



Understanding Profiles and Pathways of University-to-College Transfer Students

Abstract

The purpose of this report is to better understand data collection methods, practices of certain demographics, and pathways of university-to-college transfer students. In the last decade, significant increases have been reported in college entrants with (some) previous post-secondary experience. University-to-college transfer students reflect approximately 20% of all student transfers in Ontario. This development, among others, is expected to change demographic compositions of students entering Ontario colleges. Understanding these shifts can inform future decisions about articulation and transfer pathways, services within Ontario Colleges, and beyond. It is also expected that understanding the gaps between desired and current data collection methods could improve the quality of the information colleges receive, store, collect, and analyze concerning transfer students.

The data collection process illustrated that information about transfer students entering different Ontario colleges is challenging. This is a result of differences in the structures of student information systems and the quality of some indicators received through OCAS. Therefore, data from the KPI Student Satisfaction Survey was collected to verify administrative data. Overall, the results of the KPI Student Satisfaction and Engagement Survey seemed to be a robust and accessible source of information on transfer students.

University-to-college transfer students account for a significant percentage of the incoming student population in Ontario colleges. According to the research, 13,226 students with university experience started a program at one of the participating colleges over the course of three academic years. After analyzing the KPI data, 1 in 4 students (23.3%) enrolled at the colleges, indicated they had (some) university experience as their highest level of completed education. These transfer students tend to be older, are typically female, and often transfer from universities in proximity to the college; where they were enrolled for longer periods of time. Often transfer students finished their degrees while they were starting a college program (60% in KPI data; and 56% in administrative data), after excluding graduate certificate students, almost half of the transfer students finished their degrees. This also results in a significant number of credits being transferred to the college; 28% into Algonquin College and 39% to Seneca College. Excluding graduate certificates, this percentage increases significantly with 7 and 10 percentage points respectively. Transfer students most often move into Diploma or Graduate Certificate credentials and are most interested in the Business program cluster.

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Acknowledgement

ALGONQUIN
COLLEGE



CAMBRIAN
COLLEGE



FANSHAWE

Seneca

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Responsibility for the analysis and the opinions expressed in the report remain solely with the authors.

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Introduction

In the last decade, efforts have increased to improve student mobility within the postsecondary education system (PSE) in Canada. The ability to transfer between institutions allows students to choose the pathway that suits their needs and interests, which supports them as they strive to meet specific career goals and increase labour market possibilities. Student mobility is perceived as a mechanism for social advancement in addition to improving equity and the efficiency of the educational system. To facilitate higher education transfers, the Government of Ontario uses a model to improve student pathways and mobility, strengthen collaboration between colleges and universities and develop transparent credit transfer data collection and management systems to support student success (Trick, 2013).

University-to-college transfer students reflect approximately 20% of all student transfers in Ontario, including student transfers between institutions at the college level and the university level (40% of students are transitioning from a college to a university, 20% from one college to another, and 20% from one university to another) (ONCAT, 2015). A case study involving transfer students between Seneca College and York University showed that of all the students moving between the two institutions, over one-third of them transferred from university to college (Smith et al., 2016). This substantial transfer student population presents a significant opportunity for university-college partnerships; particularly for students interested in applied technology, career training, and trades. However, little is known about this population of students, as existing research focuses primarily on college-to-university transfer students. Existing studies including university-to-college transfers have been carried out on an institution-to-institution basis.

Contributing to this lack of knowledge about the transfer student population are the current data collection methods used at the colleges and through application services. Future students applying through Ontario College Application Service (OCAS), self-report previously attended or completed postsecondary education. During the application process, transfer students have the option to request their prior institutions' transcript(s) - providing colleges with a wealth of information. It is expected, that only a subsection of these students requests their transcript(s) as there are fees involved and it is only required for specific services (e.g., for the college to evaluate applicants advanced standing request or to evaluate the minimum credentials required to gain admittance to the college). As such, it is difficult for the colleges to identify and track all transfer students or create appropriate support systems and resources to assist them in their transition. Throughout the PSE sector, there is certainly a desire to know more about pathways as a means of understanding how the PSE systems functions, how the different institutions relate, and how to go about developing services and policies sensitive to the influence of prior learning experiences.

Therefore, the purpose of this study is to determine the current data collection methods at various Ontario colleges and to formulate strategies for tracking incoming university-to-college transfer students in order to gain insights into the overall rates, characteristics and pathways of this unique student population. The data can be used to better facilitate their transfers, remove barriers to mobility, and develop better support systems and structures to increase and improve student mobility. Smooth transitions increase student satisfaction, create learning opportunities and help avoid knowledge duplication. This study provides insights regarding the demographics of university-to-college transfer students, specifically their trajectories and patterns. It will contribute to stronger and universally applicable data collection systems, which can be leveraged to remove barriers and improve support systems for future transfer students. The research has significant policy implications for colleges regarding the development of targeted transfer pathways, articulation agreements with partner universities, credit transfer opportunities, along with the development and enhancement of policies that facilitate university-to-college student transfers.

This report is organized in the following manner. It begins with a review of the literature on mobility across post-secondary education institutions, with a focus on university-to-college transfers. As research on student mobility within the higher education sector in Canada is scarce, some international research will be reviewed. Following this, there is a description of administrative data, the data collection methods used by the participating Colleges, and an explanation regarding construction of the datasets. Next, we review the descriptive statistics, which includes mobility numbers, student and program characteristics, and pathways of university-to-college transfer students. The following section describes the gaps in data availability and proposes recommendations for future data collection as well as transfer activities (i.e. pathways, credit transfers, and agreements) to increase and support university-to-college transfers.

Literature Review

Historically, the content of college courses and university programs in Ontario is not designed to ensure a smooth transition between both sectors. Ontario colleges and universities have traditionally maintained relatively separate roles with limited collaboration. Community colleges have focused on technical training while universities provided career-oriented preparation for professions and knowledge-based occupations (Gawley & McGowan, 2006; Skolnik, 2010). Nowadays, there is an increased desire and need in society for greater transferability of educational skills (Hurlihey, 2012). In light of the ever-changing economic, social, and labour market challenges and demands; a flexible and seamless continuum of PSE is becoming more critical. Therefore, the Ministry of Training, Colleges, and Universities started to actively promote college-university cooperation, transfers of students from sector to sector and financed the development and distribution of a college-to-university credit transfer guide. Although the guide is funded to work both ways and the number of articulation agreements between colleges and universities has been increasing significantly, its focus appears to be one-sided: , facilitating students who transfer from colleges to universities.

Available data suggests that a significant number of students in Ontario are moving between postsecondary institutions, and the numbers are increasing. The data emphasizes the importance of understanding the profiles and motives of these students to better facilitate pathways within postsecondary education. Multiple initiatives are undertaken to evaluate and strengthen pathways within and amongst the institutions; to reduce the need for students to repeat coursework and to better support students in institutional transfers via on-campus academic advising, counselling, and orientation programs (MTCU, n.d.).

There is a lack of standard procedure among institutions concerning how to manage and document transfer students (i.e. how to determine if an incoming student is a transfer student, and how institutions determine whether credits are, in fact, transferable). In this report, transfer students are defined as, “someone who has completed a course, some courses or an entire program at one institution and wants to continue their postsecondary education at another” (ONCAT, 2018). Using this definition, students who need a completed credential before entering a college credential (i.e. graduate certificate) are included in this study.

An analysis of the available national and provincial data sources, suggests a significant and rising pattern of university-to-college transfers. Statistics Canada’s National Graduate Survey captures activities before college enrolment, including completed university degrees from a Canadian or non-Canadian institution. The results indicated that 13% of Ontario’s college graduates from the class of 2000 also had a bachelor’s degree from university. Nationally, this number is slightly lower; 10% of college graduates previously completed university (ACAATO, 2005).

The College Student Satisfaction Survey administered by the Ontario Ministry of Advanced Education and Skills Development (MAESD), also illustrates that the proportion of university graduates attending college is on the rise. From 2001-2006, only 7.5% of the college students previously graduated from university (CUCC, 2011). Half a decade later, 41% of the students enrolled at an Ontario college had some previous postsecondary education, 12% of whom previously completed a university credential and 11% of whom completed a college credential. The remaining students had previous PSE experience without a completed credential (Colleges Ontario, 2012). A decade later, the results of the 2016-17 student satisfaction survey showed significant increases; 46% of college entrants had some previous PSE experience, 16.5% are university graduates (Colleges Ontario, 2017). Offering college credentials to university graduates has become a market segment of interest for college across Ontario. To illustrate, in the 2015-16 academic year, Algonquin College offered 64 graduate certificate programs, compared to 39 in 2012-13.

The ministry mandated Ontario University Graduate Survey (OUGS) is annually conducted with support from Ontario universities through a third-party survey company. Each undergraduate cohort is surveyed two years after graduating from university. As part of the survey, graduates are asked whether they were attending college six months and two years after graduation. The OUGS survey found that 11.5% of university graduates attended a college six months after graduation, with 9.4% of them attending two years after graduation (OUAC, 2009). Of the university faculties, students in the social sciences, humanities, and business areas tend to enrol in college programs in greater numbers.

Data collected by OCAS during the application process suggests that 6.7% of college applicants and 5.6% of college registrants provided documentation (university transcripts) related to previous university education. This number remained rather stable for the 2000 through 2004 college applicants and registrants (ACAATO, 2005). More recent data indicates a higher number –almost double – as 13% of applicants and 11% of first-year registrants uploaded transcripts of previous university experience (Colleges Ontario, 2009).

