suggests that over time immigrants would develop stronger ties with the native individuals of the host society [35]. With such suggestion it can also be implied to the increase in English proficiency with the length of residency (multigenerational) in the host society. Consistent with the assimilation hypothesis, some researchers suggest that the likelihood of native language use decreases with education among the native-born children of immigrants [14][15][36]. Yet, it differs across racial/ethnic groups in terms of the human capital which is provided by their communities of residence. Logan and Alba (1993) found that whites and Asians on average tend to live in higher socioeconomic status communities compared to blacks and Latinos [37]. Furthermore, people residing in their own racial and ethnicity neighborhood should be less disadvantaged compared to residing with other racial and ethnicity groups. Therefore, people who reside with their own racial and ethnicity group should also have a higher socioeconomic status due to their length of residency.

Furthermore, networks being part of social capital theory can help people establish individual or group ties such as connection through friendship ties, kinship ties, and shared community origin [38]. For instance, if the individual lacks social network, social ties, and social support, it can potentially result in a disadvantage to help the child advance their schooling. Furthermore, networks can also be characterized by trust, where individual or groups refuse to help others which may all result in conflict [39].

Therefore, this creates a sense of normlessness, which ultimately has the ability to greatly hinder the child to pursuing further education, thereby lessening their overall educational attainment.

Moreover, the theory of social construction and the idea of institutions can demonstrate the different factors that influence systems and their inequalities and differences. Human interaction causes people to see systems of disparities and marginalization. When applying this to immigrant populations, it causes people to establish different formal rules and informal norms, and how they are enforced by

society. Ultimately, norms are created to favor certain groups and marginalize others [18]. This can be exemplified when certain individuals are singled out by others, simply because they have a different racial or cultural background. They are singled out by other individuals due to them deviated from what is considered to be the ‘norm’ of society. Moreover, this speaks to the idea of the “model minority” that many times Asian-Americans are classified into [34]. It is seen as the norm in society for Asians to be more academically inclined or successful in their endeavors when compared to the rest of the population.

In addition, enculturation can also be applied to this, which is how people learn the necessities and other requirements of the culture that surrounds them, and also acquire traits that shape themselves to that culture. Immigrant populations, whether first or second generation, encounter this when they need to adapt, or assimilate, to a different way of life than they are used to. For instance, someone who chooses to move to the United States may notice quite obvious differences from their homeland, English speaking being one of them. Having to adapt to an entirely different language, culture, and society can simply be overwhelming to any individual. This ultimately shows that immigrants experience a plethora of obstacles and barriers when it comes to assimilating to a different society and culture and its effect on their educational attainments.

IV. DATA AND METHODS

This study utilized data from IPUMS-ACS 2011 sample data to examine the Asian population in the U.S. The sampling techniques utilized were first from a simple random sample that the American Community Survey collected within the U.S. population. From there, a stratified the sample into Asian population only, and used all Asian population to run descriptive and frequencies.

The sample size consisted of 165,338 respondents for 2011. One of the advantages to utilize this data set is the availability of a more current analysis of the effects of language, and family structure on educational attainment; since the previous studies have analyzed data from prior-1987, 1987-1989, and 2005-2007. At this stage, logistic regression was utilized to analyze the 2011 IPUMSdata. The study utilized data from IPUMS-ACS 2011 sample data to examine the Asian population in the U.S. The unit of analysis is individual and table 1 shows the descriptive variables. The dependent variable is educational attainment for both hypotheses and is recoded into a dummy variable

Table 1: Descriptive

Dependent variable	Educational attainment recoded as a dichotomous variable. 1= Bachelor’s degree and higher, 0 = Do not have Bachelor’s degree and higher
Independent Variable: H ₁	English proficiency: English only, does not speak English, speak English “very well”, “well”, and “not well”
Independent Variable: H ₂	language other than English spoken at home: Chinese, Japanese, Korean, Vietnamese, Indonesian, Filipino, and only English (reference)
Control variables	Employment status: Employed, and Unemployed
	Multigenerational: 1 generation, 2 generation, 3+ generations.
	Household type: married couples, male headed household – no wife, female headed household – no husband, male -living alone, male – not living alone, female- living alone, female – not living alone.
	Family size: 1, 2, 3.....29 in a household
	Total family income
	Sex
	Age

