



# Research Report

**AN EXAMINATION OF TDSB POST-  
SECONDARY PATTERNS: 17 Year Old  
Students, 2007**

**Dr. Robert S. Brown  
Research Co-ordinator**

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Students, 2007  
Dr. Robert S. Brown

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## EXECUTIVE SUMMARY

In fall 2006, the Toronto District School Board's (TDSB) Organizational Development/ Research and Information Services (OD/RIS) implemented the Student Census at the request of the Board. This is the third in a series of Research Reports on the 2006 Student Census. The first looked in detail at the overall results (Yau and O'Reilly, 2007). The second examined academic achievement of Grade 7-10 students (Brown and Sinay, 2008). This report looks at the patterns of 17 year old TDSB students applying to Ontario post-secondary institutions over the 2006-07 school year.

It is clear that post-secondary access is becoming one of the most important issues in Ontario education. On the one hand, the current consensus is that two thirds or more of new jobs will require post-secondary experience. In a pattern not unrelated, Ontario and TDSB post-secondary applications have been increasing over time. The 2007 application cycle was only the second time that the number of TDSB 17 year old students applying to post-secondary outnumbered the number who did not apply. Given the importance of post-secondary access, it is important to examine the patterns of who applies and who does not.

### The Post-secondary Applications Process

Applications to Ontario post-secondary institutions go through the Ontario University Applications Centre (OUAC) and the Ontario College Applications Centre (OCAS). Students normally apply in the spring of a given year and then attend post-secondary starting in September (although there are some minor exceptions to this). The TDSB receives information on *confirmations* i.e. which students write back, confirming the acceptance of an offer of admission.

For each applications cycle (e.g. the 2007 applications cycle) information on TDSB applications and confirmations are sent to OD/RIS 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. There were 19,081 17 year old students present as of October 31, 2006. These students are age-appropriate for Grade 12 Year – the most frequent age for students to apply directly to post-secondary institutions from high school (students will also apply when they are older, and as adult students). Over the 2007, post-secondary applications cycle (our 2006-07 school year):

- 6,655 students of TDSB 17 year olds (35%) **confirmed** an offer of admission to Ontario **universities**;

- 1,297 students of TDSB 17 year olds (7%) **confirmed** an offer of admission to Ontario Community Colleges (CAAT's);
- 2,020 students of TDSB 17 year olds (11%) had **applied** to post-secondary in Ontario but **did not confirm** an offer of admission;
- 9,109 students of TDSB 17 year olds (48%) had **not applied to post-secondary** in Ontario in 2007.

## **The TDSB Student Census**

Grade 7-12 students completed the TDSB Student Census in Fall 2006 (see Yau and O'Reilly, 2007; Brown and Sinay, 2008). Information from the 2006 Student Census has also been merged with the Secondary Success Indicator dataset. Almost three quarters (73%) of 17 year olds present as of October 31, 2006 completed the TDSB Student Census.

## **DEMOGRAPHIC CHARACTERISTICS**

### **Gender**

Male students are much less likely to confirm an offer of admission than female students. One key exception to this is community college, where both male and female students are equally as likely to be accepted – a finding that replicates earlier research.

### **Student's Region of Birth**

Post-secondary patterns according to region of birth are very similar to region of birth patterns seen in earlier TDSB research. Students born in South Asia, Eastern Europe, and East Asia had confirmation patterns above that of the TDSB. Students born in Canada had confirmation results typical of the TDSB; students born in the English-speaking Caribbean, Central and South America/Mexico, and Eastern Africa had the lowest proportion of post-secondary confirmations, and the highest proportion of students not applying to post-secondary (two thirds or more). There is one pattern somewhat different from earlier results: students born in Southeast Asia also had a lower post-secondary participation rate.

### **Student's Racial Background**

Results here are consistent with earlier TDSB research. South Asian and East Asian students had the highest post-secondary achievement pattern: the highest proportion of applications and the highest proportion of confirmations. White and Southeast Asian students had post-secondary achievement slightly above the TDSB total, while students of self-described Mixed race had post-secondary achievement fairly representative of the TDSB. Students of Middle



Eastern extraction were slightly lower, while Latin and Black students had post-secondary access much lower than the TDSB total.

As in the earlier report on Grade 9 achievement, we examined achievement of self-identified Black students in more detail, by examining three regions of birth: Canada, the English-speaking Caribbean, and Africa. Students from all three regions had post-secondary confirmation patterns lower than the TDSB total.

### **Student's Language**

These findings are similar but not identical to previous TDSB research. The TDSB is one of the most diverse school boards in the world and many languages are reflected in the student population. Out of the 17 year olds in 2006-07, there were 23 languages spoken by 100 or more students, accounting for 17,492 out of 19,081 students or 92%. Of these key language groups, students speaking Dari, Portuguese, Spanish, and Tagalog had the lowest post-secondary application rates. Students speaking English only had confirmation patterns slightly lower than the TDSB total. In contrast, Bengali, Chinese, Gujarati, Hindi, Punjabi, Romanian, Serbian, and Tamil students were more likely to apply to post-secondary and were more likely to confirm an offer of admission, than other language groups.

### **Parent's Place of Birth**

Demographically, parent's place of birth yielded limited information, in that there was little difference between students whose parents were born in Canada or in another country. However, it is quite possible that a more detailed examination of parents' region of birth will yield differences, as looking at student region of birth found large differences.

### **Family Background**

Students living with two parents were much more likely to confirm an offer of admission from an Ontario university than students living with one parent or in other family situations. Those with university-educated parents were much more likely to confirm an offer of admission than other students. Students with parents from professional backgrounds were much more likely to confirm an offer of admission than other students. Generally, socio-economic status has been considered among the most influential factors in looking at post-secondary access, as with overall achievement. The results here are consistent with the literature.

## POST-SECONDARY PLANS, HOMEWORK, AND PART-TIME WORK

### Self-rated Progress at School

Participants had been asked to rate their progress at school. Perhaps not surprisingly, after three years in secondary school, 17 year old students had an accurate measure of their own achievement. Well over three quarters of those who described their progress as 'excellent' had applied to post-secondary and two thirds of them (67%) confirmed an offer of admission (the vast majority from universities). In contrast, only a third of those "Having Difficulty" applied to post-secondary and slightly less than a quarter (22%) confirmed an offer.

### Post-secondary Plans

Students were asked what they thought they would be doing after high school, and they were asked what their parents thought they (the students) would be doing after high school. The two answers were extremely close: most students who thought that they would attend university also thought their parents were in agreement with this direction. There was however, a pronounced difference in the post-secondary access patterns of those who thought they would attend university versus those who thought they would attend college. That is, of students who planned to attend university, three quarters applied to post-secondary in 2007 and almost two thirds accepted an offer of admission. However, *less than a quarter* of students who thought they would attend college ended up confirming a post-secondary offer of admission. Many others will attend college as older students. There also may be a mismatch between college plans and actual actions.

### Hours of Work Per Week

In looking at hours of work, those who did not work at all or worked an hour a week had a slightly lower rate of post-secondary confirmations, compared to those who worked 2-8 hours per week. This pattern was seen in an earlier generation of Toronto students (Yau et al., 1993). Generally, working 15 or fewer hours per week had no obvious negative relationship to post-secondary access, but when students worked more than 16 hours per week, their rate of post-secondary access declined.

### Hours of Homework Per Week

Students in Grade 12 also had a balancing act of working and homework. Generally, the more homework, the greater the chance of post-secondary access, and the more part-time work, the lower the chance of post-secondary access – but the relationship in neither case was entirely linear. Thus, if students did five or fewer hours of homework a week, they had a limited chance

of post-secondary access; likewise, less than half of students who engaged in 6-10 hours of homework confirmed a post-secondary offer. Of students who engaged in 11-15 hours of homework per week, a majority (56%) confirmed an offer. However, there appears to be limited differences among those who engaged in 16 or more hours per week.

### **PROGRAM OF STUDY**

As in previous research we have looked at Grade 9-10 program of study according to the majority of courses taken – the patterns of which closely resemble the characteristics of the Advanced, General, and Basic streams of the former OS:IS curriculum. Thus, examination of Ontario's programs of study is an examination of streaming, similar to earlier studies of streaming. Perhaps more importantly, these programs of study/streams are very closely related to post-secondary access. Attending post-secondary after four years of high school is for the most part a function of taking Academic courses: 94% of 17 year old post-secondary confirmations took Academic courses. This includes twice as many Academic as Applied students who confirmed acceptance at Ontario Community Colleges (CAAT's). The one year of 2007 applications looked at in this study is not the full picture, particularly in looking at college. Many students will attend college after five or six years of high school, that is, the 2008 and 2009 applications cycles that were not looked at here; and others will attend college as adults. Still, it may be appropriate for the Ministry to re-examine the focus and direction of the Grade 9 and 10 Program of Study.

## FUTURE DIRECTIONS

Preliminary research has indicated that two thirds of students who start in Grade 9 will end up taking some sort of post-secondary education. The information on one application cycle of 17 year olds as shown here is necessarily limited. In particular, it understates those going to college, who tend to apply as older students and as adults. Following the Grade 9 cohort of 2006-07 over time will provide a greater wealth of detail on this complex subject (we will have results on two years of post-secondary applications by fall 2011).

As with the earlier report looking at Grade 7-10 achievement this investigative analysis examines relationships between variables, without being able to attribute which of these variables are causal factors. Attributing cause in highly related variables can be difficult, and in fact, the journey promises to be long and challenging. Some recent research shows possible directions. Recent related research using Hierarchical Linear Modeling (HLM) multiple research shows promising directions, but also reinforces the complexities in this type of analysis, e.g. complicated results around student region of birth. A final proviso is that the information here provides a broader range of 'standard' variables than in earlier studies, but the Student Census has even greater possibilities through examining student attitudes and participation in the secondary school culture – e.g., attitudes towards school, and school safety issues. We are in the midst of analyzing these environmental variables.

