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# Asian American Dropouts: A Case Study of Vietnamese and Chinese High School Students in a New England Urban School District

Phitsamay Sychitkokhong Uy

## Abstract

In the world of K–12 education, the growing numbers of dropouts are a major concern. This article examines the dropout rates of Chinese and Vietnamese high school students. Using logistic regression analysis, this article examines the influence of ethnicity, gender, and socioeconomic status (SES) on dropout rates. The distinct contribution of this analysis lies within the intraethnic comparisons within the Asian American student population and its use of longitudinal data. The results of the study support existing research that gender and SES are related to dropout rates. Moreover, an interesting interaction between ethnicity and SES exists.

## Introduction

The consequences of dropping out of high school have been well documented. High levels of poverty, unemployment, imprisonment, and dependence on public assistance are among the many dire long-term conditions dropouts must face (Bridgeland, DiIulio, and Morison, 2006; Barton, 2005; Orfield, 2004). Over the course of their lifetimes, dropouts can cost the nation more than \$319 billion in lost wages and potentially more than \$17 billion in Medicaid and expenditures for uninsured health care (Alliance for Excellent Education, 2008). These costly consequences make it imperative that educators and researchers understand the conditions that lead to students choosing to drop out of school.

Recent studies have found that only about two-thirds of students in high schools graduate (Greene and Winters, 2005). The Asian American population provides an interesting case study within which to examine such issues. In 2000, the dropout rate

among Asian American high school students was the lowest of any racial/ethnic group at 3.5 percent (Suh and Satcher, 2005). However, if this national statistic is disaggregated, there is considerable variation in high school dropout rates across geographic regions of the country and among different Asian ethnic groups.<sup>1</sup> For example, in the New York City public schools, almost one-third of Asian American students failed to graduate from high school with their class compared to the approximate one-fourth of Asian Americans in Springfield, Massachusetts, or more than one-tenth of Asian Americans in Long Beach, California, who have dropped out of school (Coalition for Asian American Children and Families, 2004).

This article seeks to challenge the notion that all Asian American students are performing well in the US school systems by examining the dropout rates of two major Asian American high school student groups and asking whether ethnicity plays a role in the rates of dropout or on-time graduation.<sup>2</sup> Do current research findings, which suggest that socioeconomic status (SES) and gender play a pivotal role in educational achievement, hold true for Chinese and Vietnamese high school students? In the process of addressing these questions this article outlines how dropout rates are calculated and identifies the contributing factors. The distinct contribution of this analysis lies in its intraethnic comparisons within the Asian American student population and its use of longitudinal data across a four-year span.

### What Is a Dropout Rate?

What makes a high school dropout? Although the question seems simple, the answer is complex. Despite growing interest in the problem, there is no universally accepted agreement on the definition of *high school dropout rate* or of *high school completion*. The National Center for Educational Statistics has three definitions of the term *high school dropout rate*:

*The Event Rate:* The percentage of students who drop out of high school in a single year without completing their studies.

*The Status Rate:* The percentage of the population in a given age range who have not finished high school or who are not enrolled in school at a given point in time.

*The Cohort Rate:* The percentage of a single group of students who drop out over time (Kaufman, 2004).

In this article, dropout rates are calculated by using the cohort rate approach for several reasons. First, the cohort model facilitates comparison of the number of graduates and the number of students from that age group enrolled four years earlier across high schools and districts (Orfield, 2004). Second, the cohort rate estimates are regulated by a narrowly defined set of “exclusions.”<sup>3</sup> Lastly, the cohort approach meets No Child Left Behind graduation rate stipulations for a graduation rate (Sevens, 2006). Using 2002 to 2006 records, this study followed Asian American students for four years in order to determine whether they graduated from high school on time.<sup>4</sup>

#### What Affects Dropout Rates?

Much of the dropout literature focuses on calculating dropout rates using quantitative measures. These analyses focus on the individual characteristics that predispose students to leave high school (Rumberger, 2004b) or on the structural factors within schools and communities that may push students out of high school before graduation (Van Dorn, Bowen, and Judith, 2006; Alexander, Entwisle, and Kabbani, 2001; Crane, 1991; Fine, 1991). Studies have shown that attitudes and behaviors, gender, SES, and immigration status are associated with dropouts.

