The background features abstract, flowing lines in shades of blue and orange against a dark grey gradient. The lines are thick and have a slight 3D effect, creating a sense of movement and depth.

## Post-High School Pathways of Immigrant Youth

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for the Higher Education Quality Council of Ontario  
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## Introduction

Many immigrant youth view postsecondary education (PSE) as an important, even essential, means of economic mobility and social integration (Cheung, 2007). Gaining access to a PSE program builds on a record of academic engagement and achievement in high school. There is, however, mounting evidence of considerable variability in the preferences, performance, and eventual post-high school (PHS) pathways of immigrant students (Anisef et al., 2008; Thiessen, 2009). Many high school graduates enrol in a college or university while others either delay PSE entry or move directly to the labour market and a significant number leave before graduating. The PHS pathways of immigrant youth, then, can involve transitions to the postsecondary system, the labour market, or both. The bases for these decisions are complex and include personal characteristics, family resources, and community support factors as well as the individual's school and classroom experiences (McAndrew et al., 2009).

Previous research on the high-school transitions of immigrant youth in Canada has several limitations (Boyd, 2008). First, studies on school achievement and educational aspirations of immigrants have compared 'immigrant' versus 'non-immigrant' groups. These studies have found few aggregate differences between those born in Canada and those born outside Canada. Such comparisons conceal significant variations among immigrant students that affect the likelihood of PSE participation. Second, PHS planning and preparation are made relatively early in adolescents' educational careers yet most studies have employed cross-sectional or retrospective designs that did not adequately consider the effects of important antecedents on students' PHS pathway choices. Third, previous comparative research has not considered differences in immigrant generational status. First generation immigrant youth<sup>1</sup> are those born outside Canada while those considered to be second generation were born in Canada of immigrant parents. To the extent that the school experiences and PHS aspirations of each differ, it is important to distinguish first, second (and third) generations. This is especially the

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<sup>1</sup> Please note that this term should not be confused with 'first generation students', which refers to those who are the first in their family to attend and/or complete PSE, regardless of immigration status.

case in the Toronto District School Board (TDSB) where 42 per cent of students are foreign-born and 38 per cent are born in Canada of immigrant parents. Only 20 per cent of TDSB students have both parents born in Canada. These students comprise the third generation, sometimes referred to as the 'third plus' generation, and frequently employed as a reference group in comparative research. (Yau and O'Reilly, 2007).

In this paper we disaggregate the 'immigrant' designation by source country (region-of-origin) and generational status to examine the PHS pathways of a cohort of TDSB youth who began high school (Grade 9) in September 2000 and were tracked through the high school system until Fall, 2006.

The specific purposes of the study were to:

1. *Construct profiles of the various immigrant (and non-immigrant) groups comprising the 2000 TDSB cohort.*

The elements of each profile include information on students, their school, and neighbourhood characteristics as well as the reported PHS pathways they followed between 2004 and 2006.

2. *Predict PHS pathway choices based on this profile information.*

The PHS pathway decisions predicted were defined by: (a) those respondents that confirmed university acceptance; (b) those that confirmed community college acceptance; (c) those that graduated high school but either did not apply to PSE or did not confirm an application; and (d) those that left high school early and did not apply to PSE.

The cultural and social composition of Ontario is undergoing dramatic change as a consequence of immigration. This is most obvious in its larger metropolitan areas, particularly Toronto. In many ways, Toronto is a precursor of the demographic change the rest of the province (and Canada) will experience within a few years as immigrant youth become the majority of the school-age population. Our aim in studying TDSB immigrant youth as they prepare for the transition from high school is to extend the literature on immigrant settlement and contribute to informed educational policy and practice.

## Literature Review

### Educational Pathways of Youth in Canada

Youth in Canada follow multiple educational pathways. While the great majority of students complete high school<sup>2</sup>, some do not. In 2005/2006, the graduation rate for high school students was estimated to be about 75 per cent (Blouin, 2008). Most of these students enter postsecondary institutions directly out of high school while others – the “gappers” – will delay their studies. Whether the transition to higher education is immediate or delayed, there are important decisions to be made by students (and their families) about the type of institution to attend and the program in which to enrol. University, community college, and trade-vocational programs each provide opportunities for skill development and labour market preparation, though as this study shows, it is the degree-granting university that is most valued as a postsecondary destination. These institutions offer access to the professions and, in the long term, provide greater employment stability and higher earnings potential. This preference for university is reflected in educational enrolment patterns. In 2007/2008, there were 978,480 students in full-time study at Canadian universities, with 83.5 per cent of them enrolled in undergraduate programs. During the same time period, colleges enrolled 531,972 full-time and part-time students (Statistics Canada, 2009).

Not everyone transitions from high school to university or college. Many who graduate from high school move directly to the workforce where they can find employer-sponsored training opportunities or apprenticeships. In 2004 some 268,000 individuals were registered in apprenticeship programs (Statistics Canada, 2007). There are other students who drop out of high school before receiving a diploma and they enter the workforce. Many from this group eventually return to complete their high school diploma after attempting to establish themselves in a labour market that increasingly values and rewards educational qualifications.

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<sup>2</sup> The term “high school” is used instead of “secondary school” in this text in order to simplify language, though the meaning is the same.

Entering a postsecondary program immediately following high school and completing one's program of study within the 'expected' time frame is believed to garner the greatest economic and social returns to one's educational investment (Hearn, 1992). Most students follow this pattern and recent data suggest that direct entrance into a postsecondary institution is beneficial in terms of labour market outcomes, particularly for university entrants. Data from the 2000 Youth in Transition Survey (YITS) have shown that, among 20-year-old high school graduates, 59 per cent had enrolled in a postsecondary program within one year of completing high school, while 19 per cent delayed enrolment and 17 per cent did not enrol at all (Tomkowicz & Bushnik, 2003). Comparing the early labour market outcomes of 22 to 24-year-olds according to their education-to-labour market pathways, Hango (2008) reported that the employment rates and earnings vary considerably depending on the pathway that is followed. High school dropouts were at a clear disadvantage relative to other groups, with median weekly earnings of \$480 and an employment rate of 71.4 per cent. High school graduates who did not pursue postsecondary studies fared somewhat better, with average earnings at \$500 per week and an employment rate of 79.6 per cent. Gappers who completed college or university had considerably better short-term outcomes – employment rates were at 86.2 and 87.5 per cent, respectively, while median earnings were \$550 and \$540 per week. Non-gappers, on the other hand, were found to have lower employment rates but higher earnings. On average, 85.1 per cent of non-gappers with a college diploma were employed with average earnings of \$552 per week; among non-gappers with a university degree, 79.6 per cent were employed with average earnings of \$625 dollars per week. It appears, then, that the employment experience gained before entering postsecondary programs might benefit gappers in terms of finding employment, while those who do not take a break benefit from having spent more time in the labour market following college or university completion.

This variety of available educational pathways reflects broader shifts in the timing of the transition to postsecondary institutions during the life course and the age at which young people complete school and enter the labour market (Louie, 2007). No longer is there a seamless transition out of high school and into the labour force; nor is the typical college or university student one who is aged 18 to 22 years, and who began postsecondary studies immediately

after high school. Furthermore, increasing numbers of students are taking time off before beginning postsecondary programs.

Postsecondary institutions have expanded in order to accommodate the growing demand for higher education (Côté & Bynner, 2008). Since the 2001/2002 academic year, university enrolment has increased by 19.2 per cent and college enrolment grew by 10.2 per cent (Statistics Canada, 2009a; 2009b). An estimated 1.6 million, or nearly two-thirds of Canadians aged 18 to 24 in 2002 had participated in some type of postsecondary educational program following high school (Barr-Telford et al., 2003). Estimates from Statistics Canada's Labour Force Survey indicate that the proportion of 25 to 29-year-olds attending post secondary education school full-time nearly tripled between 1978 and 2007, from 3.2 per cent to 8.9 per cent (Statistics Canada, 2009c). Sweeping economic change in Canada has, for many, altered the sequence of events typically experienced over the life course.

The earnings potential of jobs that do not require education beyond high school has declined sharply over the past three decades and, faced with poorer entry-level job prospects, many seek postsecondary credentials – either as youth or adults – in order to access more secure and better paying jobs (Côté & Bynner, 2008). Failing to complete high school jeopardizes the economic prospects of all youth. Campolieti, Fang and Gunderson (2009) found that dropouts have poorer wage and employment outcomes than graduates. Moreover, they generally do not make up for their lack of education through additional skill acquisition and training.

Although most immigrant youth do well in the k-12 education system some have difficulty adjusting to the demands of the post secondary education system. A study commissioned by the Ontario Ministry of Education and Training (Hospital for Sick Children, 2005) revealed that first and second generation youth in Toronto and Kitchener-Waterloo face unique challenges in secondary school. In-depth qualitative interviews were conducted with 57 first and second generation youth who had left school early or were at risk of doing so. Respondents cited the need to learn a new language, language barriers, unfamiliarity with the Canadian school system, and inappropriate linguistic assessment and grade placement as important risk factors for school disengagement. Stresses associated with resettlement, loneliness, isolation, and a

lack of friends were also reported. The study further demonstrated that age at the time of migration was especially critical. Youth who immigrated during the latter years of high school were most at risk of dropping out.

## **Immigrant Status and School Performance**

Young Canadians differ in their educational aspirations, performance, and outcomes. Most notable are the strong PSE aspirations among the children of immigrants typically accompanied by academic effort and accomplishment (Boyd & Grieco, 1998; Corak, 2008; Glick & White, 2004; Hum & Simpson, 2007). Generally speaking, Canadian studies indicate that children of immigrant parents are more likely than their third-plus generation counterparts to finish high school, enrol in postsecondary studies, and complete a postsecondary diploma or degree (Driscoll, 1999; Palameta, 2007). Investigation into the educational outcomes of children of immigrants reveals further disparities among first and second generation immigrant youth. The term “first generation immigrant” refers to all those who are born outside of Canada; however, immigrants who arrive during adulthood or adolescence experience a very different process of adaptation relative to those who arrive as infants or children. Referred to as the 1.5 generation, immigrants who arrive at a young age spend the most of their school years in Canada. Insofar as schools are key institutions in the incorporation of immigrants, the education trajectories of the 1.5 generation may be superior to those of the first generation, as the former benefits from acquiring language proficiency at a younger age (Holdaway & Alba, 2009). To be sure, research suggests that the educational outcomes of children who immigrated at a young age resemble second generation youth more closely than that of first generation students (Boyd, 2002).

Using data from the 2002 Ethnic Diversity Survey, Abada and Tenkorang (2009) recently reported that, among persons aged 18 to 34, the 1.5 and second generations were 31 and 35 per cent more likely to acquire a university education relative to those born to two Canadian-born parents, respectively. Thiessen (2007) reported similar findings using the Youth in Transition Survey. The author reported significant overall differences in postsecondary participation between immigrant and non-immigrant youth with high reading competency. More

specifically, immigrant youth were, at age 19, 2.5 times more likely to complete high school and 39 per cent more likely to attend university than those born in Canada. Similar findings have been reported in the United States and are reviewed by Fuligni and Witkow (2004). Keller and Tillman (2008), for instance, revealed that, despite experiencing social, economic, and political inequities in the U.S., first and second generation youth were significantly more likely to attend college than their third generation peers with similar socio-demographic characteristics.

Concealed by the broad labels used to define generational status are important disparities in achievement across groups. In particular, research – much of which derives from the United States – has revealed considerable differences in school performance by national origins (Aydemir et al., 2008; Corak, 2008; Levels & Dronkers, 2008; Fry, 2007). Studies consistently show considerable disparities in educational achievement across groups, whereby some immigrants outperform the native-born while others tend to have lower achievement. Chinese, Korean, Indian, and Vietnamese students have been found to perform better than native-born Whites, while children and youth from Mexico, Africa, and the Caribbean tend to perform less well (Glick & Hohmann-Marriott, 2007; Glick & White, 2003). Investigating generation differences in college attendance, Keller and Tillman (2008) reported that first and second generation youth were significantly more likely to attend college than their native-born peers with similar socio-demographic characteristics. However, the association between generation status and college attendance was conditional on ethnicity, whereby some groups benefit more from their immigrant status than others. In particular, the odds of attending college for second generation Chinese and first generation Black students were 49.5 and 27.8 times higher than U.S.-born White students; on the other hand, first and second generation Cuban students were significantly less likely to attend college.

Of course, the immigrant experience in the United States cannot necessarily be generalized to other countries. The source country composition of Canada's immigrant population is considerably different from that of the U.S. and access to postsecondary education is more equitable (Abada, Hou, & Ram, 2008; Frenette, 2005). Nonetheless, Canadian studies reveal similar findings, whereby country of origin is a salient factor in understanding the academic performance of immigrant youth (Thiessen, 2009; Abada et al., 2008). Finnie and Mueller

(2008) investigated access to postsecondary education among first and second generation youth using the Youth in Transition Survey Reading Cohort. Comprised of individuals aged 15 in December 1999, this cohort was followed at two year intervals. Data from 2006, at which time the cohort was age 21, revealed substantial differences in postsecondary access across generations and origins. The authors reported that, relative to third generation Canadian youth, first and second generation children of immigrants were more likely to attend university. However, controlling for various demographic and socioeconomic indicators mediates the immigrant effect considerably. In large part, the relatively high education levels of immigrant parents accounts for the educational advantage enjoyed by the first and second generations.