## INTRODUCTION

In fall 2006, the Toronto District School Board's (TDSB) Organizational Development/ Research and Information Services department (OD/RIS) implemented the Student Census at the request of the Board. This study is part of TDSB's major initiative to conduct research for:

- Developing programs and services for students who need specific interventions and support;
- Assessing the effectiveness of programs established to address specific student needs;
- Allocating resources to support students in need; and
- Identifying systemic barriers to student achievement and implementing changes to remove those barriers.

This is the third in a series of Research Reports on the 2006 Student Census. The first looked in detailed at the overall results (Yau and O'Reilly, 2007). The second examined academic achievement of Grade 7-10 students (Brown and Sinay, 2008). This report looks at the patterns of 17 year old TDSB students applying to Ontario post-secondary institutions over the 2006-07 school year.

## METHODOLOGY

### The Post-secondary Applications Process

Applications to Ontario post-secondary institutions go through the Ontario University Applications Centre (OUAC) and the Community College Applications Centre (OCAS). Students normally apply in the spring of a given year and then attend post-secondary starting in September (although there are some minor exceptions to this).

From the data end, there are three 'phases':

- **Applications:** Students apply to programs in Ontario universities or community colleges (or, in many cases, both).
- **Confirmations:** Students write back confirming an Ontario university or community college offer of admission.
- **Registrations:** Students enroll as a student in an Ontario university or community college (the TDSB receives information about applications and confirmations but NOT registrations).

University applications and confirmations are collected by OUAC, while college applications and confirmations are collected by OCAS. For each applications cycle (e.g., the 2007 applications cycle) information on TDSB applications and confirmations are sent to OD/RIS 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.<sup>1</sup>

### **The TDSB Student Census**

Grade 7-12 students completed the TDSB Student Census in Fall 2006 (see Yau and O'Reilly, 2007; Brown and Sinay, 2008). Information from the 2006 Student Census has also been merged to the Secondary Success Indicator dataset. Almost three quarters (73%) of 17 year olds present as of October 31, 2006 completed the TDSB Student Census.

### **Overall Post-secondary Results**

There were 19,081 17 year old students present as of October 31, 2006. Over the 2007, post-secondary applications cycle (our 2006-07 school year):

- 6,655 students (35%) **confirmed** an offer of admission to Ontario **universities**;
- 1,297 students (7%) **confirmed** an offer of admission to Ontario CAAT's;
- 2,020 students (11%) had **applied** to post-secondary in Ontario but **did not confirm** an offer of admission;
- 9,109 students (48%) had **not applied to post-secondary** in Ontario in 2007.

For more details about the matrix process, and post-secondary confirmations see Appendix A.

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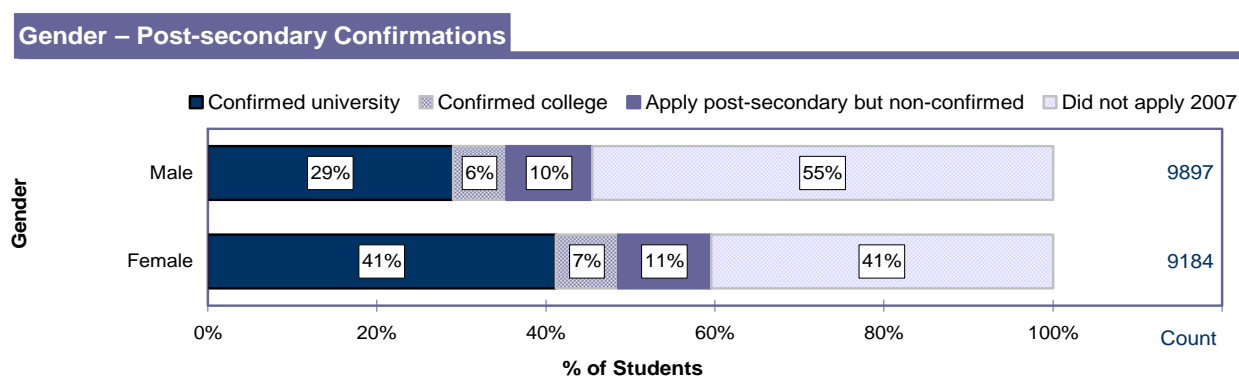
<sup>1</sup> OUAC (university) applications and acceptances data is linked through the students' TDSB (Trillium) number; OCAS (community college) applications and acceptances data has a multiple link matching method, involving the students' TDSB (Trillium) number, Ontario Education Number (OEN), and an alphanumeric number of common information.

## STUDENT DEMOGRAPHIC CHARACTERISTICS AND STUDENT ACHIEVEMENT

### Gender

The gender gap between male and female students seen in earlier grade measures Grade 3 and 6 EQAO, Grade 9 credit accumulation, and Grade 10 literacy results, has if anything increased in looking at post-secondary access. Thus, the majority of males (55%) did not apply to post-secondary in the 2007 cycle, compared to 41% of female students (see Figure 1). Therefore, while 41% of female students confirmed an offer for an Ontario university, only 29% of male students confirmed an offer.

**Figure 1: Gender – Post-secondary Confirmations**



### Student's Region of Birth

Key Regions of Birth are shown in Table 1. The pattern replicates earlier research on Grade 9 credit accumulation and cohort graduation (e.g., Brown, 2006; Brown and Sinay, 2008; Anisef et al., 2008). Students born in South Asia, Eastern Europe, and East Asia had confirmation patterns above that of the TDSB. Students born in Canada have confirmation patterns typical of the TDSB; students born in the English-speaking Caribbean, Central and South America/Mexico, and Eastern Africa had the lowest proportion of post-secondary confirmations, and the highest proportion of students not applying to post-secondary (two thirds or more). Students born in Southeast Asia also had a lower post-secondary participation rate, something somewhat different from earlier research.

**Table 1: Region of Birth By Confirmed Post-secondary**

Country	Confirmed Post-secondary 2007				
	Confirmed University	Confirmed College	Apply Post-secondary But Not Confirmed	Did Not Apply 2007	Total
Canada	33%	8%	12%	47%	10931
Central & South American /Mexico	15%	10%	9%	67%	407
Eastern Africa	19%	5%	11%	64%	361
East Asia	45%	2%	8%	45%	2305
Eastern Europe	42%	8%	9%	41%	917
English-speaking Caribbean and region	12%	6%	8%	74%	473
South & Western Europe	33%	5%	11%	51%	249
South Asia	46%	6%	11%	37%	1857
Southeast Asia	26%	5%	9%	61%	259
US	29%	4%	20%	48%	113
Western Asia	31%	7%	9%	53%	887
<b>TOTALS</b>	<b>35%</b>	<b>7%</b>	<b>11%</b>	<b>48%</b>	<b>19079</b>

### Student's Racial Background

Figure 2 shows the confirmation patterns of students according to self-described racial groups. These patterns were similar to Grade 9 cohort achievement seen in the earlier report (Brown and Sinay, 2008). South Asian and East Asian students had the highest proportion of post-secondary applications: 67% of South Asians and 64% of East Asians. They also had the highest proportion of confirmations: 57% of South Asians and 56% of East Asians.

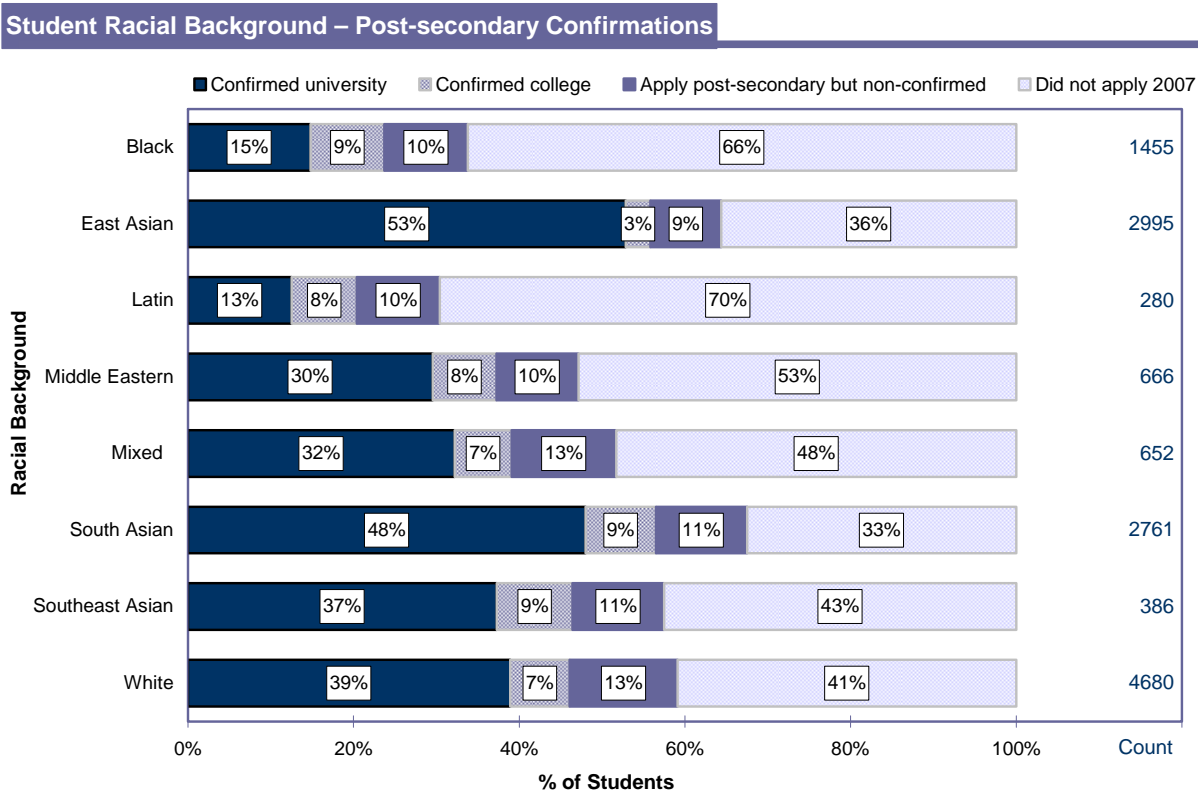
White and Southeast Asian students had post-secondary confirmation rates slightly above the 42% TDSB total. Forty-one percent of White students and 43% of Southeast Asian students did not apply to post-secondary.

