

High School May Not Be Enough: An Investigation of Asian Students' Eligibility for Post-secondary Education

Dennis Murphy Odo

Georgia State University

Reginald D'Silva

University of British Columbia

Lee Gunderson

University of British Columbia

Abstract

Post-secondary education has increased in importance as the world's economies become more knowledge-based. Employment trends suggest that a high school diploma may be insufficient in some jurisdictions to meet the skills and demands of the 21st century workplace (HRSDC, 1998). In addition, immigration trends are resulting in more ethnic and cultural diversity in North American schools (cf., Goldenberg, 2006). The problem is that little research has been conducted to explore the participation of students from a variety of language or ethnic groups in Post-Secondary Education Programs (PSEPs) or to explore factors that may influence their eligibility to participate. According to Statistics Canada, by 2031, one in four Canadians will have been born in another country. Immigrants from Asia make up the largest group moving to urban centres around North America (CBC, 2010). This trend has implications for teachers who need to know how to meet these learners' needs. While participation rates in PSEPs in Canada are steadily increasing (Shaienks, Gluszynski, & Bayard, 2008), it is unclear how immigrant student groups are faring. The goal of this exploratory study was to explore factors that influence Asian students' eligibility for PSEPs.

Résumé

L'importance de l'éducation post-secondaire a augmenté en parallèle avec les économies mondiales qui deviennent de plus en plus des sociétés de la connaissance. Les tendances en matière d'emploi suggèrent qu'un diplôme d'études secondaires peut être insuffisant dans certaines juridictions pour répondre aux compétences et aux exigences du monde du travail au XXIème siècle (RHDCC, 1998). En outre, l'évolution de l'immigration se traduit par une plus grande diversité ethnique et culturelle dans les écoles nord-américaines (cf Goldenberg, 2006). Le problème est que peu de recherches ont été menées afin d'étudier la participation des étudiants ayant des antécédents culturels et linguistiques différents dans les programmes de l'éducation post-secondaire (PEPSs), ou pour étudier les facteurs qui peuvent influencer sur leur admissibilité. Selon Statistique Canada, en 2031, un Canadien sur quatre sera né dans un autre pays. Les immigrants en provenance d'Asie forment le groupe le plus important se déplaçant vers les centres urbains à travers l'Amérique du Nord (SRC, 2010). Cette tendance a des implications pour les enseignants qui doivent savoir comment répondre aux besoins de ces apprenants. Bien que le taux de participation dans les PEPSs au Canada est en constante augmentation (Shaienks et coll., 2008), il est difficile de savoir comment les groupes d'étudiants immigrants se débrouillent. L'objectif de cette étude exploratoire était d'analyser les facteurs qui influent sur l'admissibilité des étudiants asiatiques dans les PEPSs.

High School May Not Be Enough: An Investigation of Asian Students' Eligibility for Post-secondary Education

Introduction

Post-secondary education has increased in importance as the world's economies become more knowledge-based. Employment trends suggest that a high school diploma may be insufficient in some jurisdictions to meet the skills and demands of the 21st century workplace (HRSDC, 1998). In addition, immigration trends are resulting in more ethnic and cultural diversity in North American schools (cf. Goldenberg, 2006). The problem is that little research has been conducted to explore the participation of students from a variety of language or ethnic groups in Post-Secondary Education Programs (PSEPs) or to investigate factors that may influence their eligibility to participate.

According to Statistics Canada, by 2031, one in four Canadians will have been born in another country. Immigrants from Asia make up the largest group moving to urban centers around North America (Statistics Canada, 2010). This trend has implications for teachers who need to know how to meet these learners' needs. While participation rates in PSEPs in Canada are steadily increasing (Shaienks, Gluszynski, & Bayard, 2008), it is unclear how immigrant student groups are faring. The goal of this study was to explore factors that influence Asian students' eligibility for PSEPs.

The unique obstacles that Asian students encounter in schools are often overlooked because of the myth that they are a "model minority" that does not struggle academically (Lee, 1996). However, the reality is that the discrepancies in families' access to educational resources within the Asian population makes any single characterization of the group inappropriate (Kao, 1995).

Ngo (2006) points out that the image of Asian students as high achievers masks the reality that there is a great deal of disparity among different first language and cultural groups. For instance, he found higher rates of high school and college completion for South and Northeast Asians than for Southeast Asians. He explains that according to the 2000 US Census data, a much larger proportion of Cambodian, Hmong, Lao, and Vietnamese Americans aged 25 and over have less than a high school education compared to Indian, Japanese, and Chinese Americans. While 42.7% of all Asian Americans aged 25 and over hold a bachelor's degree or higher, less than 10% of Cambodian, Hmong, Lao, and Vietnamese Americans hold a bachelor's degree or higher (Ngo, 2006). This finding demonstrates dramatically the discrepancy in educational attainment among the group of immigrants typically aggregated together into the category labelled "Asian." The purpose of this study was to explore these differences.

Review of the Literature

Lee (2006) argues that the Asian ethno-linguistic category is incredibly diverse and includes as many as 50 different ethnic groups. There is also a great deal of diversity in access to economic resources. Lee concludes that there is no single, homogeneous Asian American culture. The problem, in his view, is that the label "Asian American" implies that they share some kind of unified culture, which is clearly not the case.

When data are disaggregated, some Asian linguistic groups have higher academic achievement than others. Examples of high achievers are Chinese (Abada & Tenkorang, 2009; Gunderson, 2007; Louie, 2001), Korean (CCL, 2008), and South Asian (e.g., Indian and

Pakistani) (Pfeifer & Lee, 2004). The Canadian Council on Learning (CCL) (2008) found that Chinese and Korean learners out-performed other language groups in math and science at the high school level. Abada and Tenkorang (2009) also found that Chinese and South Asians tended to exhibit higher levels of integration and achievement than other Asian groups. That is, they were able to adapt to the system more quickly and had higher long-term achievement as a result.

