

Identifying the Complexity of Barriers Faced by Marginalized Youth in Transition to Postsecondary Education in Ontario

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INTRODUCTION

In Canada, the topic of access to postsecondary education (PSE) has been taken up by a variety of researchers, both academic and applied. A number of established correlates of participation in PSE have also been identified, including Aboriginal status, family socioeconomic status (SES), urban/rural status, immigrant status, race, ethnic group membership, family structure, parental educational attainment and academic engagement (Educational Policy Institute 2008; Finnie, Childs & Wismer 2011; McMullen 2012). These characteristics have also been found to be contingent upon each other; for example low income is negatively associated with PSE, *but* has a lessened effect if a student has good high school grades (McMullen 2012). The “interaction” of different characteristics has been explored to some degree by previous researchers. For example, Abada, Hou & Rams (2009) and Finnie, Childs & Wismer (2011) examine how children from different immigrant groups as well as those born in different generations (i.e. first, second, or third) have PSE uptake rates that are dramatically different from each other as well as from the native-born population (the “immigrant paradox”). They argue that some differences may be accounted for because of differing parental expectations and social and cultural capital possessed by the various groups under consideration. Focusing on Ontario, Lennon et al. (2011) have come to similar conclusions, finding that students with foreign-born parents were more likely to go on to PSE, and that previous academic success and parental background were also significant factors in this outcome. What remains to be uncovered, however, is how these characteristics impact upon PSE transitions *in their combination*. Individuals possess *various status traits* that shape their life courses based upon their mutual interaction (Collins, 1998). This framework recognizes that “risk” factors interplay with various SES/demographic factors, often increasing or compounding the at-risk situation. Being Black, female and from a single parent family provides one illustration.

BACKGROUND

Recently, the Ontario Liberals set a postsecondary attainment rate target of 70% for adults to be met by 2020 (Open Ontario Plan¹). The proportion of adults with PSE degrees in Ontario has grown from 56% in 2002 to 64% in 2010 and is higher than that of any other country in the OECD.² In order to facilitate this growth, the province has committed millions of dollars to creating tens of thousands of additional spaces in Ontario’s postsecondary institutions.

The emphasis on PSE training as a pathway to economic opportunity is not a new idea, but certainly one that is currently being stressed in the current discourse around improving the life chances of marginalized individuals. Internationally, numerous scholars have examined how access to PSE is inextricably linked to various fixed characteristics of individuals, such as their familial socioeconomic background and parental education, and as such, how these predefined characteristics act to perpetuate cycles of advantage and disadvantage. Access to PSE is understood to be a key marker in ensuring the economic competitiveness of a country in a global sense. It is also an indicator of equity *within* a country (Finnie & Pavlic 2013). However, it should be noted that PSE is not a guarantee of high earnings and is highly contingent upon choice of credential, with holders of liberal arts degrees having markedly less earnings power (Tal & Enejor 2013). PSE attainment across all OECD countries is highly associated with improved employment prospects and earnings, with lessened gender differences in incomes and a greater likelihood of fulltime work (OECD 2013). There has indeed been a great surge in the volume of discussion dedicated to improving access to PSE. For example, the *Stepping Up* model announced by the Ontario Ministry of Children and Youth Services (2013), is a framework geared to providing support to youth (through various levels of service) in order to help them succeed, with one marker of success being the pursuit of PSE. Improving access is also discussed in terms of “early childhood intervention,” recognizing the cyclical nature of disadvantage and limited (or even downward) social mobility of Aboriginals, children with disabilities, and other “at risk” groups (Orders and Duquette 2013).

OBJECTIVES AND RESEARCH QUESTIONS

In this paper we raise the following question: “How do gender, race, family SES, and special education needs interact to either facilitate or hinder access to and participation in PSE among Ontario students?” While several studies exist which point to how students’ various individual characteristics serve to lessen or increase their likelihood of attending PSE, our objective in this study is to examine these various status traits *in combination with one another* using a unique longitudinal data set consisting of \ students who were 17 years of age and enrolled in the Toronto District Secondary School (TDSB) in autumn of 2006.

The data analysis reported in this paper will assist in the provincial government’s plan to increase participation by: (1) identifying and clarifying the current PSE trajectories of Ontario youth and the relationship of these trajectories to status traits; and (2) by examining and identifying differences between those secondary students that successfully access or confirm PSE and those that do not. This examination will be conducted with respect to status traits, in isolation and in combination. Our objective is to determine what combinations of status traits serve to either advantage or disadvantage secondary students

in transitioning to PSE. The development of detailed knowledge around individual combinations of traits that facilitate or hinder PSE transition is an important first stage in creating effective policy around widening access to PSE.

LIFE COURSE AND INTERSECTIONALITY: A REVIEW OF LITERATURE

The theoretical underpinnings of this study are rooted in both life course and intersectionality theoretical orientations. Life course theory, as it applies to PSE, is comprised of three elements. The *first* element is *time* - an essential element of life course research includes examination of stages of human development as well as detailing the contexts within which human development occurs. Included within the element of time is the theme of stability/change, which acknowledges both the constraints and opportunities for individuals to alter their values, beliefs, and self-evaluations as they move through their life course. The time element also suggests an educational sequence that comprises three stages: planning for PSE, participating in PSE, and making the transition from PSE to the workforce. Each is enacted across an extended age range from early childhood, through adolescence and into adulthood. The *second* element recognizes the tension between the constraints imposed by social structures such as gender, ethno-racial status and social class with the expression of personal agency or the individual's capacity to make choices based on personal knowledge, skills, personality, and values, such as the pursuit of higher or further education. The *third* element identifies the interactions between the individual and the various social institutions encountered on 'life's way'. These include family, school, university or college, and the workplace. Throughout the life course, individuals are engaged in the task of moving through and between all these major institutions (Andres, L., P. Anisef, H. Krahn, D. Looker, & V. Thiessen 2001; Anisef, P. P. Axelrod, E. Baichman-Anisef, C. James & A. Turritin 2000; Berger, J. and Motte, A. 2007; Sweet, R., & Anisef, P. 2005).