Students of self-described Mixed race had post-secondary confirmation rate fairly representative of the TDSB: 39% confirmed post-secondary attendance, slightly below the 42% TDSB total, while almost half (48%) did not apply at all, the same as the TDSB. Students of Middle Eastern extraction were slightly lower, with 38% confirming post-secondary and 53% not applying.

Latin and Black students had post-secondary access much lower than the 42% TDSB total. Twenty-one percent of Latin and 24% of Black students confirmed post-secondary (the proportion of college confirmations was consistent with the TDSB total but the proportion of university confirmations was half the TDSB total). Seventy percent of Latin students and 66% of Black students did not apply at all in the 2007 cycle.



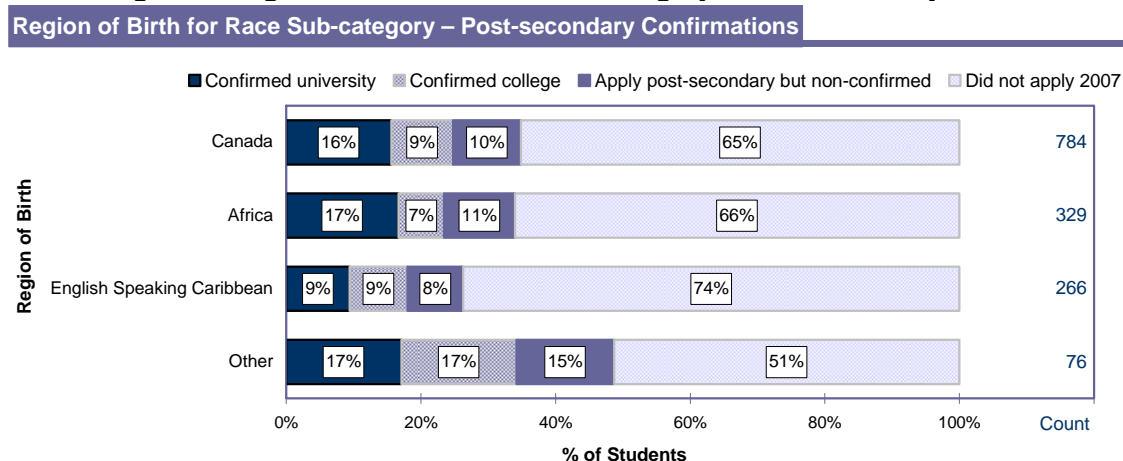
**Figure 2: Student Racial Background – Post-secondary Confirmations**



As in the earlier report (Brown and Sinay, 2008) we look in more detail at the pattern of post-secondary confirmations of self-identified Black students, by examining three regions of birth: Canada, the English-speaking Caribbean, and Africa (the five regions of birth combined into one).

As seen in Figure 3, students from all three regions had post-secondary access patterns lower than the 42% TDSB total. Twenty-five percent of Canadian-born, 24% of African-born, and 18% of English-speaking Caribbean-born students confirmed their acceptance to university or college, while 65% of those born in Canada, 66% born in Africa and 74% born in the English-speaking Caribbean did not apply at all in the 2007 cycle.

**Figure 3: Region of Birth for Race Sub-category – Post-secondary Confirmations**



## Student's Language

As one of the most diverse school boards in the world, many languages are reflected in the student population. Among 17 year old students attending in 2006-07, there were 23 languages spoken by 100 or more students, accounting for 17,492 out of 19,081 students or 92%.

**Table 2: Student Language By Confirmed Post-secondary**

Student Language	Confirmed Post-secondary 2007				Total
	Confirmed University	Confirmed College	Apply Post-secondary But Not Confirmed	Did Not Apply 2007	
Albanian	35%	7%	11%	47%	133
Arabic	30%	12%	8%	50%	214
Bengali	57%	3%	13%	27%	267
Chinese	49%	3%	9%	39%	2849
Dari	15%	7%	5%	73%	131
English	29%	8%	11%	52%	8760
French	35%	6%	10%	49%	119
Greek	26%	10%	9%	55%	174
Gujarati	47%	11%	10%	33%	304
Hindi	52%	5%	12%	31%	169
Korean	44%	3%	12%	41%	423
Persian (Farsi)	33%	7%	9%	51%	431
Portuguese	22%	12%	5%	62%	135
Punjabi	37%	15%	13%	36%	266
Romanian	60%	5%	8%	27%	125
Russian	40%	8%	10%	42%	437
Serbian	50%	9%	12%	29%	102
Somali	21%	6%	15%	59%	294
Spanish	11%	6%	9%	75%	349
Tagalog (Pilipino)	17%	9%	9%	65%	141
Tamil	52%	5%	15%	28%	808
Urdu	39%	9%	8%	43%	589
Vietnamese	39%	9%	10%	42%	272
<b>TOTALS</b>	<b>35%</b>	<b>7%</b>	<b>11%</b>	<b>47%</b>	<b>17492</b>

Students speaking Dari, Portuguese, Spanish, and Tagalog had the lowest post-secondary application rates: 75% of Spanish-speaking, 73% of Dari-speaking, 65% of Tagalog-speaking and 62% of Portuguese-speaking students did not apply to post-secondary in the 2007 cycle. Students speaking English only had confirmation patterns slightly lower than the TDSB total (that is, they were slightly less likely to apply to post-secondary and slightly less likely to confirm an offer of admission than the TDSB total).

In contrast, Bengali, Chinese, Gujarati, Hindi, Punjabi, Romanian, Serbian, and Tamil students are more likely to apply to post-secondary and more likely to confirm an offer of admission, than other language groups.

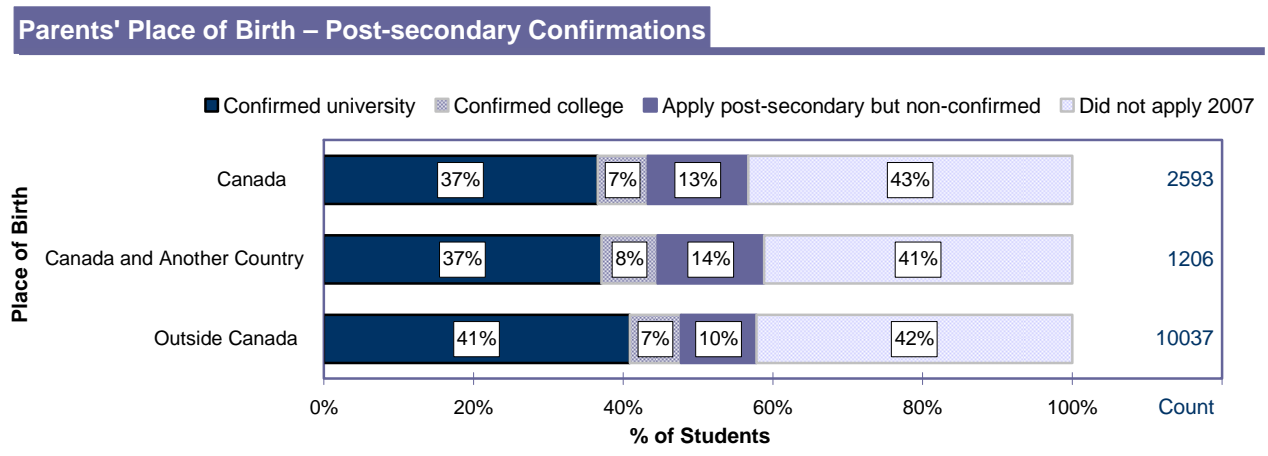
These findings are similar but not identical to previous TDSB research. The lower participation rates amongst Tagalog-speaking students had not been seen in earlier research. Somali-speaking students had been identified as highly at-risk in looking at Grade 9 cohort students; although their post-secondary confirmation patterns as seen in Table 2 are indeed below the TDSB total, they appear to have done somewhat better than might have been anticipated from earlier research.

## FAMILY BACKGROUND AND STUDENT ACHIEVEMENT

### Parents' Place of Birth

The TDSB student population is, for the most part, a first or second-generation population, with over 80% of one or both of our students' parents born outside of Canada. As seen in earlier research, simple breakdown of parental birth, like simple breakdown of student birthplaces, shows little important differences. Thus, 44% of those with both parents born in Canada applied to post-secondary, compared to 45% of those with one parent born in Canada and one parent born outside Canada, and 48% of those with both parents born outside Canada. There was limited difference in looking at students who did not apply to post-secondary: 43% of those with both parents born in Canada, 41% of those with one parent born in Canada, and 42% of those with both parents born outside Canada (see Figure 4). A more detailed analysis of parents' place of birth may provide more information that is useful.