In the past, scholars have expressed considerable interest in the impact of a student’s level of engagement and feelings of isolation, frustration, and self-esteem (Newmann, Wehlage, and Lamborn, 1992; McNeal, 1995). Such studies list the reasons students give for dropping out of high school, which include a dislike of school, inability to get along with teachers and other students, school suspension, a feeling of not belonging, and inability to keep up with school work (Rumberger, 2004b). Students may perceive their schools as being boring, humiliating, and unappealing, especially if those students cannot relate to teachers, staff, or the curriculum (Fine, 1991; LeCompte and Dworkin, 1991). These feelings of disengagement and withdrawal result from the cumulative experiences that students have had in school and are compounded in their decision to drop out (Newmann, Wehlage, and Lamborn, 1992; Finn, 1989; Wehlage et al., 1989).

An important individual-level influence on high school dropout rates, regardless of how they are measured, is a student's SES (Swanson, 2004). Low-income students must deal with a lack of resources and a lack of learning opportunities. Coupled with their low SES are other family-related characteristics—including the low educational and occupational attainment of their parents, the limited English proficiency of parents/caretakers, and being raised in single-family households—that typically limit the extent to which parents/caretakers can be involved with their children's education (Ekstrom et al., 1986; Steinberg, Blinde, and Chan, 1984; Rumberger, 1983).

Immigrant status and generational status have also been found to matter in determining the aspirations and the educational outcomes of some groups (Louie, 2004; Portes and Rumbaut, 2001; Rumbaut and Portes, 2001; Zhou, 1997).<sup>5</sup> Language minority status has been used as a proxy for immigrant status.<sup>6</sup> Language minority students, especially those of Hispanic descent, drop out of school at a higher rate than students who only speak English, according to Steinberg, Blinde, and Chan (1984), who found that a student's family SES was a powerful predictor of dropping out among this group.<sup>7</sup> Other influential predictors are teachers' low academic expectations and tracking of language minority students to special education programs and to lower-ability groups and classes (Katz, 1999; Oakes, 1995; Larklau, 1994).

A few qualitative studies have examined the reasons students drop out of high school (Brown and Rodriguez, 2009; Lew, 2004; Fine, 1991). In a study of Korean American dropouts, Lew (2004) discussed the larger social forces of family socioeconomic background, access to social capital at home and within ethnic communities, and structural support and caring relationships with teachers and counselors at school—showing how they affected students' decisions to leave school. The thirty urban, working-class Korean American youths whom she interviewed associated being educated and wealthy with whiteness. They also believed that middle-class Korean Americans had that same aspiration, but it was not part of their own current reality. Lew stresses the important role that SES plays in these students' decisions to drop out: 90 percent of the Korean American students in Lew's study had to work after school to contribute financially to their households (312).

Brown and Rodriguez (2009) conducted a qualitative study of two Latino males and found a relationship between adult interactions and student disengagement. This study offers a much-needed student perspective on their everyday schooling experiences and the processes of disengagement. Themes of educational neglect and social and intellectual alienation from the teachers and school personnel emerged in the interviews and observations. Their research highlights that schools contribute to the dropout problem by failing to ensure that adults are accountable for the services they provide to students within school settings (240).

Fine's seminal 1991 study in New York goes one step further; she argues that school policies "silenced" and "exiled" students. Her ethnographic and qualitative study provided evidence of the multiple processes through which schools alienated their students. Students complained of unfair school disciplinary practices, inadequate curricula, and racist and discriminatory experiences with school personnel—all of which were ignored by school staff.

Another major finding highlighted the role of gender in academic achievement and attainment. Fine concluded that although girls achieved comparably to boys in elementary school, their academic achievements started to taper off at age thirteen, during their middle school years. She examined how many students out of 242 graduated on time, with reading levels at or above the twelfth grade. In this sample, boys outperformed girls on standardized tests, excelling in mathematics and reading. Reading level significantly predicted dropping out of high school for males but not for females. If girls were "poor readers," they were "twice as likely to drop out as to graduate," and if boys were poor readers, they were "six times more likely to drop out than graduate" (244).