In terms of region-of-origin, Finnie and Mueller (2008) went on to reveal that first and second generation youth of Chinese, African, and “other Asian” origins were substantially more likely to attend university. The high participation of Chinese youth is especially notable. Chinese immigrant youth and Canadian-born Chinese youth were 51 and 44 percentage points more likely to attend university than their third generation classmates, who attended at a rate of 37.7 per cent. These groups were also significantly less likely to attend college, due to their high rate of university participation. Just one group was found to have lower postsecondary attendance than third generation Canadians: first generation immigrants from the Americas (excluding the U.S.). On average, youth from Central and South America attended university at a rate that was about 15 percentage points lower than their third generation peers. The introduction of socio-demographic control variables was able to explain these attendance gaps for some groups but not for others. For example, the relatively high attendance of first generation African students was rendered non-significant after controlling for parental education, while the gaps for Chinese immigrants and those from the Americas changed little. Thus, explanations for the achievement gap relative to the Canadian third generation vary a great deal by generation status and country of origin. For some, the gap is due to parental education and basic demographic characteristics and for others, the gap cannot be explained by observable factors.

Findings from this study and others highlight the variability in postsecondary access and attainment among immigrants and visible minorities. Not only are there gaps in terms of who attends postsecondary programs, there are considerable differences in terms of the type of

institution that is attended. Based on data from the 2002 Ethnic Diversity Survey, Abada and Tenkorang (2009) reported that, among those aged 18 to 34 years, 42 per cent of students who immigrated before age 15 and 39 per cent of students who were born in Canada to immigrant parents had attained a university degree, while 29 and 33 per cent had completed college or vocational programs, respectively. In terms of ethnic origins, Chinese and South Asian ethnic groups were found to lead the way in terms of university attainment, at 57 and 47 per cent of their respective populations, while considerably fewer Whites (31 per cent) and Blacks (28 per cent) had acquired a university degree. However, Blacks were more likely than other groups to complete college or vocational programs (38 per cent), while Whites were the most likely to not pursue postsecondary studies of any kind (36 per cent).

The exceptionally high educational attainment of Asian immigrant youth – particularly the Chinese – is one that has been featured prominently in the research literature, particularly in the United States. The term “model minority” has been used to refer to Asian students as a result of their high degree of educational success, although this characterization has been criticized as masking considerable variation within the Asian designation (Farley & Alba, 2002; Kao, 1995). The academic success of Asian students is often attributed to ethnic capital. In particular, characteristics such as compliance, diligence, industriousness, and an emphasis on the importance of learning, are believed to be associated with the exceptional school performance of Chinese youth in many U.S. studies (Peng & Wright, 1994). Canadian research into the effects of ethnic capital supports this hypothesis. Based on data from 515 students attending three Chinese-language schools in Calgary, Chow (2004) reported that more than two-thirds of respondents reported an overall average grade of 80 per cent or higher. Another 25 per cent obtained an average of 70 to 79 per cent, and just 36 of the 515 students had achieved an average mark below 70. Interestingly, socioeconomic status (SES) and father’s education were not found to significantly impact the achievement of Chinese students. Among the strongest predictors of academic performance were ethnic capital, ethnic self-identification, and Chinese language proficiency.

There has been much attention of late paid to the academic achievement of Black students, particularly in Toronto. In response to low achievement and high dropout rates among Black

students in Toronto schools, school trustees approved a proposal to create Canada's first "Black focused" public school in 2008. Recent estimates from the Toronto District School Board (TDSB) indicate that as many as 40 per cent of Caribbean-born students and 32 per cent of those born in Eastern Africa, and 28 per cent of students from Western Africa dropped out of high school (Brown, 2006). The Africentric- or Black-focused school intends to close the achievement gap by addressing issues related to student engagement. Black-centered educational programs focus on the experiences, culture, and history of African people that are largely ignored in the delivery of education in Canada and elsewhere (Dragnea & Erling, 2008). While research indicates that Africentric schools have seen improvements in the achievement of Black students in several U.S. school districts (Durden, 2007; Watson & Smitherman, 1996), it remains to be seen if this approach will be effective in the Canadian context.

## **Explanations for Academic Performance Disparities**

### *Individual and Family Factors*

There is no one explanation for the disparity in academic performance across national origins of first and second generation immigrant youth. Family factors are nevertheless critical influences. Immigrant parents today come from a wide range of cultural and socioeconomic backgrounds and differ in their level of education and work experience. Upon arrival, many experience difficulty in establishing themselves in jobs that offer adequate remuneration. The negative effect of (low) family socioeconomic status (SES) on student achievement has been well documented (Frenette, 2007; Finnie et al., 2005). In general, parental education and family income are among the strongest predictors of academic outcomes and they have been found to explain a substantial proportion of the variation in educational performance of youth, including achievement, dropping out, years of education, and obtaining a postsecondary diploma or degree (Kao & Thompson, 2003; Bowlby & McMullin, 2002; Parker et al., 2003). In terms of postsecondary pathways, a number of studies from Canada and elsewhere indicate that young people from low SES families are less likely to complete high school and pursue postsecondary studies (Marks, 2005). Among those who enrol in postsecondary studies, lower SES students are less likely to attend university and more likely to enrol in college and vocational programs

than higher SES students (Butlin, 1999; Frenette, 2007). For example, data from the 1991 School Leavers Survey indicate that nearly 70 per cent of high school graduates with at least one university-educated parent had attended university, compared to just 30 per cent of those whose parents did not have a postsecondary education. On the other hand, students with college-educated parents and parents with a high school diploma or less were twice as likely to attend college or vocational institutions (Butlin, 1999). This relationship between SES and education is particularly important in the case of immigrants. Given that many newcomers in Canada are of disadvantaged backgrounds and experience severe economic hardship upon arrival, questions inevitably arise about the school performance of their children and their future educational success.

Research from Canada and the United States indicates that, after statistically controlling for SES, the performance gap between immigrants and the native-born – and between ethnic minorities and Whites – will narrow and, in many cases, converge (Bennett & Lutz, 2009; Kao & Thompson, 2003). Controlling for various structural factors, including education levels and occupational prestige of both parents, Thiessen (2009) reported that the disparity in university enrolment between native-born European Canadians and immigrants and non-immigrants of African and Latin American backgrounds narrows. These findings imply that lack of participation in university is due, in part, to socioeconomic disadvantage among these groups. On the other hand, structural factors were found not to account for higher university enrolment among native and foreign-born East Asians, as controlling for structural factors accentuated their existing education advantage rather than diminishing it to levels comparable to the Canadian-born or those of European descent. It would seem that the postsecondary education attainment of East Asian immigrant youth would in fact be higher if their families enjoyed the same socioeconomic advantage as native-born Canadians.

The adverse socioeconomic situation of many immigrant youth would normally result in poor school outcomes. One would expect them to be at an increased risk of dropping out of high school or, if they did graduate, of deciding against the postsecondary education option. However, immigrant youth often prove to be remarkably resilient. Many surmount the barriers facing them and adopt unexpected or “off-diagonal” educational pathways (Eccles, 2008).

These unanticipated pathways to successful postsecondary destinations among particular immigrant groups are frequently attributed to cultural factors pertaining to familial relationships, parental expectations, and student aspirations (Bankston, 2004; Kao & Tienda, 2005; Szalacha et al., 2005). Indeed, there is considerable evidence to suggest that parental involvement significantly affects post-high school transitions (Eccles, 2008; Frenette, 2007; White and Glick, 2000). Glick and White (2004), for example, demonstrated that students whose parents have high expectations are more likely to complete high school and pursue postsecondary studies relative to those whose parents hold lower expectations. This relationship was found to persist after controlling for prior academic achievement and socioeconomic status. Parental expectations are thought to translate into higher educational aspirations, especially among children of immigrants (Krahn & Taylor, 2005). This subsequently acts as a buffer against structural disadvantage and results in higher levels of academic achievement and school attainment.

Researchers have further hypothesized that a portion of the gap in achievement by country or region-of-origin may be attributed to language proficiency among first generation immigrants (Schmid, 2001). Research has shown that linguistic minority immigrants generally perform worse on literacy tests than those who are proficient in English or French (the official languages); however, as students acquire language proficiency, the gap narrows and their performance eventually converges with or exceeds that of their English- and French-speaking peers (Worswick, 2004). Using data from the first three waves of the National Longitudinal Survey of Children and Youth, Worswick (2001) investigated the performance among the school-aged children of immigrants across Canada. Performance was measured using parents' and teachers' assessments of reading, writing, and math, as well as standardized test results. Results demonstrated that the children of immigrants whose first language is neither English nor French had lower performance on the two measures of literacy, while performance in mathematics was comparable to that of the children of Canadian-born parents. However, the reading ability of these children converged over time, suggesting that reading competency increases rapidly among children whose parents possess a mother tongue that is neither English nor French. It was found that, by age 13, children of immigrants performed at least as well as the children of Canadian-born parents on all measures of school achievement

(Worswick, 2001:13). Worswick (2001) went on to conclude that the children of immigrants in Canada, on average, perform very well in school and that

[T]he success of children from neither English nor French backgrounds is particularly impressive given the challenges that they likely face in adapting to a school system that operates in an unfamiliar language (p. 14).

Yet, while evidence indicates that children of immigrants who speak neither English nor French do manage to catch up with native-born children in terms of language fluency, sufficient time is needed to close the gap. Adolescents who enter the Canadian school system with little or no knowledge of English or French may therefore be at a significant disadvantage, given that the time to acquire proficiency before the end of secondary school is short (Gunderson, 2007).

Socioeconomic status and proficiency in the official languages are only part of the explanation for the gap in educational outcomes across generations and national origins. Measures of prior academic achievement are strongly connected to postsecondary educational transitions and, as reported above, children of immigrants tend to perform better in school than their third generation counterparts. Standardized test scores, report card grades, attendance, grade repetition, and tracking or streaming have all been linked to educational pathways, including high school graduation, dropping out, or the pursuit of community college and university after high school (Carbonaro, 2005; Shaiks et al., 2008). In a comprehensive analysis of Statistics Canada's 2000 Youth in Transition Survey, Bowlby and McMullen (2002) reported sharp distinctions in the academic achievement of high school graduates and dropouts aged 18 to 20. Dropouts were noticeably more likely than graduates to maintain a "C" or "D" average during their last year of high school and grades in their math and language courses tended to be substantially lower. Furthermore, dropouts were more likely to have repeated a grade during elementary school – more than one-third of boys and one-quarter of girls who had left school without graduating had repeated a grade, while roughly seven and five per cent of male and female graduates had experienced grade repetition.

Academic “tracking” or “streaming” (i.e., the stratification of students primarily according to ability) is a practice used in Ontario and in many other jurisdictions to allow students to take courses that best suit their abilities and aptitudes. The practice had been vigorously debated, as opponents point to research demonstrating that students from disadvantaged backgrounds, including poor students and racial minorities, are disproportionately channeled into the low ability streams (Cheung, 2007; Davies & Guppy, 2006; Oakes, 2005). As a result, postsecondary options are limited and social inequality is reproduced. Overall, research has shown that tracking has a positive effect on the academic achievement of high ability groups at the expense of average-ability and low-ability students (Ansalone, 2003; 2001). Lower track classrooms are typically characterized by less experienced teachers and low teacher expectations (Richardson, 1989; Katz, 1999); less challenging curricula and lower-level learning materials (Callahan, 2005); and student complaints of boredom and low levels of engagement (Berends, 1995). These factors have detrimental impacts on student achievement and prospects for postsecondary education. Indeed, students enrolled in lower ability streams are less likely to complete high school or pursue and complete postsecondary education than those in higher ability tracks (Gamoran & Mare, 1989; Krahn & Andres, 1999).

In the Canadian context, recent research indicates that, in spite of their structural disadvantage, immigrants and visible minorities tend to enrol in higher ability tracks. Krahn and Taylor (2007), for example, investigated the streaming practices in four Canadian provinces, including Ontario, British Columbia, Alberta and Saskatchewan, and revealed that immigrants, visible minorities, and students for whom English or French was a first language were more likely to be in higher ability streams that facilitate the pursuit of postsecondary options. Nonetheless, it is important to bear in mind that there may exist differences within groups. Students from specific origin groups, immigrants who arrive during adolescence, as well as those with poor English-language or French-language skills may be streamed into lower ability groups as a result of (mis)perceptions about their academic capabilities

Underlying and accounting for much of the variation in academic achievement among immigrant groups is an optimism among parents regarding the possibility of social mobility through education, if not for themselves, then for their children. (Caplan et al., 1992; Ogbu, 1991).