Berger & Motte (2007) emphasize the utility of the life-course perspective in capturing the complexities of the journey to PSE and in better understanding the access, persistence and completion barriers that face many individuals and groups. Specifically, they emphasize two points: 1) factors that determine PSE access (and completion) lie in the individual's life circumstances and are already present in early childhood; and 2) social factors like socioeconomic status interact with individual characteristics and do so in different ways throughout the life course. When examining PSE transitions through a life course lens, it is important to view the individual as an agent who constructs a personal pathway within the larger context of social, cultural and economic forces. Structure and agency work together in helping shape the life course including educational attainment and other forms of social mobility.

While the life course orientation underscores the importance of accounting for the individual and combined effects of social structure and personal agency, studies that have

been conducted to date rarely examine the impact of multiple social factors (e.g. ethno-racial status, gender, social class) and their intersections on life course outcomes (McCall, 2005). By way of illustration, prior studies have rarely considered how race/ethnicity and gender jointly differentiate the health status of older adults; instead they have examined race/ethnicity or gender as if they were separate dimensions of social stratification (Warner & Brown, 2010). By contrast, an intersectionality approach systematically examines the interactive influences of race/ethnicity and gender on health and health trajectories across the life course (Mullings & Schulz, 2006). That is, an intersectionality approach begins with the premise that forms of oppression (e.g., racism, sexism) overlap, and thus posits that the consequences of race/ethnicity and gender cannot be understood sufficiently by studying these phenomena separately.

The concept of intersectionality emerged in the late 1960s and early 1970s in conjunction with the multiracial feminist movement and as part of a critique of radical feminism that had developed in the late 1960s. The critique, known as re-visionist feminist theory, questioned the assumption that sex was the main factor that determined the fate of women (hooks, 1984). More specifically, women of colour disputed the idea that women comprised a homogeneous category, arguing that the forms of oppression experienced by white middle class women were distinct from the forms of oppression experienced by women of colour. As Crenshaw (1991), who later coined the phrase ‘intersectionality theory’ points out, the intersectionality experience within black women is more powerful than the sum of their race and sex. Collins (1998, 2000, 2005) is also associated with a popularization of the term, as her work has highlighted the intersectionality of gender, race, and class, particularly as it relates to the experience of Black women’s paid employment in the United States.

Generally, scholars agree that intersectionality refers to the notion that social identities such as race, gender, and class interact to form qualitatively different meanings and experiences (Warner, 2008). Rather than conceptualizing social identities as functioning independently and subsequently ‘added together to form experience’, those that employ the intersectionality notion agree that identity cannot be reduced to a summary of the social groups to which a person belongs. In fact, social groups interact with each other and, as a consequence, create specific manifestations that cannot be explained by each alone (Warner, 2008:1).

DATA AND METHODS

The data employed in this study are derived from a survey (often called the “Student Census”) administered from November 6 to 10, 2006 in all TDSB secondary schools and all Grades 7-8 in elementary schools. A total of 289 Toronto schools were involved. After all the data were processed and verified, a student census database was created consisting of 34,219 students in Grades 7-8 and 71,222 students in Grades 9-12. The use of Board

enrolment figures as of October 31, 2006 revealed a high response rate of 92% for Grades 7-8 and 81% for Grades 9-12. The response rate for 17 year-olds, in particular, was 74%. Student surveys were administered in classrooms and gathered information on who the students were and how they felt about their school and personal lives. To ensure student confidentiality, teachers were instructed to ask their students to leave their identification numbers, but to black out their names before placing their completed surveys in a return box at the front of the classroom. While the survey was confidential, it was not anonymous. Student identification numbers were linked to other centrally available data sources, such as the TDSB Student Information System, EQAO (standardized testing) and student report cards. Access to data was granted through the TDSB research department to which one of the authors belongs.

The specific subset of data employed for these analyses are based on 14,048 17 year-old students that were surveyed in the census conducted in Fall 2006. These students were age-appropriate for Grade 12, the age in which most Ontario students start their transition to PSE. Added to these data were other pieces of additional information: data from the Fall 2006 Student Census completed by Grade 9 to 12 students in the TDSB on a range of socio-economic, demographic, and attitudinal variables (see Brown, 2009); data from the 2001 Canadian Federal Census on household income (matched by postal code to the Census Dissemination Area of around 300 households);³ and data on postsecondary applications and confirmations as supplied to the Toronto District School Board (TDSB) by the Ontario University Applications Centre (OUAC) and Ontario College Applications Centre (OCAS).⁴ Because it has been found that students will apply over multiple years (see Sweet et al., 2010), OUAC and OCAS information from the 2007, 2008 and 2009 application cycles were also merged with the data set.

Dependent Variable – College and University Confirmations

This limited cohort study allowed us to examine the PSE pathways of 17 year-olds over three years in the TDSB (to the end of 2009). We examined three possible pathways: (1) confirmed an offer of admission to an Ontario university; (2) confirmed an offer of admission to an Ontario college; or (3) neither of these two options.⁵ Just over half of the sample (50.7%) confirmed university acceptance, while 15.2% confirmed college acceptance.⁶ The term “confirmed acceptance” applies to the situation where a student has applied to a college or university, been accepted, and has accepted the offer. It is more substantial than a simple acceptance at a university or college – it implies the additional intentionality of the student to actually attend.