Other more recent studies also show substantial and systematic gender disparity in high school graduation rates (Rumberger, 2004a; Swanson, 2004). Female students were graduating at a higher rate than the male students (i.e., 72% vs. 64% nationally). This disparity is evident across all races and geographic regions, and the 8 percent point "gender gap" is expected to persist for years to come (Swanson, 2004). At the same time, Hispanic and black female students are graduating at a higher rate (11% and 13%, respectively) than their male counterparts. Black females are more likely to drop out of high school due to pregnancy when compared to Latino and white females, whereas Latino males and

females are more likely to cite economic reasons for dropping out (Rumberger, 2004a). The largest gap in high school graduation by gender is displayed among Asians living in the Northeast, with Asian males trailing Asian females by 13 percentage points (Swanson, 2004).

Unfortunately, many of the studies cited have two significant limitations. They report their findings only at the aggregate level (e.g., in blanket categories such as whites, blacks, Latinos, and Asians, despite the diversity within each racial group), and they ignore Asian American students as potential dropouts. In the next section, I turn to research focusing on the educational experiences of Asian American students in order to situate the high school dropout phenomenon within Asian American community contexts.

### The Education of Asian Americans

Asian American scholars have commented on the complex dimensions within this population, in terms of ethnicity, immigration status, and SES. As Asian immigrants hail from more than sixty-seven different countries, great diversity can be found within the broader aggregate category. For example, the Chinese population is economically bifurcated (Zhou and Kim, 2006; Mollenkopf et al., 2005; Louie, 2004). Early Chinese immigrants arrived mainly as uneducated peasants, while recent immigrants come from diverse socioeconomic backgrounds (Zhou and Kim, 2006; Takaki, 1989). Mollenkopf et al. (2005) found that parental factors like SES shaped the life-course trajectories of their Chinese children. Yet surprisingly little attention has been paid to the various educational experiences of low-income Chinese students (Louie, 2004).

Much of the literature on the education of Asian Americans has discussed the academic excellence that these students demonstrate in school. Since the 1960s they have been touted as the “model minority” (*U.S. News and World Report*, 1966). This pervasive myth uncritically stereotypes Asian American students as hardworking pupils who excel in mathematics and science (Lee, 1996; Osajima, 1988; *U.S. News and World Report*, 1966), and thereby masks multiple issues that students actually have in schools.

Research that examines factors contributing to academic excellence for Asian Americans has shown that parental financial and human capital could not explain the variability in academic achievement between groups (Fejgin, 1995) nor could socioeco-

conomic and background characteristics, tested academic ability, and parental expectations (Goyette and Xie, 1999). Studies have found consistent patterns of differential educational achievement among Asian Americans and subgroup differences in dropout and at-risk rates. Depending on the particular definition, Asian American students had between an 11 percent and a 28 percent dropout rate (Siu, 1996). Suh and Satcher (2005) found three major patterns that contributed to students being at risk of dropping out: a sense of alienation, feelings of helplessness and hopelessness, and searching for shelter. Parental factors that affected dropout rates were low education levels, limited expectations of their children and education, and ineffective parenting skills. Improper assessment and class placement based on either English proficiency or on the age of the students are school factors that also cause difficulties for Asian American students.

Immigration scholars have written about the insufficient attention paid to the issue of gender among immigrant youth. Parents exercise much stricter control over their daughters' activities outside of the house and have higher expectations that their daughters will uphold traditional ideas, compared to their sons (Suarez-Orozco and Qin, 2006). Other scholars have found similar results with Asian American girls (Ngo, 2002; Mueller, 2001; Zhou and Bankston, 2001; Lee, 1997; Brandon, 1991). In their study of Vietnamese girls, Zhou and Bankston (2001) discovered that the stricter parental control had a positive influence on their educational outcomes. Lee's (2001) data on Hmong American females proposes that Hmong girls' beliefs that conflict with the dominant culture may cause alienation from school and, thus, possibly contribute to dropping out.

There is a need for between- and within-group comparisons among Asian Americans. The Asian American student population is not homogenous. They can be found in all fifty states and have varying experiences in schools. Although a majority of the Asian American literature is based on the U.S. West Coast and Midwest regions, the next section briefly provides some contextual information about the New England area where this study is specifically situated.

