



# Canadian Labour Market and Skills Researcher Network

## Working Paper No. 94

### Persistence and Academic Success in University

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February 2012

CLSRN is funded by the Social Sciences and Humanities Research Council of Canada (SSHRC) under its Strategic Knowledge Clusters Program. Research activities of CLSRN are carried out with support of Human Resources and Skills Development Canada (HRSDC). All opinions are those of the authors and do not reflect the views of HRSDC or the SSHRC.

## **Persistence and Academic Success in University**

Keywords: university success, high school, neighbourhood

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## Abstract

We use a unique set of linked administrative data sets to explore the determinants of persistence and academic success in university. The explanatory power of high school grades greatly dominates that of other variables such as university program, gender, and neighbourhood and high school characteristics. Indeed, high school and neighbourhood characteristics, such as average standardized test scores for a high school or average neighbourhood income, have weak links with success in university.

JEL Code: I23

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## Executive Summary

We address a series of questions concerning academic persistence and success among university students using administrative data that have been collected on students in four Ontario universities and linked with information on the students' individual characteristics (including high school performance), neighborhood, and high school. The students came directly from an Ontario high school and entered one of our four universities for full-time degree study in the fall of 1994 through 2006. The measures of persistence are the cumulative grade average and credits completed at the end of Year 2, departures during the first two years, and degrees completed within six years. The following lessons can be inferred from our analyses.

First, the time trends reveal that the values of all four outcomes have generally been quite stable over time at each of our institutions. This stability over time in the levels of our measures of academic success in university is true of both the simple means of the variables and when we control statistically for a wide variety of individual, neighbourhood and school characteristics.

Second, academic performance in secondary school is strongly linked to all of our measures of university performance. These links are strong in the sense of both the magnitude and the precision of the estimated coefficients. Furthermore, the explanatory power of the high school grade average greatly dominates that of other variables such as university program, gender, neighbourhood average income, and average high school performance on Grade 9 EQAO tests. Understanding what lies behind the large estimated impact of high school grades is clearly important for understanding the determinants of university success. Many background factors undoubtedly contribute to academic success in both high school and university including health, parental education and income, and the secondary schooling context. This policy concern highlights the importance of linking our current data sets to other data, such as from the Ministry of Education, that can shed light on the factors associated high school grades.

Third, the neighbourhood characteristics used in this study, including average income and others, have relatively weak links with our measures of persistence. In contrast, Dooley, Payne and Robb (2009) reported that students from low income neighbourhoods are 13 per cent less likely to apply to university than those in high income neighbourhoods (controlling for other factors including GPA) and that this gap in application rates over the last decade has remained relatively constant. Hence, neighbourhood socio-economic background appears to play an important role in gaining access to university but a more minor role in academic success once a student has registered. We hasten to add, however, that numerous small differences can still have a large cumulative impact on the life of a young person. Furthermore, there is much variation in income and other socio-economic characteristics within neighbourhoods. Differences in individual family income may have substantially more success in explaining university persistence than do differences in average income and education across neighbourhoods. Judged by our results to date, however, our four universities

appear to be institutions in which students from diverse non-academic backgrounds progress and succeed at similar rates and in similar proportions.

Fourth, our results point to the advantages of rich administrative data. Such data not only provide a very large sample size but also suffer much less than do survey data from response and selection bias. For example, one could do much additional research by examining additional outcome measures and conducting more specific analysis by program, academic level, gender, mother tongue, and type of high school. As indicated above, linking our current data with additional data sets will expand the research opportunities even further.