Language groups that were identified as not achieving as well as Chinese and South Asians were typically from the Southeast region of Asia. This general trend was summarized by Pang, Kiang, and Pak (2003) who found that school districts with a large proportion of Southeast Asian students have a higher percentage of Asian students with failing scores than districts with predominantly Chinese and South Asian students. Gunderson (2007) found that Vietnamese-speaking students tended not to achieve as highly as Mandarin and Cantonese speakers, and Vietnamese learners also tended to disappear from core academic classes at a much higher rate. Similar results were reported for Cambodian, Hmong (Pfeifer & Lee, 2004), and Filipino learner populations (CCL, 2008).

Socio-economic status has been identified as a significant variable in the discrepancies in academic achievement of Asian immigrant groups. Researchers concluded that the communities with large Chinese and South Asian populations that had better achievement were also predominantly middle- and upper-middle class. They found that the communities with lower levels of achievement had large Southeast Asian populations who were working class and poor (Pang et al. 2003). Pfeifer and Lee (2004) also found that the differences in educational achievement appeared to be related to social class. They observed that students in high poverty groups also had low achievement levels. They also found that high poverty rates were associated with particular groups.

Gunderson (2007) observed that while Taiwanese Mandarin speakers performed better academically because they were socio-economically advantaged, economic resources were not the sole reason for their success. Equally important, he argues, was that parents were able to effectively mobilize their resources to ensure their children's academic success. Gunderson's view is supported by research that compared working class and middle class Chinese American college students. Middle class mothers were generally better educated and had the spare time necessary to effectively guide their children's educations. Middle class parents played a key role in the college admissions process by assisting their children with their preparations. By contrast, working class parents' were usually unable to help with schoolwork because of their own lack of education and their hectic work schedules. Their children's achievement suffered as a result (Louie, 2001).

Some suggest that age of arrival is a significant variable in school achievement (Collier, 1987; Cummins, 1981; Roessingh & Kover, 2003). However, findings are mixed. Some researchers have found that younger learners have higher achievement in school. For example, working in an American context, Collier (1989) investigated secondary school achievement for English Language Learners (ELLs) in three different age groups. She found that learners between the ages of eight and eleven tended to reach the 50th percentile on national standardized tests faster than those who arrived when they were younger or older. She discovered that English language learners aged 5-7 years old did not perform as well as those who arrived between ages 8 and 11, even when researchers controlled for the length of time spent in the US. She also observed that immigrants who arrived between the ages 12 and 15 took the longest time (between 6-8 years) to reach grade level norms. This result was the same even when students were academically well-prepared in their first language. Another study of South Asian learners in

California found that almost 90% of those who emigrated from India after fourth grade continued to be weak in English through high school (Gibson, 1988).

Others have reported that older learners achieve at higher levels than their younger counterparts. Cummins (1981) reviewed literature on age on arrival and immigrant achievement and reanalyzed data from a Canadian study conducted by Ramsey and Wright (1974). He concluded that older learners progressed toward grade norms in standardized tests almost as quickly as younger learners. He also reported that older learners developed their Cognitive Academic Language Proficiency (CALP) more quickly than younger learners as evidenced by their performance on a series of standardized tests. He argued that older learners' rapid development of CALP was based on knowledge of relevant concepts in their first language. Their task was to transfer the concepts. Cummins (1981) also noted that when length of residence is taken into account, age on arrival (AOA) does not have a major effect on how quickly students reach grade norms. Thus, length of residence was found to have a more powerful relationship with language achievement than age on arrival.

More recent Canadian research findings indicate that learners who arrive at a younger age struggle more in developing their academic language than learners who arrive when they are older (Roessingh & Kover, 2003). These researchers concluded that older learners were able to transfer language and literacy concepts they had already developed in their first language. In contrast, younger learners were disadvantaged in two ways. First, they had no first-language knowledge of the content area literacy concepts they were expected to learn so they had nothing to build on in their content classes. Second, since they were no longer exposed to first-language academic environments they were unable to further develop the L1 conceptual knowledge necessary to facilitate their L2 cognitive academic language proficiency (i.e., CALP) acquisition (Roessingh & Kover, 2003).

Another variable related to achievement is gender. Research indicates that girls perform academically at higher levels than boys in general. In a large-scale study of immigrant learners in western Canada, Gunderson (2007) found that girls achieved higher grades than boys in Grades 8, 9, 10, and 11. However, in Grade 12, they continued to do better than boys but their GPA declined overall. Regrettably, there is a conspicuous absence of research that specifically investigates the relationship between ESL learners' background variables (e.g., age on arrival) and their post-secondary achievement within the Canadian context.

These findings were echoed in other American studies (Portes & Rumbaut, 2001) and at the postsecondary level (Abada & Tenkorang, 2009; Aydemir & Sweetman, 2006; Palameta, 2007). Similarly, research that explored the educational ambitions of minority young adults found that more women had plans to attend university than men (Krahn & Taylor, 2005). Abada and Tenkorang (2009) point out that this trend in western contexts contradicts gendered educational access and achievement patterns in their home countries.

Researchers in the Office of Planning and Institutional Research (PAIR) at the University of British Columbia conducted a study of students who successfully completed Grade 12 in 1999/2000 and were eligible for admission to a university (<http://www.pair.ubc.ca/statistics/students/students.htm>). They found that 41,272 successfully completed requirements for graduation from public and private schools and from General Educational Development (GED) programs in British Columbia. Overall, 6,953 (17.00%) enrolled in a university in the fall of 2000. Successful admission to a university was broken down by "Primary Language Spoken at Home." Fourteen percent of those who spoke English at home attended university in 2000, while 8% Spanish, 9% Hindi, 13% Punjabi, 14% Tagalog, 16% Vietnamese, 17% Portuguese, 17% French, 18% Japanese, 24% Polish, 28% Korean,

33% Persian, and 47% Chinese attended university in 2000. These statistics demonstrate the striking ethno-linguistic differences in university participation of students who were eligible for admission.

Causal relationships associated with academic differences have been explored. Abada and Tenkorang (2009) found that parents had a strong influence on their children's long-term school achievement. They observed the child's educational attainment was high if the parent of that same gender was highly educated. If the parent of the same gender had low achievement, the child tended to have low achievement. Abada and Tenkorang (2009) found that living in an intact household was important for the educational achievement of immigrant learners, particularly for women. They conjectured that women from intact families likely achieved at a higher rate because they grew up in more closely supervised environments where parents influenced their daughters to have high academic aspirations.