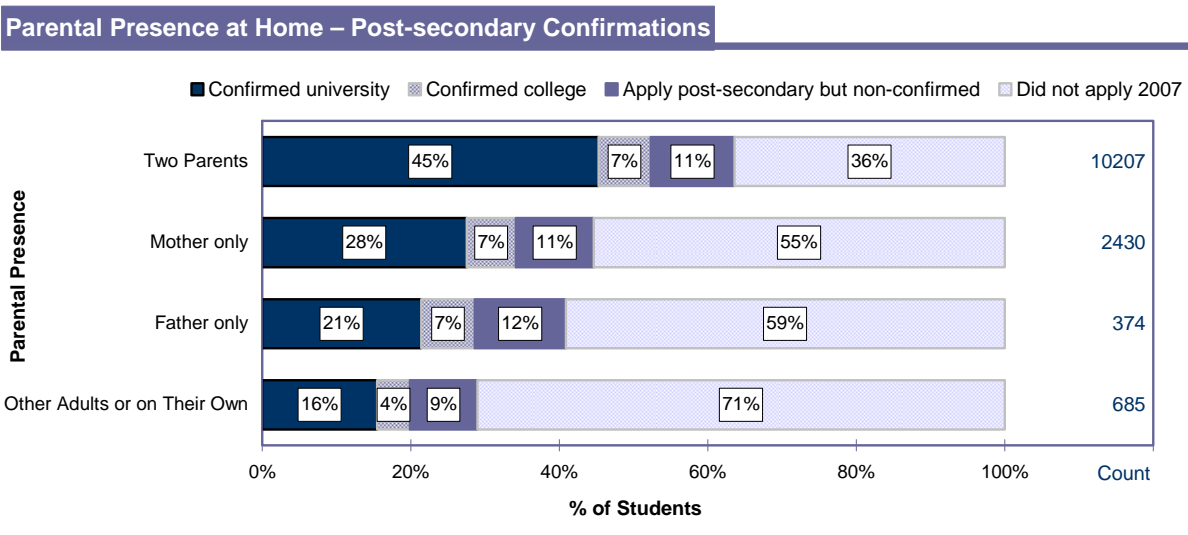
**Figure 4: Parents' Place of Birth – Post-secondary Confirmations**



### Parental Presence at Home

Post-secondary confirmations parallels earlier research showing the very strong relationship of parental presence to students' achievement. A majority of 17 year old students from two parent families confirmed offers of admission from Ontario post-secondary institutions (45% confirmed offers from universities, 7% confirmed offers from colleges). By contrast, a majority of students living with one parent did not apply to post-secondary (55% living with mother only and 59% living with father only), while nearly three quarters (71%) of those living in some other family arrangement did not apply. A little over a third of those living with mother only, less than a third of those living with father only, and a fifth of those living in other arrangements confirmed a post-secondary offer of admission (see Figure 5).

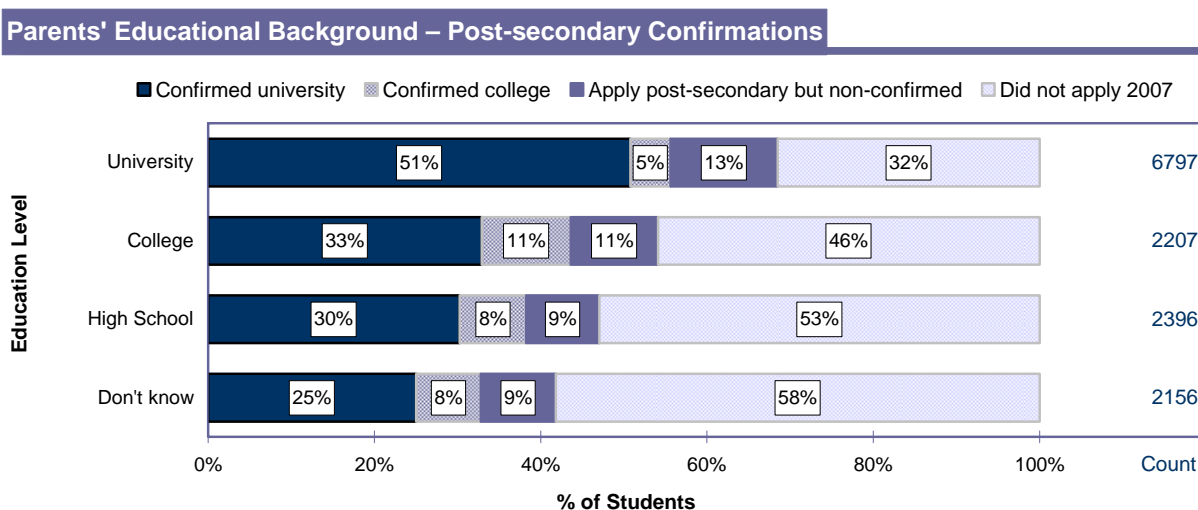
**Figure 5: Parental Presence at Home – Post-secondary Confirmations**



### Parents' Educational Background

As might be expected, parents' level of education also parallels the literature in being closely related to student post-secondary access. Two thirds of students with university-educated parents applied to Ontario post-secondary and a majority (56%) confirmed offers of admission. A majority of students with college-educated parents applied but the proportion was much lower than those from university-educated backgrounds (55% compared to 69%) and less than half (44%) confirmed an offer of admission (see Figure 6). Less than half (47%) of students whose parents had high school education applied to post-secondary (47%) and those who did not know their parents' education had the lowest application rate (42%).

**Figure 6: Parents' Educational Background – Post-secondary Confirmations**

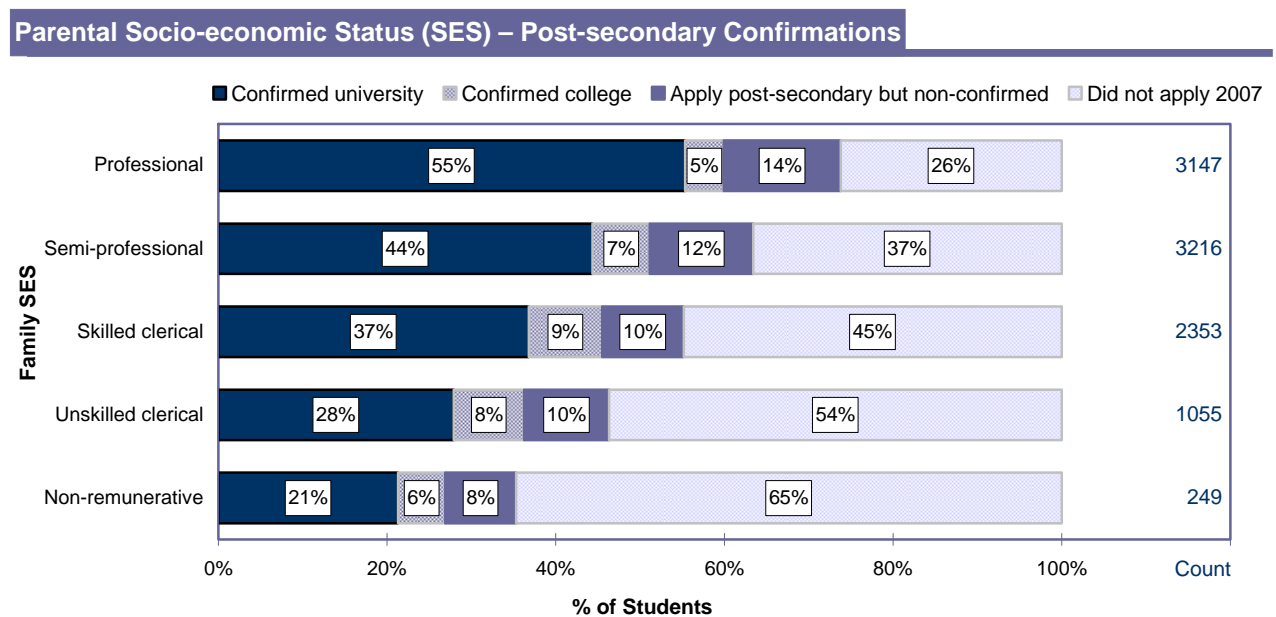


## Family Occupation

Family occupation has traditionally been associated with high achievement patterns (e.g., Brown, 1996; Brown and Sinay, 2008) and Figure 7 demonstrates this pattern very clearly. The majority of 17 year olds in the TDSB were from Professional (31%) or Semi-professional (32%) backgrounds. These students were most likely to apply to post-secondary: 74% of students with parents from Professional and 63% from Semi-Professional backgrounds applied to post-secondary in 2007, compared to 56% of students with parents from Skilled clerical, 46% of students with parents from Unskilled clerical, and 35% of students with parents from Non-remunerative backgrounds. They were also most likely to confirm an offer of admission: 60% of students with parents from Professional and 51% of students with parents from Semi-professional backgrounds confirmed an offer of admission, compared to 46% of students with parents from Skilled clerical, 36% of students with parents from Unskilled clerical and 27% of students with parents from Non-remunerative backgrounds.

Note that the proportion of students who applied to post-secondary but did not confirm an offer was slightly higher (14%) amongst students whose parents had professional backgrounds. This may be explained in part because students who attended post-secondary outside Ontario would not accept an offer in Ontario, and these students are more likely to be in the higher Socio-economic Status (SES) categories.