An ONCAT funded project conducted by Durham College (2016), suggested that 27.8% of all postsecondary students who were newly enrolled in September 2014 at any of the 22 participating Ontario Colleges, had prior postsecondary experience. It also indicated that students often made multiple attempts at pursuing postsecondary education. Almost half of the students with prior postsecondary experience declared two attempts at pursuing a postsecondary education; while 17.1% made 3 or more attempts at publicly funded Ontario institutions. The declaration of prior PSE is based on applicants’ voluntary self-disclosure on the OCAS application. This is significantly higher than the number of students requesting transcripts; only half (57.5%) of the applicants requested them from prior institution(s). Over a longer period, the percentage of students that upload a transcript and report prior PSE is unknown. A significant percentage of students is expected to upload a transcript during a later stage of their studies, primarily for credit transfer purposes.

The OCAS numbers and the Ontario University Graduate Survey numbers are lower than both the findings of the Student Satisfaction Survey and the National Graduate Survey. One partial explanation is that OCAS only includes individuals who voluntarily provided copies of a transcript as part of their application. Applicants who have not needed or wanted to disclose this information are, thus, missing from the data. In the case of the OUGS data, it contains specific information about graduates who possess an Ontario degree. The OUGS asks university graduates whether they attended college six months or two years after graduation; unlike the other two surveys, in which the university degree could have been attained at any time prior to college, opening the door to a potentially larger pool of students.

Little is known about the academic pathways university students or graduates take when transferring into a college credential. Using the 2013 National Graduates Survey data, Lennon et al. (2016), reported that significant flows of university graduates exist from the broad field of social and behavioural sciences and languages. Of those graduates, one third subsequently obtained a college credential in a similar field of study while half of them completed a college credential in business, management, or public administration.

There is equally little information concerning the motives and principle reasons for university students and graduates to transfer from university to college. A study of a single Ontario college reported that a vast majority of their transfer students were looking for “more opportunities for career advancement”. Other common reasons included to broaden education, to look for a different approach to teaching and learning, a lack of available jobs in a previous field of study, and financial reasons (Confederation College, 2013). Though, considering the small sample size, the generalizability of this study is questionable. The case study of transfer students between Seneca College and York University suggested that the transfer function serves those who wish to supplement their university credential with college experience to increase their labour market possibilities. For transfer students who may have performed poorly at university and/or did not attain credentials (approximately a quarter of the York-Seneca transfer students did not earn a credential and were not on their way to earning one), university-to-college mobility offers students a “second chance” at attaining some form of credential (Smith et al., 2016). Wilson (2009), suggests that reverse transfers – often unemployed university graduates, largely in liberal arts, who start a community college program to lead them to employment – is a significant phenomenon.

In general, much of the existing research on student demographics, perceived barriers in institutional transfers, as well as student integration and success focuses on the experiences of transfer students from the United States, transferring from college to university. Research on Canadian – and specifically Ontario – transfer students is limited, particularly research that relates to university-to-college transfer students. This is further complicated by differences in educational institutions and systems across provinces.



Research Questions

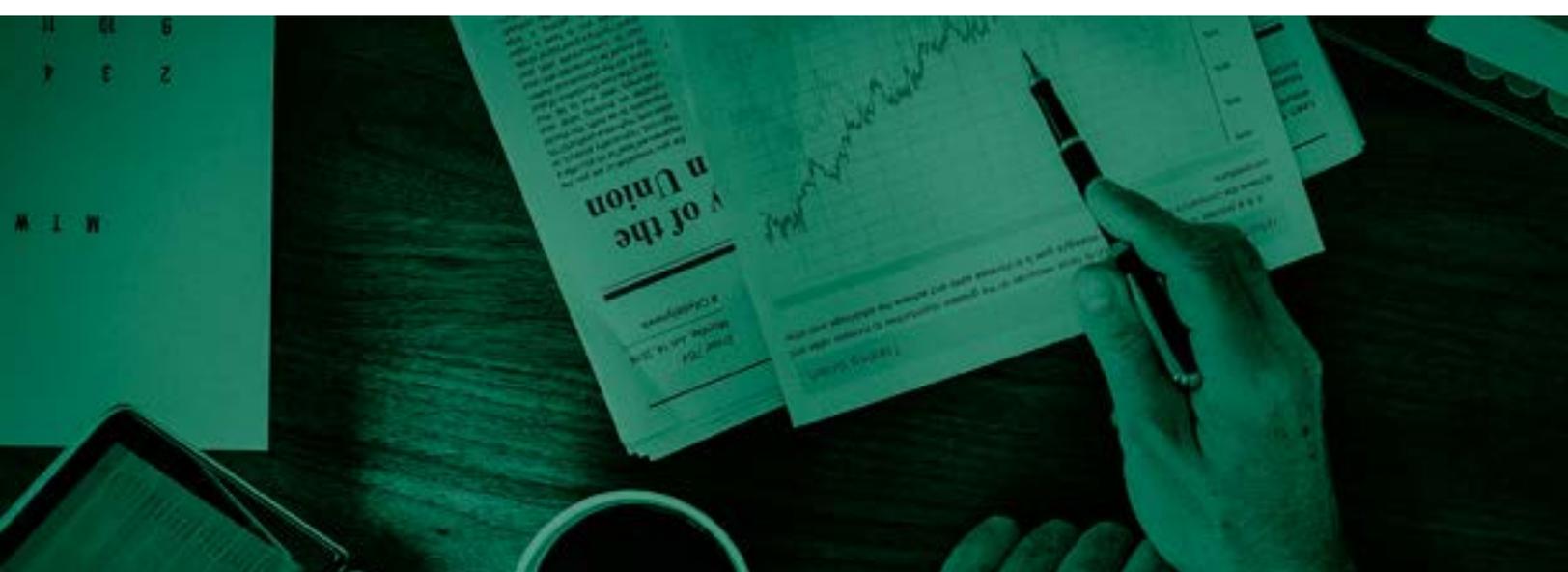
The purpose of this report is twofold. To begin, it is necessary to improve our understanding of data collection methods used on incoming transfer students at various colleges. The outcomes can be used to determine gaps in the collection systems and develop strategies for tracking incoming transfer students in a more uniform way. Second, the project will conduct an analysis on the collected data to better understand the rates and characteristics of university-to-college transfer students. This will improve our understanding of university-to-college student mobility and the profile of the students entering the college system. In doing so, we aim to address the following set of questions:

1 What data on transfer students do colleges currently collect and how?

- Are the data collection methods comparable at the different colleges?
- Are there gaps between the collection of desired data and the current data?
- Where gaps in data collection exist, is collection feasible?

2 What is the profile of university-to-college transfer students?

- How many applicants transfer from a university to the participating colleges?
- What are the demographic characteristics of these students (i.e. gender, age, sociodemographic background)?
- Did they have completed degrees or partially completed degrees?
- What program are they coming from?
- What program and level of credential are they transferring into?
- Do they transfer into a related program or into a different discipline?
- How many credits are transferred into the college?



Data Sources

This study explores the completeness, quality and reliability of different data sources. It uses student application history provided by OCAS as well as administrative data from the participating institutions. Different external data sources were explored. This resulted in the collection of data from the KPI Student Satisfaction and Engagement Survey to inform the development of transfer student profiles. The research includes every student that started their college program at one of the four participating colleges during a recent three-year period (from 2014-2017 or 2015-2018). It includes students that requested a transcript from one of the Ontario universities either during their application process in OCAS and/or submitted a transcript during a credit transfer request. Students who may or may not have uploaded their transcript but self-declared prior Ontario university experience during their applications process, are included in the Algonquin College student population.

ADMINISTRATIVE DATA

Information about each individual college applicant is made available through OCAS. The centralized application service for public Ontario colleges, processes over 200,000 applications per year. The data is processed daily at OCAS and is made available to the colleges shortly after. During the application process, information about applicants' characteristics, background, and prior experience is collected. Applicants who attended, have graduated from a PSE institution, or are attending a PSE institution at the point of application, are required to self-document their prior postsecondary experience. These applicants can also submit documentation by requesting transcripts during their application process. On top of the electronic transcripts received from OCAS during the application process; transcripts uploaded during the credit transfer process have been included when available. Only students with experience from an Ontario university are included. The total number of students with prior university experience per college, is presented in Table 1.

Table 1: Number of students with university experience, including and excluding graduate certificates, per college, using administrative data, for the 3 most recent academic years available (2014-17 or 2015-18)

Data	Algonquin		Cambrian		Fanshawe		Seneca	
	2014-17	2015-18	2014-17	2015-18	2014-17	2015-18	2014-17	2015-18
	Total	Total Excluding Grad Certs	Total	Total Excluding Grad Certs	Total	Total Excluding Grad Certs	Total	Total Excluding Grad Certs
Year 1	1,604	1,174	56	56	1,134	742	1,524	1,051
Year 2	1,644	1,216	250	196	1,146	729	1,472	989
Year 3	1,628	1,104	161	115	1,110	652	1,497	1,026
Total	4,876	3,494	467	367	3,390	2,123	4,493	3,066

Notes:

Algonquin College population includes self-declared prior PSE experience

Cambrian and Fanshawe population includes transcripts uploaded through OCAS

Seneca College population includes transcripts uploaded through OCAS and at a later stage of their program

Due to the admissions requirement for the graduate certificate credential, students applying to this credential will upload their transcripts. Seneca College could support this by providing data about the total amount of entrants per academic year. Of all the entrants during those 3 academic years (27,554 in total), 16.3% submitted a university transcript either during the application process or at a later stage, when applying for transfer credit. Excluding the graduate certificates, only 12.0% submitted a university transcript (3,066 out of 25,557). The demographics of the student populations at Seneca College are available in Appendix A, Table 9.