A second hypothesized cause for gender differences is environmental influences on Asian immigrant learners' identities. Lee (2005) contends that many Asian women thrive in Western culture because they believe they will be treated more like equals than in their home culture. Asian men, by contrast, have to contend with stereotypes that associate them with weakness such as being small and quiet. According to Lei (2003), young Asian immigrants may act tough by travelling in groups or adopting certain macho behaviour such as being silent to maintain their self-respect. This behaviour tends to be associated with lower school performance (Lee, 2005).

On the other hand, Abada and Tenkorang (2009) found that South Asian men attended university at a slightly higher rate than South Asian women. Lee (2006) noted that in some Asian immigrant communities traditional notions about gender roles have a powerful effect on young women's educational trajectories. In these communities, women are expected to get married while they are still in their teens and the experience of becoming a wife and mother can have a profound influence on whether or not they decide to continue their education. The household and family obligations that women are disproportionately compelled to assume typically begin when they are young and increasingly limit the amount of schoolwork they are able to complete.

Several reasons are given to explain the discrepancies in Asian immigrants' academic achievement. One is the differing access to various forms of cultural and economic capital. Studies of first-generation immigrant Southeast and South Asian parents revealed that they had little understanding of how the education system functioned. Consequently, they were often unable to assist their children with successfully completing assignments and choosing courses that would provide them with more post-secondary options after they graduated (Abada & Tenkorang, 2009; Gibson, 1988; Gunderson, 2007; Ngo, 2006). In fact, Ngo (2006) found that the limitations of parental knowledge about the educational system and their role within it had a powerful effect on their children's academic achievement.

Rationale and Objectives of the Study

Previous research has provided valuable insights into immigrant students' academic achievement. However, questions still remain. For instance, achievement is often equated with secondary school graduation. Research is needed that relates immigrant students' academic achievement to options beyond secondary school. Students who complete high school and desire to pursue higher education need to qualify for admission. The minimum English language grade required to enter a university in British Columbia is 75% (or B+) (Gunderson, 2007). Callahan, Wilkinson, Muller, and Frisco (2009) reported that many immigrant students struggle to achieve at levels sufficient for acceptance at a four-year university.

Research that explores differences in achievement among the various Asian cultures has not investigated how other variables such as gender and AOA might impact their secondary school achievement. The goal of this exploratory study was to investigate these questions. The objectives were to describe Asian immigrant students' long-term achievement in secondary school and to explore the predictive power of variables such as home language, gender, and age on arrival on students' likelihood to qualify for higher education. The research questions that guided this study are:

- 1) What effect do AOA, gender, and home language have on whether or not Asian students will qualify to attend college?
- 2) How do the different Asian language groups perform in English across high school grade levels?

Methodology

The data used in this study were part of a larger set collected at an immigrant reception centre in a large metropolitan school district of western Canada. Immigrants entering this district are interviewed and a battery of language tests is administered as part of the process of enrolling them in schools. Interview and assessment records were coded and entered into computer files by 10 raters starting from 1995 until 2007. The inter-rater reliability ranged from 0.91 to 0.99 (Gunderson, 2007). While this large database contains records for approximately 25,000 students, the academic progress of a smaller target group of 1,318 students who arrived in the mid-1990s to join primary grades in the school district was tracked through high school. These data were analyzed for this project in May of 2010.

The data used in this study were taken from the interview records collected at the immigrant reception centre mentioned above. It contained information such as immigration status, gender, AOA, home languages, and a number of other background variables. In addition, it took into account interviewees' academic achievement in high school between Grades 8-12 was recorded in the form of grades for English, Science, Mathematics, and Social Studies. From the 1,318 students that were tracked through high school, English-12 grade scores existed for a smaller sub-set of students. As a consequence, the data for N= 95 students whose grade scores for English-12 were available. The 95 students all belonged to immigrant families and all were of Asian language backgrounds.

Students were primarily from three language categories—Mandarin, Cantonese, and other Asian languages such as Korean, Thai, and Filipino. Their achievement in English-12 in secondary school was recorded. A 75% (B+) grade in English-12 was used to determine a dichotomous variable that indicated whether the students would or would not qualify or be eligible for admission into post-secondary institutions in the province. This dichotomous eligibility variable from the English-12 grade served as a dependent variable for the analysis. The B+ grade was decided by the authors as the threshold because this was the stipulated minimum requirement to qualify for admission to colleges and universities in the region. We chose to limit our analysis to achievement in English-12 because students' performance in the language of instruction—English—"constitutes the most decisive evidence of the likelihood of doing well in post-secondary educational programs" (Looker & Thiessen, 2004, p.13). This study used logistic regression to explore variables that significantly predict students' eligibility for

college. SPSS was used for the logistic regression analysis and statistics from SPSS outputs have been presented below.

Findings and Discussion

Results of the Regression Analysis

To explore the likelihood of students' eligibility for admission, a variable (eligibility variable) was computed to indicate whether or not the student had an English-12 grade that met the minimum requirements for admission to post-secondary institutions (B+ or 75%). The numbers from the three different language groups that resulted from this split are shown in Table 1. There appeared to be an almost equal distribution of students (48% to 52%).

Table 1.

Asian Students and English 12 Grades for College Eligibility.

Student Group and College Eligibility		
No	Yes	Total
46	49	N = 95
48%	52%	

Results of previous research were used to identify similar variables available in the data set. Four factors were identified as candidates for predictors: gender, placement into ESL programs, AOA, and home language (L1). Logistic regression analysis was carried out with these variables. The analysis revealed that a model that included three out of the four predictors was statistically significant.

The model that included AOA, gender, and L1 significantly predicted whether or not a student would be eligible for college $\chi^2 = 24.20$, $df=4$, $N=95$, $p<0.001$ (*Nagelkerke R² = 0.30*). The assumptions related to logistic regression were checked and met. These assumptions included multi-collinearity of the predictors in the model. The collinearity statistics (Tolerance) of the three predictors namely gender, AOA and L1 were 0.95, 0.99, and 0.97 respectively. These high tolerance levels suggest that there is no collinearity or there are no intercorrelations among the predictor variables, which is often a source of inaccurate results in regression statistics, thus suggesting that this important precondition for the planned statistical analysis was satisfied. Table 2 presents the B values for the predictors and the constants along with the standard errors. The p value for each of the predictors is also indicated. The dependent variable was the eligibility variable and the independent variables were gender, AOA, and L1.