Although their families typically experience economic hardship upon arrival, many children of immigrants nevertheless perform well in school because their parents value education and have high expectations for their academic success. Parental optimism translates into higher educational aspirations among their children and leads them to behave in ways that promote high achievement in school. It would seem that the motivation and effort exerted by children of immigrants enable them to overcome language barriers and outperform their peers from native-born families (Fuligni, 1997). Furthermore, the 1.5 and second generation can expect to outperform the first generation because, in addition to their parents' optimism, they benefit from proficiency in the host language. Research has clearly demonstrated that parental involvement and support positively impacts student achievement (Kao, 2004; Szalacha et al., 2005) and a persistent, positive effect for ethnicity – even after controlling for various background characteristics – has been interpreted by many as reflecting the high value some groups place on academic success (Kao & Tienda, 2005; Portes & Rumbaut, 1996; Caplan et al., 1989). Studies of student and parent attitudes toward school have further supported this hypothesis. Fuligni (1997), for instance, reported that as much as 70 per cent of the generational gap in student performance could be attributed to positive attitudes and behaviours of adolescents and their parents toward education.

### *Beyond the Individual: Neighbourhood and School Contexts*

Also important to student achievement, but less studied, is the broader social context that shapes the way in which education is administered and received. Immigrants and ethnic minorities are not evenly distributed geographically. First generation immigrants in particular tend to be concentrated in specific neighbourhoods, meaning that certain schools receive a disproportionate number of immigrant students. As such, the socioeconomic characteristics of neighbourhoods and schools are likely to influence, both directly and indirectly, the long-term academic outcomes of their students. Research has emphasized that neighbourhood characteristics such as SES, family structure, mobility, and the concentration of immigrants and racial minorities are relevant to the academic performance of youth (Ainsworth, 2002; Brännström, 2008; Garner & Raudenbush, 1991; Turley, 2003; Dooley et al., 2009). School level influences closely parallel this (Hamnett et al., 2007; Brown-Jeffy, 2006; Bankston &

Caldas, 2000). In addition to the demographic and socioeconomic characteristics of the student population, school characteristics believed to influence student achievement include tracking practices, school size, and teacher quality (Ainsworth, 2002; Hallinan, 2004; Marks, 2006; Willms & Chen, 1989).

When considering the ways in which school and neighbourhood characteristics impact educational pathways, theorists have emphasized the importance of socioeconomic conditions as well as ethnic or racial segregation (Crosnoe, 2005; Epps, 1995; Portes and MacLeod, 1996). Upon arrival, immigrants often face economic hardship that lead many to settle in disadvantaged neighbourhoods characterized by poverty, which are in turn characterized by disrupted families, negative peer influences, violence, and resource deficient schools (Zhou, 2002). As a result, students living in lower SES neighbourhoods and those who attend lower SES schools tend to: perform less well on standardized tests (Ainsworth, 2002; Thompson, 2002); have higher dropout rates; and are less likely to pursue postsecondary education (Garner & Raudenbush, 1991; Vartanian & Gleason, 1999). The literature suggests that the school experience of students in less affluent communities tends to be less rewarding and teachers tend to be less experienced (Battistich et al., 1995; Barr, 2005).

Research has generally supported school and neighbourhood explanations of student achievement. After establishing substantial group differences in achievement across ethnicity and nativity, Pong and Hao (2002) investigated the relative importance of both neighbourhood- and school-level characteristics on the self-reported grade point average (GPA) of more than 17,000 students attending 127 U.S. schools. Results indicated that the achievement disadvantage of Mexican, Cuban, and Puerto Rican immigrants' children relative to third generation Whites could be explained, in part, by unfavourable neighbourhood and school conditions. Unfavourable neighbourhood factors include a disproportionate number of persons with low SES, foreign-born status, or limited English-proficiency. Negative school factors include larger class sizes, and poor school climate. The authors further revealed that neighbourhood characteristics were more important to the academic performance of children of immigrants than to the children of natives. In the Canadian context, McAndrew et al. (2009) found both the

neighbourhood low-income cutoff (LICO) rates and school SES predicted Grade 12 achievement and early leaving (dropout) in Vancouver, Montreal, and Toronto.

## Research Implications

The literature on the educational experiences of immigrant youth has revealed several issues that require further examination. The first is the requirement to disaggregate the ‘immigrant category’ in order to identify the ethnic, cultural, and regional variability that exists among immigrant families. A further distinction is immigrant generation – first, second, and third. Anecdotal studies indicate that whether children are born abroad or in Canada (of foreign-born parents) means they bring quite different expectations and experiences to their learning in Canadian classrooms. For those children born abroad, country or region-of-origin is a salient indicator of cultural and economic difference that influences their capacity to adjust to Canadian school life. Evidence of significant differences in achievement among immigrant children attests to the influence of these differences as does their socioeconomic situation upon arrival.

In sum, existing research indicates that there are multiple explanations for the divergent educational outcomes of immigrant youth across generations and origins. Educational success in most cases may be attributed to advantaged socioeconomic position and the presence of cultural attitudes that promote academic engagement and achievement. At the same time, academic performance can be significantly affected by a view of education as unimportant or by experiencing poverty, geographic segregation, as well as the unfavourable learning conditions in some schools. Addressing ways in which individual differences and school and neighbourhood factors shape the transition decisions of immigrant youth is clearly a complex task. The literature on the role of education in immigrant settlement is characterized by incremental and situated analyses to which the present study contributes by examining the high school experiences and post-high school pathways of immigrant youth enrolled in the Toronto District School Board.

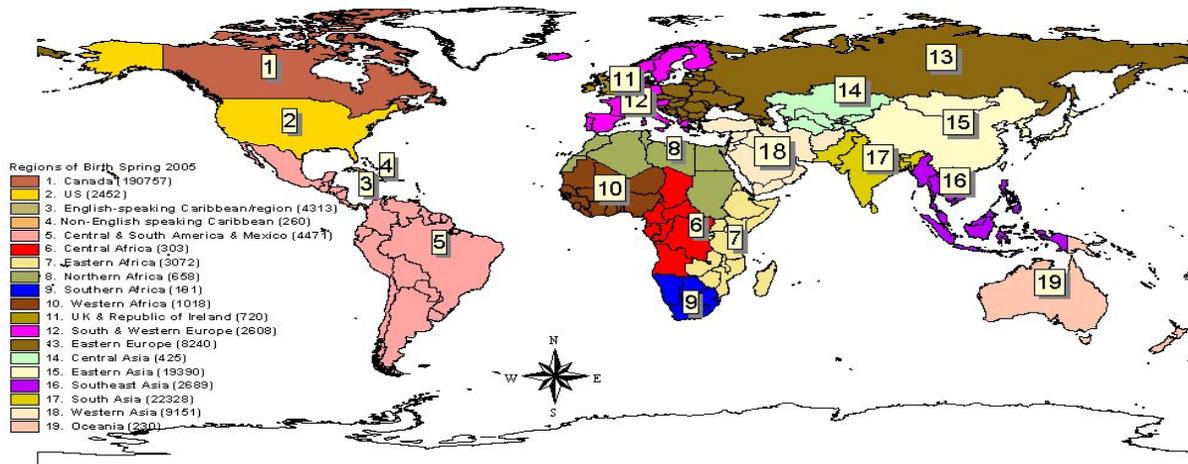
## Methodology

### Study Location and Characteristics - The Toronto District School Board

The Toronto District School Board (TDSB), like any organization that serves the community, is confronted by the changing nature of Toronto. Demographics and evolving social realities continually alter the city. These realities include the population of Toronto, the ages of its citizens, birth rates, immigration, income and poverty levels, the labour force, residential development, and the support for and aspirations of the children that live within the boundaries of the TDSB. Some key facts to bear in mind with regard to the impact of immigration is that, while roughly 17 per cent of Canada's population is made up of immigrants, that figure is over 47 per cent in Toronto. More recent analyses of the student population in the TDSB (Yau and O'Reilly, 2007) shows that 30 per cent of Grade 7 and 8 students were born outside of Canada and 42 per cent of Grade 9 to 12 students were born outside of the country. However, the proportion of parents of Grade 7 to 12 students who were born outside Canada is much higher – families in which both parent are foreign-born account for 71 per cent of the total; and this figure rises to 80 per cent of families in which only one parent is foreign-born. This indicates the extremely large number of second generation students in the TDSB. Given the non-European background of most recent immigrants these figures also indicate the very diverse nature of TDSB schools. The following map shows the number of TDSB students in various regions-of-origin:

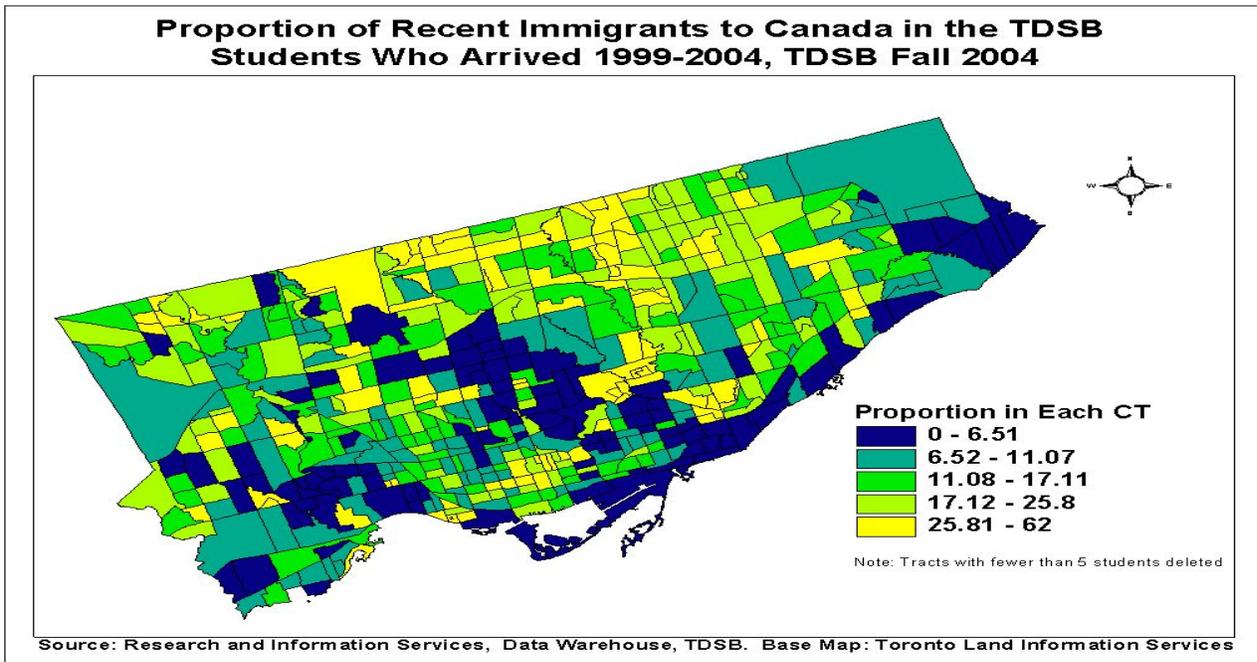
## TDSB Students Regions of Birth (Spring, 2005)

(Number of students born in each region in brackets)



Sources: Research and Information Services/Data Warehouse, TDSB; ESRI

The TDSB is both a large and diverse school district that has undergone considerable demographic change throughout its history. The impact of immigration is seen in the following map which shows the location of recently arrived immigrants within the boundaries of the TDSB, further differentiated by census tract:



## Data and Sample

The information base for the analysis was constructed by combining data from the Toronto District School Board's Student Information System for the Year 2000, and the Grade 9 cohort file with data obtained from the Ontario Universities' Application Centre (OUAC) and the Ontario College Application Service (OCAS).

### *TDSB Data*

The main source of data used in this study is the cohort of Grade 9 students who began high school in the TDSB in September 2000 and were tracked through the TDSB until Fall 2006. The file includes more than 18,469 respondents. Of those, 2,220 students transferred to another educational system outside the TDSB sometime between Fall 2000 and Fall 2006, leaving a base of 16,249 students. These were further adjusted to take into account students who remained in the TDSB beyond this period or who transferred to the adult education section of the TDSB. This resulted in a research sample of 14,252 respondents.

The TDSB file records those who graduated with an Ontario Secondary School Diploma (OSSD) certificate and those who left high school before graduation. Graduates were further differentiated by their decision to apply (or not) for entry to an Ontario university or college. By following PSE applications for two years beyond the normal graduation date (the 2004 modal year), the sample may be described as comprising PSE 'direct entry' pathways to college or university and non-PSE pathways comprising high school graduates and dropouts.

