

RESEARCH BRIEFS ON THE TORONTO DISTRICT SCHOOL BOARD'S POST-SECONDARY PATHWAYS - 2000 TO 2014

Research Brief 2: Demographic and Socio-economic Characteristics, Institution and Post-secondary Study

What this is: Research Brief 1 examined overall post-secondary trends and demographic patterns over time. This Research Brief examines key demographic and socio-economic variables, post-secondary institution (e.g., University of Toronto, York University, George Brown College, and Humber College) and Program Type (e.g., Humanities/Social Sciences/Arts, Sciences for universities, Arts, Science for colleges).

What was done: We merged data from the Toronto District School Board's (TDSB) Grade 9 cohorts with a) all Ontario Universities' Applications Centre (OUAC) confirmations from 2008 through 2014 and b) all Ontario College Application Service (OCAS) confirmations from 2008 through 2014. This meant eliminating the earlier 2000-03 cohorts, most of whom made the transition to post-secondary before the 2008 application cycle.

OVERALL PICTURE

Table 1 shows the status of the cohort students at the end of five years of high school (excluding students who transferred during this time to other boards). Out of 97,800 students, 47,517 or 49% confirmed an offer of admission from an Ontario university while 16,425 or 17% confirmed an offer from an Ontario college.

**Table 1: Status of Cohort Students at the End of Five Years of High School,
2004 to 2009 Cohorts**

	Confirmed University in Ontario		Confirmed College in Ontario		Applied to Post-secondary in Ontario with no Confirmation		Did not apply to Post-secondary	
	# of students	% of students	# of students	% of students	# of students	% of students	# of students	% of students
2004-08 to 2010-14 Cohorts (N=97,800)	41,517	48.6%	16,425	16.8%	10,033	10.3%	23,825	24.4%

Table 2 shows highlighted socio-economic and school variables which are consistent with previous cohort studies¹ and Research Brief 1. University students are more likely to be female (54%) while college students are more likely to be male (53%). Students attending university are less likely to speak English only compared to college students (37% compared to 53%) and were much less likely to be students with Special Education Needs (SEN) excluding Gifted (5% versus 23%). A majority of students confirming both university and college applications took Academic courses in Grade 9, with 95% of university students taking Academic courses compared to 55% of college students. We have found Grade 9 Mathematics course achievement to be a powerful predictor of post-secondary access². Over two thirds of university-bound students (69%) were at Levels 3 or 4 in Grade 9 Mathematics, compared to 31% of college-bound students. University-bound students were somewhat more likely to be in the highest tertile of income compared to college-bound students (39% to 28%).

Table 2: Socio-economic and School Variables of Students at the End of Five Years of High School, 2004 to 2009 Cohorts

	Gender (% of students)		Language (% of students)	SEN (% of students)	Program of Study (% of students)	Grade 9 Mathematics (% of students)	Income (% of students)
	Female	Male	English	SEN excluding Gifted	Academic	Levels 3 & 4	Highest income tertile
Confirmed University in Ontario	53.6%	46.4%	37.4%	4.6%	94.7%	68.5%	38.8%
Confirmed College in Ontario	47%	53%	52.5%	22.5%	55.2%	30.8%	27.7%
Applied to Post-secondary in Ontario with no Confirmation	48.5%	51.5%	55.1%	13.8%	76%	45%	38%
Did not apply to Post-secondary	38.1%	61.9%	64%	29.5%	40%	21.8%	33.3%

¹ Brown, R.S. (2010). *The grade 9 cohort of fall 2004* (Research Report No. 09/10-15). Toronto, Ontario, Canada: Toronto District School Board.

² Brown, R.S., Newton, L., Tam, G., & Parekh, G. (2015). *The trajectories of grade 9 mathematics achievement 2008-2013*. (Research Report No. 15/16-05). Toronto, Ontario, Canada: Toronto District School Board.

POST-SECONDARY INSTITUTION

Table 3 shows post-secondary institutions attended by TDSB cohort students. The majority of TDSB students attended local universities (University of Toronto, York University, Ryerson University) and colleges (George Brown College, Centennial College, Seneca College and Humber College), while University of Waterloo and University of Guelph, two other popular universities, are around a hour's drive from Toronto.