**Figure 7: Parental Socio-economic Status (SES) – Post-secondary Confirmations**

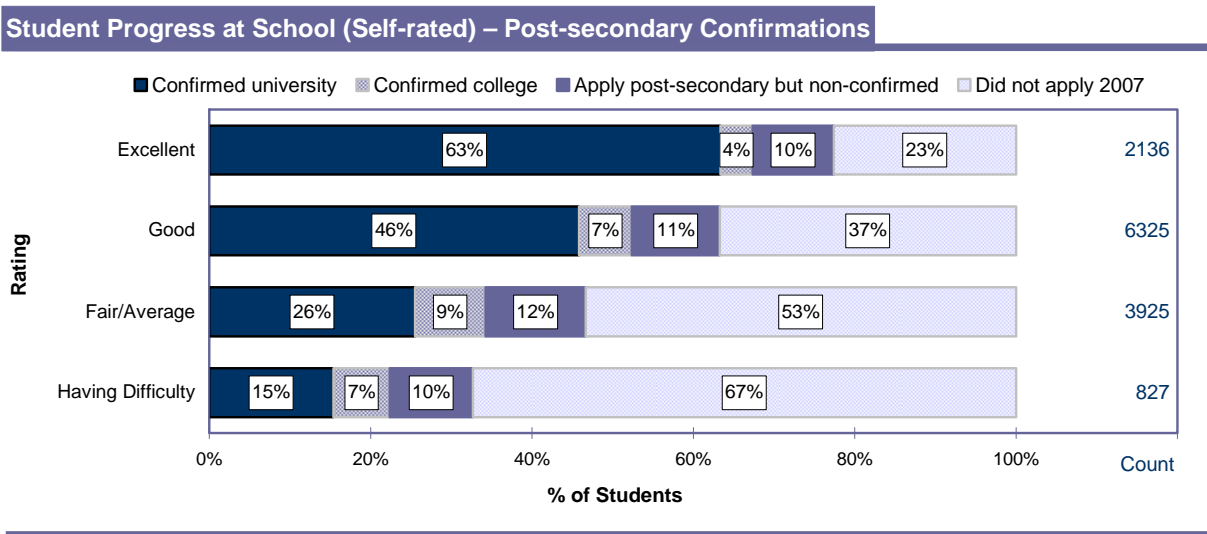


## STUDENT'S POST-SECONDARY PLANS AND RELATED INFORMATION FROM THE 2006 STUDENT CENSUS

### Student's Progress at School (Self-rated)

Participants had been asked to rate their progress at school. Perhaps not surprisingly, after three years in secondary school, 17 year old students had an accurate measure of their own achievement. Well over three quarters of those who described their progress as 'Excellent' had applied to post-secondary and three quarters of them (67%) confirmed an offer of admission (the vast majority from universities). About half the students rated themselves as "Good" and of those about two thirds applied to post-secondary and slightly over half (53%) confirmed an offer of admission. Fewer than half of the 'Fair/Average' students applied to post-secondary in 2007 and a little over a third (35%) confirmed a post-secondary offer. Only a third of those "Having Difficulty" applied to post-secondary and slightly less than a quarter (22%) confirmed an offer (see Figure 8).

**Figure 8: Student Progress at School (Self-rated) – Post-secondary Confirmations**



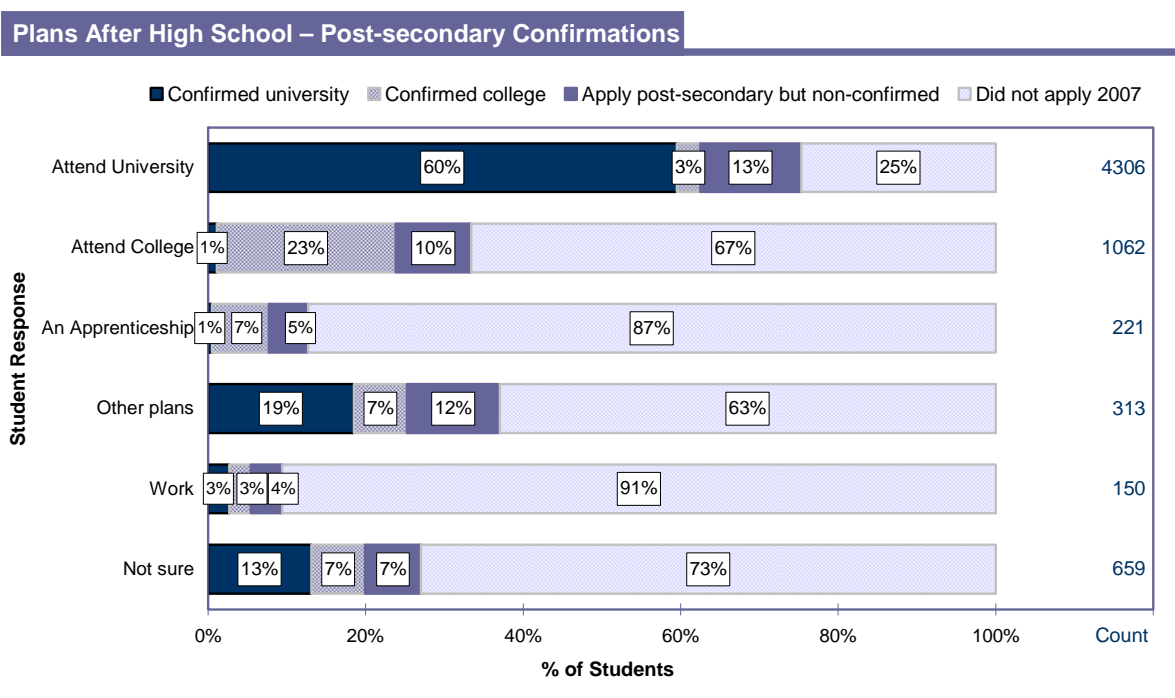
### Student's Post-secondary Plans and Parents' Post-secondary Plans for Their Child

Students were asked what they planned to do after high school, and what their parents or caregivers thought they would be doing. Not surprisingly, there was a very close relationship between the two: generally, most students who thought they would attend university also thought that their parents had similar ambitions for them (95%) and most students who thought they would attend college also thought that their parents were in agreement (71%).<sup>2</sup>

<sup>2</sup> Sixteen percent of students who thought they would attend college said that their parents expected them to attend university – not college.

There was a difference, in access to post-secondary, between those whose post-secondary plans included university, and all other students. That is, of the students who planned to attend university, three quarters applied to post-secondary in 2007 and almost two thirds (63%) accepted an offer of admission (nearly all, 60%, accepted an offer from university). Only a third (34%) of students who thought they would attend college, applied to post-secondary, and slightly less than a quarter (23%) accepted an offer of admission from an Ontario college (see Figure 9). From other research, we have found that students are more likely to get into college as 18-19 year olds. It may be that many who plan to go to college but did not in the 2007 application cycle will do so in future years. Nonetheless, the gap is large enough to suggest a mismatch between college plans and actual actions.

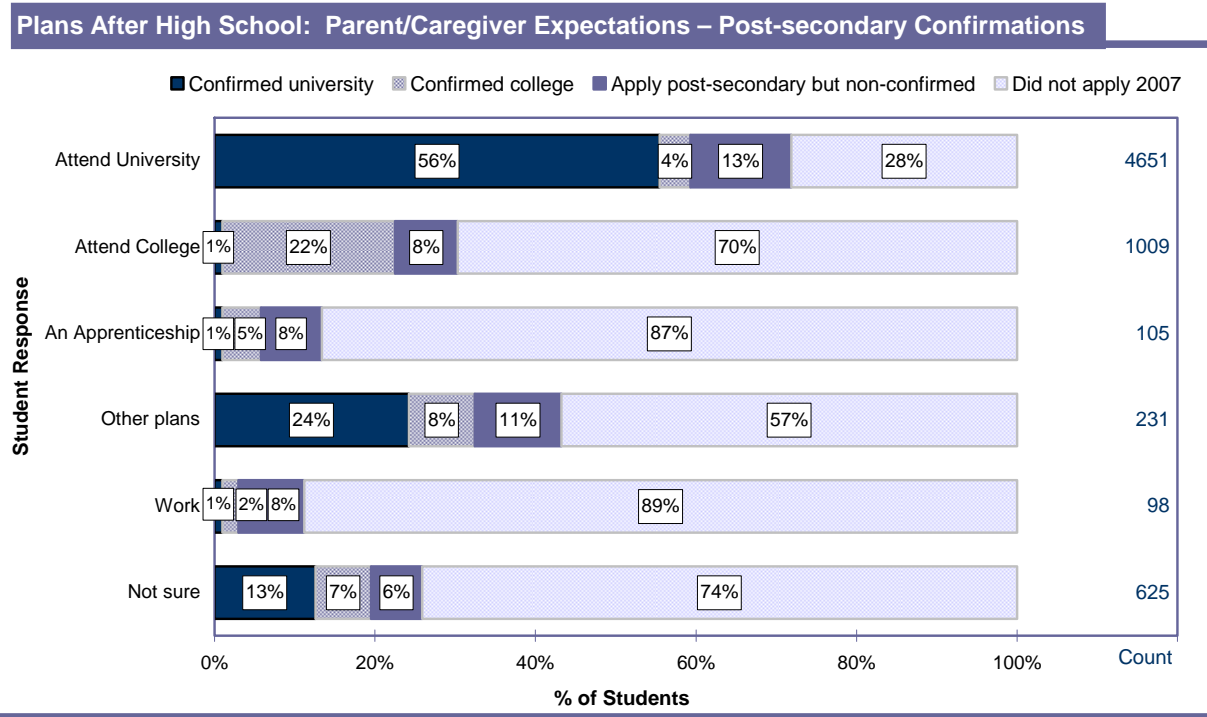
**Figure 9: Plans After High School – Post-secondary Confirmations**



For those students planning on a future without college or university, comparatively few applied to post-secondary (between 9% to 37% applied) and consequently, comparatively few accepted an offer of admission (6% to 26%). Similar patterns are seen in parent/caregiver expectations (see Figure 10).



**Figure 10: Plans after High School: Parent/Caregiver Expectations Post-secondary Confirmations**

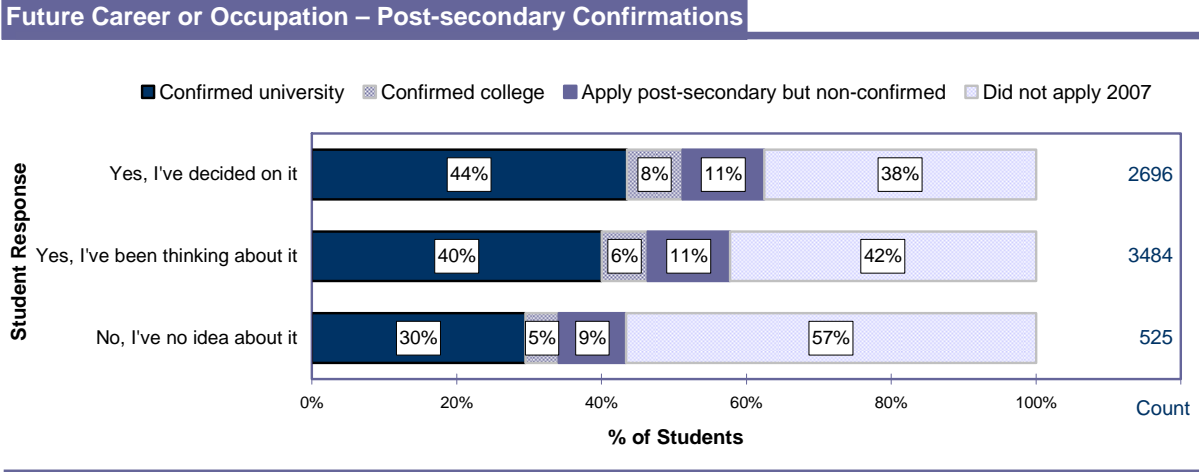


**Future Career or Occupation**

Students were asked if they had decided on a future career or occupation. Forty percent had decided on a career, while 52% were still thinking about it, and 8% had no idea of their plans. There was a slight difference in terms of post-secondary access between those who decided on their career plans and those still thinking about it: 62% of those who had decided on a career applied to post-secondary, compared to 58% who had been thinking about it. Slightly over half or 52% of those who had decided on a career confirmed an offer of admission, while just under half or 46% of those who had been thinking about a career did so.