1 = bachelor’s degree and higher, and 0 = less than bachelor’s degree. There are two independent variables, English proficiency and language spoken at home. The English proficiency is categorized as speaking English 1) only, 2) very well, 3) well, 4) not well, and referencing to do not speak English at all.

The other independent variable, Asian language spoken at home is categorized into several different groups, such as speaking 1) Chinese, 2) Japanese, 3) Korean, 4) Vietnamese, 5) Indonesian, 6) Filipino and referencing to speaking English only at home. The following are control variables, 1) Household type: Male householder, no wife present; Female householder, no husband present; Male householder, living alone; Male householder, not living alone; Female householder, living alone; Female householder, not living alone; and Married-couple family household (referencecategory); 2) Multigenerational household: 2 generations; 3 or more generations; and 1 generation household (reference category); 3) Family size; 4) Sex

(1=male, 0=female); 5) Total family income; 6) Employment (1= employed, 0 = not employed); 7) Age.

V. RESULTS

In this study, logistic regression technique was utilized to analyze the 2011 IPUMS because the dependent variable (education) is dichotomous. Table 2 presents the results of logistic regression predicting college completion and more. Model 1, shows that all English proficiency categories to have a positive relationship with college completion and more and are statistically significant at the .001 level. The logged odds of attaining a bachelor's degree is 1.157 higher for Asian Americans speaking English "not well" than Asian Americans not speaking English at all. However, as English proficiency level increases, so do the logged odds of obtaining a bachelor's degree or a higher degree among Asian Americans. For example, Asian Americans who speaks English "very-well" are about 13 times ($\text{Exp}(B)$ 13.993) more likely than Asian Americans who not speaking English at all to attain a bachelor's degree. However, the effect is not linear. For Asian Americans who speaks English only are 6 times (half of speaks English "very-well") more likely than those who do not speak English at all to complete a college degree or higher. Conversely, Asian American who speaks English not well are only 3 times more likely to attain a bachelor's degree compared to the reference group of who do not speak English.

In model 2, again the dummy variables for English proficiency are all statistically significant at the .001 level and positive, indicating that Asians who had English proficiency are more likely to attain a bachelor's degree or higher than Asians who do not speak English at all. The result for household type showed that Asians in single parent/family households are less likely to have a bachelor's degree or higher than Asians in married couple households. Male householders with no wife present are about 55 percent ($\text{Exp}(B)$.452) less likely to attain a bachelor's degree than those in married couple families. Similar findings for female householders with no husband present are 55 percent ($\text{Exp}(B)$.447) less likely to attain a bachelor's degree than those in married couple families. While comparing between male householder (living alone and not living alone) to

female householder (living alone and not living alone) showed interesting results. Where, regardless of household type, gender plays a huge role in Asian households. It may link to the culture and the model minority scenario.

Therefore, this result may suggest that the respondents' education may influence their children's chance (potentially) in achieving higher education. Parents who have higher socioeconomic attainments have more motivation and resources to encourage language fluency for the child [20][21][22]. Overall, model 2 (155,195) fits the data better than model 1 (187,020) because the -2 log likelihood is smaller than model 1.

Table 3 presents the result of logistic regression predicting Asian Americans' college completion and more on speaking another Asian language at home. Model 1 shows that all 6 selected Asian language categories to be statistically significant at the .001 level, except for Japanese language at the .05 level. The logged odds of obtaining a bachelor's degree is .339 higher for Asian Americans speaking Tagalog than Asian Americans who only speaks English at home. Asian Americans who also speak Chinese (.286) or Korean (.235) also shows higher logged odds for attaining a bachelor's degree than Asian American who only speaks English at home. For example, Asian Americans who speaks Chinese about 33 percent ($\text{Exp}(B)$ 1.331) more likely to complete a bachelor's degree or a higher degree than Asian Americans who only speaks English at home.