### The New England Context

The Chinese and Vietnamese communities are two of the



largest Asian American ethnic groups in the large New England city of Springdale.<sup>8</sup> The Chinese make up 44 percent of the total Asian American population followed by the Vietnamese at 24 percent (Institute for Asian American Studies, 2004). The remaining 34 percent consist of Khmer, Korean, Lao, Pacific Islanders, and South Asians. The Chinese community grew by 32 percent in the years between 1990 and 2000 (Lo, 2006). The Vietnamese population also increased dramatically by 128 percent during the same time period (Institute for Asian American Studies, 2004).

Historically, low-income Chinese immigrants have settled in Springdale for economic reasons. Due to their well-established networks as well as their limited English proficiency, these immigrants have utilized Springdale's Chinatown—originally established in the 1870s—as the nexus for their social, business, and political engagement. Over the years, middle-class Chinese immigrants have moved from the Chinatown urban center to the suburban metropolitan area outside of Springdale. However, Chinatown remains the hub for low-income Chinese immigrants who arrived more recently during the 1990s and the 2000s (Institute for Asian American Studies, 2004).

In contrast, the Vietnamese did not come to the United States in large numbers until the 1970s and 1980s; 70 percent arrived with refugee status (Aguilar-San Juan, 2005). The first wave of refugees came from upper-class, educated elites immediately following the fall of the South Vietnamese government in Saigon in April 1975. More recently arrived Vietnamese came with refugee or immigrant status during the 1980s and 1990s, predominantly from working-class, farming, fishing, or South Vietnamese military backgrounds. In addition, 10 percent of the population is ethnic Chinese from merchant backgrounds, also with diasporic family origins in Vietnam. Many Vietnamese immigrant/refugee families settled in cities such as Springdale.

The *poverty rate*—as defined by federal guidelines—among Vietnamese families in Springdale is higher than that for Chinese families (30% and 21%, respectively). These local statistics are higher than the national poverty rate for Vietnamese and Chinese communities (16% and 13%, respectively). More than three times as many Vietnamese as Chinese households receive public assistance. Interestingly, the median household income of a Springdale Chinese family is \$25,809, compared to the national family me-

dian income for Chinese households of \$36,259, while the local Vietnamese family median household income is \$32,904, higher than the national Vietnamese family median household income of \$15,385 (Institute of Asian American Studies, 2004).

Low educational attainment is particularly acute among Chinese and Vietnamese women living in Springdale who are at least twenty-five years old. More than 44 percent of Chinese women and more than 56 percent of Vietnamese women have less than a high school education (Institute of Asian American Studies, 2004). In contrast, among men who are at least twenty-five, only 39 percent of Chinese men and 42 percent of Vietnamese men have less than a high school education. Nationally, according to the 2000 US Census, 47 percent of the Chinese community has a bachelor's degree or higher compared to 20 percent of the Vietnamese community (Southeast Asian Resource Action Center, 2006).

In summary, the Chinese community in Springdale can arguably be considered more advantaged than the comparable Vietnamese community, based on economic and education indicators such as lower poverty level, lower dependence on public assistance, and higher educational attainment. My study explores whether their SES, along with their child's gender and ethnicity, play roles in students' on-time graduation rates.

## Data and Methodology

### **The Student Information Management System Database**

The Student Information Management System (SIMS) is a longitudinal database that records student enrollment in each school district of the state in this study. It is supplemented every year by the state's Department of Education. This study utilized the Springdale school district's SIMS data from 2002 to 2006.

### **Sample**

The sample consisted of Chinese ( $n = 247$ ) and Vietnamese ( $n = 178$ ) high school students. These 425 students comprise 75 percent of the total sample of Asian Americans in the 2002 ninth-grade cohort ( $N = 565$ ). Gender was equally distributed in the Vietnamese group, but the Chinese group had slightly more girls (53%). With respect to SES, approximately 75 percent of Chinese and Vietnamese high school students were classified as low income.