### *OUAC and OCAS Data*

Applications to Ontario postsecondary institutions go through the Ontario Universities Application Centre (OUAC) and the Community College Applications Service (OCAS). Students normally apply in the spring of a given year and then attend postsecondary starting in September. From the data end, there are three 'phases':

- *Applications:* Students apply to programs in Ontario universities and/or community colleges
- *Confirmations:* Students write back confirming an Ontario university or community college offer of admission.
- *Registrations:* Students enrol as a student in an Ontario university or community college. The TDSB receives information about applications and confirmations but not registrations.

As indicated, university applications and confirmations are collected by OUAC, while college applications and confirmations are collected by OCAS. For each applications cycle, information on TDSB applications and confirmations are sent to TDSB's Organizational Development/ Research and Information Services using a standardized format. The information is then linked to the Secondary Success Indicator dataset for the year in question, a dataset of information on all students in the regular school year. OUAC applications and acceptances data are linked through the students' TDSB (Trillium) number. OCAS applications and acceptances data have a multiple link matching method, involving the students' TDSB (Trillium) number, Ontario Education Number (OEN), and an alphanumeric number of common information. The OUAC and OCAS data from the 2004, 2005, and 2006 applications cycles are used to identify applications made to programs – e.g., arts, commerce, engineering, social sciences, etc, in

Ontario universities or community college (or both) as well as confirmations of an offer of acceptance from an Ontario university or community college.

## Design

Combining the TDSB, OCAS and OUAC data enabled identification of four post-high school pathways: university, college, high school graduation, and dropout. The following panel outlines the research design elements and their assumed relationships in the analysis. The primary design variable in the TDSB data file combines country of origin and home language to indicate both immigrant group membership and generational status. Other factors influencing school performance and pathway choice include selected elements of the Social-Family Context, students' Personal Characteristics, and the School Learning Conditions that were obtained at the time of assessment. The antecedents and correlates of Pathway Choice were measured when students in the 2000 cohort were in Grades 9 to 12. With the exception of the Family Structure measure that was recorded in 2003-2004, all Personal and Family Characteristics variables were assessed when the student was in Grade 9. Cumulative measures of school change and ESL enrolment were based on information gathered from Grades 9 to 12. School Learning Conditions measures were based on information obtained from the last (high) school attended by the student.

The High School Transition		
<b>Social-Family Context</b>	<b>School Learning Conditions</b>	<b>Pathway Choice</b>
<i>LICO</i> <i>Family Structure</i> <i>Changed Schools</i>	<i>Proportion speaking English</i> <i>School SES</i> <i>School Size</i>	<i>PSE</i> <i>University</i> <i>College</i>
<b>Personal Characteristics &amp; School performance</b>		<i>Work place</i> <i>HS Graduation</i> <i>HS Dropout</i>
<i>Immigrant Status*</i> <i>Gender</i> <i>Age of Entry</i> <i>At-risk Status (Credits)</i> <i>Enrolled in ESL Program</i> <i>Stream (Track)</i>		
<b>Time Period of the Study</b>		
<b>2000</b>	-----	<b>2004/5/6</b>
*Immigrant Status is the design variable in the analysis.		

## Specification of Variables

*Pathways:* Pathway choice comprised four groups: university, college, high school graduates, and high school dropouts. The first two groups included those transitioning directly from Grade 12 to a postsecondary institution in Ontario. More specifically, PSE options were limited to students who *confirmed* an offer of enrolment from a university or college within the period 2004 to 2006. Those who did not proceed directly to PSE include high school graduates and early school leavers (dropouts).

*Immigrant Status:* Immigrant status combines Region of Birth with Home language information. Region of Birth distinguishes between seven regions, including Canada, Europe, English-speaking Caribbean, Africa, South Asia, West Asia and Eastern Asia. Respondents born in Canada are further divided into two groups: those who speak English at home and those who do not. First generation immigrant status was thus defined as being foreign-born, second generation as being born in Canada but not speaking English in the home, and third generation as being born in Canada and speaking English in the home. Given the age of the children comprising the Grade 9 cohort, the first generation group is more accurately described as the 1.5 generation (Boyd, 2008).

*Socio-demographic Factors:* As noted in the literature review, a variety of studies have documented the negative impact of poverty on student achievement. These have been found to apply in the Toronto area (United Way of Greater Toronto and the Canadian Council on Social Development, 2004; Ornstein, 2000). To assess poverty, a variable is included that measures the proportion of people in the respondent's immediate neighbourhood who fall below Statistics Canada's low-income cutoff (LICO). This variable was derived from student postal codes that were matched with their dissemination area (DA): the proportion of the population living below the low-income cutoff, as reported by the 2001 Census, was assigned to each student based on the DA in which they lived. The variable was coded in deciles<sup>3</sup> by the TDSB, such that value 1 indicates the highest incidence (proportion) of residents living below the poverty line and 10

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<sup>3</sup> A decile is any of the nine values that divide the sorted data into ten equal parts, so that each part represents 1/10 of the sample or population.

indicates the lowest incidence of residents living below the poverty line. Hence, a higher score means that a respondent lives in a more affluent neighbourhood.

More specific indicators of the family's situation were also assessed. These included, the family organization or structure. Family structure was categorized as those who lived with both parents and those living in an alternative or unidentifiable arrangement. Family mobility was indicated by the number of times the student changed schools between Grade 9 entry and school leaving.

*Personal Characteristics and School Performance:* In addition to immigrant status and gender of students, this set of variables assessed their academic performance and potential. These indicators included the students' curricular track or stream, credit accumulation, high school entry time, and ESL enrolment and whether high school entry was on-time or delayed.

Streaming refers to the majority of courses taken in Grades 9 and 10, and is employed to classify the student's program of study as Academic, Applied, or Essentials. Under the Ontario secondary school curriculum introduced by the Ministry of Education in the Fall of 1999, students are to choose a program of study that includes Grades 9 and 10 courses that are classified as Academic (university-directed), Applied (college-directed), or locally-developed Essentials (workplace-directed). As with previous studies, the present analysis categorizes a student's program of study as Academic, Applied, or Essentials based on the majority of courses taken in Grades 9 and 10.

A student is classified as being 'at risk' if he or she had completed fewer than six credits worth of coursework by the end of Grade 9. This variable was included as a general measure of academic performance. King et al. (2009) indicate in their research that credit accumulation strongly predicts school graduation/dropout. Another measure of potential academic difficulty indicated whether the students had taken an English as a second language (ESL) course<sup>4</sup>. This

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<sup>4</sup> When the cohort study started in Fall 2000, the Ontario curriculum provided ESL-ESD courses (English as a Second Language/English as a Second Dialect). Since then, 'ESD' has been changed to 'ELL', English Language Literacy. The vast majority of courses were ESL, and we will refer to all ESL-ESD-ELL courses as 'ESL' in this paper.

variable is assumed to be a proxy for language proficiency. Finally, a variable based on students' age at the beginning of high school was employed to measure whether they began their high school studies at the expected time or were delayed.

*School Learning Conditions:* A description of the learning conditions in the TDSB schools included the language spoken by the students. This was derived by calculating the proportion of students in a school whose home language was not English. High school socioeconomic status was derived from high school postal codes that were matched with a census dissemination area. Schools were then located in one of four categories ranging from low SES to high SES. School size differentiated schools based on student enrolment. This resulted in four levels – less than 500, between 500 and 999, between 1,000 and 1,499, and 1,500 and larger.

## Results

### Descriptive Statistics

Table 1 provides the descriptive statistics for the variables in the analysis, separately by – region-of-origin.

**Table 1: Means and Proportions for Region-of-Origin Groups (N = 14,252)**

	Canada (English)	Canada (Non-English)	Caribbean	Africa	Europe	Eastern Asia	South Asia	Western Asia
<b>Pathways</b>								
<i>University</i>	42	51	12	32	52	72	50	37
<i>College</i>	14	16	17	20	13	08	17	17
<i>HS Grad</i>	20	15	26	19	15	08	16	19
<i>Dropout</i>	24	18	45	30	20	13	17	27
<b>Sex</b>								
<i>Male</i>	49	47	50	53	49	47	48	48
<i>Female</i>	51	53	50	47	51	53	52	52
<b>Age of Entry</b>								
<i>On Time</i>	95	97	85	86	93	91	93	95
<i>One Year Late</i>	05	03	15	14	07	09	07	06
<b>Family Structure</b>								
<i>Both Parents</i>	43	65	21	34	65	52	42	54
<i>Alternative</i>	44	25	59	44	23	36	44	29
<i>Structure</i>	12	09	20	22	12	12	14	16
<i>Unable to determine</i>								
<b>Streaming Level</b>								
<i>Academic</i>	73	80	38	52	82	87	74	71
<i>Applied</i>	22	16	50	40	14	10	21	24
<i>Essentials</i>	06	04	13	08	08	03	04	05
<b>At Risk of Not Completing</b>								
<i>At Risk</i>	20	15	40	28	14	10	15	20
<i>Not at Risk</i>	80	85	60	72	86	90	85	80
<b>Taken ESL Course</b>								
<i>Yes</i>	01	01	10	16	19	30	23	27
<i>No</i>	99	99	90	84	81	70	77	73
<b>Changed Schools</b>								
<i>No Moves</i>	81	82	77	76	80	86	80	72
<i>One or more</i>	19	18	23	24	20	14	20	28

<i>moves</i>								
<b>School Size</b>								
< 500	07	11	13	12	16	11	07	16
500-999	33	34	36	45	28	24	26	28
1,000 – 1,499	50	44	46	37	46	40	54	40
1500 +	11	12	05	06	10	25	13	16
<b>School SES</b>								
<i>High Challenge</i>	12	28	35	49	19	12	32	31
<i>(Low SES)</i>	21	27	30	26	20	15	22	24
<i>Medium to</i>	27	24	27	18	30	33	36	28
<i>High Challenge</i>	40	21	08	07	31	41	11	16
<i>Medium to Low</i>								
<i>Challenge</i>								
<i>Low Challenge</i>								
<i>(High SES)</i>								
<b>Per cent of Non-English Speakers</b>	46.54	56.00	49.00	57.47	54.71	66.30	59.92	61.29
<b>LICO</b>	6.44	5.40	4.08	3.40	4.92	5.39	3.88	4.18
<b>N =</b>	7792	1479	588	438	930	1185	1316	524

### *Region-of-Origin*

The information in the first four rows of data in Table 1 reveals that post high school pathways were quite different for students of the different region-of-origin groups. The most notable finding is the contrast between students from East Asia and students from every other origin group. For example, more than 70 per cent of the students from East Asia confirmed admission to university – this is 20 percentage points higher than Europeans (52 per cent), the next highest group. Non-English-speaking Canadian-born students were the next (most frequent) group to confirm admission to university (51 per cent), and they were followed closely by South Asians (50 per cent). Less than half of English-speaking Canadian-born students in the TDSB (42 per cent) and slightly more than one third of Western Asia students (37 per cent) confirmed admission to university. The lowest figure belongs to Caribbean students; only 12 per cent of Caribbean students in the TDSB cohort confirmed admission to university. Another striking finding that emerged was that almost half (45 per cent) of Caribbean students dropped out of the TDSB – approximately 15 percentage points higher than the next region-of-origin group – those students born in Africa.

### *Socio-demographic Variables*

Aside from gender, there are some noteworthy findings relating to age at entry to the TDSB and family structure. Disproportionate numbers of students from Africa and the Caribbean entered the TDSB late – some 14 and 15 per cent, respectively. This compares unfavourably with all other origin groups, where the percentages are below 10 per cent. In terms of family structure, Non-English-speaking Canadian students and students from Europe were the most likely to live with both of their parents (65 per cent). In contrast, students who came to the TDSB from the Caribbean were least likely to live with both parents (only 21 per cent) and most likely to live in an alternative living structure (59 per cent).

### *Individual Variables*

Table 1 reveals that students from Eastern Asia (87 per cent) were most likely to be enrolled in the Academic stream, followed by students from Europe (82 per cent), and non-English-speaking Canadian-born students (80 per cent). In contrast, only 38 per cent of students from the Caribbean were in the Academic track. Caribbean students were the most likely to be in the Applied (50 per cent) and Essentials (13 per cent) tracks.

Caribbean-born students were most likely to be at risk of not completing high school. Approximately 40 per cent of Caribbean students were classified as ‘at risk’ of not completing high school because they had completed less than six credits by Grade 9. They were followed by African-born students at 28 per cent, students from Western Asia at 20 per cent, and English-speaking Canadian-born students at 20 per cent. In contrast, only 10 per cent of students from Eastern Asia were classified as being at risk of not completing high school in Grade 9, given that they had completed less than six course credits by Grade 9.

Only one per cent of Canadian-born respondents (both English-speaking and non-English-speaking students) had taken an ESL course. In contrast, the percentage of TDSB students from East, West, and South Asia who had taken an ESL course was considerably higher; 30, 27, and 23 per cent respectively.