KPI STUDENT SATISFACTION AND ENGAGEMENT SURVEY

Beginning in 1998, the KPI Student Satisfaction and Engagement Survey, a paper-based, Ministry mandated performance measurement for Ontario Colleges has been gathered annually. It is one of the sources of the Key Performance Indicators (KPIs). The colleges have been mandated to collect and report performance data in the following five areas: graduate satisfaction, student satisfaction, employer satisfaction, employment rate, and graduation rate. The survey captures approximately 65 percent of students enrolled in the Ontario College system. The precise response rates per participating college, are shown in Table 2.

Table 2: Response rate KPI Student Satisfaction Survey per participating college, 2014-2017

	2014-15	2015-16	2016-17
Ontario	59.9%	60.8%	58.8%
4 Colleges	55.9%	54.1%	56.1%
Algonquin	66.5%	50.9%	56.7%
Cambrian	65.1%	66.4%	68.9%
Fanshawe	61.8%	68.4%	65.0%
Seneca	45.5%	46.7%	48.6%



The survey is to be administered to all students enrolled in PSE programs of instruction approved by the Ministry for funding through the general-purpose operating grant. Students who are registered in their first semester or have been given advanced standing, and students who are registered in an online program are excluded from filling out the survey. Survey answers can be parsed both by type of previous education (i.e., college or university experience) and whether a credential was completed (i.e., if student had some university experience or a university degree). For this study, the result from the question Education completed before entering this program (question 75.) was used as the main selection criteria. When students filled out ‘Some university’ or ‘University degree’ as their highest completed prior education in the academic years 2015-2017, they were included in the study population. To capture the non-international transfer student population, students who were enrolled at the college on an International Study permit were excluded. Though, this still captures non-international students with university experience from abroad, and students with international experience residing in Canada on a different visa or residence permit. It also includes university-to-college non-international transfer students from outside the province.

Interestingly, the KPI Survey allows us to compare the students with university experience to students possessing a high school diploma, and students with (some) prior college experience. Students with both college and university experience would end up in the university category. The number of students captured in those groups are presented in Table 3.

Table 3: Number and percentages of KPI Survey respondents per highest completed education, 2014-2017

	4 Colleges	4 Colleges	Algonquin	Algonquin	Cambrian	Cambrian	Fanshawe	Fanshawe	Seneca	Seneca
High School Diploma	21,767	54.6%	7,571	52.7%	2,093	57.4%	6,327	56.7%	5,776	54.1%
Some previous college/college diploma	8,823	22.1%	3,331	23.2%	967	26.5%	2,804	25.1%	1,721	16.1%
Some university/University degree	9,272	23.3%	3,476	24.2%	589	16.1%	2,024	18.1%	3,183	29.8%
Total	39,862	100%	14,378	100%	3,649	100%	11,155	100%	10,680	100%

Note: Students who filled out: Other; None of the above or College upgrading as their highest completed prior education are excluded from this study

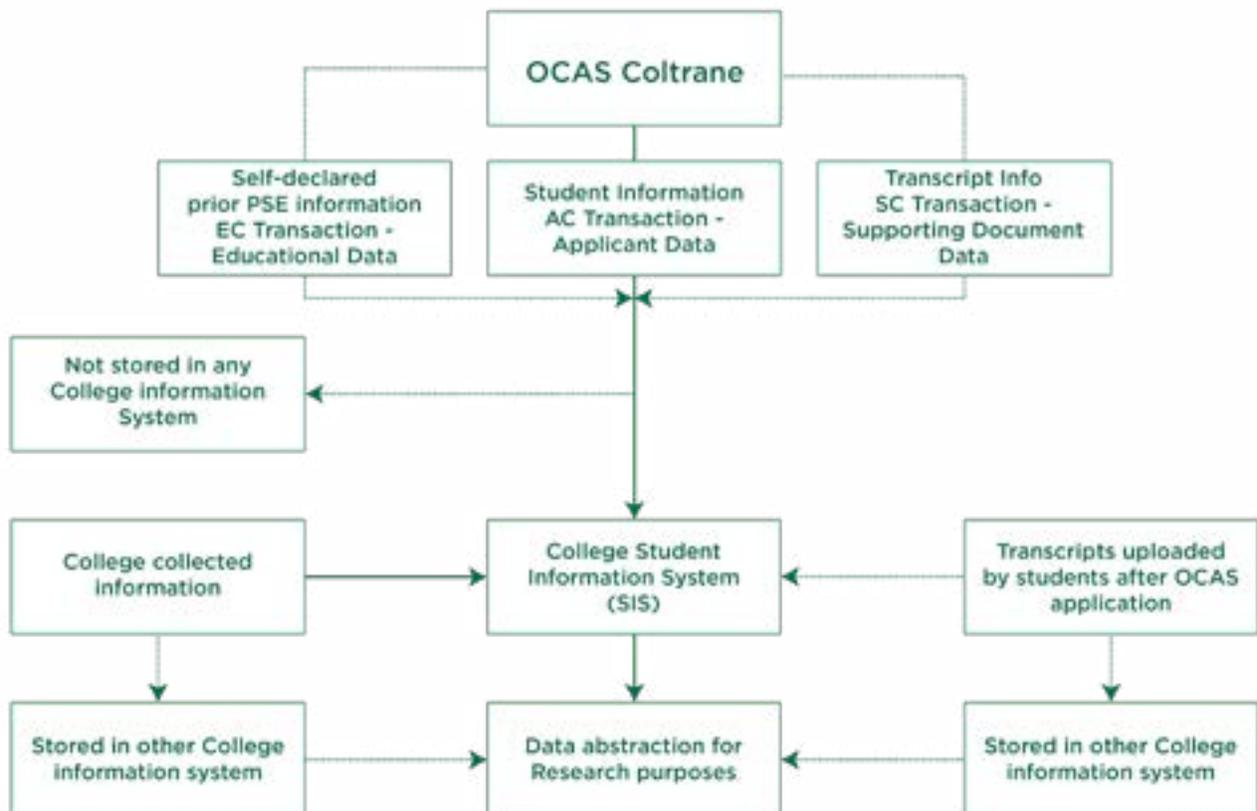
Results

Results

DATA COLLECTION CONCERNING TRANSFER STUDENTS - WHAT'S THE REALITY?

Currently, there are no national data collection systems to which institutions have access that can automatically report on the completed postsecondary pathways of students. Therefore - to better understand the differences between colleges' student information systems - the data collection on transfer students took place independently at the four participating institutions. An overview of data collection structures at the different colleges, has been depicted in Figure 1. The different administrative data sources available to describe transfer students, data collection methods, and gaps in desired data collection at the different colleges as well as college-wide will be explained using this figure. More detailed data collection methods per college can be found in Appendix B.

Figure 1: An overview of information collection and storage of transfer students



DIFFERENT OCAS RECORDS

OCAS centrally processes applications for non-international college applicants. Information is collected in different sections of the students' profile. Personal information contains gender, date of birth, and first language. The details concerning each applicant are subsequently transferred to the colleges selected by the applicant. Every college in Ontario receives their applicant's data from OCAS, using a structure laid out in the Coltrane Specifications document (OCAS, 2016). The transmission layout and guidelines of the applicant's data are reviewed every year to standardize the data in a format that can be electronically processed by the colleges.

Each record, sent by OCAS, contains a "transaction prefix". Different prefixes of a students' application can be sent at different moments in time. The records that are pertinent to this research include:

1. AC Transaction including the students' personal information, (gender, date of birth, country of birth, city, province, status in Canada, first language, citizenship code, aboriginal status, first generation, and high school information).
2. EC Transaction includes educational data. It contains self-reported information on the institute and program a student attended in the past. It also contains self-reported information concerning the start date, end date, level achieved and credential code.
3. SC Transaction includes information about the students' supporting documents. This can be a College transcript or University transcript from an Ontario institution. Information linked to the transcript is the Educational institute code, name, and country. Program specific information contains Program name, level achieved and credential code.

CAPTURING OCAS INFORMATION IN STUDENT INFORMATION SYSTEMS

Although every college receives the data in the same format, not all the information is saved in the institutions' student information system in the same way. The colleges make use of differently structured Student Information Systems to collect and store student information. This can cause OCAS data not to be captured in colleges' student information systems. The systems are not always structured in a way that allows them to capture all the OCAS information systematically. It may be that colleges are (or were initially) not interested in capturing the indicator(s), so the system was not designed to store it as such. OCAS information initially stored in the student information system, can also be replaced by college collected information (e.g., parents' education and indigenous status) to be able to use different definitions or change student status or student information during their program enrollment.

The colleges' Student Information Systems of various structures can also create challenges in data extraction and data linking. The OCAS information is stored in different parts of the system. Linking the different sources of information can be challenging. For example, prior post-secondary experience captured in the EC transmission can be collected but cannot be automatically linked to the SC transmission. Therefore, we cannot automatically tell if students who self-declared prior PSE experience also uploaded a transcript to OCAS during their application.