Conversely, there is a negative relationship for Asian Americans who speak Vietnamese or Indonesian to obtain a bachelor's degree or more. A possible reason for the negative relationship for Vietnamese and higher education can be from family relationship challenges, especially intergenerational conflict between parents and their adolescents [40][41].

In model 2, the dummy variables for speaking another Asian language other than English at home showed almost all groups to be statistically significant at the .01 level, except for Indonesian to obtain a bachelor's degree or a higher degree. After controlling for other variables, Asian Americans who speaks Japanese at home shows almost 30 percent less likely to complete a bachelor's degree or higher than Asians who only speak English at home. The result for

Table 2. Logistic Regression Estimates Predicting Respondent's Educational Attainment (+ Bachelor's Degree) on English Proficiency, U.S. Asian American, 2011

Predictor	Model 1		Model 2	
	B	Exp(B)	B	Exp(B)
English Proficiency (Reference: Do not speak English)				
Speaks English only	1.807*** (.057)	6.096	1.933*** (.060)	6.911
Speaks English very well	2.639*** (.057)	13.993	2.795*** (.059)	16.358
Speaks English well	2.255*** (.058)	9.535	2.071*** (.060)	7.936
Speaks English not well	1.157*** (.060)	3.181	.810*** (.062)	2.247
Household Type (Reference: Married-couple family)				
Male householder, no wife present			-.795*** (.031)	.452
Female householder, no husband present			-.804*** (.024)	.447
Male householder, living alone			.200*** (.039)	1.221
Male householder, not living alone			.143*** (.038)	1.154
Female householder, living alone			-.348*** (.035)	.706
Female householder, not living alone			-.051 (.043)	.950
Multigenerational household (Reference: 1 generation)				
2 generations			.020 (.020)	1.020
3+ generations			-.024 (.032)	.976
Family size			-.208*** (.006)	.812
Male			-.146*** (.013)	.865
Total family income			.000*** (.000)	1.0
Employed			1.300*** (.013)	3.669
Age			-.028*** (.000)	1.028
Constant	-2.692*** (.056)	.068	-3.610*** (.067)	.027
-2 log likelihood	187,020		155,195	
Model χ^2	9,937.4***		41,761.9***	
Pseudo R ²	.088		.332	
Degrees of freedom	4		17	
N	150,282		150,282	

*p ≤ .05 **p ≤ .01 ***p ≤ .001. Notes: The odds ratio is the antilog of the B, and standard errors are in parentheses.

Table 3. Logistic Regression Estimates Predicting Respondent's Educational Attainment (Bachelor's Degree +) on Speaking another Language at Home, U.S. Asian American, 2011

Predictor	Model 1		Model 2	
	B	Exp(B)	B	Exp(B)
Speaking another language (Reference: Speaking English only at home)				
Chinese	.286*** (.015)	1.331	.104*** (.016)	1.110
Japanese	.068* (.035)	1.071	-.249*** (.039)	.780
Korean	.235*** (.022)	1.265	.077** (.025)	1.080
Vietnamese	-.782*** (.024)	.458	-.976*** (.026)	.377
Indonesian	-.153 (.066)	.858	-.141 (.073)	.869
Filipino (Tagalog)	.339*** (.017)	1.403	.062** (.020)	1.064
Household Type (Reference: Married-couple family)				
Male householder, no wife present			-.803*** (.031)	.448
Female householder, no husband present			-.824*** (.023)	.439
Male householder, living alone			.123*** (.038)	1.131
Male householder, not living alone			.026 (.037)	1.026
Female householder, living alone			-.358*** (.034)	.699
Female householder, not living alone			-.142*** (.042)	.868
Multigenerational household (Reference: 1 generation)				
2 generations			-.003 (.020)	.997
3+ generations			-.076* (.031)	.927
Family size			-.203*** (.006)	.816
Male			-.120*** (.013)	.886
Total family income			.000*** (.000)	1.0
Employed			1.414*** (.012)	4.114
Age			.020*** (.000)	1.020
Constant	-.612*** (.007)	.542	-1.148*** (.029)	.317
-2 log likelihood	194,560.3		164,099.2	
Model χ^2	2,396.8***		32,857.9***	
Pseudo R ²	.022		.269	
Degrees of freedom	6		19	
N	150,282		150,282	

