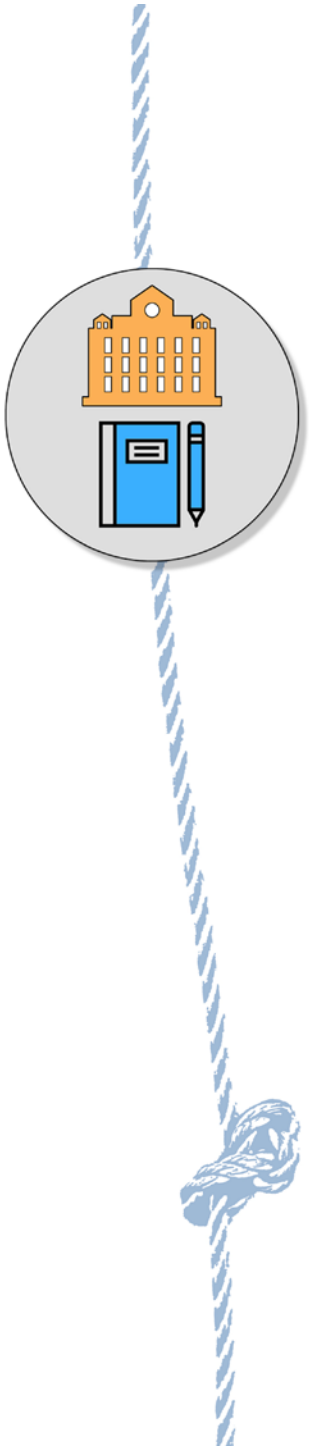

UNRAVELING THE KNOT

Understanding the Diverse Postsecondary Pathways of Toronto High School Students

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Toronto District School Board

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Executive Summary

We addressed three research objectives by examining data from the Toronto District School Board. These data were from a cohort of students (*N*=16,364) that were in Grade 9 in 2006 and were followed for eight years, until fall 2014. Included in these data were Ontario postsecondary application and enrolment information.

Our research objectives and findings were as follows:

1. To what extent are students graduating high school and directly entering college or university?
    - Forty-seven percent of the cohort transitioned directly from high school to university, while 13% transitioned directly from high school to college. Over an additional three years of application cycles, 3% more students moved to postsecondary.

2. How can we look at movement between different postsecondary programs and institutions? Students may start at a college and move to a different college, or change programs within the same institution. What factors are associated with such movements?
    - Eighty-five percent of students who confirmed a postsecondary place in 2011 were at the same institution in 2014.
    - Only 3% had changed institutions.
    - Among college students in the data set, 19% had confirmed university at an earlier date.
    - In terms of students who appeared to have "reverse transferred" from university to college, exploratory analysis suggested that they were more likely to be from lower socioeconomic groups and be racialized (particularly Black, South Asian, or Southeast Asian).
    - In terms of movement within college, 81% stayed in the same college and program, 8% changed programs within the same college, 5% went to similar programs at different colleges, and 6% went to different programs at different colleges.
    - The only factor associated with college movement was duration of study; the longer students remained enrolled, the more likely they were to make some sort of movement.

3. How do pathways vary by individual characteristics? Using an intersectionality framework, which understands race, class, gender, and special education needs status to be inextricably linked to the educational outcomes of young people, we investigated how these factors predicted postsecondary STEM pathways (Science, Technology, Engineering, and Mathematics) in particular.
    - Race was associated with the five program pathways, with East Asians

dominating university STEM at nearly 40% and Blacks comprising only 7%.

- There was strong male representation in STEM, and the gap was bigger at the college level (25% women, 75% men) than the university level (42% women, 58% men).
- Social class was strongly associated with program of study, with high status parental occupations being associated with university STEM and non-STEM pathways.
- Students with special education needs were more likely to be in college non-STEM programs.
- Academic program of study in Grade 9/10 was more strongly related to university STEM and non-STEM than applied programs of study, which were more likely to be found in the college pathways.
- In terms of multivariate analyses, parental occupational status had a strong negative association with university STEM for Black students and a weak negative association with university STEM for East Asian students. Parental occupational status had a strong negative association with college STEM for East Asian students.

Our findings revealed the importance of examining the ways that race, sex, class, and special education needs affect postsecondary pathways and movements within these pathways. We have uncovered some important correlates associated with transfer and program choice. Social class and race were found to have associations with these pathways, particularly with regard to reverse transfer and STEM program choice.

In the case of the former, reverse transfer among certain racialized and lower SES groups may signal unpreparedness (or lack of social and cultural capital) for university environments. Programs targeting “First Generation” students at the university level may assist in retaining such students, but it is probably the case that more social and cultural capital development at the high school level would make such transitions less awkward for traditionally underrepresented students.

Our findings regarding the negative association between parental occupational status and university STEM pathways for Blacks may be indicative of the lack of perceived support and social networks within these academic areas. If, as suggested by American research, high status Blacks are rejecting STEM due to segregated social networks, much more must be done at the university level to recruit and create inclusive environments for racialized students in the sciences and beyond.