Information that is collected through the colleges following the application procedure is not automatically linked to the information collected by OCAS. If students upload their transcripts after the OCAS application when being registered at the college, these transcripts might be stored in different college information systems. Consequently, the student information systems at some colleges now have the capacity to automatically link the information from these transcripts to the information collected during the application process.

DATA EXTRACTION FOR RESEARCH PURPOSES

While abstracting data for the purposes of this research project, we came across multiple data reliability issues. The first issues tie into the completeness and reliability of self-declared prior PSE information. It is not guaranteed that applicants self-declare their prior education or do so correctly. Most of the questions in this section are open-ended, so applicants are not aided by drop down menus when it comes to names of institutional or dates. This resulted in many incorrect and misspelled values. For example, end dates occurred before the start dates of the students' university program, end dates were far in the future, or start dates were in the distant past.

The four participating colleges had little to no experience collecting the self-declared prior post-secondary information. Data abstraction and cleaning was considered a time-consuming exercise and the reliability is questionable. The information has never been used for student services or other purposes at the participating colleges. Therefore, only Algonquin College decided to invest the time and resources to collect, clean and analyze the self-declared student information at their college.

The reliability of some indicators is expected to be poor for research purposes. For example, almost 1 out of 3 applicants filled out "Unknown" and "Other" for the question 'Credential received or will receive by first day of college'. Cross tabulating these outcomes against college credential suggests that students often fill out "Unknown", in spite of the fact that those students are expected to be graduates considering the eligibility criteria of the programs they are enrolled in. For example, a number of students moving into graduate certificates filled out "Unknown" or "Other" as their highest received credential - in most cases - they need a degree or diploma in order to be eligible for their program. Another example is the identification of Aboriginal learners, especially when it is cross tabulated against country of birth or first language. This is probably caused by the wording of the OCAS form and the positioning of the question (i.e., Aboriginal ancestry was listed under Status in Canada). Therefore, some of the information was available in the Student Information Systems but was not collected or analyzed for this project. There were concerns surrounding reliability (e.g., Aboriginal Person Indicator) or the amount of time required to collect the data (e.g., amount of credits transferred).

Although transcripts are considered the most reliable source of prior PSE experience; having one on file does not mean that information can be automatically extracted from it. If all transcripts were structured in the same way, information could be extracted automatically and consistently. Presently, the indicators captured by transcripts are not automatically accessible and extraction is often carried out manually. While transcripts contain a wealth of information, it cannot always be used for research purposes. For example, transcripts contain a graduation date and title, minor and major, as well as other valuable information about a transfer students' prior experience. This information cannot be collected automatically, and, as a result, is not available for research purposes.

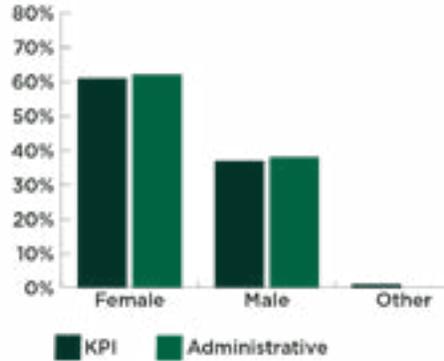
THE PROFILE OF UNIVERSITY-TO-COLLEGE TRANSFER STUDENTS: DEMOGRAPHICS

Multiple demographic characteristics were collected to better understand the university-to-college transfer population. The findings collected through KPI (acronym used to indicate the data collected through the KPI Student Satisfaction and Engagement survey) and the administrative data will be shown below. The institution specific data can be found in Appendix A, striking differences between colleges will be highlighted in the results section.

GENDER

University-to-college transfer students are more likely to be female, which is true of all participating colleges. The KPI and administrative data both show the same results.

Figure 2: Gender of transfer students comparing KPI and administrative data



AGE

A majority of university-to-college transfer students are 21 years of age or older; with a significant amount in their mid to late twenties (1 out of 3). The students included in the KPI population are significantly older than the students captured in the administrative data. Multiple factors could contribute to these differences, including; the fact that students filling out their age in the KPI Student Satisfaction survey do so in their second semester and are – thus – older than they were at the beginning of their program. The exclusion of students transferring from universities outside of Ontario in the administrative data might also play a role, as these students are included in the KPI dataset. Canadian students with foreign education, in addition to international students who reside in Canada on a permit other than one for international study are also included in the KPI dataset. Therefore, the KPI data represents a broader – and probably older – university-to-college transfer population compared to the administrative data. The administrative data is predominantly based on those who supplied transcripts (either during the application and/or credit transfer procedure). Older students, who attended university in the distant past, may not upload their transcript as their experience would no longer be relevant for college services and transcripts could be difficult to assess.

There are some notable differences between the participating colleges that are particularly evident in the KPI data. Students at Cambrian and Fanshawe College seem to be younger while students at Seneca College seem to be older. These differences can be reviewed in Appendix A, Table 1-4.

Figure 3: Age of transfer students comparing KPI and administrative data

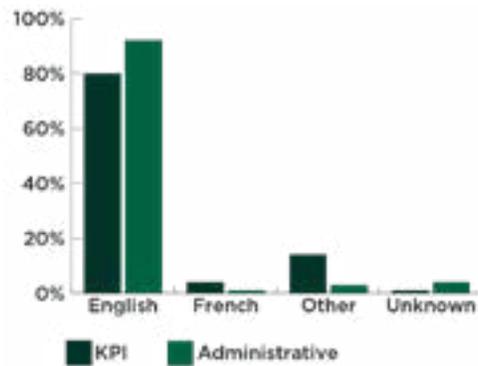


LANGUAGE

The main language of this transfer student population is English. There is a substantial difference between the KPI and administrative data when it comes to transfer students with another first language. This might reflect the group of international students or immigrants residing in Canada on a permit other than that which is for international study, who are included in the KPI dataset. Although, we expect other factors are influential in explaining the difference of 12 percentage point where main language is concerned.

Tables 5 and 6 in the Appendix show higher percentages of transfer students with another first language for both Algonquin and Cambrian College. Fanshawe College shows lower percentages in both datasets. Though, the discrepancies between datasets are equally large at the three Colleges.

Figure 4: First language of transfer students comparing KPI and administrative data

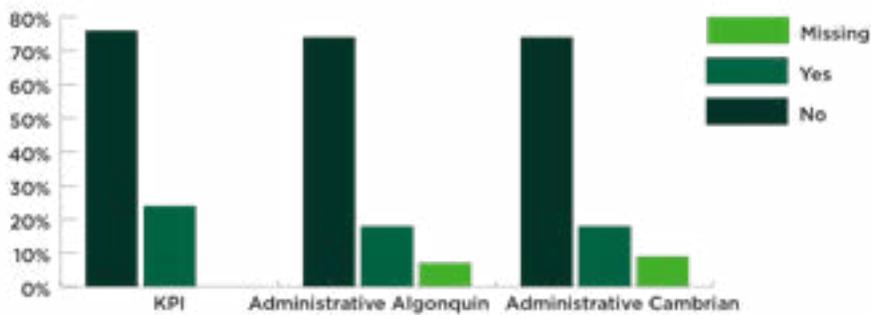


Note: These results exclude Seneca College

FIRST GENERATION PSE

Approximately 1 in 4 students filling out the KPI Survey self-declared that neither of their parents/guardians ever attended a university or college. Administrative data from Cambrian and Algonquin College showed similar results. Although, a lower percentage of students identified as a first generation PSE student. The amount of missing values or the way in which the question was framed may explain the disparity.

Figure 5: First generation status of transfer students comparing KPI and administrative data



Notes:

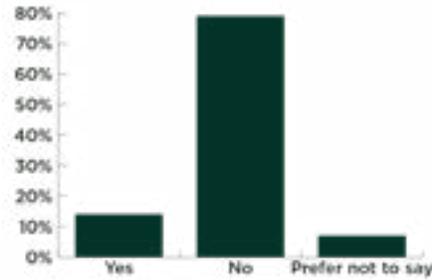
These results exclude Fanshawe and Seneca College.

First generation results for Seneca College can be found in Appendix A, Table 5. First generation for Seneca is based on Seneca’s entering student survey; neither of their parents/guardians completed a Degree.

DISABILITY

A majority of transfer students with university experience self-reported no physical, intellectual, or learning disabilities; neither were there any indications of mental illness. As seen in Tables 1-4 in the Appendix, the percentage of students self-declaring disabilities was lowest at Seneca College, with 10 percent. At the other Colleges, 16 percent of the students reported disabilities.

Figure 6: Self-declared disability of transfer students, using KPI data

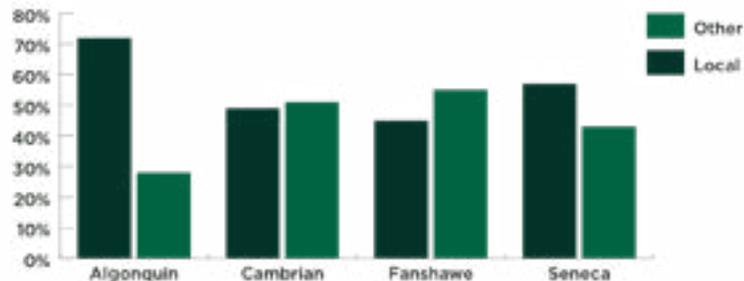


UNIVERSITY-TO-COLLEGE TRANSFER STUDENTS: WHERE DO THEY COME FROM?