The percentage of students who changed schools during high school was similar for English- (19 per cent) and non-English-speaking students (18 per cent). School mobility was higher and more variable among the more recently arrived region-of-origin groups, ranging from 14 per cent for East Asian students to 28 per cent for West Asian students.

The majority of students in all region-of-origin groups were concentrated in schools that had between 500 and 1,499 students and there were no significant variations in school size across the origin groups. However, Table 1 does reveal greater variation with regard to the level of school SES in relation to region-of-origin. For example, students born in Africa and the Caribbean, and to a lesser degree students born in South Asia, were disproportionately concentrated in more highly challenged schools (or low SES) whereas English-speaking students born in Canada and students born in East Asia were more heavily concentrated in schools classified as low challenge (or high SES).

Table 1 also provides some insight into the concentration of region-of-origin groups in schools with high numbers of non-English speakers. Interestingly, students from East Asia attended high schools in the TDSB where only about one third of the students at their school were English-speaking. Students from West Asia, East Asia, and Africa were similarly heavily concentrated in schools with high proportions of non-English-speaking students. The average proportion of students in schools attended by West Asian, South Asian and African immigrant students was 61, 60, and 57 per cent, respectively. Canadian-born English-speaking students and students who came to the TDSB from the Caribbean were the only origin groups who attended high schools where just less than 50 per cent of the students were English speaking.

Finally, an analysis of the neighbourhood SES variable revealed that English-speaking Canadian- born students were most likely live in the more affluent areas (e.g., neighbourhoods with the lowest incidence of families living below the LICO). The English-speaking Canadian-born group was followed closely by students born in Eastern Asia and non-English-speaking students born in Canada. In contrast, students from Africa and South Asia lived in neighbourhoods with the highest incidence of families living below the poverty line.

## Regression Results

The response (dependent) variable differentiates between the four different postsecondary education pathways. Since, the response variable consists of four discrete categories we employed a multinomial logistic regression model (see Table 2). The purpose of the regression analysis is to identify transitions from high school among immigrant and non-immigrant students, while controlling for other factors that potentially confound this relationship. Before discussing the relationship between immigrant status and PHS pathways we present a brief overview of the control variables included in the analysis.

Intended primarily to adjust the prediction of immigrant students' PHS pathways, the control variables nevertheless outline elements of the high school experience that shape pathway choice. The controls include socio-demographic indicators such as sex, age of entry to the TDSB, the living situation of the student, and the LICO, the proxy measure for SES. Individual-level variables relating to the student's participation at school include the streaming variable, the indicator of whether a student is considered 'at risk,' and the variable that identifies whether the student had taken any ESL courses. The school-level variables include school size, school challenge, and the variable capturing the proportion of English-speaking students at each school. With the exception of LICO and the school-level variable capturing the proportion of non-English-speaking students all of the other variables are treated as categorical.<sup>5</sup> Indicator (0/1 dummy) coding is used for categorical variables and the reference categories are denoted in Table 2.

The estimates in Table 2 reveal that, with the exception of school size, the effects of all of the other variables are statistically significant ( $p < .001$ ).<sup>6</sup> Significance tests for the parameter estimates are based on the z test (e.g., the regression estimate divided by its standard error). The tests for variables involving multiple parameter estimates are based on a likelihood ratio

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<sup>5</sup> Both of these variables are centered at their means.

<sup>6</sup> We compute robust standard errors to take into account the cluster effects (e.g., unequal variances across schools) that often arise from multi-level data (Raudenbush & Bryk, 2002). Thus, our model is equivalent to a fixed-intercept model within the framework of hierarchical generalized linear models (HGLM). Our model also assumes that the effects of explanatory variables do not vary across schools.

chi-square test. Significance tests for *variables* are for the effect of the entire explanatory variable (e.g. multi-category variables) on the response variable, whereas significance tests for dummy variables compare the effect of each *category* of the explanatory variable relative to the *reference* category.

**Table 2: Multinomial logistic regression predicting high school outcomes from the independent variables (n=14,252)**

	Confirmed University			Confirmed College			Graduated /Not Confirmed		
	<i>b</i>	<i>SE(b)</i>	<i>p</i>	<i>b</i>	<i>SE(b)</i>	<i>p</i>	<i>b</i>	<i>SE(b)</i>	<i>p</i>
Constant	1.681	0.201		0.721	0.195		1.108	0.222	
<b>Country of Origin</b>									
Caribbean	-0.717	0.199	***	0.077	0.154		-0.061	0.144	
Africa	1.066	0.184	***	0.689	0.207	***	0.164	0.209	
Europe	0.315	0.146	*	0.139	0.161		-0.282	0.139	*
Eastern Asia	1.186	0.172	***	0.135	0.183		-0.266	0.157	
South Asia	1.136	0.148	***	0.585	0.158	***	0.178	0.116	
Western Asia	0.139	0.169		0.057	0.179		-0.234	0.152	
Canada (non-English)	0.525	0.114	***	0.353	0.131	**	-0.072	0.127	
Canada (English)	(ref)	-----		(ref)	-----		(ref)	-----	
<b>Sex</b>									
Male	-0.587	0.067	***	0.326	0.065	***	-0.110	0.060	
Female	(ref)	-----		(ref)	-----		(ref)	-----	
<b>Age of Entry</b>									
One year late	-0.787	0.167	***	0.356	0.123	**	-0.404	0.102	***
On time	(ref)	-----		(ref)	-----		(ref)	-----	
<b>Living Situation of Student</b>									
Alternative family structure	-0.527	0.094	***	0.100	0.092		-0.238	0.075	***
Unable to determine	-2.132	0.157	***	1.727	0.116	***	-1.766	0.107	***
Living with both parents	(ref)	-----		(ref)	-----		(ref)	-----	
<b>Streaming Level</b>									
Applied	-3.160	0.136	***	0.306	0.093	***	-0.111	0.080	
Essentials	-3.438	0.526	***	1.659	0.282	***	-1.025	0.171	***
Academic	(ref)	-----		(ref)	-----		(ref)	-----	
<b>At Risk of not Completing</b>									
At risk	-2.864	0.122	***	1.785	0.093	***	-1.474	0.064	***
Not at risk	(ref)	-----		(ref)	-----		(ref)	-----	
<b>Taken ESL courses</b>									
Yes	-0.219	0.147		0.386	0.118	***	0.164	0.107	
No	(ref)	-----		(ref)	-----		(ref)	-----	
<b>Changed schools</b>									
One or more moves	-1.136	0.114	***	0.577	0.109	***	-0.253	0.090	**

No moves	(ref)	-----		(ref)	-----		(ref)	-----	
<b>School Size</b>									
500-999	-0.163	0.193		0.321	0.198		-0.275	0.213	
1000-1,499	-0.064	0.200		0.063	0.208		-0.240	0.209	
1500+	-0.113	0.261		0.253	0.224		-0.350	0.212	
Less than 500	(ref)	-----		(ref)	-----		(ref)	-----	
<b>School SES</b>									
Medium to high challenge	0.480	0.171	**	0.299	0.153		0.164	0.140	
Medium to low challenge	0.734	0.183	***	0.400	0.188	*	0.355	0.158	*
Low challenge (High SES)	1.226	0.184	***	0.535	0.196	**	0.389	0.138	**
High challenge (Low SES)	(ref)	-----		(ref)	-----		(ref)	-----	
<b>Proportion. of non-Eng Speakers</b>	0.018	0.003	***	0.008	0.004	*	0.003	0.002	
<b>LICO</b>	0.067	0.013	***	0.007	0.014		-0.009	0.013	
The reference category for the response variable is: Did not graduate from TDSB. * p-value <.05; ** p-value <.01; *** p-value <.001									

### **Control Variables**

Regressing the pathway variable on the control variables produced largely expected findings. That is, they replicated effects found in the research literature. To this extent, they accurately describe important aspects of the environment in which (immigrant and non-immigrant) adolescents experience high school; and where they decide upon the most appropriate PHS pathway. For example, females experienced more positive PHS transitions than males, controlling for the other variables in the model.<sup>7</sup> Thus, females were most likely to attend university and least likely to drop out of the TDSB. Similarly, students who were delayed in entering high school also experienced less favourable outcomes – that is, they were more likely to drop out and were less likely to confirm admission to university or college than their counterparts who entered high school on time.

In terms of family structure, students who lived with both parents were most likely to confirm a postsecondary pathway. Students whose family structure could not be clearly identified were least likely to graduate or confirm either college or university options.

<sup>7</sup> When not otherwise stated, all interpretations are made controlling for the other variables in the model.

Consistent with past research, TDSB students in the academic stream were more likely to confirm admission to university than their counterparts in the Applied or Essentials stream. Students identified as being 'at risk' of not completing high school were less likely to complete high school or transition to a postsecondary pathway than those who were not classified as being 'at risk'. Students who had taken an ESL course in high school were more likely to attend college and not as likely to drop out of high school, when compared to those who had not taken an ESL course in high school. Having taken an ESL course in high school does not, however, have an impact on attending university. Nor does ESL participation indicate that high school graduation is more likely than dropping out before graduation.

The parameter estimates for the school challenge variable indicate that there is a relatively strong linear relationship between the level of school challenge and transitioning to college or university. Students from high schools classified as 'high challenge' (or low SES) were more likely to drop out of high school and less likely to confirm either a university or college pathway than students from schools classified as 'low challenge' (or high SES).

TDSB students from high schools with a higher proportion of non-English-speaking students were more likely to attend university or college than they were to drop out of high school in comparison with students from high schools with a lower proportion of non-English-speaking students. At first glance, this appears to be an anomaly. However, the presence of other immigrant or non-English-speaking youth may offer a support network that promotes school engagement and achievement (McAndrew et al., 2009).

Finally, the well-established relationship between socioeconomic status and high school outcomes is most evident in students' choice of the university pathway. That is, students who lived in relatively affluent neighbourhoods were more likely to attend university than their peers who lived in less affluent neighbourhoods, irrespective of region-of-origin

### *Pathway Probabilities for Immigrant Groups*

To better interpret the relationship between immigrant status and PHS pathways we constructed Figures 1 through 4. These figures describe the predicted probability of being in each of the four categories of the response variable for each group of the immigrant status variable. The predicted probabilities are calculated from the regression estimates in Table 2 for each group of students, holding the explanatory variables constant at typical values.<sup>8</sup> For this reason the estimates may vary from the results provided in Table 1, as those estimates were not adjusted for the effect of the explanatory variables considered in the study. The estimates are accompanied by their corresponding 95 per cent confidence intervals to provide additional guidance regarding the strength of the difference between groups.

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<sup>8</sup> Proportions were used for categorical variables and means were used for quantitative variables.

Figure 1: Predicted probability of confirming a university acceptance by immigrant group, controlling for socio-demographic and school related characteristics. The predicted probabilities and corresponding 95 per cent confidence intervals are obtained from the multinomial logistic regression estimates provided in Table 2.

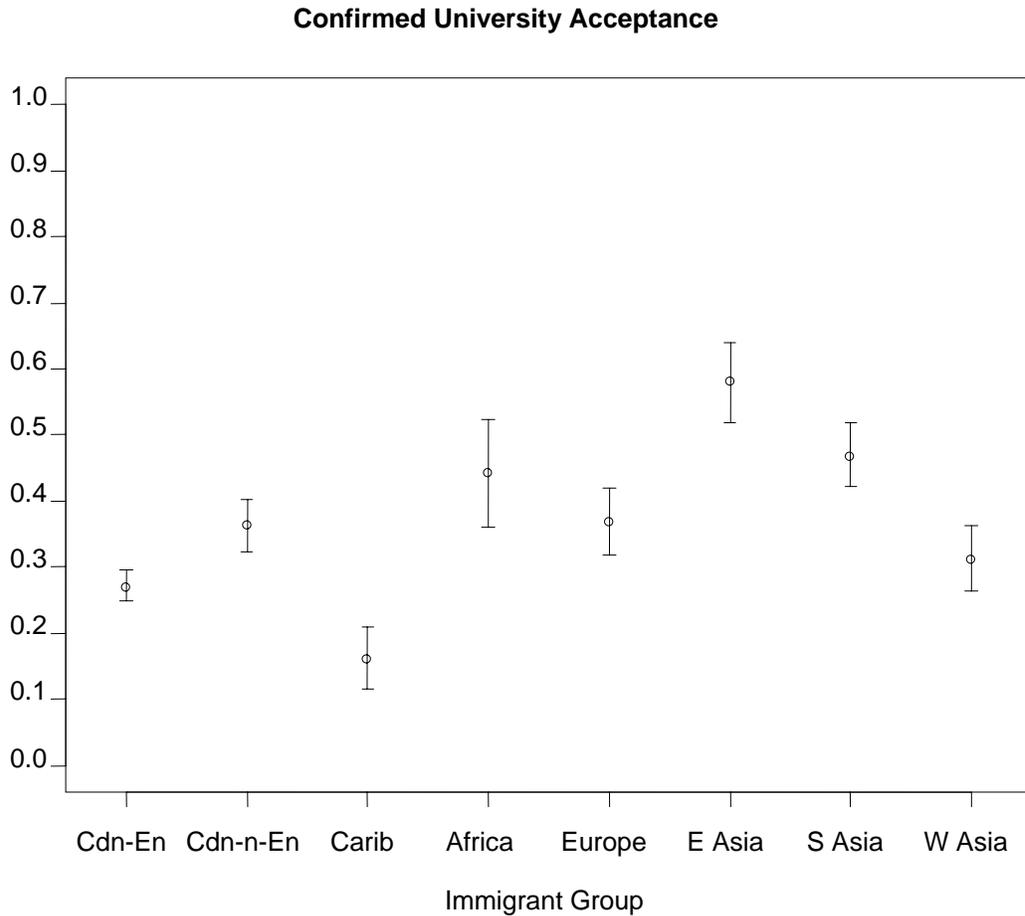


Figure 1 indicates the predicted probability of receiving a confirmation of admission to university, presented separately for each of the eight origin groups of immigrant students. The information in this figure reveals that immigrant students from East Asia were significantly more likely to receive a confirmation of admission to university than students from any of the other seven region-of-origin groups. The predicted probability of confirming admission to university for students from East Asian (with all other control variables held constant at typical values) was just under .6. Students from South Asia and Africa also had relatively high predicted probabilities of confirming acceptance to university with probabilities of .46 and .44, respectively.