Table 3: Percentage of TDSB Student Confirmations at Post-secondary Institutions, 2004 to 2009 Cohorts

Post-secondary Institution	Attendance (% of students)		
1. University of Toronto	19.3%	= 50.2%	
2. York University	13.0%		
3. Ryerson University	11.3%		
4. George Brown College	6.6%	= 91.2%	
5. University of Waterloo	6.1%		
6. Centennial College	5.6%		
7. Seneca College	4.9%		
8. Humber College	3.8%		
9. University of Guelph	3.8%		
10. University of Western Ontario	3.4%		
11. McMaster University	3.1%		
12. Queen's University	2.8%		
13. Wilfred Laurier University	1.9%		
14. University of Ontario Institute of Technology	1.2%		
15. OCAD University	1.1%		
16. Carleton University	1.1%		
17. Brock University	0.9%		
18. University of Ottawa	0.8%		
19. Sheridan College	0.7%		
20. Durham College	0.7%		
21. Trent University	0.5%		
22. University of Windsor	0.3%		
23. Fanshawe College	0.2%		
24. Fleming College	0.2%		
25. Georgian College	0.2%		
26. Lakehead University	0.2%		
27. Laurentian University	0.1%		
28. Nipissing University	0.1%		
29. Mohawk College	0.1%		
30. Algonquin College	0.1%		
31. Niagara College	0.1%		
32. Conestoga College	0.1%		
33. St. Lawrence College	0.1%		
34. Sault College	0.1%		
35. Loyalist College	0.1%		
Other Post-secondary Institutions	0.2%		

Table 4 shows key demographic differences of the 14 post-secondary institutions that account for almost all of TDSB graduates. A few key points:

- Generally universities had more female students and colleges had more male students but two universities (University of Waterloo and University of Ontario Institute of Technology) had over 60% male students.
- There were wide differences amongst universities in terms of student language: the range of students speaking English only went from 22% (University of Waterloo) to 68% (Queen's University).
- All universities had fewer than 10% of students with SEN excluding Gifted (from University of Waterloo at 2% to University of Guelph and Wilfrid Laurier University at 7%). In contrast 21-25% of colleges were comprised of students with SEN excluding Gifted.
- For each university over 90% of students took Academic courses in Grade 9 (100% of students at Queen's University). The only college with less than half of students taking Academic courses was Centennial College (45%).
- The proportion of students at Levels 3 or 4 in Grade 9 Mathematics ranged from 29% (Humber College) to 91% (University of Waterloo).
- There was a wide range of students living in the highest tertile of income from 25% (Seneca College) to 63% (Queen's University).

Table 4: Socio-economic and School Variables of Students by Post-secondary Institution, 2004 to 2009 Cohorts

Post-secondary Institution	Gender (% of students)		Language (% of students)	SEN (% of students)	Program of Study (% of students)	Grade 9 Mathematics (% of students)	Income (% of student)
	Female	Male	English	SEN excluding Gifted	Academic	Levels 3 & 4	Highest income tertile
1. University of Toronto	57%	43%	29.1%	3.3%	95.8%	76.2%	34.8%
2. York University	59.5%	40.5%	30.5%	5.5%	91.2%	54.6%	28.5%
3. Ryerson University	49.7%	50.3%	30.3%	5.2%	93.5%	61.1%	31.3%
4. George Brown College	49.9%	50.1%	52.7%	21.3%	59.8%	30.4%	26.7%
5. University of Waterloo	38.7%	61.3%	22.1%	1.6%	97.4%	90.5%	38.7%
6. Centennial College	43.4%	56.6%	51.6%	25%	44.5%	31%	27.1%
7. Seneca College	47.5%	52.5%	39.7%	21.7%	54.2%	32.4%	25%
8. Humber College	47.8%	52.2%	57.6%	21.1%	59.5%	28.8%	26.5%
9. University of Guelph	56.3%	43.7%	67.6%	6.7%	95.1%	61.7%	53.2%
10. University of Western Ontario	53.5%	46.5%	52.8%	3.1%	98.7%	79.2%	58.1%
11. McMaster University	51.6%	48.4%	36.5%	2.6%	97%	82.9%	43.8%
12. Queen's University	62.1%	37.9%	67.7%	3%	99.5%	83.7%	63.2%
13. Wilfrid Laurier University	49.4%	50.6%	60.8%	6.6%	97.2%	61.1%	56.5%
14. University of Ontario Institute of Technology	32.7%	67.3%	25.7%	6.2%	87.9%	53.3%	34%