SOURCE UNIVERSITY

This information is only available in the administrative dataset. Most transfer students come from a local university, one that is in the same city as the destination college. The remaining students come from another Ontario university outside of the city where the College is located. For example, of all the universities attended by Algonquin College students, 72% gained their university education in the same city, that is, at Carleton University (38%), and the University of Ottawa (35%). Cambrian and Fanshawe College share their city with one university, Laurentian and Western University respectively. The number of students moving from every Ontario University per receiving college can be found in the Appendix, in Table 7. This section was not restricted to one institute per person. Most students (96%) attended one Ontario University prior to their college program. The remaining 4% of students attended two universities, while a handful of students attended more than two universities.

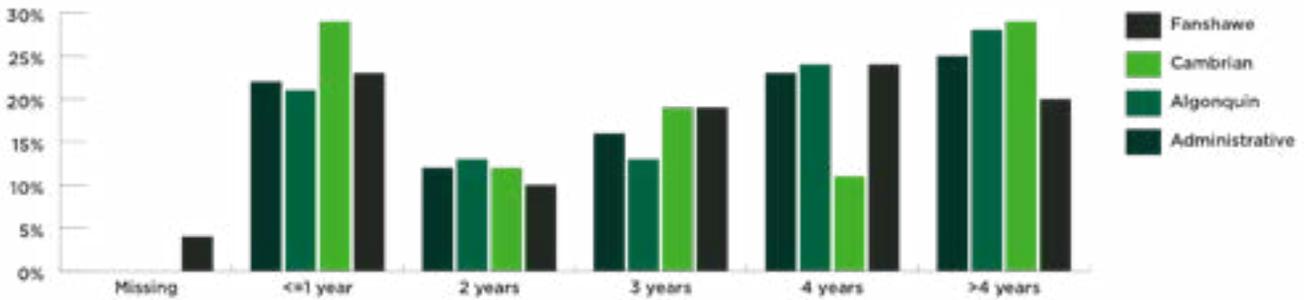
Figure 7: Percentage of transfer students moving from a university in proximity to the destination college, using administrative data



TOTAL YEARS OF UNIVERSITY ENROLLMENT

The majority of transfer students (2 out of 3) were enrolled in university for more than two academic years. At Cambrian college, students appeared to be enrolled at the university for shorter periods of time. This supports the idea that fewer transfer students are moving into graduate certificates and requiring higher credentials (and thus more years of university enrollment) to be eligible for college programs.

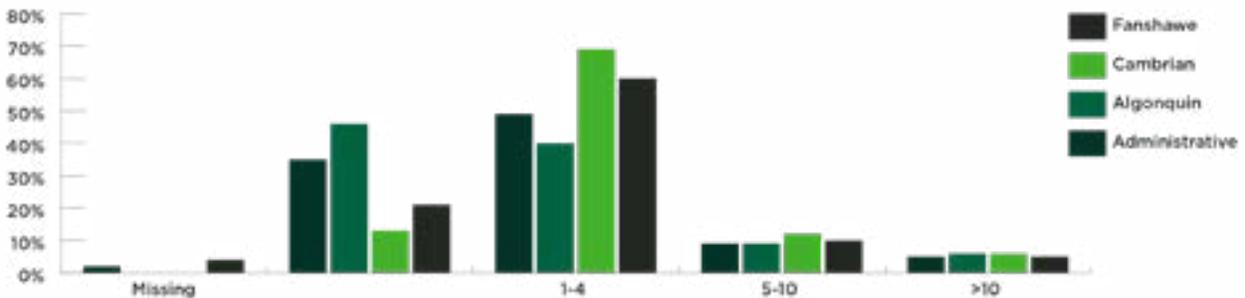
Figure 8: Amount of academic years in between students' university enrollment and college program, using administrative data



NUMBER OF GAP YEARS BETWEEN LAST ATTENDED UNIVERSITY AND COLLEGE

The vast majority of students (84%) began their college program within four years after completing their last university courses. There are some noticeable differences between the three colleges with respect to immediate transfers (students who started their college program shortly after finishing their last university courses). a small number of students indicated more than gap years between university and college. This finding could support the earlier suggestion that students with university experience in the distant past may not upload their transcripts as regularly as students with recent transcripts.

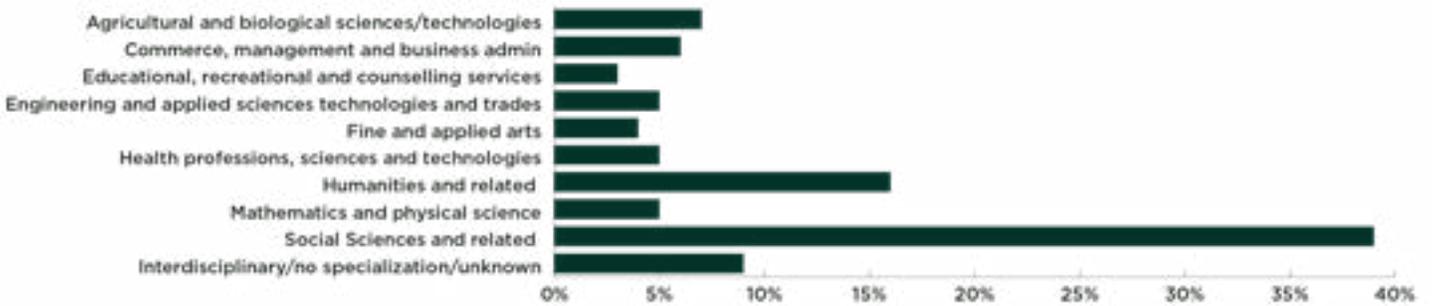
Figure 9: Years of enrollment per attended university, using administrative data



UNIVERSITY PROGRAM CLUSTER

The source for Figure 10 is EC Transmission data, with a self-declared “Major” during the application process. This information was only collected for Algonquin College students. We aimed to –manually - clean and categorize the data according to the University Student Information System (USIS) classification. As there is no list of programs per university program cluster available, the categorization was done as a best guess. Most transfer students at Algonquin College came from a Social Sciences program. The Humanities are also popular programs to transfer from.

Figure 10: University Program Cluster per last attended University program, before transferring into Algonquin College

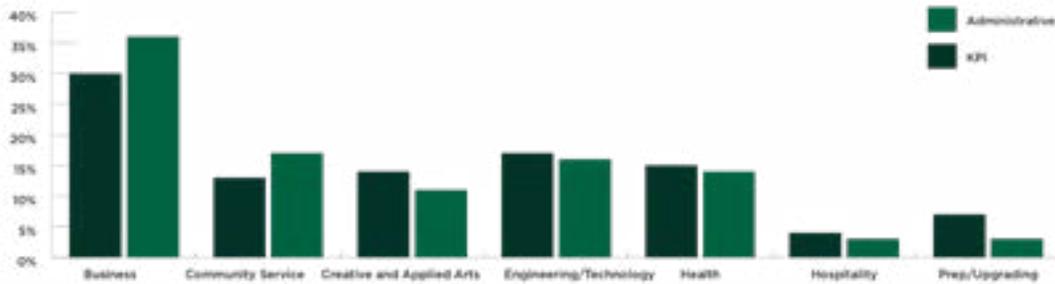


UNIVERSITY-TO-COLLEGE TRANSFER STUDENTS: WHAT DO THEY TRANSFER INTO?

COLLEGE PROGRAM CLUSTER

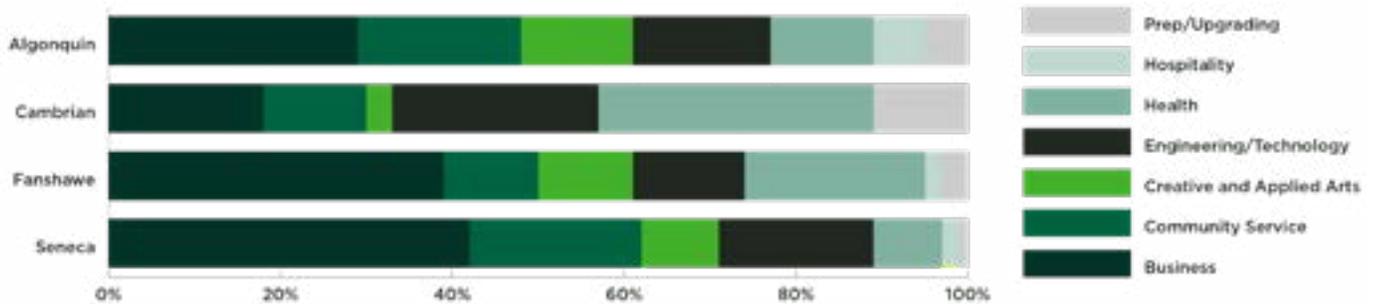
To examine the program clusters in greater detail, we used seven program area groupings (rather than the usual four), as derived from MTCU’s occupation cluster classification system which has been previously described (McCloy & Liu, 2010). Business is the most popular program cluster for transfer students. More than one third of transfer students are moving into a Business credential. Hospitality and prep/upgrading programs are less likely to be chosen by transfer students. The two student populations show slightly different results. Prep/upgrading together with Creative and Applied Arts appear underrepresented in the administrative dataset. This could reflect students being enrolled at universities for shorter periods of time and/or not being successful in their previous studies, and therefore not uploading transcripts to college transfer services.

Figure 11: Percentage of transfer students per selected college program cluster, using KPI and administrative data



Program selection varies between students at different institutions. For instance, Business programs are especially common choices at both Seneca and Fanshawe College. This is not the case for students transferring into Cambrian College; where Health and Prep/Upgrading programs are the most popular selections. Creative and Applied Arts is selected less often at Cambrian; compared to other colleges.