In contrast, the probability of confirming university acceptance by students from the Caribbean region was less than .2.

As can be observed in Figure 2, English-speaking Canadian, Caribbean, and African-born students of the TDSB were the most likely to confirm admission to college. Their predicted probabilities were all close to .23. In contrast, students from East Asia were least likely to attend college after graduation. Their predicted probability of confirming admission to college (.12) is significantly lower than that of European-born students who had the second lowest predicted probability (.18).

Figure 2: Predicted probability of confirming a college acceptance by immigrant group, controlling for socio-demographic and school related characteristics. The predicted probabilities and corresponding 95 per cent confidence intervals are obtained from the multinomial logistic regression estimates provided in Table 2.

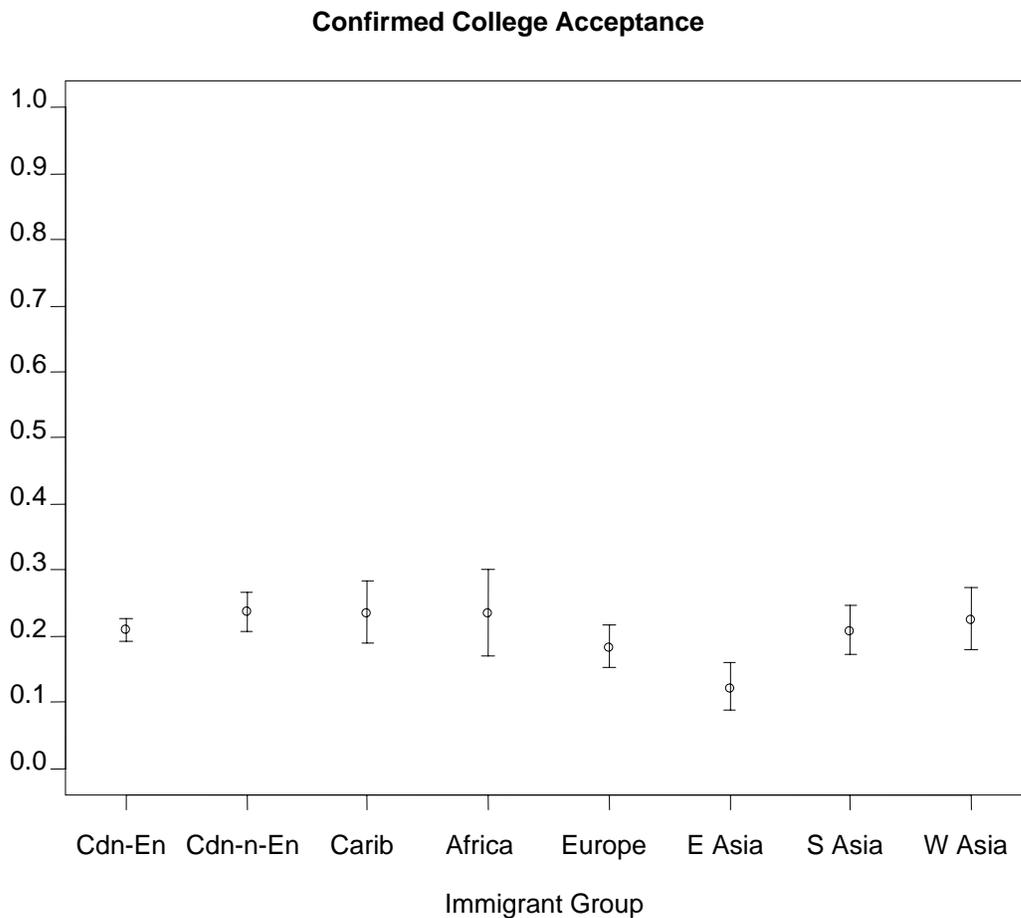


Figure 3 indicates that Caribbean students who graduated from the TDSB were least likely to confirm postsecondary acceptance (.34). Among Canadian-born students who reported speaking English, the predicted probability of graduating from high school and not confirm college or university was .30. In contrast, East Asian students were significantly less likely (.15) than the rest of their peers to graduate from the TDSB and not confirm a college or university acceptance.

Figure 3: Predicted probability of graduating high school but not confirming a university or college acceptance by immigrant group, controlling for socio-demographic and school related characteristics. The predicted probabilities and corresponding 95 per cent confidence intervals are obtained from the multinomial logistic regression estimates provided in Table 2.

**Graduated but Did Not Confirm College or University Acceptance**

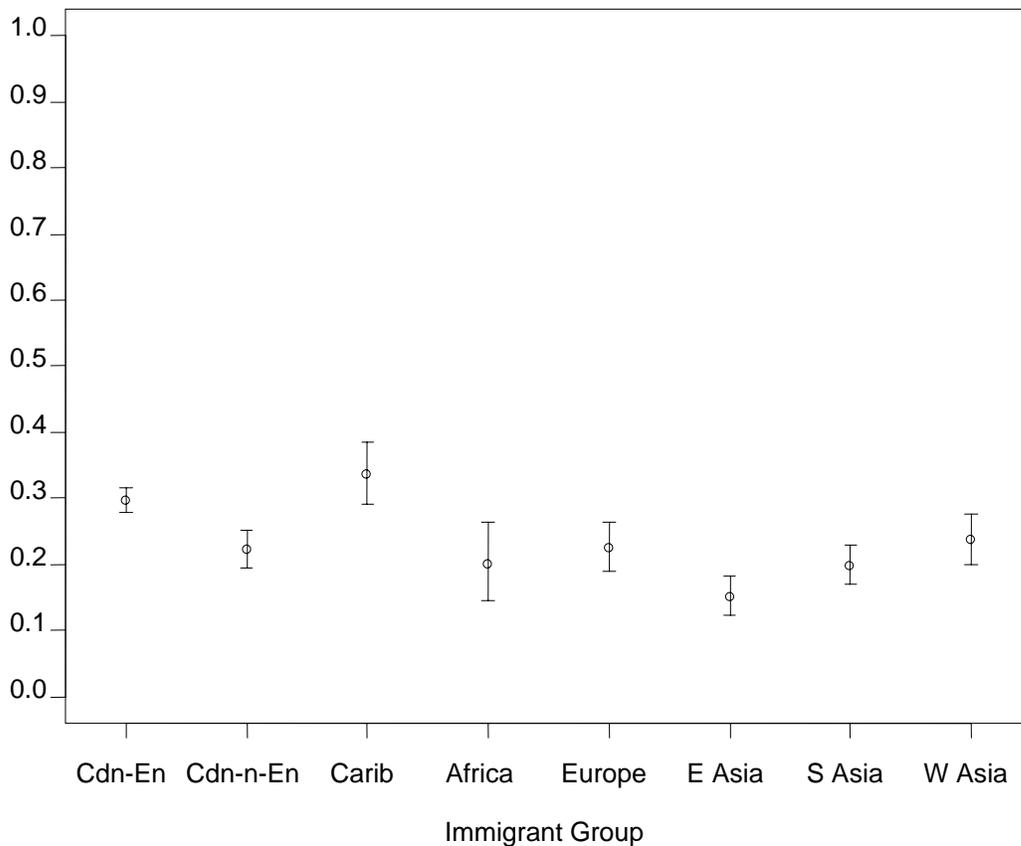
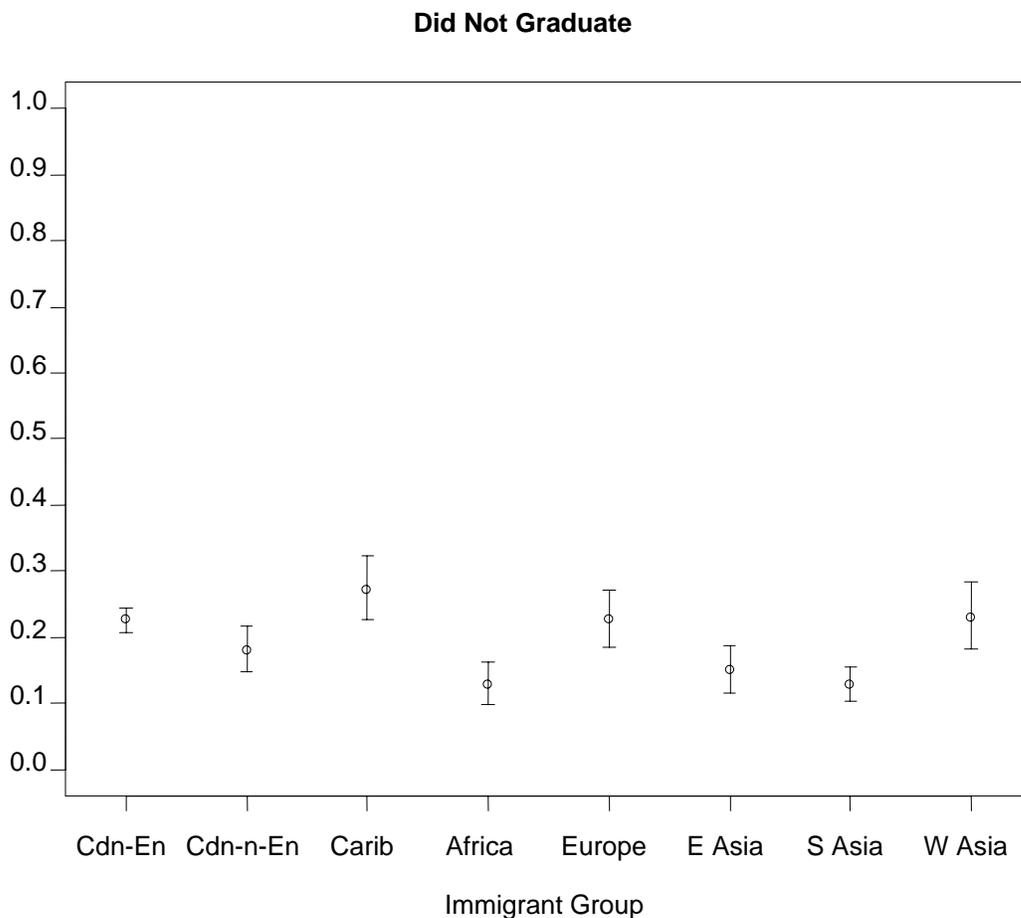


Figure 4 shows the predicted probability of not completing high school for each of the eight region-of-origin groups. The results indicate that South Asian (.14), African (.14) and East Asian (.15) students, respectively, were least likely to drop out of the TDSB. In contrast, the predicted probability that Caribbean students would fail to complete their high school studies was .27. Also of concern are the estimates for West Asian, European and English-speaking Canadian-born students -- the predicted probability of not successfully completing high school (dropping out) for all three groups was above .2.

Figure 4: Predicted probability of not graduating high school by immigrant group, controlling for socio-demographic and school related characteristics. The predicted probabilities and corresponding 95 per cent confidence intervals are obtained from the multinomial logistic regression estimates provided in Table 2.



In summary, the most obvious differences in PHS transition probabilities among immigrant and non-immigrant students were associated with the university pathway. The predicted probability of confirming admission to university ranges from .16 for Caribbean students to .58 for East Asian students. The probabilities of reporting acceptance to community college were considerably less variable. For example, the probability of confirming college acceptance ranged from .12 for East Asian students to .24 for non-English-speaking Canadians. Among those who graduated from the TDSB but did not confirm admission to a postsecondary institution the predicted probabilities ranged from .15 for East Asian students to .34 for students from the Caribbean. Finally, East Asian students were least likely (.15) to drop out of the TDSB while Caribbean students were most likely (.27) to withdraw before graduating.