Independent Variables – Gender, Race and Class

Intersectionality theory has traditionally focused on gender, race, and class to understand how such combinations of traits are highly connected to one another and to constrained sets of choices that individuals are able to make. In our analyses, sex was dummy-coded so that male is equal to 1 (and female is equal to 0), (self-reported) race was divided into White, Black, East Asian, South Asian, Southeast Asian, Latin American and Middle Eastern. Our data also contained information on those who self-identified as “Mixed” and those who did not fall into any of the major groups (“Other”). Because “Mixed” and “Other” are very heterogeneous categories, these cases (approximately 6 percent of the original sample) have not been included in our analyses. In terms of operationalizing the social class of the student, we used median neighbourhood family income data from the 2001 Canadian census. In the student census and administrative records, there is no record of parental income. The census neighbourhood figures while cruder than individual-level data, do provide a measure of family socioeconomic status based on the general neighbourhood income characteristics. They also give us an indication of the wider characteristics of the neighbourhood for a more macro understanding of the students’ environments.

Other Independent Variables of Interest

We included several other independent variables in order to both account for existing research on the determinants of transition to postsecondary education (and thus not overstate the relationship between gender, race, and class and our outcomes of interest) as well as to augment the status traits typically associated with intersectionality. As such, we also recognize *immigrant status*, *streaming*, and *special education needs* to be traits that will impact on the trajectories of students’ learning paths. Race, immigrant generation status, and income are highly associated in Toronto (Yau, Rosolen & Archer 2013), as are immigrant generational status, ethno-racial group and postsecondary attainment (Sweet et al. 2010). Therefore, we argue that we cannot really conceptualize “race” without accounting for how strongly this concept is tied to generation status and income in Toronto.

Immigrant generation of the student was derived from information on students’ region of birth and where their parents were born. First generation students were those who were born outside of Canada (as were their parents), second generation students were born in Canada but had one parent born outside Canada, and third generation students had both parents born in Canada (Anisef, Brown, Phythian, Sweet, & Walters 2010). In terms of *streaming* and *special education needs*, we understand both to be highly associated with educational attainment in general. Students whose course work is mostly in applied subjects have a very low rate of postsecondary attainment. Students in the applied stream (in Toronto) are also more likely to be from families with lower incomes (People for Education, 2014), be Black and be male. Relatedly, students in the applied stream are more likely to be identified as having special education needs (Parekh and Brown, 2010;

Toronto District School Board, 2012). These findings point to the highly correlated nature of race, income, perceived ability, and streaming.

Information on the *academic stream* of students in Grade 9 was available.⁷ A variable measuring academic and applied streams in Grade 9 was included in the analysis and was coded so that 1 was equal to being in the applied stream and 0 was equal to the academic stream. In terms of *special education needs*, we also had information from the administrative file that indicated whether a student fell under the EQAO definition of special education needs -- which excludes students identified as Gifted: that is, those students with an active exceptionality or an active Individual Education Plan. Students who had these characteristics were dummy code "1" on the *special education needs* variable.

Control variables

We also controlled for two additional concepts: *parental education* and *grades* so as not to overstate the relationship between our key variables of interest and postsecondary confirmations. Recent Canadian research has demonstrated that parental education is a stronger predictor of postsecondary attainment than income (Davies, Maldonado & Zarifa 2014), and therefore this variable's inclusion in any model predicting transition to PSE is crucial. In terms of *parental education*, the students were asked about the highest educational attainment of their parents. The data were recoded into a single variable to capture the highest level of education of either parent with possible response categories being "High School", "College", "University" and "Don't Know". The variable was dummy-coded so that 1 was equal to university or college (i.e. any PSE).

High school grades are of course a strong determinant of school success and postsecondary transition and were based on Grade 11 marks (expressed in percentages) and derived from the administrative database.

ANALYTIC STRATEGY

The first set of analyses is purely descriptive, providing information about variables used in the multivariate analyses. The second part of the analysis employs random intercepts models (a type of multilevel model) predicting college and university confirmations. Multilevel models are particularly appropriate for research designs and responding to research questions where data for participants are organized at more than one level (i.e., nested data). The units of analysis are usually individuals (at a lower level) who are nested within contextual/aggregate units (at a higher level). Our research questions focus on the effect of various status traits on the university and college confirmations of students within the TDSB (lower level), a question that necessitates the examination of "school effects" (upper level). Students within the same schools share many possible unobserved characteristics that influence their postsecondary trajectories, and using

ordinary least squares regression on data of these type violates the assumption of uncorrelated errors. Multilevel modeling permits adjustments to the model for such nested features and allows each school to have its own intercept within the estimation. Such techniques also permit the exploration of model variance at the individual and school levels.

Because the dependent variable is multi-categorical (confirmed university, confirmed college, confirmed neither) in nature, multinomial logistic regression models with random intercepts for school identifiers are used. The models were estimated in Stata 13 using the `gllamm` procedure. Model building occurred in three distinct stages: the model including only gender, race and income, 2) the model including gender, race, and income as well as their interactions with one another, and 3) everything from Model 2 plus controls and exploratory interactions.