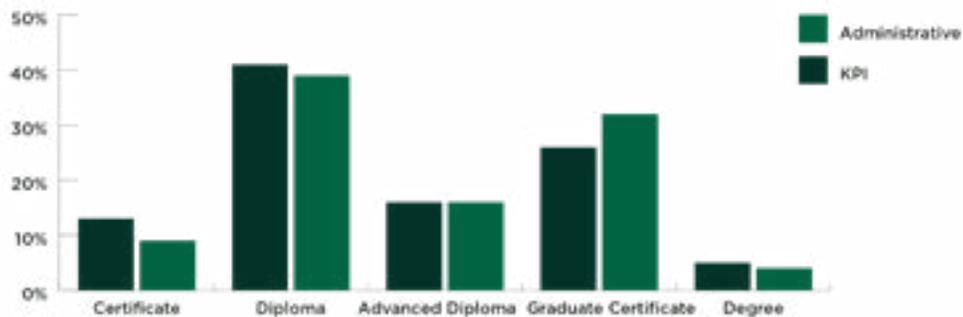
Figure 12: Percentage of transfer students per selected college program cluster per college, using administrative data



COLLEGE CREDENTIAL

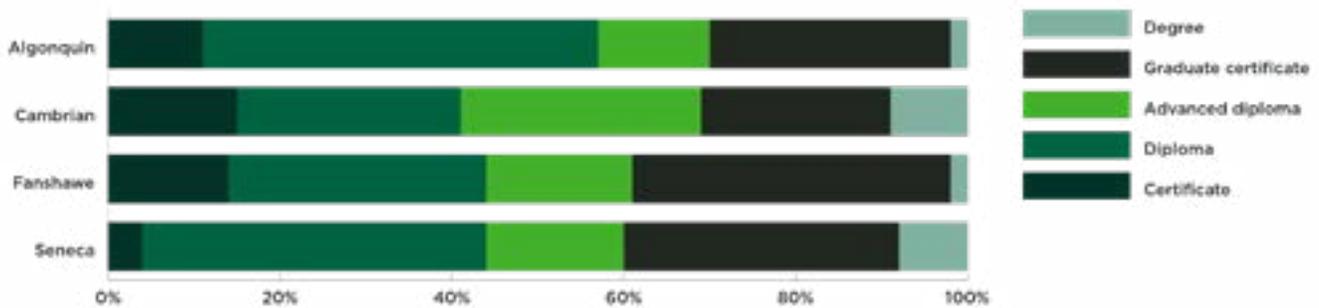
Transfer students typically choose a Diploma credential, followed by Graduate Certificates. Certificates and degrees are less popular, especially for students captured in the administrative dataset. The biggest difference between KPI and administrative data becomes apparent in the graduate certificate credential. To be eligible for graduate certificates, students need to meet certain education requirements, which require a submission of transcript(s) during the application process. This is expected to result in an overrepresentation of graduate certificates in the administrative data. In the last decade, Colleges invested in the development of graduate certificates, which led to approximately 1 in 3 transfer students enrolling in shorter, career-oriented programs.

Figure 13: Percentage of transfer students moving into each program cluster, using KPI and administrative data



In Figure 14, we see differences at each of the participating colleges. For instance, transfer students at Algonquin College are apt to move into a two-year Diploma program (46% vs. 39% on average). At Cambrian College, transfer students move into Advanced Diplomas (28% vs. 16% on average) and at Fanshawe, Graduate Certificates are particularly common (37% vs. 32% on average). Seneca students are less likely to be enrolled in certificates (4% vs. 9% on average) and more inclined to begin a Degree program (8% vs. 4% on average).

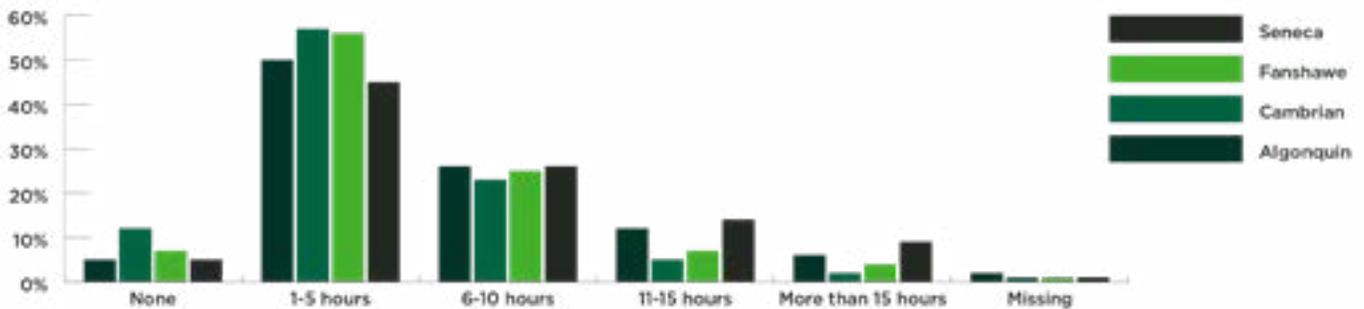
Figure 14: Percentage of transfer students moving into each program cluster, using KPI and administrative data per participating college



TRAVELLING TO AND FROM THE COLLEGE

The KPI Student Satisfaction and Engagement Survey also consists of questions that include opinion-based information. Some outcomes of these questions are presented below to assist in understanding the demands placed on transfer students' time while enrolled in a college program. Most transfer students spend 1-5 hours travelling to and from the college in a typical 7-day week. Students enrolled at Algonquin and Seneca College, tend to travel slightly more hours per week than students enrolled at Cambrian and Fanshawe College, though, the differences are minimal.

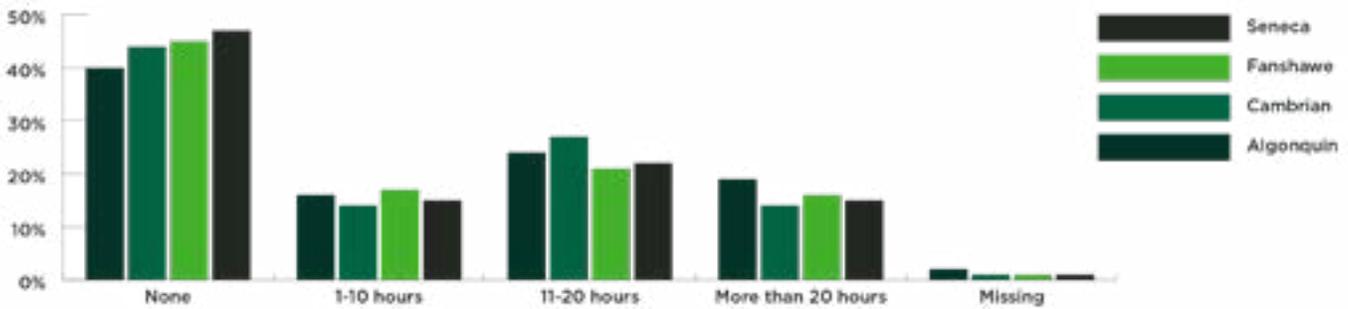
Figure 15: Number of hours spent travelling to and from the college in a typical 7-day week, using KPI data



WORKING FOR PAY

Most transfer students work a few hours per week while enrolled in college. 1 in 6 transfer students work more than 20 hours per week. The differences between colleges are minimal.

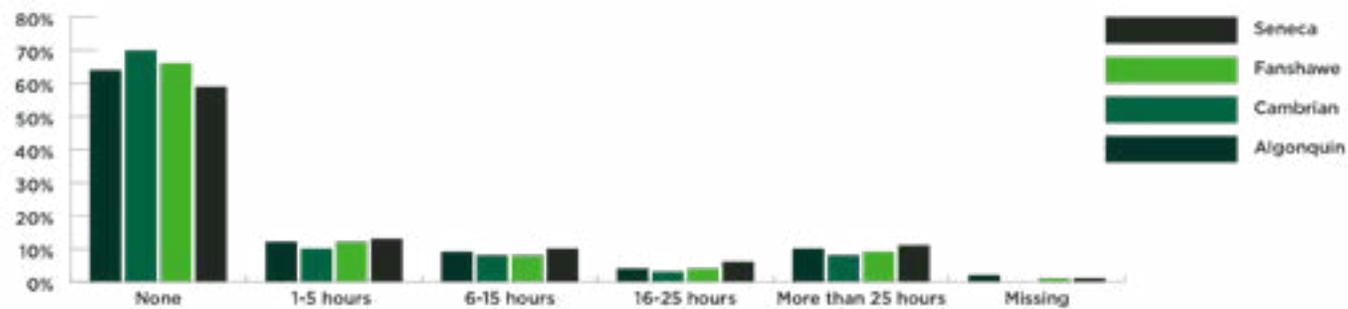
Figure 16: Number of hours transfer students spend working for pay in a typical 7-day week, using KPI data



PROVIDING CARE FOR DEPENDENTS

The majority of transfer students do not provide care for dependents. Yet, for 1 out of 3 transfer students enrolled in college this is a reality, to varying degrees. Approximately 10% of transfer students spend more than 25 hours providing care for dependents in a typical 7-day week. There are no striking differences between the colleges.