The comparatively small proportions of students with no idea of their future occupation (8%) were also less likely to go onto post-secondary: only 43% applied to post-secondary and a little over a third (35%) confirmed an offer of admission (see Figure 11). These students also had a lower self-assessment of their academic achievement (a majority or 55% rated their achievement below 'Good' while only 9% rated their achievement as 'Excellent'). Thus, these students may not have had a career in mind, or they may have been weighing alternatives, because they were uncertain as to what would happen in the immediate future.

**Figure 11: Future Career or Occupation – Post-secondary Confirmations**



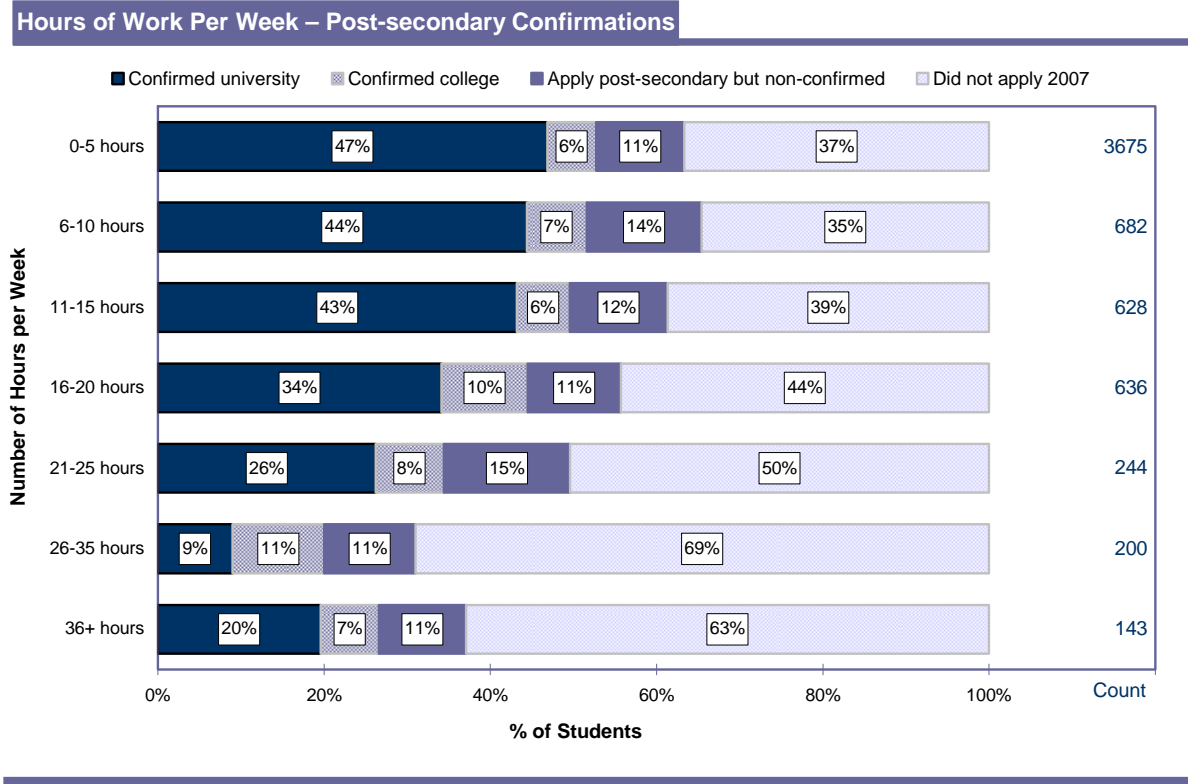
### Hours of Work Per Week

There is a relationship between students' hours of work and post-secondary access. Generally, the more hours worked, the lower the chance a student would continue onto post-secondary – but the relationship is not completely linear. Thus, the students who did not work at all or worked one hour a week had a slightly lower rate of post-secondary confirmation than students who worked 2-8 hours per week. Nevertheless, there was limited difference between working under 15 hours per week and post-secondary patterns: almost two thirds of students applied to post-secondary and around half confirmed an offer of admission (53% of those working 0-5 hours, 51% of those working 6-10 hours and 49% of those working 11-15 hours). Students working 16 or more hours per week in general were less likely to confirm an offer of admission: 44% of those working 16-20 hours, 34% of those working 21-25 hours and 20% of those working 26-35 hours confirmed an offer of admission (see Figure 12).<sup>3</sup>

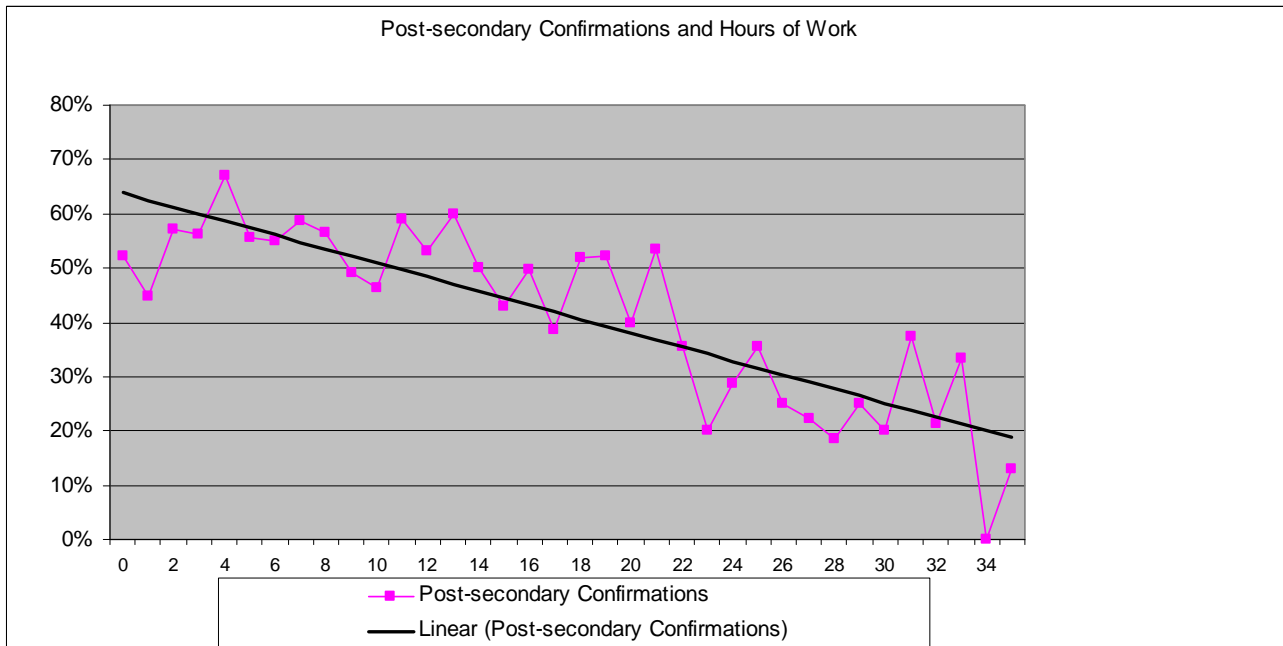
Figure 12 shows the proportion according to categories (0-5 hours, 6-10 hours, etc.) while Figure 13 shows a line graph showing post-secondary applications according to each hour of work (up to 35 hours per week).

<sup>3</sup> Interestingly, 27% of those working 36+ hours confirmed an offer of admission, a higher rate than those working 26-35 hours per week. However, the number of students is comparatively small—143—and it may be that some of these students either wrote the wrong information or it was coded incorrectly—what was 17 hours per week to 70, for example.