Table 2.

Logistic Regression Results Table.

Logistic Regression of Asian Immigrant Students' Eligibility for College			
Independent Variables	B	S.E.	Odds Ratio
Gender (female)*	1.21	0.51	3.35
Age on Arrival [^]	-0.16	0.17	0.85
Home Language **			
Home Language (Cantonese) [^]	-0.91	0.65	0.40
Home Language (Mandarin) [^]	1.34	0.74	3.82
Constant [^]	0.66	1.46	1.94

** p < 0.001 * p < 0.05 [^] p > 0.05

The predictor variables gender and L1 were categorical variables with “male” being the reference group in the “gender” and “other Asian languages” being the reference group in the L1 variable. While the model with these three predictors accounts for a modest amount of variance (Nagelkerke $R^2=0.30$) the findings highlight interesting disparities between the three language groups discussed below.

Ethno-linguistic Group Affiliation and Post-secondary Eligibility

The odds ratios for the predictors are also listed in Table 2 and the partial odds ratio for gender suggests that females may have almost three times the odds of qualifying for college compared to males when all other factors are controlled. Similarly, when compared to the reference group of speakers of other Asian languages, Mandarin speakers have a better chance of qualifying for college (partial odds ratio of 3.82), while Cantonese speakers may be less likely to qualify for college when compared to their peers (partial odds ratio of 0.40). ‘Age on Arrival’ seems to have a small but negative effect on eligibility for college. The implications of these findings will be discussed below.

Students who have aspirations to continue with post-secondary education in the province where this study was conducted must take prescribed courses in Grade 12 and successfully complete them with a minimum passing grade. Students choose Science, Math, Social Studies, and English courses. Although only the grade for English 12 was used for this analysis, students’ grades were available from Grade 8 to Grade 12. The mean grades in English along with Standard Deviations (SD) are listed in Table 3 in order to address research question #2. Grades appeared to change marginally between Grade 8 and Grade 12 for all language groups (see Table 3 and Figure 1). The sample was comprised of 34 mandarin speakers, 47 Cantonese speakers, and 14 speakers of “other” Asian languages. The Mandarin speakers performed higher on average than the Cantonese speakers and speakers of “other” Asian languages. A review of the mean grade values also indicates that the Mandarin and “other” Asian languages on average may be eligible for enrolment in university over the Cantonese group given a 75% minimum grade in English-12 requirement. Good average grades in high school are important indicators of participation in colleges and universities (Looker & Thiessen, 2004). However, this observation masks interesting trends revealed by observing the descriptive statistics for the three predictor

variables that were revealed by the logistic regression analysis: gender, home language, and AOA.

Table 3.

Student Performance in English along with SD (in parentheses).

Grade Averages of Students in English By Home Language					
Home Language	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
Mandarin	80.4 (9.9)	81.9 (8.6)	81.6 (6.6)	78.9 (17.0)	80.2 (9.7)
Cantonese	68.1 (10.9)	70.0 (10.5)	71.1 (9.4)	70.7 (9.7)	69.2 (10.7)
Other Asian	75.3 (5.8)	75.6 (10.0)	77.2 (8.2)	76.5 (10.5)	75.1 (11.3)

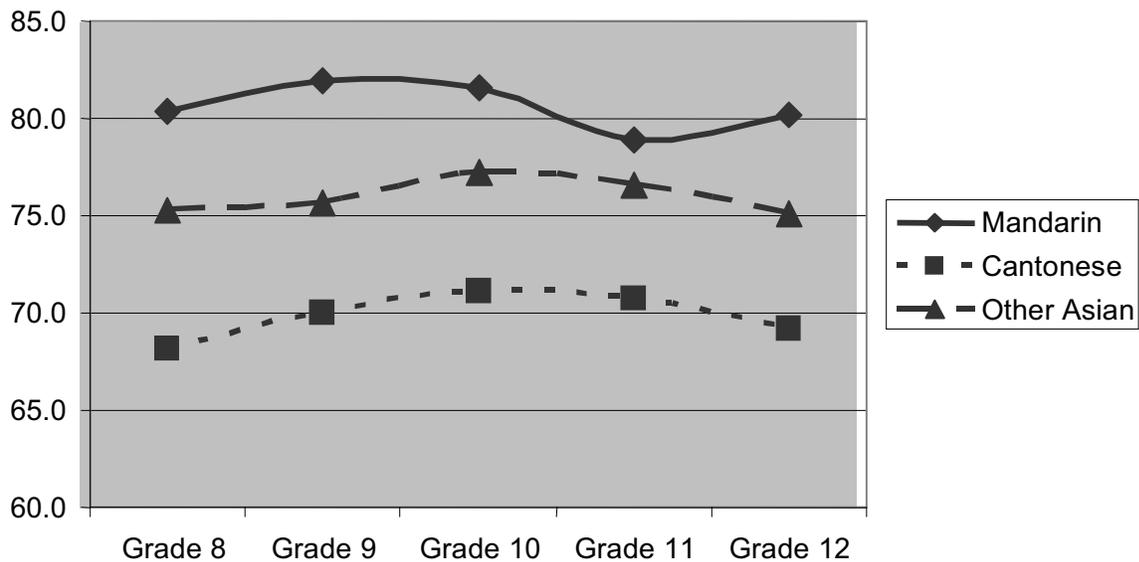


Figure 1. Achievement in English over High School Grades

The surprising finding here was for Cantonese speakers. Among all three categories, they were the least likely to qualify for college. Future research will have to investigate the nature of this discrepancy.

Figure 2 presents the students' eligibility by home language group. The descriptive statistics reinforce the findings of the logistic regression making the Mandarin group the most successful with the highest number of students eligible for college. Cantonese speakers had the lowest scores in English-12. However, 32% (15 of 47) met the eligibility criterion. The two other groups had a greater level of success with 76% (26 in 34) Mandarin speakers and 57% (8 in 14) speakers of "other" Asian languages being eligible for university.