Figure 17: Number of hours spent providing care for dependents, using KPI data

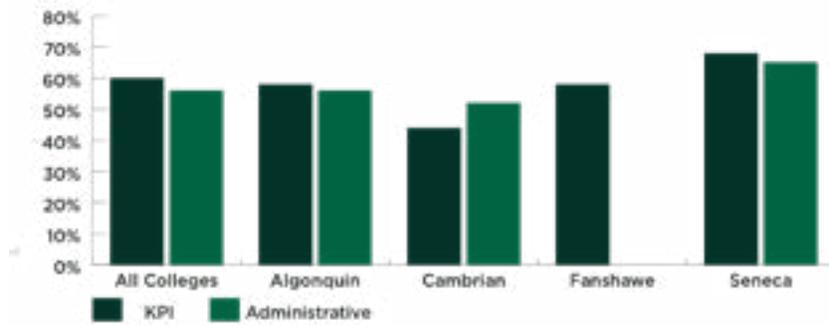


THE PATHWAY OF UNIVERSITY-TO-COLLEGE TRANSFER STUDENTS

DEGREE COMPLETED

Most transfer students completed their degrees. This percentage is slightly higher in the KPI student population. The higher completion rates in the KPI dataset are somewhat surprising. Earlier, we saw that a significantly lower percentage of students are enrolled in graduate certificates while completing the survey. Students transferring into Seneca College most often completed their degrees (68% vs. 60% on average). Students transferring into Cambrian College showed significantly lower completion rates (44%). Seneca College attracts students who are typically interested in graduate certificate credentials. Cambrian represents a lower percentage of transfer students on this path. Higher completion rates in Cambrians' administrative data suggests an underrepresentation of transcripts or incomplete university credentials in their administrative data.

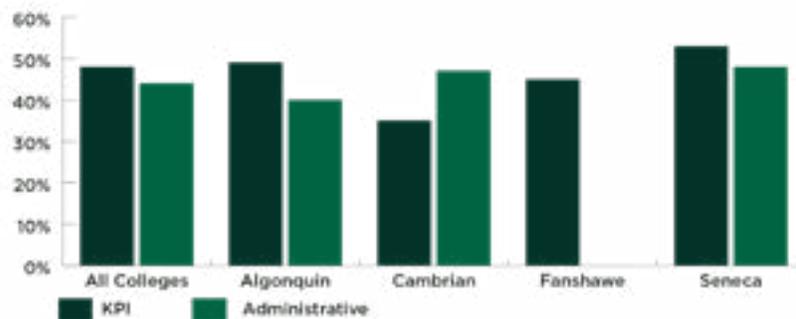
Figure 18: Percentage of transfer students entering the college with completed degrees, using KPI and administrative data



Note: The data for Seneca College only includes the population who submitted transcripts through OCAS (ETRAN) and not those who submitted transcripts to apply for transfer credits

Excluding the transfer students enrolled in graduate certificates, a significantly smaller percentage of them completed their degrees. The differences between KPI and administrative data remain similar and do not decrease in magnitude. Interestingly, almost half of the transfer student population finished their degree, although they were moving into college programs that did not require completed credentials for admission. Therefore, often, the issue of switching to another institution is not a result of poor university performance. It is expected that colleges attract a wider variety of university transfer students, including successful university graduates; with an interest in applied technology, career training, and trades. As previously stated, Seneca College, attracts the highest percentage of students with completed degrees.

Figure 19: Percentage of transfer students entering the college with completed degrees, using KPI and administrative data, graduate certificate students excluded

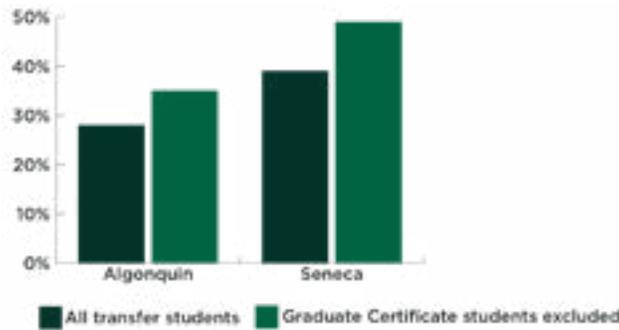


Note: The data for Seneca College only includes the population who submitted transcripts through OCAS (ETRAN) and not those who submitted transcripts to apply for transfer credits

CREDITS TRANSFERRED INTO THE COLLEGE

Using the administrative data at Seneca and Algonquin College, a significant number of students transferred credits into the college. This is certainly the case at Seneca College. Approximately 40% of all transfer students had credits granted. When excluding Graduate certificates, even half of the transfer students had credits granted. The absolute difference, after excluding Graduate certificates is higher for Seneca College, as more students move into this credential. The lower percentage at Algonquin College could be (partially) explained by the data collection methods used (self-declared vs. transcripts). Students who have (some) university experience but did not upload a transcript are excluded from Seneca’s transfer population. As a result, more students with university experience who are not eligible for credit transfers in the Algonquin College population are included (i.e., their courses are not considered current enough for credit transfers, the university experience is limited and of poor performance).

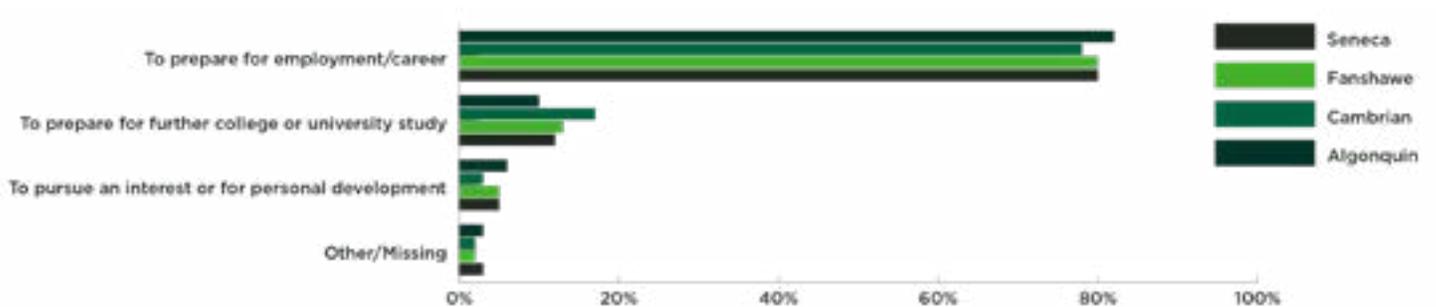
Figure 20: Percentage of students who transferred credits into the college, using administrative data



MAIN GOAL ENROLLING IN COLLEGE PROGRAM

The vast majority of transfer students who enter a college program do so to prepare for employment/career. There are few differences of note between the colleges.

Figure 21: Main goal for students enrolling into the college, using KPI data



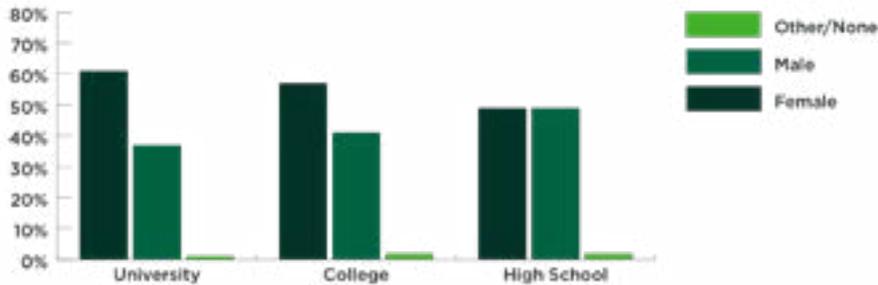
PATHWAYS AND PROFILES OF TRANSFER STUDENTS AND HIGH SCHOOL ENTRANTS

The KPI data allow for comparisons of university-to-college transfer students, with college-to-college transfer students, as well as entry students with a high school diploma. The results are presented collectively for all of the colleges. When there are striking differences between the participating colleges, they will be displayed in this section. The tables can be reviewed in Appendix A, Tables 1-4.

GENDER

Students with (some) university experience are often female (61%); while students entering college with only a high school diploma are equally male or female.

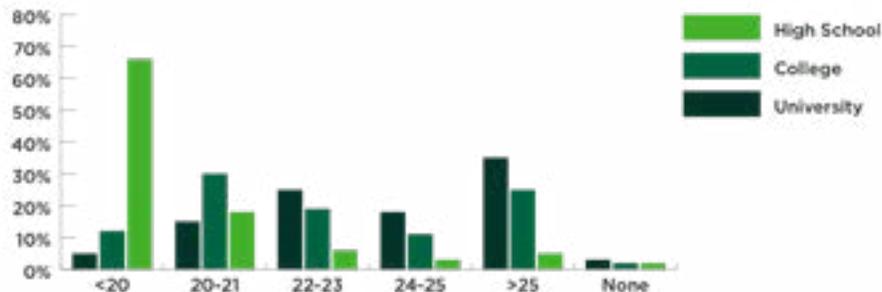
Figure 22: Comparing gender for university-to-college transfer students with college-to-college transfer students and students transferring from high school, using KPI data



AGE

Students that only possess a high school diploma are significantly younger (2 out of 3 students are younger than 20 years of age). Only 1 in 20 university transfer students falls into this age category. Students with (some) university experience are often mature; 1 in 3 were older than 25 years when filling out the KPI survey.