## Measures

*Four-year graduates.* Four-year grad is a dichotomous variable that indicates whether or not the individual student graduated from high school on time, within four years. This study utilized three of the eight categories in which students' enrollment was reported in the SIMS data.<sup>9</sup> The three categories are 1 = enrolled, 3 = dropout, and 4 = graduated. The first categories were collapsed to create a dichotomous dependent variable (0 = did not graduate, 1 = graduated). In cases where students did not drop out but were still enrolled in school in the twelfth grade, they were classified as not finishing high school in the expected four-year time frame. Another thirty-one students were excluded from the dataset because they transferred out of school, died, or aged out of the school system at age twenty-one.

*Ethnicity.* A dummy variable, Viet, was created to indicate whether the students' ethnicity was Vietnamese (Viet = 1, 0 = Chinese).<sup>10</sup> Country of birth and first language were used to code students' ethnicity (i.e., if the student's first language was Vietnamese and his/her country of birth was Vietnam, then she/he was coded as Viet, 1).<sup>11</sup> In the roughly 19 percent of cases in which a student's ethnicity could not be determined, that student was dropped from the analysis.

*Gender.* A dummy variable, Female, was created to represent student's gender. A student's gender was coded 1 for females or 0 for males.

*Socioeconomic status.* A dummy variable, Low\_inc, was created to represent students' SES. In this study, SES is measured using the state Department of Education's definition of *low-income status* (Low\_inc = 1, not Low\_inc = 0). Students are considered low income if they meet any of the following indicators: (1) they are eligible for free or reduced price lunch, (2) receive Transitional Aid to Needy Families benefits, or (3) are eligible for food stamps.

## Data Analysis

A series of logistic regression models were used to examine the role of students' ethnicity, SES, and gender in the dropout process. This method assumes an underlying continuous variable (log-odds of dropping out) and the value of 0 or 1 is dependent on a critical cutoff point; the log-odds equal  $\log(p/1-p)$ , where  $p$  stands for the probability of dropping out of high school. Table 1

Table 1: Logistic regression models that display the fitted relationship between whether a student will graduate on time in four years (versus not graduating on-time in four years) as a function of being female and low income (N= 425).

	Models						
	Null	#1	#2	#3	#4	#5	#6
Intercept	0.366***	0.203	0.005	0.121	0.234	0.361	0.255
Viet <sup>+</sup>		0.284	0.299	0.306	0.117	-0.104	0.072
Female			0.400*	0.411*	0.184	0.191	0.410*
Low_Inc				-0.486*	-0.490*	-1.017**	-1.026**
Viet*Female					0.403	0.381	
Viet*Low_Inc						0.906*	0.920**
-2LL (df)	575.147	573.121(1)	569.075(1)	564.502(1)	563.512(1)	559.735(1)	560.604(1)
Chi-square		2.026	6.072*	10.645*	11.635*	15.413**	14.543**

Key: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

+ Chinese high school students are the reference category.

presents models of dropping out, ranging from a reduced model to those including all three variables and their two-way interactions. Model 1 addresses the salience of ethnicity. No previous research has calculated dropout rates for the Asian student population using ethnicity as a variable. Model 2 focuses on the stability of earlier findings on gender. Previous research found that being male is associated with an increased likelihood of dropping out. Model 3 tested if the combination of ethnicity, gender, and SES significantly predicted dropping out of high school. Models 4 through 6 examined two-way interactions between ethnicity, gender, and SES as significant predictors of dropout rates. The sample size ( $n = 425$ ) achieved a statistical power of .90 (Light, Singer, and Willett, 1990) for detecting a small effect at usual levels of Type I error ( $p < .05$ ).