In the second model we added interaction terms between gender, race, and income. Interaction terms are often alternatively called multiplicative terms or moderators (see Brambor, Clark, & Golder, 2006). These interactions were used to explore one aspect of intersectionality theory. While intersectionality theory argues that these three characteristics impact on the life chances of individuals, the theory also suggests that their unique combinations together will have differential effects, depending upon subgroup membership. Such a statistical application allows us to operationalize different intersectional ties of students so as to examine how different combinations of fixed characteristics can impact upon their life chances (McCall 2005). As our research questions encompass the exploration of the potential of differential effects of known factors that predict PSE for students, interaction effects are a statistically sound way of examining such hypotheses. A statistically significant interaction will tell us, for example, if the effect of being Black on postsecondary confirmation is different for males and females. It will also tell us if median family income differentially impacts on PSE confirmations according to ethno-racial group.

After adding control variables in Model 3, we also added exploratory interactions to test the durability of the relationships that extend from our intersectionality analyses and which are motivated by findings from the extant literature. In particular, we were interested in the interactions between special education needs and three other characteristics: gender, income and being Black. Previous literature cited above has suggested that Blacks and males, as well as those who are from lower socioeconomic backgrounds are more highly represented among students identified with special needs. We aimed to examine how the intersectionalities of these specific status traits impacted upon their PSE pathways.

RESULTS

Table 1 presents the descriptive statistics of variables used in this study. After all missing variable information was taken into account, we were left with a usable sample of 11,835. In our sample, over half of the students confirmed university, while 16% confirmed college and 30% confirmed neither. Our sample is very racially diverse and thus reflective of the Toronto population of students, with just over a third White and around 20% East Asian and South Asian. Southeast Asians, Middle Easterners and Latin Americans comprise smaller groups between 2 and 5 percent. Males comprised half of the sample and the average median family income was just over \$58,000 per year, although the range on this variable was substantial. We can also see that the average grade for students was around 70% percent and that two thirds of parents had postsecondary education of some sort. In terms of generational status, the biggest group were first generation students at 44%, followed by second generation at 36%. Third generation students comprised just under 20% of the entire sample. Around 20% of students were in the applied stream while 10% of students had been identified with special education needs.

Table 1. Descriptive Statistics (N=11835)

Variable	Mean	Standard Deviation	Min	Max
<i>Postsecondary Pathways</i>				
Confirmed University (1=yes)	0.54		0	1
Confirmed College (1=yes)	0.16		0	1
Neither (1=yes)	0.30		0	1
<i>Race</i>				
Black (1=yes)	0.10		0	1
East Asian (1=yes)	0.23		0	1
Latin American (1=yes)	0.02		0	1
Middle Eastern (1=yes)	0.05		0	1
South Asian (1=yes)	0.21		0	1
Southeast Asian (1=yes)	0.03		0	1
White (1=yes)	0.37		0	1
Male (1=yes)	0.50		0	1
Median Family Income (10k)	58.43	23.52	15	110
Grade 11/12 marks	69.68	14.62	0	99
Parents have PSE (1=yes)	0.66		0	1
<i>Immigrant Generation</i>				
First Generation	0.44		0	1
Second Generation	0.36		0	1
Third Generation	0.19		0	1
Applied Stream (1=yes)	0.19		0	1
Special Education Needs	0.10		0	1

(1=yes)				
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The results of the multivariate analyses are presented in Table 2. Odds ratios in the table are understood as relative to the omitted category, which was “confirmed neither university nor college.” Odds ratios are presented instead of logistic regression coefficients as they are easier to understand. An odds ratio over 1 represents an increased odds of the event occurring, while an odds ratio below 1 represents a decrease in the odds of an event occurring. For example, in the first model, the odds ratio for males going to university (relative to going to neither) is 0.541, meaning that being male decreased the odds of going to university by 45.9% (1 minus 0.541). Conversely, South Asians (relative to Whites) were about 2.7 times (or 270%) more likely to attend university.

The first model included only the gender, race, and income variables, all of which are statistically significant predictors of university and college confirmation. The intraclass coefficient was 0.142, indicating that differences between schools accounted for 14.2% of variance in the model and therefore rationalizes the use of multilevel models.⁸ The log likelihood also suggested that our model was preferable to the null hypothesis. Its reduction in successive models suggested model fit was improving with the addition of independent variables.

We found that being male (compared to female) reduced the odds of university and college confirmation. In terms of race, the findings varied greatly by group. Compared to Whites, East Asians, South Asian and Southeast Asians were more likely to confirm university and college. Blacks were less likely than Whites to confirm university but more likely to confirm college. Latin Americans were less likely to confirm university than whites, but no different from Whites in terms of college confirmations. In terms of income, there was a positive effect for university and a negative one for college. These findings show that gender, race, and income certainly do matter – in an additive manner -- for PSE confirmations.

In the next model, the interactions between gender, race, and income were added. The main effects for variables now become very difficult to interpret because their meaning changes when interaction terms are added. Instead, it is more meaningful to examine whether any of the interactions achieved statistical significance. Indeed, in the model predicting university confirmation, the interactions between *Black X Male*, *East Asian X Income*, *South Asian X Income* and *Male X Income* all proved statistically significant. In the model predicting college confirmation, only *East Asian X Income* was statistically significant. Because it is difficult to “eyeball” such relationships, it is more useful to present them graphically.