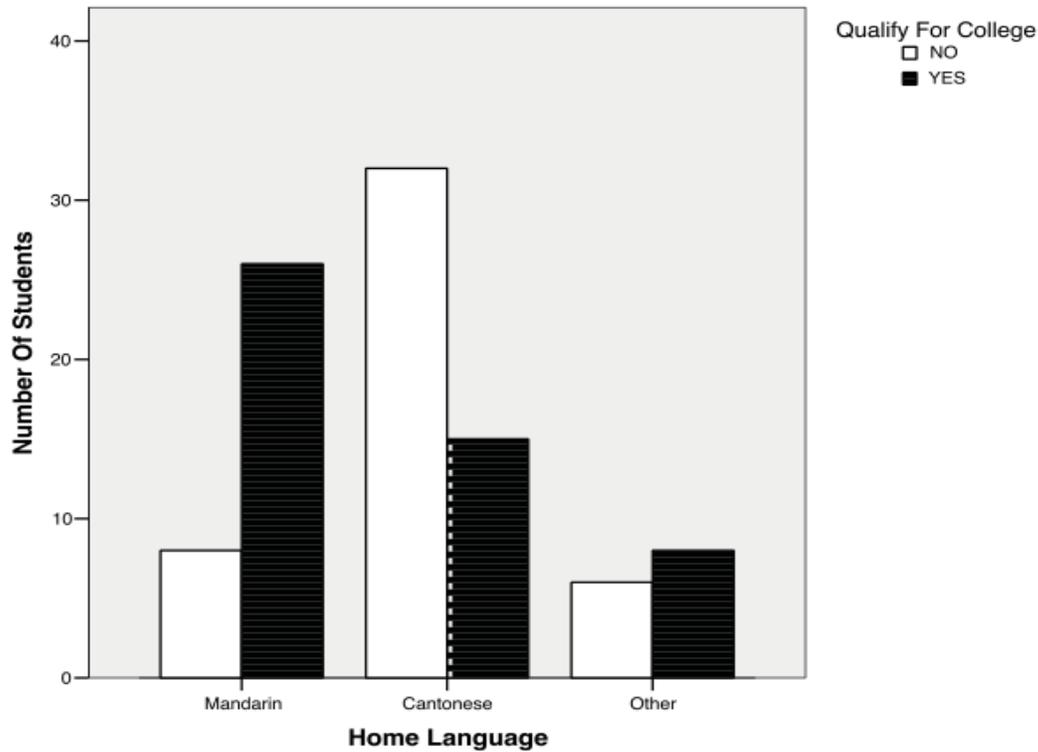


Figure 2. Home Language and Student Eligibility for College

Gunderson (2007) studied the larger group of students from which this sample was taken and looked at their academic achievement over examinable subjects—Social Studies, Math, Science, and English. He attributed socio-economic differences between these groups to a possible causal agent in group achievement differences. This analysis reflects the same achievement data, albeit a subset of that used by Gunderson (2007).

According to Gunderson (2007), Mandarin speakers were from mainland China and Taiwan; in N=34 Mandarin speakers in the current sample 14 were from China and 20 from Taiwan. The Taiwanese immigrant families were socio-economically advantaged and were able to provide alternate means to support their children’s learning and enhance their academic success. These families not only had the advantages that came from being socio-economically advantaged, but the parents were also resourceful in how they mobilized their social and financial capital to favourably supplement the educational experiences of their children. For instance, some students had one-to-four tutors that sometimes even accompanied them during travel to provide support for schoolwork. It seems that the parents’ personal investment in their children’s education and their drive to make their children succeed in Canadian schools were among the reasons behind this group’s high academic achievement.

While parents were highly instrumental in enhancing the academic achievement for some students in the ways just described, they also hindered students’ academic development in indirect ways. Gunderson (2007) highlights a remarkable “conundrum” that beleaguered the school district.

Many students and their parents complained that ESL classes were roadblocks to gaining admission to a university, so students got out of such classes as soon as they could. Some

referred to ESL classes as a kind of ghetto. After they exited ESL classes their grades went down (p. 268).

With strong aspirations to send their children to university, parents—particularly from Asian immigrant groups—were actively working on removing their children from ESL support classes that were vital to their language development, paradoxically reducing their chances to be eligible for admission to university. As a result, students on average withdrew from ESL support classes before they were able to gain sufficient English language skills that may have helped them navigate the academic content in their examinable subjects with greater success. In addition, the ESL classes were likely more important to those students who were not socio-economically positioned to access alternative forms of academic support outside the classroom. Although no direct data were available for this sample of students to connect their parents' views on ESL classes and students' achievement, differences in achievement were likely due to similar family characteristics.

Indeed, the “ghetto” notion of ESL programs held by students and their reluctance to participate in such programs—reported by Gunderson (2007)—have been corroborated by another independent study in the same school district, which reported that “students [also] felt the ESL program prevented them from taking the more meaningful credit courses required for college and university entrance” (Minichiello, 2001, p.88). In addition, the following comment by a Chinese immigrant student in Minichello's (2001) study is a strong representation of students' voices on this issue: “ ‘some of the ESL students don't want to be called ESL students. Yeah, because they think ESL is low level compared to regular class' (Paul)” (p. 88).

A disincentive for students to remain in ESL classes is that there are no academic credits attached to ESL courses in the province. Parents' reluctance to allow their children to continue with ESL support courses is likely because the courses do not count toward graduation. Given that academic performance in English through high school is an important metric for eligibility for college (Looker & Thiessen, 2004), these courses make a significant impact on students' participation in PSEPs. There appears to be a need to consider assigning credits for these courses in order to improve student achievement and, in turn, their eligibility for college.

Gender and Post-secondary Eligibility

Gender was also a significant predictor of college eligibility. Although the sample consisted of a greater number of females (N= 95, females = 51, and males = 44) a greater proportion of females met the eligibility criterion. When grouped by gender, a majority of females in the group qualified for college (61% or 31 in 51) while the males who qualified for college were in the minority (41% or 18 in 44). This finding clearly supports the results of the logistic regression and the trends seen in a number of studies, some of which were reviewed earlier in this document, that suggest females perform better than males in academic achievement and college participation (Gunderson, 2007; Portes & Rumbaut, 2001). These results suggest that given better performance in high school grades, females may be more likely to qualify for enrolment in PSEPs and college participation numbers are indicative of these trends. The Youth in Transition Survey (YITS) that tracks the post-secondary experiences of young adults across Canada reported that “participation in postsecondary education was more prevalent among women” (Lambert, Zeman, Mary Allen, & Bussière, 2004, p.8). The YITS survey found that females outnumbered men in terms of participation in PSEP (77% to 66%) in 1999 and that the trend continued in 2001 as well.