## Findings

Descriptive statistics on the characteristics of the Asian American students in the ninth grade ( $N = 565$ ) are displayed in Table 2. Fifty-seven percent of Asian American students graduated on time in the expected four years. Of these 324 students who graduated,

Table 2. Frequencies (and Percentages of Total) in Selected Categories of Chinese, Vietnamese, and Asian-American Students in a New England Public School District's 9<sup>th</sup> Grade Cohort in 2002 (N = 565)

Characteristics	Chinese (%)	Vietnamese (%)	Other Asian Americans (%)	Total
Male only	116 (43%)	89 (33%)	64 (24%)	269
Female only	131 (44%)	89 (30%)	76(26%)	296
ELL status	75 (76%)	21 (21%)	3 (3%)	99
Low-income status	184 (47%)	134 (34%)	75 (19%)	393
Graduated in 4-years	153 (47%)	98 (30%)	73 (23%)	324
—male graduates	80 (48%)	51 (30%)	37 (22%)	168
—female graduates	73 (47%)	47 (30%)	36 (23%)	156
Special education	4 (31%)	3 (23%)	6 (46%)	13
Emergency immigrant	84 (72%)	17 (15%)	15 (13%)	116
Sample size	247	178	140	565

Note: Other Asian Americans found in school district include Lao, Khmer (Cambodian), Koreans, Pacific Islanders, and South Asians.

47 percent were Chinese and 30 percent were Vietnamese. The remaining 23 percent were categorized as other Asian Americans.<sup>12</sup> A majority of Asian American students in this 2002 cohort were classified as low income. Of all the Asian American students, 34 percent of the Vietnamese, 47 percent of the Chinese, and 20 percent of the other Asian American students were from low-income families. Gender was equally distributed in the Vietnamese group, but the Chinese and other Asian American groups had slightly more girls (51% and 54%, respectively). Less than 1 percent of Chinese and Vietnamese students and 4 percent of other Asian American students are in special education programs.

The data also reveal notable differences in immigration status among these Asian American students.<sup>13</sup> Seventy-two percent of the Chinese, 15 percent of the Vietnamese, and 13 percent of the other Asian Americans were enrolled in the district's emergency immigrant education program. To qualify for that program, students must be born outside the United States and cannot have attended a US school for more than three academic years. Approximately 28 percent of Chinese, 85 percent of Vietnamese, and 87

percent of the other Asian Americans are second generation. Not surprisingly, 30 percent of the Chinese students held English language learner status. In contrast, only 14 percent of the Vietnamese and 2 percent of the other Asian American students were English language learners.

### **Ethnic Salience (or Lack of)**

The results from these analyses produced no evidence to support the hypothesis that being Chinese or Vietnamese reduces the likelihood of dropping out of high school among these Asian-origin youths. Without taking into consideration any other factors, Asian American students in this sample are 44 percent more likely to graduate on time than not.<sup>14</sup> Model 1 tested the predictive power of ethnicity. The odds that a Vietnamese adolescent will graduate are 33 percent greater than the odds that a Chinese adolescent will graduate; however, these differences are not statistically significant. Therefore, there is no conclusive evidence that a relationship between ethnicity and on-time graduation existed in this sample.

### **Significance of Gender**

In contrast, gender proved to be a more significant predictor of on-time graduation. This finding was expected, given the strength of the findings of earlier studies that examined gender and its relationship to dropping out. Furthermore, this baseline  $X$  value in Model 1 enabled me to examine the strength of the gender in subsequent models (using a nested  $\chi^2$  comparison). It enhanced the predictive power generated in Models 2, 3, and 6. On average, both Chinese and Vietnamese girls are 51 percent more likely to graduate high school on time compared to Chinese and Vietnamese boys ( $p < .05$ ). In Model 4, where the interaction of ethnicity and gender was introduced, gender was statistically insignificant. When this two-way interaction was eliminated in Model 6, gender seemed to regain its influence on on-time graduation ( $p < .05$ ).

### **Predictive Power of Income**

As previous researchers have found, low-income status proved to be a statistically significant predictor of on-time graduation rates. Model 3 resulted in the finding that, on average, the odds that low-income Chinese or Vietnamese adolescents will graduate on time are less than two-thirds of the odds that their higher income colleagues will graduate ( $p < .05$ ). Model 6 found both direct

effects of gender and SES and an interaction effect of low-income status and ethnicity; thus this model shows their combined effects on the prediction of high school graduation. Among low-income students, the odds that a Vietnamese student will graduate on time in four years is more than double the odds that a Chinese student will graduate, on average, regardless of gender ( $p < .01$ ). Among high-income students, the odds of a Vietnamese and a Chinese student graduating are about the same.