Table 2. Multilevel Multinomial Logistic Regressions Predicting Postsecondary Confirmations (Reference=Confirmed Neither) (N= 11835)

Odds Ratios

	University	College	University	College	University	College
Male (1=yes)	0.541***	0.753***	0.356***	0.644*	0.624**	0.645*
<i>Race (Reference=White)</i>						
Black	0.493***	1.300**	0.667	1.218	1.452*	1.215
East Asian	3.969***	1.355**	7.242***	2.236**	5.828***	1.664
Latin American	0.397***	1.068	0.417	1.075	0.762	0.945
Middle Eastern	1.234	1.260	1.365	2.232	2.048***	1.225
South Asian	2.715***	2.024***	4.013***	2.037**	3.684***	1.500
Southeast Asian	1.844***	2.069***	3.821**	3.753*	1.710**	1.628**
Median Family Income	1.007***	0.992***	1.006**	0.990***	0.996	0.987***
Black X Male			0.641*	0.798	0.602*	0.889
East Asian X Male			1.137	1.013		
Latin X Male			1.345	1.074		
Middle Eastern X Male			0.910	0.670		
South Asian X Male			1.117	0.775		
Southeast Asian X Male			1.138	0.858		
Black X Income			0.999	1.004		
East Asian X Income			0.988***	0.990*	0.991*	0.994
Latin X Income			0.997	0.999		
Middle Eastern X Income			1.000	0.992		
South Asian X Income			0.992*	1.003	0.998	1.003
Southeast Asian X Income			0.985	0.990		
Male X Income			1.007**	1.005	1.007**	1.005
Grades					1.129***	1.029***
Parental Postsecondary (1=yes)					1.344***	0.925
<i>Immigrant Generation (Reference=Third Generation)</i>						
First Generation Immigrant					1.304**	1.246*
Second Generation Immigrant					1.321**	1.521***
Applied Courses (1=yes)					0.128***	1.013
Special Education Needs (1=yes)					0.151***	0.415***
Special Education Needs X Black					1.147	0.929
Special Education Needs X Male					1.259	0.852
Special Education Needs X Income					1.018***	1.020***
ICC	0.114		0.114		0.080	
Log Likelihood	-10483.7		-10455.2		-8197.1	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1. Interaction of Gender with Black

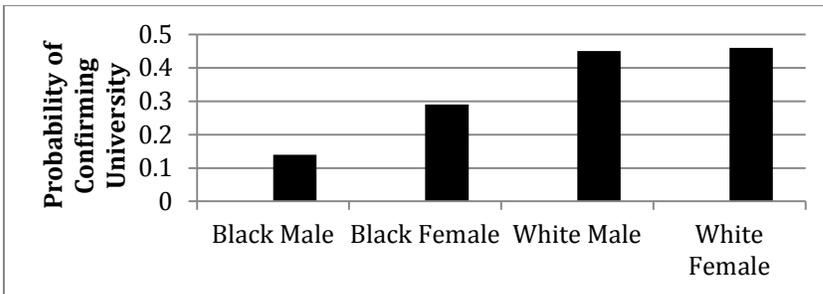


Figure 1 illustrates the interaction effect of *Black X Male*. This relationship shows that Black males are at an additional disadvantage in terms of their likelihood of confirming university. Their predicted probabilities of confirming university are at around 0.14, compared to 0.45 for their White male counterparts.