## Summary of Results

Our principal interest in this study was to describe and explain the post-high school pathways of immigrant students in the TDSB Grade 9 cohort of 2000. We identified four pathways – university, college, high school graduation, and high school dropout. The various pathways were defined by individuals' high school graduation status and their 'confirmation' of acceptance at a PSE institution. Those who chose to enter the PSE system confirmed acceptance at either a college or university. Those who chose not to enrol in the PSE system included Grade 12 graduates and those who left school before graduating (dropped out). The four pathways described form two general orientations toward further education and work: the university option reflects an *academic* preference and an interest in future professional employment while graduates who choose to study a technology or trade at a community college and those who enter the workforce directly from high school typically have more *vocational* goals in view. Those who drop out could follow a vocational direction although they possess fewer resources with which to obtain skilled work.

### Pathway Differences

The actual pathways followed by respondents as presented in the descriptive results demonstrate distinct differences by region-of-origin and generational status. Previous research indicated fairly consistent differences in the academic aspirations and attainment between first and second generations of immigrant youth and the third or native-born generation. These differences were more pronounced for university rather than college pathways (Krahn & Taylor, 2005; Picot & Hou, 2009). With respect to PSE confirmations generally, a similar pattern is found among TDSB respondents where confirmations to university are significantly higher among first and second generation immigrants. These findings are, however, quite varied. For example, high university confirmations in the first generation are driven by East Asian students where nearly three-quarters of that group chose the university option. High school graduates from other regions-of-origin or generations preferred the vocational options offered by the college or the workplace. Many native-born (third generation plus) youth appear to see opportunities for career advancement in the workforce where apprenticeships and other forms

of employer-supported training are available. Those who drop out before graduating face significant challenges in attaining stable employment and, consequently, are often unable to access workplace training opportunities. Dropout rates vary by region-of-origin but are especially high among the Caribbean immigrant group. They were also relatively high among students from Africa and Western Asia. These patterns are consistent with more delimited research conducted using TDSB data (Anisef et al., 2009) and with research based on national samples (Finnie and Mueller, 2008).

### **Advantage and Vulnerability**

Pathway choice was first explained in relation to individual differences -- specifically, students' gender, language competence, and high school performance. The range of social and economic resources available to students from Grade 9 to 12 was also assessed. Available resources were indicated by selected family, neighbourhood, and school factors that indicated relative advantage or disadvantage.

#### *Individual Characteristics*

*Academic Deficits:* Many students arrived in Grade 9 with academic deficits. These were indicated by insufficient academic credit or having been delayed a year or more in the elementary system. Too few credits by the Grade 9 signal a significant deficit in essential skills that are assumed to have been mastered in the primary and intermediate grades. These represent a cumulative disadvantage in basic literacy skills and place the student at further risk of school failure. The relationship between insufficient credit accumulation and dropout is particularly strong. Delayed entry to Grade 9 similarly indicates academic weakness although, in the case of immigrant students whose home language is not English, a delay may reflect the additional time needed to become more fluent in the language of instruction. It would appear, however, that individual or personal factors other than language competence are involved. This is seen when the proportion of East Asian students – predominantly Chinese (Mandarin) speakers – who are delayed (10 per cent) is contrasted with the proportion of English-speaking Caribbean youth who are delayed and considered 'at-risk' (40 per cent).

*ESL:* Some 10 to 30 per cent of immigrant students are enrolled in high school ESL classes. While this seems a rather low proportion given the numbers of immigrant students from regions where the language spoken is not English, most would have had ESL instruction during elementary school. Those enrolled in a high school ESL class tend to be more recent arrivals and those who are struggling academically and are in need of further ESL instruction (Gunderson, 2007). Language competence appears to vary across PSE pathways. For example, the relationship between taking ESL in high school and confirming college (rather than university) is quite strong.

*Gender:* Respondents' gender distinguished pathway choice. Overall, girls were more inclined to graduate from high school and to confirm PSE enrolment. Being female was strongly associated with choosing the university option. . These results reinforce current concerns with boys under-achievement (McMullen, 2004). Gender differences also appear to influence post-high school destinations, irrespective of immigrant status (Andres et al., 2007).

### *Available Resources*

*Neighbourhood:* Socioeconomic status (SES) continues to play a significant role in determining the PSE aspirations of Canadian adolescents (Debroucker, 2005; Lehmann, 2007). In this study, the low-income cutoff (LICO) was selected as the most appropriate measure of SES and was determined on the basis of postal code, thus reflecting the community environment in which respondents lived. As a measure of resources and opportunity, LICO was distributed unequally by immigrant generation with a decline of about one LICO level across the first, second and third generations. Within the first generation, East Asian students lived in the highest LICO neighbourhoods – comparable to those of the second generation. With the exception of students from the European region-of-origin group, the recorded LICO figures for first generation students were much lower, especially for students from Africa. This situation is likely associated with the general decline in the earnings of recent immigrants (Corak, 2008). School performance is a key indicator of successful settlement and integration among immigrant youth. Previous research has also shown that, with few exceptions, adequate income levels among immigrant groups are a prerequisite to any meaningful PSE involvement (Sowell, 1981). The

association between LICO and PSE confirmations in the TDSB data indicates that a lack of economic stability constrains immigrant students' PSE plans and preparations.

*Family:* Family structures also play a role in determining pathway choice. Students living in alternative (or undetermined) family arrangements were less likely to confirm a PSE position or even graduate. Overall, first and second generation immigrant students were more likely than English-speaking native-born students to live in dual-parent homes. Among newcomer youth there were some exceptions to this pattern. Fewer African and Caribbean students lived with both parents. Among the Caribbean group, the proportion of students living in dual-parent homes is half that of the reference group and even less than half when compared to other immigrant groups. The relationship between family structure and children's school performance is complex but dual-parent families appear better able to buffer the effects of low achievement on children's educational pathway choices. Thiessen (2008), for example, found the incidence of dropout among poor readers was significantly lower in dual-parent families. In Canada, single-parent households are almost exclusively female-headed and most are impoverished. While there may be additional deficits in the social capital available to children residing in one-parent families, low-income appears to be a defining characteristic and places limits on the range of investments many immigrant parents are able to make in their children's learning. Moreover, in these situations, high levels of parental education do not buffer the effects of low income except in very exceptional circumstances (Sweet, Anisef, & Walters, 2009).

*School:* Two aspects of the relationship between school features and PHS pathways were considered. The first concerns school composition factors, including SES, ethnicity, and immigrant status. The second involves the policy of streaming or tracking as practiced in the TDSB.

The various immigrant groups identified in the Grade 9 cohort attended schools that varied greatly in their resource base and student body characteristics. Specifically, TDSB schools differed in their student socioeconomic (SES) levels and were further distinguished by ethnicity and immigrant status. Relatively few schools attended by the native-born (12 per cent) enrol low-SES students in numbers that would characterize an entire school as 'high challenge'.

However, the proportion of socioeconomically challenged schools more than doubles among the second generation immigrant group and is even more evident in schools attended by first generation students, with two notable exceptions – the European and East Asian student groups.

In addition to school SES, other social structures such as ethnicity and immigrant status influence school performance and PSE destinations, although interpreting their effects is not straightforward. One index of ethnic composition is the proportion of non-English-speakers in a school. Some research suggests high concentrations of non-English-speaking students hinder the academic progress of immigrant youth, principally because a longer time is needed to acquire competence in English (Gunderson, 2007). In the TDSB, the proportion of non-English-speakers in schools attended by East Asian students is 66 per cent yet this group is least ‘at-risk’ in terms of accumulated credits and the number who confirm they will attend university. While this appears counter-intuitive, the East Asian students come from well-educated, economically advantaged families and these resources may have offset any language barriers encountered when they entered elementary school.

School composition factors -- SES, ethnicity, or immigrant status -- shape the values and dispositions that are essential to student learning and the formation of PSE plans and commitments (Hoy, Tarter, & Woolfolk, 2006). These structures do, however, interact in ways that produce anomalies. For example, immigrant students imbued with a ‘resilient optimism’ can establish a normative culture of academic achievement that offsets many of the negative effects of attending a low-SES school (Tseng, 2006). Wells (2010) suggests that immigrant and non-immigrant students react differently to school structures, especially school SES. In the TDSB cohort, East Asian and native-born groups have comparable proportions of students enrolled in high-SES schools yet the native-born have a relatively high dropout rate. Research on ethnic differences also highlights the relatively low PSE aspirations of the native-born compared to first and second generation immigrants (Krahn & Taylor, 2005). In this study, however, comparisons with the native-born group do need to be qualified given the diverse nature of all TDSB classrooms – the percentage of non-English-speakers in schools attended by the native-born is 47 per cent.

All students were subject to Ministry of Education streaming policies which comprise Academic, Applied, and Essentials programs. Each is defined by specific courses that vary in their content and difficulty level. Streaming is a traditional means of organizing instruction based on the measured achievements and stated preferences of students (Oakes, 2005). For students who entered Grade 9 with a credit deficit or who were still acquiring competence in English, assignment to Academic stream courses would not be assured. Even if assigned to the Academic stream, students may not have been able to maintain the level of achievement required by the curriculum and set by classmates. Because placement in a stream at Grade 9 limits high school course selection it largely determines future educational pathways and occupational choice (Oakes, 2005). In the TDSB, approximately 75 per cent of all students were assigned to the Academic stream in Grade 9. A further 20 per cent entered the Applied stream and about 5 per cent were assigned to the Essentials stream. A somewhat higher proportion (80 per cent) of second generation immigrant students entered the Academic stream. The results of the regression analysis in this study of TDSB students demonstrate the strength of the relationship between this streaming at the Grade 9 level and post-high school pathways.

Among first generation immigrant students streaming was more varied. Most students from Europe (82 per cent) and East Asia (87 per cent) entered the Academic stream. A much higher proportion of students from the Caribbean and Africa were placed in the Applied stream. Also some 13 per cent of Caribbean students were placed in the Essentials stream. In many ways this pattern mirrors that found with other school performance variables – especially those indicating credit accumulation and late entry. The elementary school experiences of immigrant youth, then, are critical determinants of track placement.

## Conclusions

There are differences in students' PHS pathways distinguishable by immigrant generation and region-of-origin; and these differences persist even after selected antecedents and correlates of pathway choice are taken into account. With the single exception of school size, all the variables considered in our analysis contributed to the prediction of student pathways. In examining the probabilities of choosing the alternative pathways it is apparent that the socio-demographic factors used to predict choice leave some of the difference between immigrant groups unexplained. This is especially the case within the university pathway where substantial differences are observed even with the controls employed. On the basis of our analysis with this set of variables, we can conclude:

1. Despite considerable variability among first generation immigrants this group was more likely to opt for university than were second generation immigrants who, in turn, were more likely to make this choice than the third generation or native-born. These results are generally consistent with the 'immigrant optimism' literature which points to newcomers' belief in the need for postsecondary education as a means of social and economic mobility.
2. Region-of-origin differences are most apparent within the university pathway. Here, the proportion of East Asian students confirming university attendance is much higher than any other group. Relatively few students from Africa and the Caribbean confirm university. However, when other socio-demographic factors are taken into account the probability of African students confirming university is greater than that of the native born.
3. Socio-economic status affects pathway choice and exerts an influence in both the school and home environment. School SES affects the likelihood of graduating from high school and attending PSE; and the home LICO measure more specifically distinguishes those who confirm their intention to attend university. Not living with both parents is an

additional disadvantage although it is likely that much of the 'single-parent' effect can be attributed to low-income.

4. Late entry to Grade 9 and a failure to accumulate sufficient elementary school (academic) credits are indicators of vulnerability that predict pathway choice.
5. Tracking is an organizational means of accommodating variability in student interest and achievement. However, its effects appear to compound those individual differences and thus increase the likelihood of pathway differentiation.
6. Region-of-origin differences in pathway choice are to some extent explained by the socioeconomic variables employed in this analysis. Accounting for the remaining differences likely requires additional psycho-social variables that better capture the intentions and investments of the individuals involved – the students as well as their parents and teachers.

## Policy Implications

### Adjustment / Accommodation Policies

Most first and second generation immigrant youth do well in the TDSB and transition smoothly to PSE or the workplace. Others are less successful and policies that affect their situation require particular scrutiny. While educational policies can be changed to better serve those who are not succeeding, such policy initiatives have a limited reach. Some of the characteristics and situations of immigrant children and their families are not amenable to change through educational policy interventions but instead require direct social support. Institutions such as schools can nevertheless accommodate social and cultural ‘differences’ among students and their families. Fuligni and Witkow (2004), for example, discusses the need for improved communication between home and school based on greater teacher awareness of the social and cultural situations of recent immigrant families. Fundamental to this accommodation is improved teacher understanding of ethnic differences in child-rearing practices (Bornstein & Cote, 2007). However, given the high levels of diversity in virtually all TDSB classrooms, teachers are likely aware of and responsive to the range of student needs. One change that will contribute to more effective relationships between home and school is the gradual increase in ethnic diversity among teachers (Yu, 2009). Another is community change – leisure facilities and informal learning programs are changing in response to the different interests and increased involvement of immigrant families. Improved opportunities for socializing and leisure learning can have important spillover effects that benefit the school performance of children. Such extra-school social support varies by province with Ontario differing little from the others. In all regions the linkage of social support with school (emotional) adjustment and academic performance remains largely unrecognized and unexamined (Ma, 2002).