### **Discussion**

In contrast to popular assumptions that Asian American students are uniformly excelling and graduating from high school on time, this study substantiates earlier findings that there are notable differences in educational achievement for Asian American students (Suh and Satcher, 2005; Lew, 2004; Goyette and Xie, 1999; Siu, 1996). The study found that the likelihood of dropping out is influenced by the relationship between a student's ethnicity, gender, and SES. Gender differentially affects dropping out. Being a male significantly increases a student's likelihood of dropping out whereas being a female does not. In addition, the impact of being low income cuts across the Chinese and Vietnamese students in this sample and reduces the likelihood of their graduating from high school in four years (Swanson, 2004). Low-income students were 60 percent less likely to graduate on time in four years compared to other students. Although ethnicity alone is not a significant predictor of high school graduation, it becomes significant when examined jointly with income. Vietnamese students, on average, had greater odds of graduating on time than Chinese students when their families were low income, but for adolescents from high-income families, there were no differences in graduation rates between the Vietnamese and Chinese groups

What can account for the differential impact of low-income status on dropping out? Research indicates that low educational and occupational attainment and the limited English proficiency of parents/caretakers—common traits of immigrant families—are associated with educational outcomes (Ekstrom et al., 1986; Steinberg, Blinde, and Chan, 1984; Rumberger, 1983). These students are embedded in the immigrant community of Springdale. A recent study shows that immigrants in Springdale “account for 27.8 percent of all persons and 29.1 percent of households” (Clayton-

Mathews, Karp, and Watanabe, 2009). More than half of Springdale's immigrants are employed in five industrial sectors: health care and social assistance; retail trade; educational services; manufacturing; and professional, scientific, and technical services. Among Chinese and Vietnamese immigrants, almost half work in food preparation and related services. Chinese males are much more likely than Vietnamese males to be employed in the service occupations. Vietnamese males are five times more likely to be concentrated in construction, extraction, and maintenance occupations than are Chinese males (Lo, 2009). In their roles as parents, therefore, many may be restricted by labor-intensive jobs with limited incomes, leading to their having fewer resources to support their children's education. Given that many are also limited-English-speaking and not educated in the United States, they may lack many relevant skills and knowledge to assist their children directly in school. Unfortunately, due to the state's policy of using only English in schools, these parents cannot get the linguistic support they need to engage in any consistent way with school personnel.

Why do low-income Vietnamese students have greater odds of graduating than low-income Chinese? The answer may lie within immigration/generational status. Interestingly, in this sample, approximately 85 percent of the Vietnamese students are second generation, compared to approximately 28 percent of Chinese students. The second-generation Vietnamese students and families may be more familiar with, and better able to navigate, the US school system. In addition, these students may be embedded in social networks in their homes, communities, or schools that provide them with important institutional resources and support (Lew, 2004; Zhou and Bankston, 1994). Their parents or other family members may be learning valuable information that is conducive to reducing their child's likelihood of dropping out.

In considering the results and implications of this study, several limitations should be noted. First, the sample was limited to two distinct Asian ethnic groups: the Chinese and Vietnamese. This study is of one cohort in one geographic location; thus the findings cannot be generalized to represent all Chinese and Vietnamese high school students in the United States. At the aggregate level, the dropout rate for Springdale's Asian student population (5%) is lower than those of Long Beach, California (10%) or Springfield, Massachusetts (26%).



Another limitation concerns the use of a proxy ethnicity measure (e.g., country of birth and home language). The absence of a systematic approach for categorizing student ethnicity presents the risk of misidentifying students and challenging the accuracy of the data. Future studies would benefit from a more reliable system for collecting students' ethnicities. Additionally, utilizing a five-year cohort model has become more common in calculating dropout rates. Due to lack of access to student data, the researcher was limited to a four-year analysis, thus limiting the generalizability of the findings. Studies conducted on more than one cohort can influence local and national education policy.