A breakdown of college eligibility with gender and L1 (Figure 3) reveals that females from all language groups performed equal or better in terms of eligibility for college when compared to their male counterparts. However, there is an interesting trend among Cantonese speakers in which the females seem to be doing the best among all groups when compared to their male counterparts. Cantonese females are four times more likely to be eligible for college when compared to their male counterparts (three males and 12 females were eligible in the group). In terms of non-eligibility, males in the Mandarin group were most in contrast with their female counterparts; males were three times more likely not to qualify for college when compared to their peers of the opposite gender (six males and two females were not eligible in the group).

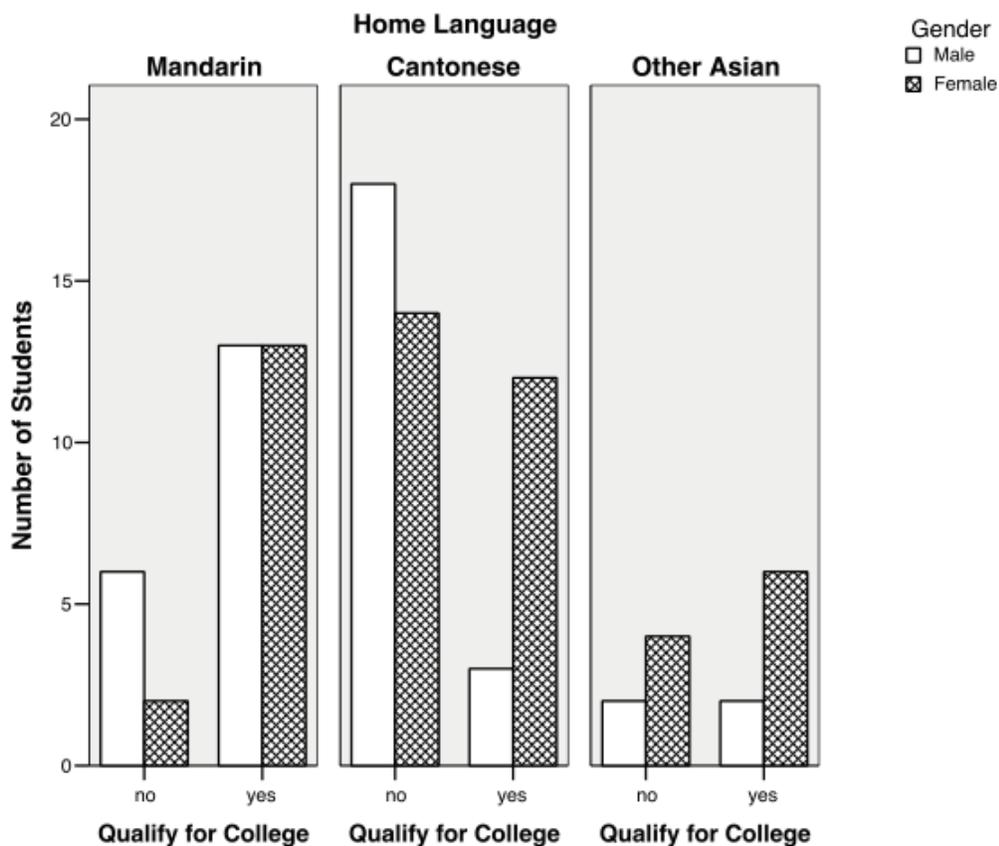


Figure 3. Home Language and Eligibility by Gender

It is clear that the Cantonese speakers are at a disadvantage in terms of qualifying for college. It also appears that while both Cantonese males and females were least likely to qualify for college, Cantonese males appear to be the least likely to be eligible for college when all sub-groups related to L1 and students' gender are considered. Research suggests family factors such as mothers' education levels and a perception of being treated as equal to their male counterparts in the Western culture as possible reasons for Asian women's high academic performance (Lee, 2005). Further research is needed to explore variables related to the gender trends seen in the groups in this study. Studies designed to explore factors influencing college eligibility are rare. There is an urgent need for further studies to investigate the lower academic achievement,

college eligibility, and participation in PSEPs for Asian males, particularly from the Cantonese language group.

Age on Arrival and Post-secondary Eligibility

The variable AOA was part of the predictive model in this study and findings indicate that the older the Asian students were when they arrived, the lower their chance to be eligible for college ($B=-0.16$ and odds ratio $\text{Exp}(B) = 0.85$ refer Table 1). Some studies have suggested that AOA may be a factor influencing academic performance (Collier, 1987). Other studies have claimed that length of residence may be more important and relevant to academic achievement (Cummins, 1981). Both of these variables were applicable for the students in the current study.