**Figure 12: Hours of Work Per Week – Post-secondary Confirmations**



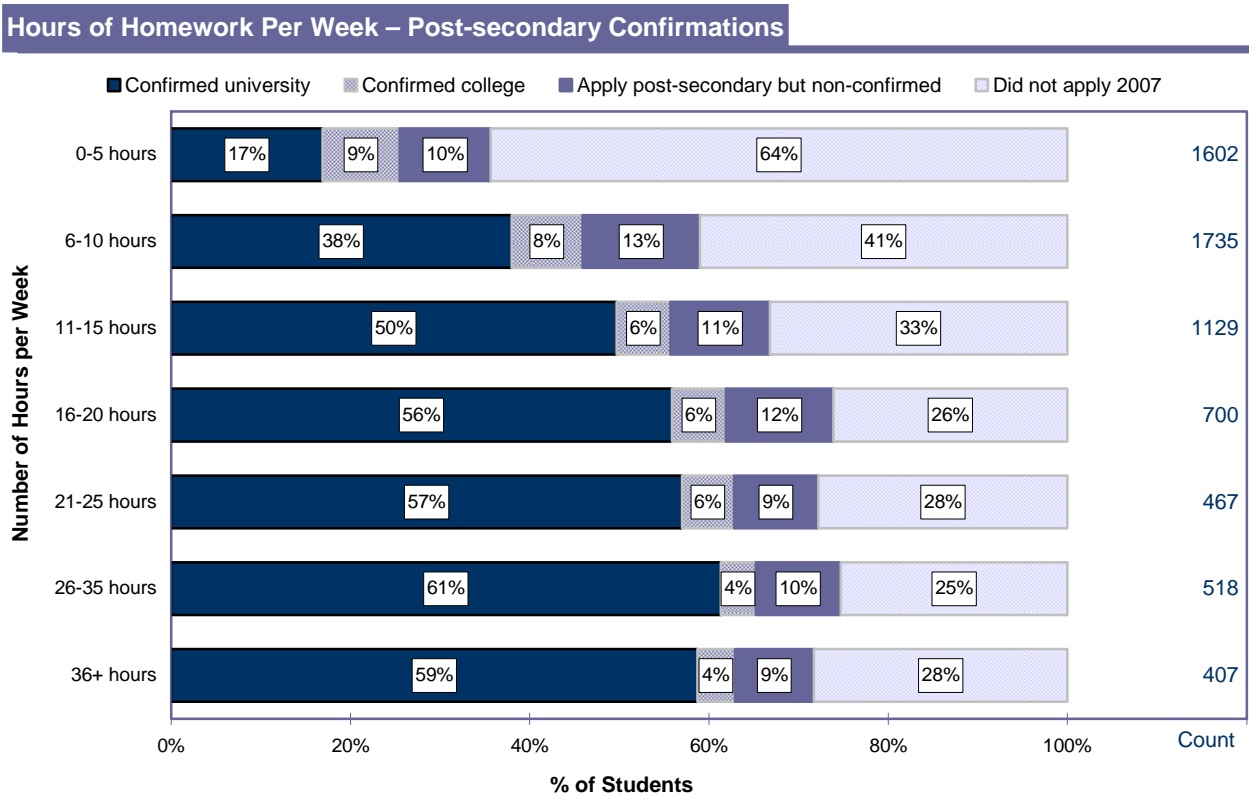
**Figure 13: Hours of Work – Post-secondary Confirmations**



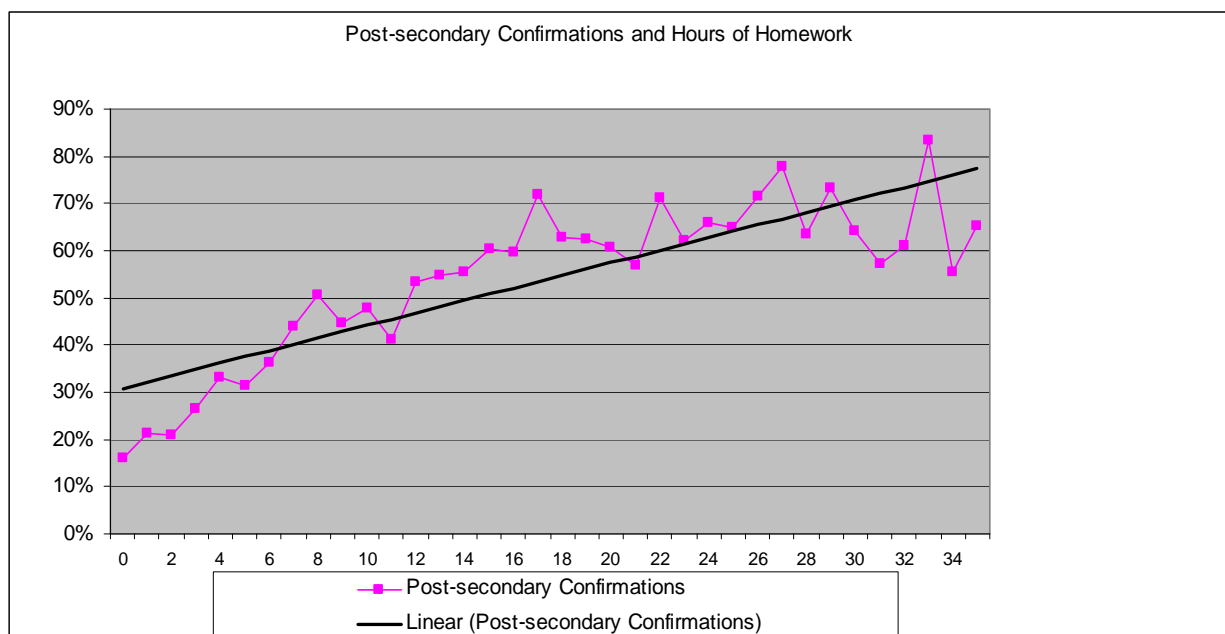
## Hours of Homework Per Week

There is a direct relationship between hours of homework and post-secondary access – up to a point. If students do five or fewer hours of homework per week, they have a limited chance of getting into post-secondary: only a third applied and little more than a quarter (26%) confirmed an offer of admission. The majority of students who allocated between 6-10 hours per week for homework applied to post-secondary (59%) although less than half (46%) accepted an offer of admission. Two thirds of students who allocated between 11-15 hours of homework applied to post-secondary, and over half (56%) confirmed an offer of admission. There appears to be limited differences among those who engaged in over 16 hours of homework per week: about three quarters of students applied, and slightly less than two thirds confirmed an offer of admission. Yet the difference in success was minimal between those who engaged in 16 hours per week and 32 hours per week. Figure 14 shows the proportion according to categories (0-5 hours, 6-10 hours etc) while Figure 15 shows a line graph showing post-secondary applications according to each hour of homework (up to 35 hours per week).

**Figure 14: Hours of Homework Per Week – Post-secondary Confirmations**



**Figure 15: Hours of Homework – Post-secondary Confirmations**



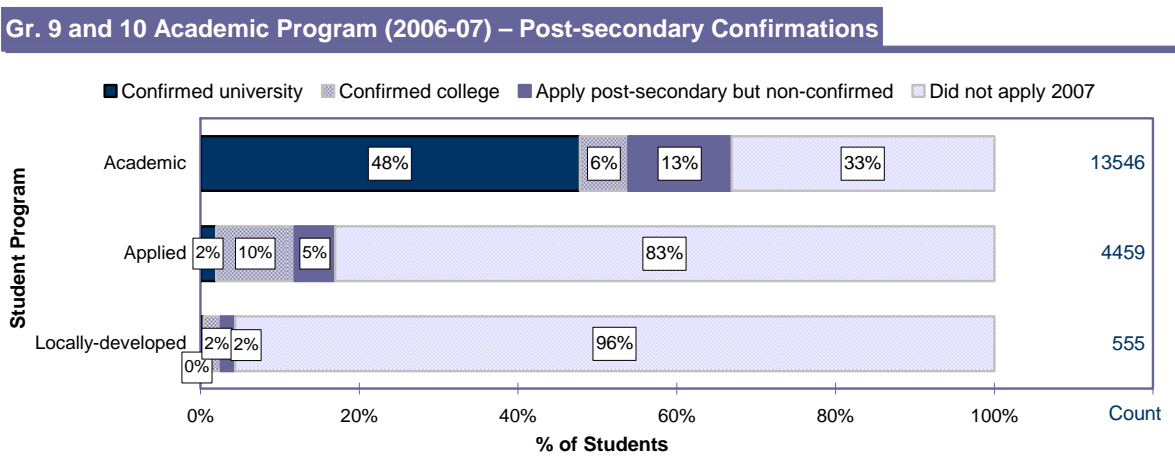
## STUDENT'S PROGRAM OF STUDY

### Program of Study – Grades 9 and 10

Under the Ontario Secondary School (OSS) curriculum streaming was, in theory, eliminated. Instead, students take courses in Academic (university), Applied (college), and Locally-developed programs of study in Grades 9 and 10, and University, College, Mixed (University/College), and Workplace courses in Grades 11-12.

A number of studies have shown clear relationships with Grade 9 Program of Study and achievement in high school. Students taking a majority of their courses in the Academic Program of Study are more likely to do well in Grade 9 and Grade 10, more likely to graduate, and more likely to apply to post-secondary. Students taking a majority of their courses in the Applied or Locally-developed programs of study are more at-risk in Grades 9 and 10, are less likely to graduate and apply to post-secondary (Brown and Sinay, 2008; Anisef et al., 2008; Brown, 2009; Brown, 2006; King, 2005). These patterns closely resemble the characteristics of the Advanced, General, and Basic streams of the former Ontario Schools: Intermediate and Senior divisions (OSIS) curriculum. Thus, examination of Ontario's programs of study is an examination of streaming, similar to earlier studies of streaming.

**Figure 16: Gr. 9 and 10 Academic Program (2006-07) – Post-secondary Confirmations**



As seen in Figure 16, the majority of the 13,546 17 year old students in 2006-7 who had taken a majority of their Grade 9/10 courses in the Academic program of study were accepted into post-secondary: 48% confirmed a university offer (6,474 students) while 6% confirmed a community college offer (828 students). In contrast, comparatively few of the 4,459 students who had taken a majority of their Grade 9/10 courses in the Applied program of study were accepted into post-secondary: 2% confirmed a university offer (88 students) while 10% confirmed a community college offer (443 students).

Since 1) there are three times as many students taking Academic than Applied courses, and 2) so few students taking Applied courses confirm a post-secondary offer of admission, this means that attending post-secondary after four years of high school is, for the most part, a function of taking Academic courses in Grades 9 and 10. Out of 7,847 17 year old post-secondary confirmations, nearly all (7,302 or 93%) had taken a majority of Grade 9-10 courses in the Academic program of study. This includes about twice as many College confirmations from those taking Academic (828) as students taking Applied (443). The one year of 2007 applications examined in this study is not the full picture, particularly in looking at college. Many students will attend college after five or six years of high school, that is, the 2008 and 2009 applications cycles that were not looked at here; and others will attend college as adults. Still, given that the Applied program is intended for students planning to attend Colleges, the evidence shows a mismatch between the intended Ministry goal, and the achieved result.