Despite these limitations, this study highlights the fact that an expectation of high school graduation is not actualized by all Asian American students. Although much attention has been paid to black and Latino boys, this study suggests that Asian American boys also warrant attention from researchers, teachers, and school administrators. Chinese and Vietnamese boys are potentially at risk of dropping out. The findings presented here indicate a need for more research on Asian American dropouts by exploring SES as a mediating factor between ethnicity and on-time graduation. Further research should include a more sophisticated analysis of gender and generational status especially in states like California, New York, Texas, and Massachusetts where sizable Asian American communities reside. In addition, as these and other states apply for funding initiatives such as the Obama Administration's Race to the Top Fund, one area of worthwhile focus is for the states and local school districts to develop more comprehensive data systems that measure student growth and success, while informing teachers and principals about ways to improve instruction.<sup>15</sup> Federal monies can be used, for example, to help states collect and analyze longitudinal data on their students. In the process, they can require their local school districts to collect and track individual-level data such as ethnicity and generational status on each student over time. This level of detailed information is necessary to develop programs and provide services specific to Asian American students and other students with comparable backgrounds in their schools.

Clearly, calculating specific dropout rates and their statistically powerful predictors for different ethnic communities is only part of the challenge. Researchers, policy makers, and practitio-

ners also need appropriately designed qualitative studies with systematic interviews and observations that can more effectively reveal what factors influence the academic outcomes and educational engagements of those who drop out and those of similar backgrounds who persist after considering dropping out. Research funds and professional development monies can be invested, for example, in projects and programs that engage students, parents, teachers, and counselors as well as community-based organizations working directly with the educational support and sociocultural development of Asian American youth. Without considering these voices and perspectives qualitatively, we may be ignoring those who are most affected by the complex dynamics of dropping out and, therefore, losing opportunities to identify and implement more effective interventions.

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## Notes

1. The US Census uses the categories of (1) Asians and (2) Native Hawaiian or Other Pacific Islanders. An *Asian* is defined as “a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.” A *Native Hawaiian or Other Pacific Islander* is defined as “a person having origins in any of the original peoples of Hawai’i, Guam, Samoa, or other Pacific Islands.” These two categories encompass people from more than 67 different Asian/Pacific Island countries.
2. The literature tends to discuss graduation rates in terms of dropouts. This article uses the two terms interchangeably.
3. A student is excluded if she/he has transferred out of the district, died, gone to jail, or aged out of the school system at age 21.
4. Because access was limited to district data, a 5-year cohort analysis was not possible.
5. Immigration status and generational status are used interchangeably in this article. First generation refers to someone who immigrated to the United States as an adult; the 1.5 generation immigrated as children; and the second generation is born in the United States, the children of immigrants.
6. Language minority status is not a perfect approximation for immigrant status because some immigrants come to the United States fully fluent in English, especially those from countries such as India and the Philippines, or are others who are highly educated professionals.
7. It should be noted that researchers need to control for SES when looking at language minority students but most researchers do not.
8. The city name is a pseudonym.
9. Five other categories were excluded from this study: transferred, permanent exclusion, deceased, reached maximum age, and certificate attained (i.e., GED).
10. Chinese high school students are the reference category.
11. If a student’s first language (FLNE) was Chinese and the country of birth was Vietnam, Viet was coded as 0 because there are many ethnic Chinese who were born in Vietnam. Language was used as the primary indicator of ethnic heritage. There are limitations to using FLNE as an indicator of ethnicity, and a more refined ethnicity indicator is recommended in future studies.
12. Although the total of other Asians is 140, only 32 of those students could be identified by their ethnicity (e.g., Khmer, Korean, Lao, and South Asians) and/or their country of birth (e.g., Nepal, Pakistan,

India, Korea, and Cambodia). The rest of the Asian students were labeled as Asians, but no other information could be obtained from the data record (e.g., country of birth, first language not English) to determine their ethnicities.

13. Immigration status was measured by foreign-born status and country of birth.
14. Table 2 lists logistic regression coefficients, which correspond to the impact on the log-odds of dropping out. Exponentiation of the coefficients equals the odds of dropping out, the equivalent of a multiplicative effect. To determine the probability, one must choose values to substitute in a given equation in Table 2, calculate the log-odds, and then determine the probability using  $p = 1 / (1 + e^{BiXi})$ .
15. Race to the Top Fund RFP found at <http://www.ed.gov/programs/racetothetop/index.html> (accessed November 11, 2009).

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