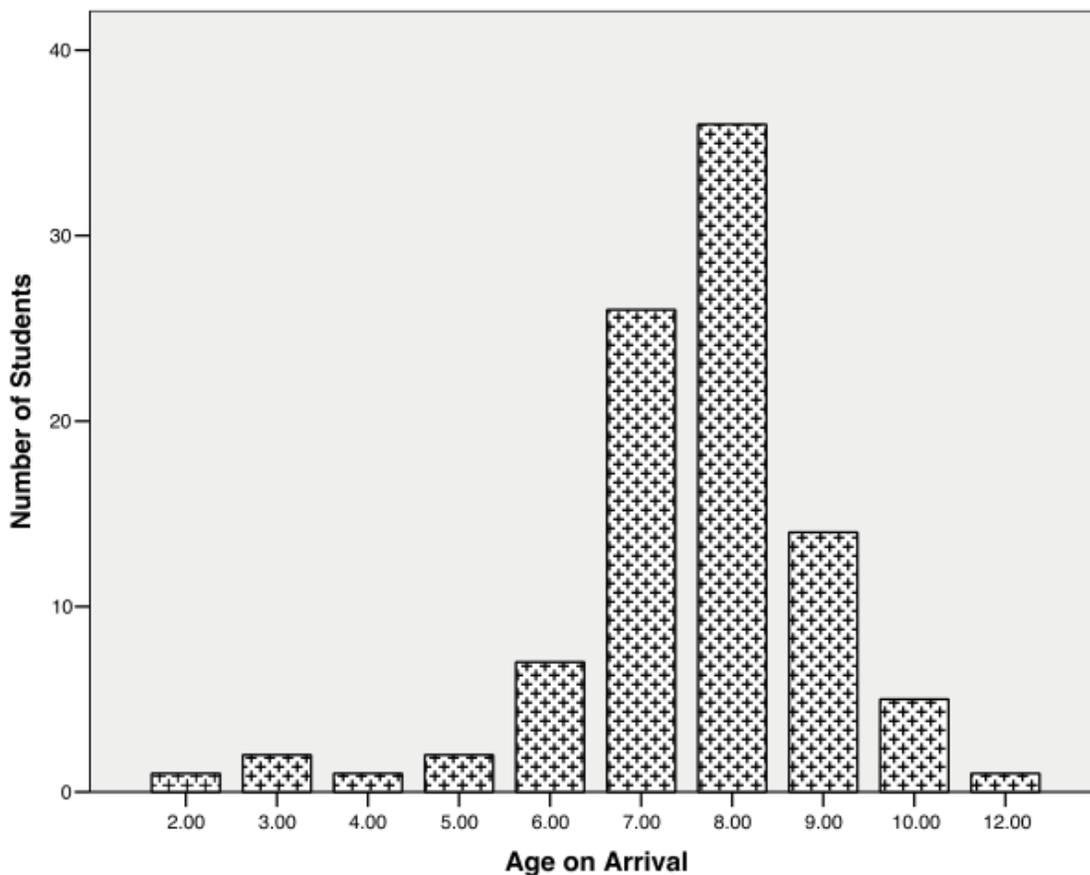


Figure 4. Students and Age on Arrival as Immigrants.

The notion of CALP proposed by Cummins (1979, 1981) is usually used to describe a proficiency in instructional and academic texts that takes students about five years to acquire. These skills are believed to be instrumental in enhancing student academic achievement. The longer students are immersed in academic texts the greater is the likelihood of acquiring and honing these academic language proficiency skills. The findings of this study suggest that the

earlier the students arrive, the more time they have to acquire academic language proficiency skills. This may also positively influence their academic performance and, in turn, enhance their chances to be eligible for entry into a college or a university.

Another important observation is the trend in the AOA of students in the sample. An overwhelming majority of students (65% or 62 in 95) arrived between the ages of 7 and 8 years old. This trend suggests that administrators may need to plan for adequate teacher staffing, appropriate teacher training, age-appropriate instructional materials and culturally responsive pedagogical strategies in order to meet the educational needs of Asian students as they join the primary grades—Grades 2 and 3 in particular as seen in this sample of students. Adequate support, especially in English Language skills, may positively influence their academic development and their performance through higher grades. Young immigrant students may benefit in many ways from additional educational support in their classrooms.

Very young students, those in primary grades, kindergarten to Grade 3, are often enrolled in classrooms and schools where they are immersed in an unknown language with a teacher and students they cannot understand. They are left to “sink or swim” because of the belief that they will learn English quickly and be assimilated into the culture of the classroom because, after all, the primary curriculum is based, in part, on helping students to learn how to get along with each other, with groups, and to be socialized into the community of schools. Most suffer from a sense of loneliness and isolation. In many schoolyards the very young immigrant students may be seen on the peripheries, looking abandoned. In many cases, they are the lost ones (Gunderson, 2007, p.5).

Gunderson’s (2007) observations in K-3 classrooms are relevant to immigrant students of all backgrounds, but are particularly important to Asian immigrant students who have a difficult time acculturating to North American school environments (Chen, 1996). Although the sample size is modest, most Asian students in this study arrived between the ages of 7 and 8 years old. This trend needs to be explored in larger samples of Asian immigrant students. This finding may have significant implications for instructional and funding policies as they suggest a need to plan for adequate staffing, appropriate training, and relevant English language instructional materials to meet important educational needs.

Conclusion and Implications for Future Research

Logistic regression analysis revealed that L1, AOA, and gender were predictors of whether or not Asian immigrant students would be eligible for post-secondary education. The results highlighted disparities in academic performance that may exist among students from different Asian language backgrounds. Cantonese learners, for instance, may need more academic and English language support. In terms of gender, females out-perform males in college eligibility and Cantonese males appear to be least likely to qualify for admission to PSEPs among all groups in the study. While Mandarin speakers seem to be the most successful group, the reasons for their success may be mainly socio-economic, as they are able to access additional resources to scaffold their academic learning. It would be worthwhile to engage in a more qualitative investigation of learners to uncover some of the reasons for this disparity. Age-on-Arrival may play a role in shaping students’ educational pathways in post-secondary education. There seems to be a trend in terms of AOA among all Asian students that requires further research; also, more attention must be paid to in order to meet important student needs.

The 75% grade point cut was based on information gathered from colleges' and universities' websites in the area where the study was carried out. This benchmark plays an important role in shaping results of the analysis. Some post-secondary institutions probably have lower (such as 70% in English-12) or higher (such as 80% in English-12) minimum requirements depending on different programs and areas of study. The authors believe the decision to use the 75% benchmark strikes a good balance to investigate the likelihood of immigrant students' eligibility.

Although the modest sample size (N=95) was deemed adequate for this exploratory study, it should be taken into account while interpreting and generalizing any of these findings. It is noteworthy that 52% of the students were eligible for admission to a university. It is interesting that the PAIR (2000) data noted previously that 47% of Chinese speakers actually went on to attend university. There is a need to collect more data to further investigate this important area of research. Findings offer the possibility that variables such as age-on-arrival, gender, and home language may be significant predictors in the case of immigrant students from other language backgrounds. Only more research will answer these questions.

Research in North American contexts does not seem to investigate aspirations, eligibility, or participation of specific groups of immigrant students in PSEPs. Immigrant students are usually treated as one homogenous group. Research involving specific immigrant groups such as for example in the US has mainly a focus on Spanish speakers (Genesee, Geva, Dressler, & Kamil, 2008). There is only a small body of research around issues related to Asian immigrant student groups. Given the increasing trend of immigration from Asian countries to North American urban destinations, this study brings a much needed focus to an area of research that needs more attention.