Figure 2. Graphs of Selected Interactions from Model 2

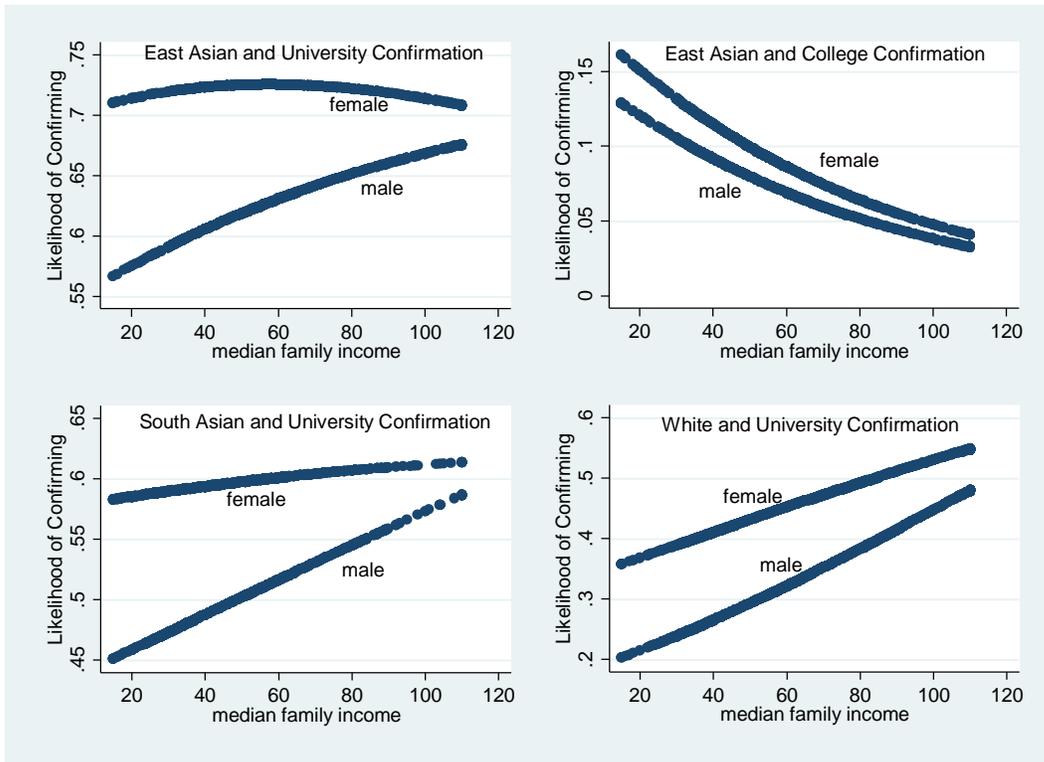


Figure 2 illustrates the significant interactions between *East Asian* and *Income* and *South Asian* and *Income* as well as between *White* and *Income*. We included both university and college confirmations for East Asian students because the interaction was statistically significant in each estimation. Because the interaction for *Male X Income* was also statistically significant, we graphed males and females separately to demonstrate the gender effect as well. As can be seen in all graphs, the relationship between gender and income is expressed as lines that have different trajectories in terms of likelihood of confirming PSE. In all cases, females were above males, but as income increased, the lines converged. In other words, the impact of income on PSE confirmation was different for males and females and narrowed at higher median family income levels. The different *race X income* interactions were illustrated by the very distinctively differentiated trajectories that the lines in each graph portrayed. In fact, if income had the same effect on university confirmations for all races, the lines in each of these graphs would look similar. Instead, their shapes were very different.

In the case of East Asians and South Asians, even at low median income levels, the likelihood of confirming PSE was fairly high (and much higher for females), and this increased steadily with income as well, although the trajectory changed for females at mid-to-high income levels. In the case of college confirmations, income steadily decreased the likelihood of confirming college for East Asians and this also narrowed for males and females at the higher income levels. In contrast, the lines for White males and females and university confirmations were somewhat parallel, although they did converge at higher income levels.

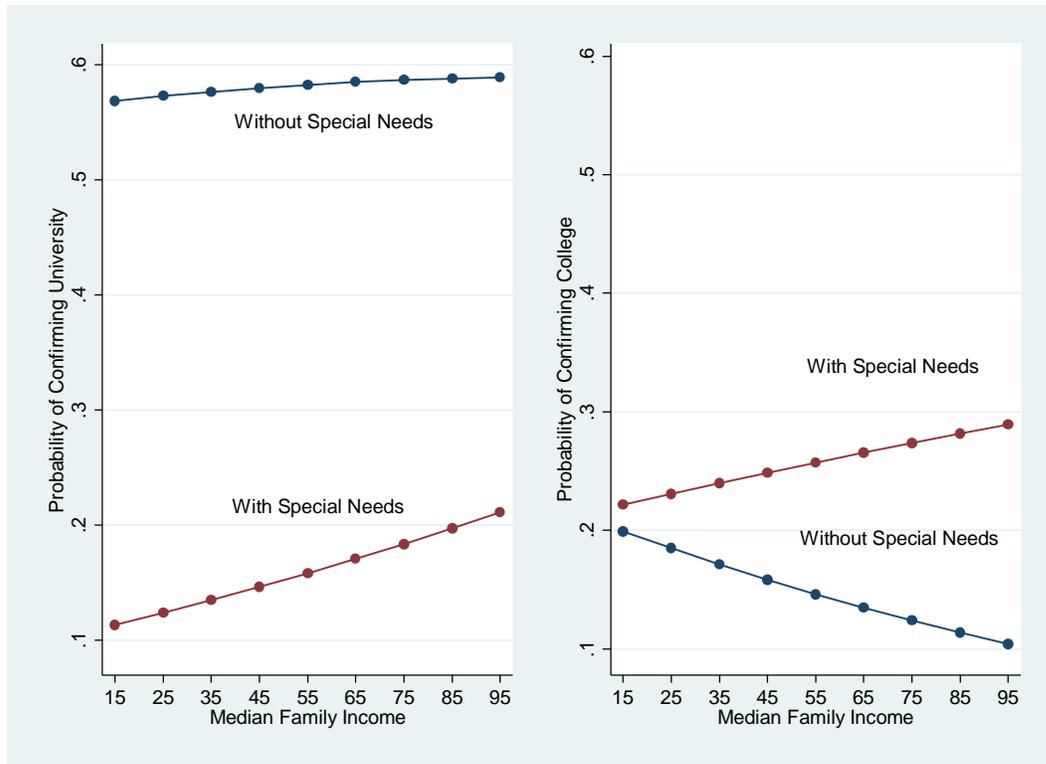
In the last model, we included only interactions from the previous model that were statistically significant. We included the additional measures of *grades*, *parental postsecondary education*, *immigrant generation*, and whether the student was in the *applied stream*. We also included our indicator of special education needs and interacted this variable with *Black*, *male*, and *income*.

We found that grades were positively associated with university and college confirmation, and that parental PSE was positively associated with university but not college confirmation. Relative to third generation Canadians, students who were first generation were most likely to confirm both college and university. As expected, being in the applied stream strongly diminishes the likelihood of confirming university, but not college. Having special education needs reduced the odds of university and college confirmations, with the negative effect on the odds of university confirmations being stronger than the odds on college confirmations.

Of our exploratory interactions, only *Special Education Needs X Income* was statistically significant. As with our prior interactions, the understanding of its relationship with the dependent variables relies on the main effects of the composite variables (*special*

education needs and income) as well as their interaction. We graphically illustrate the relationships in Figure 3.

Figure 3. Interaction of Special Education Needs with Median Family Income



As illustrated above, the relationship between income and confirming both university and college was certainly dependent on whether a student had been identified as having special education needs. In the case of university confirmations, an increase in income steadily increased the likelihood of confirming, although the gap between those with special needs and those without was sizeable. In the case of college confirmations, the relationship with income was completely reversed for those with special needs compared to those without. For those with special needs, their likelihood of confirming college steadily increased with income, but for those without special education needs, as income rose, their likelihood of confirming college was virtually nil. In the case of university confirmations, an increase in income steadily increased the likelihood of confirming, although the gap between those with special needs and those without was sizeable. In the case of college confirmations, the relationship with income was completely reversed for those with special needs compared to those without

DISCUSSION AND CONCLUSIONS

Our findings revealed that issues of race, class, gender, and having special education needs matter *very much* to the postsecondary transitions made by Toronto high school students. We found that income, race, and gender were intimately linked in explaining the PSE confirmations of students. For example, Black males were significantly less likely to attend university compared to other groups. Students with special education needs had limited postsecondary horizons and only those with sufficient economic resources stand a chance of attending college. These findings raise the question as to what sorts of interventions are possible to alter these existing situations that limit the life chances of young people.