*p ≤ .05 **p ≤ .01 ***p ≤ .001. Notes: The odds ratio is the antilog of the B, and standard errors are in parentheses

Asian Americans household type shows that single parent/family households are less likely to have a bachelor's degree or a higher degree than Asians in married-couple households. Male householders with no wife present are about 55 percent (Exp(B) .448) less likely to attain a bachelor's degree or a higher degree than Asian Americans who are in a married-couple household. Furthermore, family size also played a huge role in Asian Americans educational attainment. For every additional family member in the household the logged odds of attaining a bachelor's degree or higher will decrease by .203 (20 percent). These results may suggest that the respondents' education may also influence their children's chance (potentially) in achieving higher education besides English proficiency.

Overall, model 2 (164,099) fits the data better than model 1 (194,560) because the -2 log likelihood is smaller than model 1. Also for Model 2, the model chi-square is bigger than that for model 1, which makes it a better-fit model. Lastly, the Pseudo R-square in model 2 showed a better fitting model because the model explains almost 30 percent of the variation in log odds ratio in attaining a bachelor's degree or a higher degree.

VI. DISCUSSION

This study examines whether speaking English "well" or "not well" matters to Asians Americans in their educational attainment and whether speaking another language other than English at home can influence educational attainment. Past studies have found a positive relationship between educational attainment and English-language proficiency among immigrants [1][2]. However, this study focused college completion or more among Asian American population and the effect of English proficiency and other Asian languages spoken at home to their educational attainment. Findings showed only selected Asian languages were beneficial to college completion or a higher degree such as Chinese, Korean and Filipino.

Results have supported the second hypothesis, but to be more specific, the result (Table3) supported Asians who speak another language (Chinese, Korean, and Tagalog) at home other than speaking English only. Conversely, the first hypothesis was not supported by the results, yet the overall English proficiency are all statically significant at the .001 level that Asians who speaks English only, "very-well", "well", and "not well" are still more likely to obtain a college degree and a higher degree than Asians who do not speak English at all.

H₁: Asian Americans speaking English "not well" has a higher likelihood to complete college or more than Asian Americans speaking English "only", "very-well", "well" and "not at all".

H₂: Asian Americans speaking another language other than English only at home has a higher likelihood to graduate from college or higher degree than Asian Americans who do not speak another Asian language at home.

Future implication is to utilize spatial techniques such as spatial weight matrix and Local Indicator of Spatial Association (LISA) which will strengthen the hypotheses and to even further contribute to this study. Another reason to utilize spatial techniques is to provide a deeper grasp of the hypotheses. For example, with maps we further examine ethnic behavior (integration, assimilation, marginality, deviance) within language (English proficiency or speaking another language at home) and the possibility for decrease or increase in migration patterns on educational attainment. Moreover, researches showed that the use of languages other than English is strongly linked to immigration and most frequent among first generation [14][24][37].

Another future implication of this research is to potentially look at other racial groups (Hispanics, African-Americans, Caucasians, etc.) who are multilingual. It would ultimately strengthen the research in this area to see if there is potentially a racial or cultural gap when it comes to the influence of language and English proficiency on the educational attainment of individuals. In addition to this, it could overall speak to the role that race may play within higher education, and any potential advantages or disadvantages it carries with it. It could also potentially speak to the culture of that individual or their family, when it comes to how they view and value their education.

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