References

- Abada, T., & Tenkorang, E. Y. (2009). Gender Differences in educational attainment among the children of Canadian immigrants. *International Sociology, 24*, 580-608.
- Aydemir, A., & Sweetman, A. (2006). *First and second generation immigrant educational attainment and labor market outcomes: A comparison of the United States and Canada*. Bonn, Germany: The Institute for the Study of Labor.
- Bhattacharya, G. (2000). The school adjustment of South Asian immigrant children in the United States. *Adolescence, 35*, 77-85.
- Callahan, R., Wilkinson, L., Muller, C., & Frisco, M. (2009). ESL placement and schools: Effects on immigrant achievement. *Educational Policy, 23*(2), 355-384.
- CCL. (2008). *Lessons in learning: Understanding the academic trajectories of ESL students*: Canadian Council on Learning.
- Chen, N. (1996). *The experience of Chinese youth adjusting to Canadian education*. Retrieved from <http://www.saskschoolboards.ca/old/ResearchAndDevelopment/ResearchReports/StudentDiverseNeeds/96-04.htm#csacs>
- Cline, Z., & Necochea, J. (2001). Basta Ya! Latino parents fighting entrenched racism. *Bilingual Research Journal, 25*(1/2), 89-114.
- Collier, V. P. (1987). Age and rate of acquisition of second language for academic purposes Quarterly. *TESOL Quarterly, 21*, 617-641.
- Collier, V. P. (1989). How long? A synthesis of research on academic achievement in second language. *TESOL Quarterly, 23*, 509-531.
- Cummins, J. (1979). Cognitive/academic language proficiency, linguistic interdependence, the optimum age question and some other matters. *Working papers on bilingualism, 19*, 175-205.
- Cummins, J. (1981). Age on arrival and immigrant second language learning in Canada: A reassessment. *Applied linguistics, 2*, 132-149.
- Gibson, M. A. (1988). *Accommodation without assimilation: Sikh immigrants in an American high school*. Ithaca, NY: Cornell University Press.
- Gunderson, L. (2007). *English-only instruction and immigrant students in secondary school: A critical examination*. Mahwah, NJ: Lawrence Erlbaum Associates.
- HRDC. (1998). *High school may not be enough: An analysis of results from the School Leavers Follow-up Survey, 1995*. Ottawa: Statistics Canada.
- HRSDC. (1998). Is high school enough? *Applied Research Bulletin, 4*(2).

- Kao, G. (1995). Asian Americans as model minorities? A look at their academic performance. *American Journal of Education*, 103(2), 121-159.
- Krahn, H., & Taylor, A. (2005). Resilient teenagers: Explaining the high educational aspirations of visible-minority youth in Canada. *Journal of International Migration and Immigration*, 6(3/4), 405-434.
- Lambert, M., Zeman, K., Mary Allen, & Bussière, P. (2004). *Who pursues postsecondary education, who leaves and why: Results from the Youth in Transition Survey*. Ottawa: Statistics Canada.
- Lee, S. J. (1996). *Unraveling the 'model minority' stereotype: Listening to Asian American youth*. New York: Teachers College Press.
- Lee, S. J. (2005). *Up against Whiteness: Race, school and immigrant youth*. New York: Teachers College Press.
- Lee, S. J. (2006). Additional complexities: Social class, ethnicity, generation, and gender in Asian American student experiences. *Race Ethnicity and Education*, 9(1), 17-28.
- Lei, J. (2003). (Un)necessary toughness? Those 'loud Black girls' and those 'quiet Asian boys'. *Anthropology & Education Quarterly*, 34(2), 158-181.
- Looker, D., & Thiessen, V. (2004). *Aspirations of Canadian youth for higher education*. Gatineau, Quebec: Human Resources and Skills Development Canada.
- Louie, V. (2001). Parents' aspirations and investment: The role of social class in the educational experiences of 1.5 and second-generation Chinese Americans. *Harvard Educational Review*, 71, 438-474.
- Mau, W. C. (1997). Parental influences on the high school students' academic achievement: A comparison of Asian immigrants, Asian Americans, and white Americans. *Psychology in the Schools*, 34(3), 267-277.
- Minichiello, D. (2001). Chinese voices in a Canadian secondary school landscape. *Canadian Journal of Education*, 26(1), 77-96.
- Ngo, B. (2006). Learning from the margins: the education of Southeast and South Asian Americans in context. *Race, Ethnicity and Education*, 9, 51-65.
- Palameta, B. (2007). Economic integration of immigrants' children. *Perspectives on Labour and Income*, October: 5-16. Retrieved from <http://www.statcan.gc.ca/pub/75-001-x/2007110/article/10372-eng.htm>
- Pang, V. O., Kiang, P. N., & Pak, Y. (2003). Asian Pacific American students: Challenging a biased educational system. In J. Banks (Ed.), *Handbook of research on multicultural education* (2nd ed., pp. 542-563). San Francisco, CA: Jossey Bass.

- Pfeifer, M., & Lee, S. (Eds.). (2004). *Hmong population, demographic, socioeconomic, and educational trends in the 2000 Census*. Washington, DC: Hmong National Development.
- Portes, A., & Rumbaut, R. G. (2001). *Legacies: The story of the immigrant second generation*. Berkeley, CA: University of California Press.
- Ramsey, C. A., & Wright, E. N. (1974). Age and second language learning *The Journal of Social Psychology, 94*, 115-121.
- Roessingh, H., & Kover, P. (2003). Variability of ESL learners' acquisition of cognitive academic language proficiency: What can we learn from achievement measures? *TESL Canada Journal, 21*(1), 1-21.
- Shaienks, D., Gluszynski, T., & Bayard, J. (2008). *Postsecondary education — Participation and dropping out: Differences across university, college and other types of postsecondary institutions*. Ottawa: Minister responsible for Statistics Canada.
- Statistics Canada (2010). *The daily Statistics Canada*. Retrieved from <http://www.statcan.gc.ca/daily-quotidien/100309/dq100309a-eng.htm>