To review, our research is motivated by an intersectionality approach, which is based on the premise that individuals' combinations of characteristics (e.g. race, ethno-racial group, disability, social class) put them at the "intersection" of various "social groupings". These combinations of characteristics must be considered when making recommendations for advancements in social mobility, including the transition to postsecondary education. This perspective, we argue, provides us with a fresh look at public policy and a new lens for examining marginalized student populations in terms of their access to PSE, their persistence in PSE, and their successful transition to the labour market.

We are not the first researchers to suggest that an intersectionality framework has direct policy implications. In fact, the Institute for Intersectionality Research and Policy at Simon Fraser University has developed guidelines for implementing the key tenets of intersectionality into policy recommendations (Hankivsky, 2012). They argue that it is of central importance to understand that an intersectionality perspective requires that individuals be conceptualized as occupying many characteristics, none of which can be prioritized. Additionally, the social categories that individuals occupy are socially constructed and as such, they are not fixed. These socially constructed identities are shaped by larger processes of power and influence and are dependent on time and place. The recognition of these factors as they exist thus necessitates efforts to promote social justice and equity (Hankivsky, 2012; Hankivsky & Cormier, 2011).

Our findings were disseminated to a group of representatives from the Ministry of Education, the Toronto District School Board, and the Higher Education Quality Council of Ontario who were invited to a full-day workshop held in April 2014 at the TDSB Civic Centre. We found this workshop exchange to be a rich source of ideas for how to address the complexity of findings that our analyses revealed. We assured participants that we would not attach specific suggestions to individuals or their organizations in our report in order to ensure their open participation within the workshop discussion.

Our analyses pinpointed certain intersectionality groupings – race, gender, class, and special education needs. An intersectionality approach may suggest, in fact, that a single

technique of disseminating information to students about PSE may not fit all marginalized student populations. We need to dig deeper and gear information to specific sub groups using targeted strategies. If we are to tackle lack of awareness of information and programs, we must focus on information that are of relevance to these groups. This is a point that was brought up repeatedly in the workshop.

Cultural capital and trust

There are at least two important aspects to the notion of information dissemination. The first is that the type of information regarding PSE applications and processes is definitely demarcated by familial experience with PSE - a notion that is relevant to Bourdieu's concepts of cultural and social capital (Bourdieu, 1986). The second is that students need *trusted sources* from which to receive relevant information.

Middle class families where at least one parent has attended PSE have a wealth of knowledge that they use to guide their children. Rosenbaum and Naffigizzer (2011) argue that secondary students need not only encouragement to attend PSE, but they require "cultural capital translators." There is a plethora of assumed knowledge that is required to successfully transition to PSE: entrance requirements, funding possibilities, the simple process of acquiring the right forms, deadlines, etc. What may seem like "common sense" to students whose parents have PSE is a foreign world to first generation students. In fact, common sense is knowledge – cultural knowledge – that comes with lived experience. As argued by Bourdieu (1986), this type of tacitly understood knowledge allows the people that have it to be at an advantage, particularly with regard to social mobility. If they are lacking particular knowledge, it is very likely they have access to a network (parents, friends) from which they can safely obtain that information. In other words, they have the social capital necessary to obtain needed information. While students with parents who have PSE may have been groomed from an early age to have the correct information about how, when, and where to apply, it is certainly not a taken-for-granted reality for students without this kind of family experience (or social and cultural capital). And it is simply not enough to direct these students to the right information because students who are not familiar with these types of processes will invariably become discouraged, intimidated, or make incorrect assumptions. In fact, Rosenbaum and Naffigizzer (2011) emphasize that it is precisely this step – *the inability to deal with this type of information* – that would surprise most middle class policymakers. It is not simply about the complexity of the forms themselves, but also the risk of incurring student debt and the fear of being pulled into a foreign world with which they have no experience. Rosenbaum and Naffigizzer (2011) also point out that students from lower SES backgrounds may have acquired a cultural value of avoiding debt, making the prospect of student loans seem daunting and unacceptable (a point also brought up at the workshop). Such students must not be forced to rely on their own assumptions – which may be misinformed and short-sighted. They must be shown how to apply for funding, the implications of this

funding, and the different career paths that will, as a consequence, be open to them. Being led to a 4 year liberal arts degree that accrues a heavy student debt is very possibly not the best match for students who want the guarantee of a job. Being informed about the programs that are most likely to help them realize their goals is far more helpful.

As stated above, a second component of disseminating information to groups revealed by our intersectionality analysis is very likely related to “trust.” Trust requires that information received by intersectionality groups be viewed as valid. There are several issues that should be highlighted regarding “trust”. Rosenbaum (2011) argues that simply increasing the “aspirations” of youth who are typically underrepresented in PSE programs will neither enhance their transition to PSE nor their ability to complete PSE. Rather, information about the realities of PSE must be provided, which includes the wide range of different types of degree and certificate programs that exist (i.e. a 4 year bachelor’s degree is not the only option) and that the successful completion of PSE is itself demanding and will require diligence and strong effort at the secondary school level. This discussion also relates to another topic that was raised in the workshop – “valuing all pathways”. Rather than encouraging a “university for all” approach, apprenticeship and college paths occupy a place in this discourse as second or third-rung choices. These alternate paths are quite attainable, require less investment in terms of tuition, consist of shorter-term programs of study, and are often financially and personally rewarding.