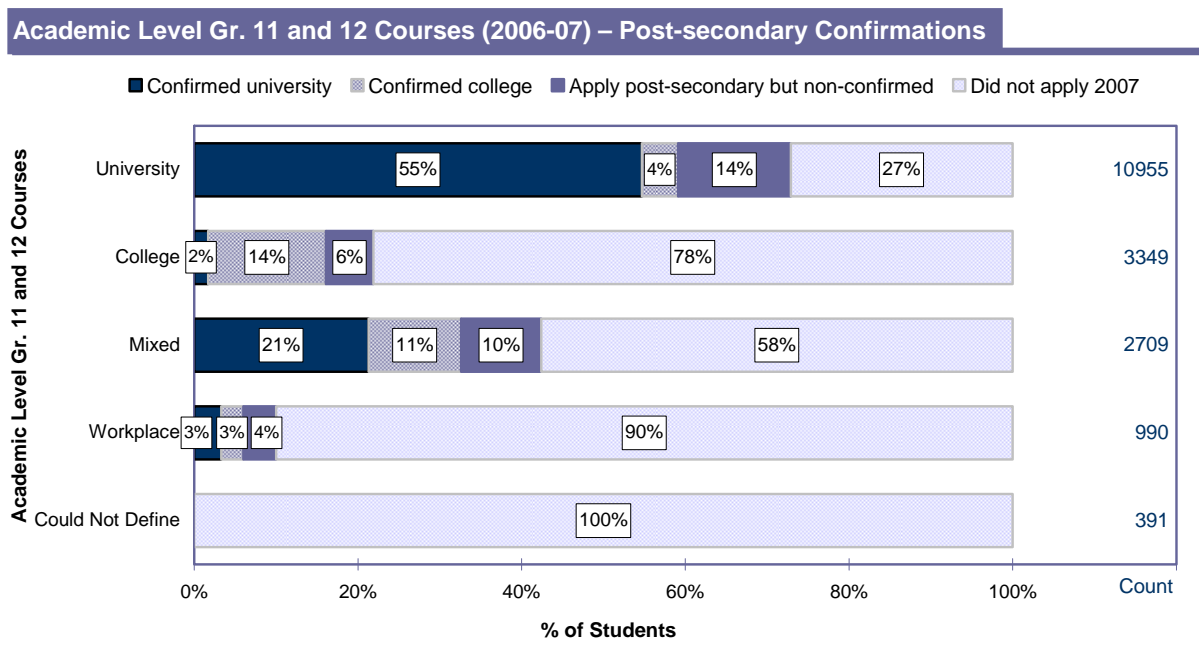
It should be noted that this is, if anything, an optimistic picture, in that it looks only at students who have made it into their fourth year of secondary school. From our cohort studies, we know that many students taking Applied or Locally-developed courses in Grade 9 and 10 have left the TDSB by this point (e.g., Brown, 2006). Moreover, the number of students who had taken Applied courses in Grade 9 and 10 and then make it into community colleges may be a comparably small number, but their fate in community college is even more uncertain. The College Mathematics Project looked at Ontario community college students in their first year of post-secondary study. It found that “Most students (71.7%) who followed the Academic pathway through Grades 9 and 10 received good grades in college; that number dropped to 48.7% when the corresponding Applied courses were selected” (York-Seneca Institute for Mathematics, Science and Technology Education, 2008, 38).

## Program of Study – Grades 11 and 12

As seen in Figure 17, patterns of students taking a majority of courses in the University, College, Mixed University-College, and Workplace programs of study are similar to those taking a majority of Academic, Applied, and Locally-developed courses<sup>4</sup>.

Not surprisingly, the majority of students taking a majority of University courses accepted an offer of admission: 55% from an Ontario university, 4% from a community college. In contrast, most students taking a majority of their courses in the College program of study did not accept a post-secondary offer of admission: 2% accepted a university offer and 14% accepted a college offer (less than a quarter applied at all). Students taking a majority of Mixed courses had characteristics midway between those taking University and those taking College courses.

**Figure 17: Academic Level Gr. 11 and 12 Courses (2006-07) – Post-secondary Confirmations**



<sup>4</sup> Grade 9/10 and Grade 11/12 programs of study are similar but not identical. In a recent cohort study, 96% of students taking a majority of courses in the Grade 11/12 University program of study had taken a majority of Academic courses in Grades 9/10. The relationship between other Grade 9/10 and 11/12 programs of study are not as strong. Slightly less than two thirds of students taking College courses had earlier taken Applied courses, while slightly over a third had taken Academic courses. Over three quarters of students taking Mixed courses in Grades 11-12 had taken Academic courses in Grades 9-10 (see Brown, 2009).



## FUTURE DIRECTIONS

Preliminary research (e.g., Brown, 2006) has indicated that two thirds of students who start in Grade 9 will end up taking some sort of post-secondary education. However, the pathways to post-secondary education are complex. Examination of secondary Mathematics courses taken by first-year Mathematics students in Greater Toronto Area (GTA) colleges have found these students had literally hundreds of combinations of Grade 9-12 Mathematics courses – with well over a hundred more frequently-chosen combinations. Likewise, students apply to both college and university over multiple years as high school students, and will also apply and/or reapply as adult students. The information on one application cycle of 17 year olds as shown here is necessarily limited, in that it only shows one progression (the 2007 applications cycle). Following the Grade 9 cohort of 2006-07 over time will provide a greater wealth of detail on this complex subject<sup>5</sup>.

As with the earlier report looking at Grade 7-10 achievement (Brown and Sinay, 2008), this analysis examines relationships between variables, without being able to attribute which of these variables are causal factors. Attributing cause in highly related variables can be difficult, and in fact, the journey promises to be long and challenging. Some recent research shows possible directions. Anisef et al (2008) examined an earlier TDSB cohort, those who started Grade 9 in Fall 2000, focusing on immigration characteristics. Using an HLM analysis, it was found that many of the factors outlined above played an important role in graduation over six years: region of birth, neighborhood income, Grade 9-10 program of study, gender, and parental presence at home.

However, the relationships of regions of birth were complex. For example, when all available variables were included, achievement of students born in East Asia, South Asia, and Africa were significantly higher than the Canadian-born population. However, students born in the English-speaking Caribbean were not statistically different from the Canadian-born population once these other factors were taken into account – since Caribbean-born students were more likely to take non-Academic courses, have lower credit accumulation, live in lower income areas, and be more likely to live in one-parent households. This research needs to be supplemented – it looked only at dropout rather than post-secondary access, for example, and did not have some of the key variables present in the Student Census.

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<sup>5</sup> The more comprehensive nature of a cohort study may help resolve another challenge. Our analysis of self-described sexual orientation has found an inconsistent relationship to student achievement. For example, self-described LGBTQ students were more at-risk in the initial Grade 9 cohort study than with Grade 10 results (Brown and Sinay, 2008, 2). Due to this inconsistency, we have not examined sexual orientation in terms of 17 year old applicants in the 2007 application cycle; instead, we are looking at the cohort study and multiple years of applications to provide a more complete picture.

A final proviso is that the information here provides a broad range of 'standard' variables than in earlier studies, but the Student Census has even greater possibilities through examining student attitudes and participation in the secondary school culture (e.g., attitudes towards school, school safety issues). We are in the midst of analyzing these environmental variables.

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**What do Confirmations Miss Compared to Registrations and Applications?**

Because we had information from all three phases up to the 2005 applications cycle, we can provide an approximation. Most students who confirm an offer will enroll, but some will not and some students without confirmations will enroll (students who somehow did not send the confirmations back, were on a 'shortlist' or were told of admission just before school begins). Generally, about 75% of TDSB students who apply will confirm offers of admission, and about 71% will actually enroll.

Both confirmations and registrations miss the students who go to a university or college outside the province (e.g. McGill, University of British Columbia, and Dalhousie). We used to receive information on who applied to these out-of-Ontario institutions and were able to extrapolate that 2-3% of 17 year old students would go outside Ontario, (they show up as *applicants* because OUAC sends student marks to these post-secondary institutions). These missing out-of-Ontario students are concentrated in a small number of more socio-economically advantaged schools, and hence we do not release confirmation and registration data at the school level: the TDSB Secondary Success Indicators focus on *applications*. For general TDSB-level trends, confirmations are a more useful variable than applications, since confirmations provide a close-to-complete picture of post-secondary success.

**Date of Comparison**

In the TDSB Secondary Success Indicators (post-secondary applications), we use status of students as of March 31 (e.g. for the 2007 application cycle, 17 year old students in the TDSB as of March 31, 2007). This is the best fit with the post-secondary applications cycle, since students apply in late winter-early spring. However, because our focus is the 2006 Student Census data, we have a slightly better match rate (73%) if we use students present as of October 31, 2006, which was when the Census was conducted. A couple of hundred 17 year old students left between October 31, 2006 and March 31, 2007. Therefore, we look at students present as of October 31, 2006, for the purpose of Confirmation data for this 2007 cycle.

**What about 18-21 year old students?**

The match rate with the Student Census was much lower among 18-21 year olds (56%) than with 17 year old students (73%). Since the characteristics of students not participating in the Census were different (more at-risk) than those participating, looking at some of the Census variables among this older age group could be potentially problematic.

**What about students who did not apply in 2007?**

Students will apply in multiple school years: many students who did not apply in 2007 (or are unsuccessful) will apply again in 2008 or 2009. We know this from our TDSB Grade 9 cohort studies; the best way to look at multiple post-secondary application years for the Student Census is to follow the Grade 9 cohort of Fall 2006 for the three years of Grade 12 (i.e., the 2011, 2012 and 2013 applications cycles). This is already planned as part of our Grade 9 cohort studies/Student Census analyses.