TYPE OF POST-SECONDARY STUDY

Table 5 shows the percentage of students confirming their first choice in post-secondary institution and study by the program they selected. A few key points:

- While a majority got their first choice in post-secondary institution in every program type, over 80% of the students taking technology in college got their first choice in post-secondary institution.
- Just over half of those students taking commerce, management and business administration in university got their first choice in post-secondary institution.
- Over 90% of students taking technology in college had technology as their first choice.
- Just over 60% of students taking physical and health education and recreation in university selected that as their first program choice.
- Overall, a higher percentage of students attending college confirmed their first choices for institution and program compared to students attending university.

Table 5: Institution and Program Choice by Type of Post-secondary Study, 2004 to 2009 Cohorts

Program	Institution Choice (% of students)		Program Choice (% of students)	
	First Choice	Not First Choice	First Choice	Not First Choice
Arts: Humanities and Social Science	61.2%	38.8%	75.2%	24.8%
Science	59.4%	40.6%	77.6%	22.4%
Commerce, Management and Business Administration	55.7%	44.3%	77.5%	22.5%
Physical and Health Education and Recreation	56.7%	43.3%	60.1%	39.9%
Engineering and Applied Science	56.2%	43.8%	88.9%	11.1%
Fine and Applied Arts	69.5%	30.5%	80.3%	19.7%
College – Applied Arts	75.2%	24.8%	90.5%	9.5%
College – Business	78%	22%	84.5%	15.5%
College – Health	67.7%	32.3%	84.8%	15.2%
College – Technology	80.5%	19.5%	90.8%	9.2%

Table 6 shows the key demographic differences of the post-secondary program types selected by TDSB graduates. A few key points:

- Most programs had more female students, but engineering and applied science in university and technology in college had over 80% male students.
- There were wide differences amongst programs in terms of student language: the range of students speaking English only went from 27% (science and engineering and applied science) to 60% (applied arts in college).
- All programs at universities had fewer than 10% of students with SEN excluding Gifted (from engineering and applied science at 2% to fine and applied arts at 9%). In contrast 17-25% of college programs were comprised of students with SEN excluding Gifted.
- For each university program, over 90% of students took Academic courses in Grade 9, though all college programs had over half of students taking Academic courses.
- The proportion of students at Levels 3 or 4 in Grade 9 Mathematics ranged from 28% (applied arts in college) to 90% (engineering and applied science).
- There was a range of students living in the highest tertile of income from 26% (business in college) to 43% (physical and health education and recreation).

Table 6: Socio-economic and School Variables of Students by Type of Post-secondary Study, 2004 to 2009 Cohorts

Program	Gender (% of students)		Language (% of students)	SEN (% of students)	Program of Study (% of students)	Grade 9 Mathematics (% of students)	Income (% of students)
	Female	Male	English	SEN excluding Gifted	Academic	Levels 3 & 4	Highest income tertile
Arts: Humanities and Social Science	63.3%	36.7%	48.7%	6.1%	93%	51.7%	40.5%
Science	52.8%	47.2%	26.6%	2.8%	96.6%	84.1%	35.6%
Commerce, Management and Business Administration	42.2%	57.8%	27.8%	4.1%	94.6%	72.4%	38.2%
Physical and Health Education and Recreation	58.5%	41.5%	48.1%	4.9%	95.8%	67%	42.6%
Engineering and Applied Science	16.3%	83.7%	26.5%	2.4%	96.7%	89.5%	36.6%
Fine and Applied Arts	66.6%	33.4%	50.9%	8.7%	91.3%	54.4%	41.8%
College – Applied Arts	60.4%	39.6%	60%	25.4%	53.2%	27.9%	27.3%
College – Business	49.1%	50.9%	44.3%	19.7%	56.6%	29.9%	26.4%
College – Health	68.8%	31.2%	54%	16.6%	59.7%	37.5%	26.6%
College – Technology	9.5%	90.5%	47.7%	22.6%	55.5%	35.3%	30.3%