As mentioned earlier, Rosenbaum argues that simply raising the aspirations of disadvantaged youth is not enough and may actually be a disservice as this type of strategy fails to equip students with the “right” kinds of social capital and information they need to succeed. Specifically, first generation students must be provided with information about how to succeed in post-secondary education and to overcome the hurdles they must clear in order to even gain a place at such an institution. They need to be told earlier in their educational process what kinds of courses and grades they need to be able to gain entrance to PSE institutions. For example, People for Education (2014) recently found that while “applied” courses are theoretically eligible to be considered for university entrance, the hard reality is that students who take applied courses *very rarely* attend university. There is currently a major disconnect between what students *are told* about the possibilities of following an “applied” route and what the *actual outcomes have been* for such students.

Most importantly for the immediate future, concrete suggestions should be given to counselling staff in secondary schools and student success personnel in order to maximize the chances that *every student* will be aware of the possibilities that exist. This means that all students should be given the appropriate *guidance* to wade through the institutional and bureaucratic complexities associated with implementing post high school educational and career choices and be able to speak to similarly situated young

adults that have managed to negotiate these hurdles in the recent past. But who is the person doing the “showing” and mentoring? Again, this relates to the issue of information coming from trusted sources. Rosenbaum and Naffigizzer (2011) and Stephan (2013) call these individuals “cultural coaches”. Specifically, these individuals help students navigate this unfamiliar world that assumes a certain degree of “cultural capital”. While a natural assumption is that school counsellors can serve in this role, the reality is that many students are underserved by school counsellors given the very high student-counsellor ratio. Moreover, many of these students will require extended attention and repeat sessions. This is something that pressured school counsellors cannot provide to all students on a one-to-one basis. Stephan (2013) also argues that the standard counselling model that was initially developed to serve middle class students with PSE preparation, often remains unquestioned. This model may not work well in providing guidance to more disadvantaged students.

In 2004-2005 the Chicago Public School System implemented the “college coaches” model in 12 schools to assist low-income youth with the PSE application process. One college coach per school was brought in to deal with all student groups, not one particular subgroup. College coaches differed from counsellors insofar as they offered formal college “programming” (i.e. various information sessions) and operated out of a dedicated room in each of the schools. These rooms housed computers and college-related literature that students could access during breaks and which also served as offices for the coaches. Coaches also differed from counsellors in one other significant way. Rather than having required training in psychology, college coaches typically had backgrounds in community-based youth work. Evidence gathered after evaluating this model indicated that the more disadvantaged students tended to derive the greatest benefit, including increased post-secondary enrolments.

Our findings have revealed evidence of distinctly different PSE outcomes based on the intersectionality of race, sex, class, and special needs education. Clearly, a one-size-fits-all policy approach will be of limited use, as it denies the existence of a starting place of disadvantage for a large proportion of students. Policymakers must look at the intersections of students’ lives and target initiatives to them. This is not a suggestion that every student requires a custom-made policy initiative, but that ministerial and institutional policymakers should recognize that there are many factors that act to constrain the choices made by youth. Our workshop revealed that policymakers believed that information about PSE choices needed to be better communicated to students. Our analysis of intersectionality groupings and an understanding of the process of communicating useful information to such groups revealed that there are at least two major issues to be considered: 1. the social networks of students and taken-for-granted assumptions that surround the provision of information, and 2. that such information come from trusted sources. We have highlighted the “college coach” program that has been

used in the Chicago Public School system to tackle both issues highlighted above. The success of this pilot program – demonstrating an increase in enrolment by Blacks and Latinos and some closing of the gap in PSE enrolments between high and low SES groups --subsequently led to its expansion (Stephan and Rosenbaum, 2013). Ideas from this type of model may be useful to the TDSB (and other school boards) in reducing the disconnect between fostering aspirations and observed enrolments.

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¹ Information on the Open Ontario Plan can be found at http://www.fin.gov.on.ca/en/budget/ontariobudgets/2010/papers_all.pdf

² Canada's rankings are provided by province, while other countries provide country-level data.

³ The 2001 Census was the most recent Canadian census data that were available when the data set was constructed in 2007. The 2006 Canadian census had not yet been publically released.

⁴ All students applying to postsecondary in Ontario do so through one of the two institutions. It should be noted that while academic researchers can, upon approval by the TDSB, gain access to student Census data, only TDSB staff can analyse information containing PSE confirmation information.

⁵ This latter category includes those who applied to postsecondary but were not accepted by an Ontario college, those that graduated from high school but did not apply to postsecondary over the three years and those who dropped out or were still in school at the end of the three years. For the purposes of our analyses, such individuals were similar insofar as they all shared the characteristic of not being accepted to university or college.

⁶ Approximately 9% had applied to PSE and had not been accepted, while nearly 10% graduate but do not apply to PSE. Just over 15% had dropped out or were still in school.

⁷ Academic stream was determined through the majority of courses taken according to the Grade 9-10 Program of Study. Most students took a majority of Grade 9-10 courses in the Academic program of study (excluding courses that are 'Open', that is, without a defined program of study).

⁸ In successive models, this figure dropped as independent variables are added. This means that the variance between schools decreases once we accounted for the factors included in the models.