### Intervention Policies

Policy interventions can address many of the preparation and transition issues of students who are going on to PSE as well as those entering the workforce. In some cases these differ while in others they are the same or similar. Given the projected need for increased postsecondary education and training for today’s youth, most policy changes are directed toward furthering

students' educational options. The educational planning and preparation literature emphasizes the need for students to possess information that allows them to effectively navigate the transition to PSE or workplace training programs (Sweet & Anisef, 2005).

## Career Planning

University was the chosen pathway for the majority of both native-born and immigrant TDSB students. At the same time, the proportion of first and second generation immigrant students who confirmed a college pathway was somewhat higher than the native-born group. Differences in PSE pathways among immigrant students likely reflect a combination of occupational goals, academic achievement, and cultural preference. However, the general lack of interest in vocational pathways (including college) by all groups may reflect a more general problem with the high school curriculum. Most courses offered in high schools are oriented toward preparing students for university and not community college. To some extent this mirrors the broader societal bias against vocational and service work which continues despite evidence of satisfaction, stability, and high levels of remuneration among skilled workers (Rosenbaum, 2001; Schuetze & Sweet, 2003). The disconnect between students' aspirations and opportunities in the labour market is reinforced by a lack of information on the educational requirements for occupations in the trades and technologies that are offered by colleges and through apprenticeships. Without an understandable description of vocational training requirements, educational planning becomes problematic, especially for those with language difficulties. The lack of vocational guidance and information contributes to indecision among some graduates who then delay PSE entry (King et al., 2009). There are available some programs that address student career planning needs. These include experiential learning and Co-op Education courses although these are not necessarily tied to students' career interests. There also are curricular initiatives in Ontario designed to encourage enrolment in 'college-prep' or youth apprenticeship programs (Taylor, 2007). However, they are few in number and require mobilizing district-wide resources – e.g., the Specialist High Skills Majors programs. At the same time, programs are needed to encourage the re-entry of youth who have left school and are employed in (typically) low-wage, contingent work.

Graduates who intend to enrol in a college or university program immediately after graduation often find that financing 2 to 4 years of study is a difficult undertaking. Although the financial aspects of PSE planning were not directly addressed in this study, they are closely related to measures of neighbourhood LICO and school SES that were included in the analysis. The recently released *Price of Knowledge* report (Berger, Motte, & Parkin, 2009) and work by Day (2008) indicates the difficulties many low-income families have in investing funds that are sufficient to underwrite their children's postsecondary education. Work by Sweet, Anisef and Walters (2008) suggests some of the ways in which financial aid policies may be effectively applied to low-income immigrant families with academically promising children. Their principal recommendation was to address the issue of timing in awarding grants or bursaries. At present, academic achievement is typically rewarded with PSE grants and bursaries upon high school graduation or after PSE enrolment. The efficacy of government investments in academically promising children from low-income families has been demonstrated by the Canada Millennium Scholarship Foundation in a program that contributed money to a PSE savings plan for high-achieving youth beginning at the junior-high level (Berger, 2007).

## **Transition Issues**

Students experience several transitions in their educational careers. These include the move from elementary to high school and the move from high school to the workplace or the PSE system. Two (not unrelated) factors seem to have immediate policy relevance to immigrant students, particularly the vulnerable among them.

## **Streaming/Tracking**

Whether the intentions underlying streaming policies are efficiency, equity, or both, the practice of assigning high school students to tracks is widespread in Ontario and in other Provinces (Krahn & Taylor, 2007). Upon high school entry, the basis for placement in a particular track is a combination of early (elementary school) achievement and the existing organizational structures of high schools, which reflects the academic emphasis of their curriculum. For immigrant students whose home language is not English, track assignment at Grade 9 may reflect difficulties in their acquisition of English. For some, late arrival in elementary school may have

limited their opportunity to become proficient in English. Gunderson (2007) estimated that immigrant students in Vancouver needed at least 5 years of ESL in order to cope with high school academic work. Among students from regions-of-origin where English is not generally spoken, relatively few are enrolled in high school ESL classes. This may be because the support is not available or not wanted by students at the high school level. Gunderson (2007) found among some immigrant groups in Vancouver that many individuals avoided ESL classes because they interfered with the study time needed for success in Math and Science. These were subjects in which students felt they needed high marks if they were to gain entry to university.

One means of smoothing the transition between elementary and high school would be a program that concentrated on basic literacy skills – reading, writing, quantitative reasoning – within the key subject areas of English, math, and science. Immigrant students who entered high school after Grade 9 were not included in this analysis. However, their (even) greater need for some kind of modified integration program with additional intensive, content-based language instruction underscores the importance of developing transition programs. From the Grade 9 teacher’s perspective, such programs may ease the task of instructing in classrooms with wide disparities in content knowledge, language competence, and cultural perspectives.

### **Dropping Out**

Because the disadvantages of dropping out are immediate and difficult to remedy, some form of school-community intervention is necessary for students at risk of not completing high school. However, in Ontario there are many opportunities to re-enter the education system and obtain needed credentials. In particular, there are many adult-education programs for individuals seeking a high school credential. Dropouts who later return to school and obtain their high school equivalency do not, however, benefit to the same extent as on-time graduates. Using YITS data, Campolieti, Fang and Gunderson (2009) found the economic returns to a high school diploma for these individuals were significantly below those of on-time graduates. Early learning, then, appears essential to be able to benefit from opportunities that are present in the labour market.

There exist several initiatives in Ontario designed to increase student engagement and thereby lower the dropout rate. For example, the Ontario Ministry of Education is addressing dropout rates in its Student Success/Learning to 18 Strategy. This is a response to the relatively high number of school leavers in the entire school population but applies also to individual immigrants at risk of not completing high school. However, given the very large proportion of first or second generation immigrants in the TDSB, reforms that better engage all students are relevant.

The importance of incorporating the neighborhood into school interventions is recognized in current initiatives in the TDSB region and these too might be employed as a basis for providing more comprehensive and effective programming for immigrant youth. For example, The Settlement Workers in Schools program was initially piloted in the TDSB and has since been implemented in several Ontario school boards with large immigrant populations (Ontario Council of Agencies Serving Immigrants, 2009). One of the main goals is to assist students and parents attempting to navigate the Ontario school system for the first time. A second Ontario initiative (part of the Student Success /Learning to 18 Strategy) targets the direct transition to the workplace as well as the processes by which students move from the schools and the workplace into community colleges. For example, George Brown College is working with the Toronto public and catholic school boards on a mathematics project involving at-risk students who enter college directly from high school as well as through the workplace.

## Future Research

The analysis in this paper was conducted with administrative data which distinguishes it from most Canadian research on immigrant adolescents and education. Existing research has typically employed national samples, principally the National Longitudinal Survey of Children and Youth (NLSCY) or the Youth in Transition Survey (YITS). It thus provided a more contextualized and, because of the large immigrant sample, a more stable assessment of the outcomes of interest. However, it was limited to the set of socio-demographic variables available in the TDSB Grade 9 cohort data. While these proved useful in predicting post-high school pathways, the addition of relevant psycho-social variables would allow a more comprehensive analysis of the antecedents and correlates of PHS decisions. The TDSB Student Census data (Yau and O'Reilly, 2007) contains many of these variables and may be available in the near future for analyses of the immigrant school experience. In particular, inclusion of variables that measured immigrant students' interests, attitudes and their academic and social engagement behaviours would allow examination of important constructs such as 'immigrant resilience'. With the TDSB Student Census data the personal characteristics and behaviours that allow students to overcome socioeconomic disadvantage and perform well in the school system could be studied in greater detail than is currently possible.

Home-school relations represent a second area of study that would contribute to our understanding of the factors underlying successful (and unsuccessful) educational trajectories of immigrant students. Recent research using the NLSCY and the Survey of Approaches to Educational Planning (SAEP) has begun to explore the home environment of immigrant students. Some studies have examined the conditions that support the emotional adjustment of immigrant children and their effects on achievement (Ma, 2002; Grolnick, 2003). Others have looked at immigrant parents' financial investments in their children's future education (Sweet, Anisef, & Walters, 2009). Evidence from the U.S. and Canada would suggest parenting style is a determining factor (Portes, Fernandez-Kelly, & Haller, 2009; Sweet, Mandell, Anisef, & Adamuti-Trache, 2007). These studies represent only a beginning and much more research is needed to understand the role of immigrant families in determining students' school success.

The assignment of students to tracks in Grade 9 is an important predictor of their post-high school pathways in the TDSB. The effects of streaming and its association with race will no doubt be further studied in relation to the ‘Africentric Schools’ program in Toronto. Doing so will parallel U.S. research on ‘tracking reform’ and its relation to segregation by ethnicity and race (Oakes, 2008). It would be important also to follow more closely immigrant adolescents (from all regions-of-origin) who embarked upon a vocational path that did not include community college training. This includes both dropouts and graduates who entered the labour market directly with the intention of pursuing a career where advancement was supported by learning on the job or through employer-sponsored training. As the “Forgotten Half” studies in the U.S. demonstrated, it is extremely difficult to track the progress of this group after they leave school (Halperin, 1998). Initial steps have nevertheless been taken in this direction with exit interviews of students and retrospective studies (Looker, 2002; King et al., 2009). The Adult Education and Training Survey (AETS) is one resource that has been used to study immigrant youth training outside the PSE system in Canada but this effort is hampered by small sample sizes (Hum & Simpson, 2008). More recently, the national Access and Support to Education and Training Survey (ASETS) data has been made available for analysis. The preliminary ASETS results provide a view of how Canadian youth and adults plan for and engage in postsecondary education and training (Statistics Canada, 2009d). The ASETS also allows provincial results to be reported but a comprehensive study of the post-high school experiences of immigrant dropouts and graduates using these data remains to be undertaken in Ontario. Such an analysis would extend the scope of pathways research by adopting a life-course perspective that includes educational and occupational trajectories.

The courses chosen in high school by university-bound immigrant youth represent an unstudied and important topic. Many immigrant youth – especially those whose first language is not English (or French) – select math and science courses in high school with the expectation of receiving higher marks than they would in more language-dependent areas such as social studies, history or English literature (Gunderson, 2007). However, they also enrol in the math-science curriculum with the intention of eventually enrolling in a university science, engineering or medicine program (Tseng, 2000). Tseng also suggests immigrants’ preferences for math and science course work responds to a need for higher levels of scientific literacy in modern

economies. This is consistent with research on science education and the need for scientific expertise in emerging global science, technology, engineering, and mathematics (STEM) societies (Duschl, 2008). Tseng (2000) suggests research on course selection should be tied to the individual's occupational aspirations and the educational routes to those goals. Recent work by Picot and Hou (2009) on the economic returns to education by the immigrant second generation also reinforce the need to adopt a life-course perspective in studying school and work trajectories.

While the Grade 9 TDSB cohort provides an important basis for examining the PHS pathways of immigrant youth from diverse regions-of-origin, information on many young people is not captured in this database nor is it available in other school district databases. Many youth return to school as 'adults' through the TDSB's Continuing Education program. Based on a preliminary analysis of 2007/2008 Ontario School Information System (OnSIS) data on adult students within the TDSB, 60 per cent of the 11,147 students in the Continuing Education system were between the ages of 20 to 29, two thirds were female and two-thirds indicated a home language other than English (Brown, 2009). While speculative, we believe that a significant proportion of these students are recent immigrants seeking to improve their language skills. For some, these programs are a bridge to universities or colleges. A recent analysis of the Longitudinal Survey of Immigrants to Canada (LSIC) revealed that 10 per cent of immigrants had enrolled in Canadian PSE within 6 months of landing. Within 2 years of landing some 33 per cent had enrolled and, by the fourth year, 44 per cent had participated in either a college or university program. Approximately one-quarter engaged in non-formal educational bridging programs provided by high schools, adult education centres, or professional organizations before participating in Canadian PSE institutions (Anisef et al., 2009; Adamuti-Trache and Sweet, forthcoming). Further research is needed to detail the experiences and pathways of recent immigrants who choose to enrol in high school-level programs prior to attending an Ontario university or community college.

Finally, it would be important in future studies of PHS to include immigrant youth who enter the system between Grades 9 and 12. The present study outlined factors that affected the pathway decisions of a Grade 9 cohort. Later entrants were necessarily excluded from this analysis yet

their high school experience would likely be very different and these differences would have consequences for their PHS transitions.

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