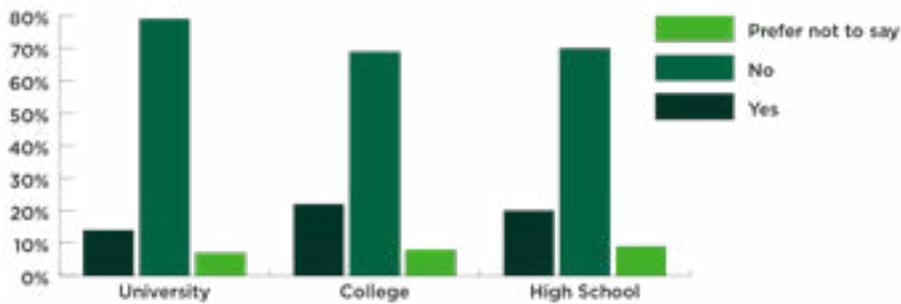
Figure 23: Comparing age for university-to-college transfer students with college-to-college transfer students and students transferring from high school, using KPI data



DISABILITY

Students with (some) university experience reported having disabilities less often (a 9 and 10 percentage point difference when compared to college-to-college and high school entrants).

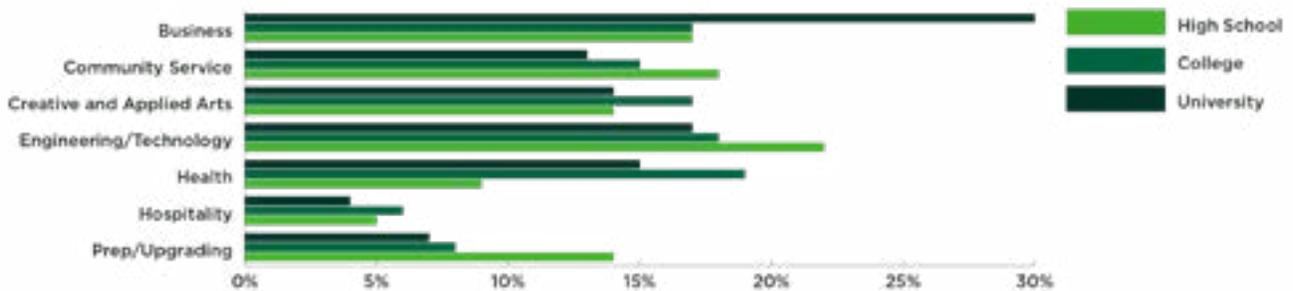
Figure 24: Comparing disability for university-to-college transfer students with college-to-college transfer students and students transferring from high school, using KPI data



COLLEGE PROGRAM CLUSTER

University transfer students often choose a business-related program (almost double when compared to college-to-college and high school students). While community service, engineering/technology, and prep/upgrading are more popular with high school students.

Figure 25: Comparing college program cluster for university-to-college transfer students with college-to-college transfer students and students transferring from high school, using KPI data



COLLEGE CREDENTIAL

The only major difference in credentials between students from high school and transfer students is that of the Graduate Certificate. Due to the admission criteria, only transfer students can move into this credential. Therefore, lower percentages of students move into the other credentials. When excluding the graduate certificate credential, variances between the different student populations fade and the sole remaining significant difference is visible in the certificate credential.

Figure 26: Comparing college credential for university-to-college transfer students with college-to-college transfer students and students transferring from high school, using KPI data

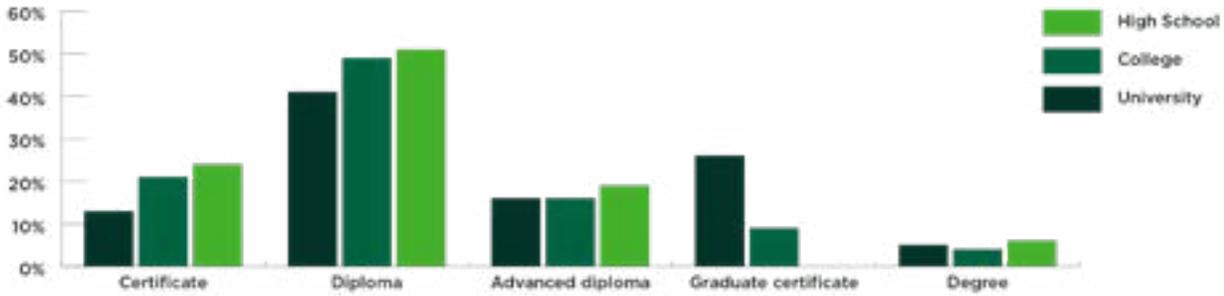
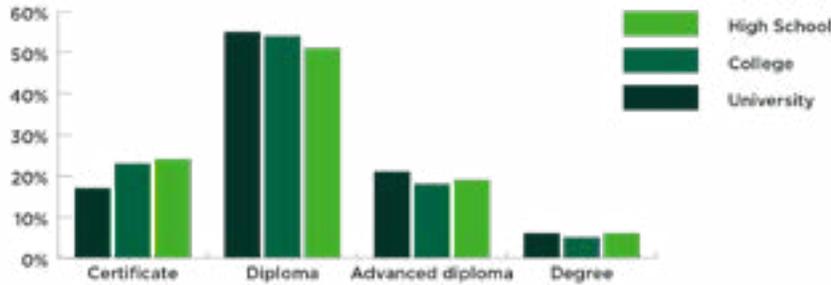


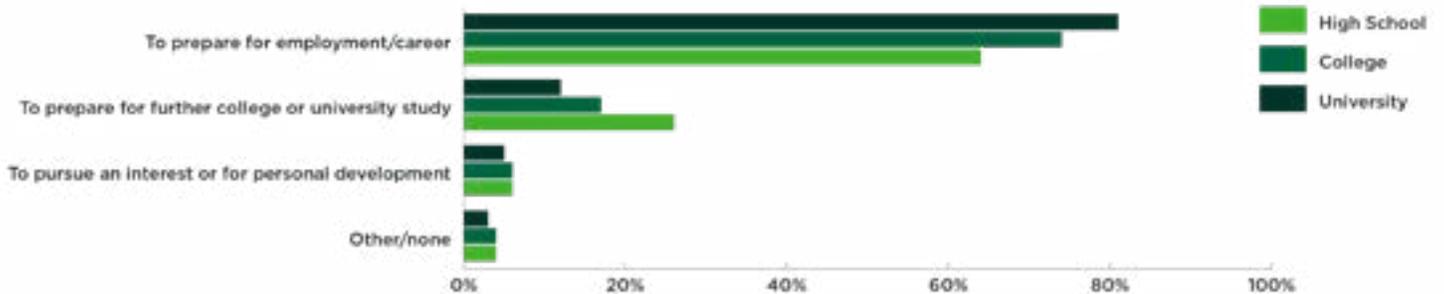
Figure 27: Comparing college credential for university-to-college transfer students with college-to-college transfer students and students transferring from high school, using KPI data, excluding graduate certificates



MAIN GOAL ENROLLING IN COLLEGE PROGRAM

University-to-college transfer students most often move into graduate certificate programs that are career oriented. The preparation for employment/career seems to be most significant factor for students with (some) university experience when enrolling in a college program. Students with high school experience often start a college credential to prepare for further post-secondary education.

Figure 28: Comparing main goals when enrolling in college program for university-to-college transfer students with college-to-college transfer students and students transferring from high school, using KPI data



Conclusions and Recommendations

The purpose of this report is to better understand data collection methods, practices associated with demographic characteristics, and pathways of university-to-college transfer students. In the last decade, significant increases have been reported in college entrants with (some) previous post-secondary experience. This development, amongst others, is expected to change the demographic compositions of students entering Ontario colleges. More students with prior college or university experience are expected to cause shifts in gender, age, chosen college program clusters, and credentials. Understanding these shifts can inform future decisions about articulation agreements and transfer pathways between (Ontario) universities and colleges. It is also expected that understanding the gaps between desired and current data collection methods could improve the quality of information colleges receive, store, collect and analyze; to better understand transfer students and their chosen pathways.

Exploring data collection strategies illustrates the challenging nature of gathering information about transfer students entering Ontario colleges. This is primarily due to differences in the structure of student information systems and the quality of some indicators received through OCAS. Therefore, results from the KPI Student Satisfaction Survey has been explored to verify some of the collected administrative data.

University-to-college transfer students compose a significant percentage of the incoming student population for Ontario colleges. Over the course of three academic years, 13,226 students with university experience began a program at one of the four participating colleges. After analyzing the KPI data, approximately 1 in 4 students (23.3%) enrolled at the participating colleges, had (some) university experience as their highest completed level of education. These transfer students tend to be older, female, often coming from universities in proximity to the college, and were enrolled at the universities for longer periods of time. Transfer students frequently finished their degrees while starting a college program (60% in KPI data and 56% in administrative data), after excluding graduate certificate students, almost half of the transfer students completed their degrees. This, in turn, leads to a significant number of students transferring credits into the college; 28% of transfer students moving into Algonquin College and 39% of students starting a program at Seneca College, respectively. When excluding graduate certificates, this percentage increases significantly, by 7 and 10 percentage points. Transfer students often move into Diploma or Graduate Certificate credentials and are usually interested in Business related programs.





Overall, the results of the KPI Student Satisfaction and Engagement Survey seem to be a robust and accessible source of information regarding transfer students. As the surveys are conducted at each Ontario College, under prescribed guidelines, and the data is analyzed through an independent research body (CCi Research Inc., 2014); the KPI is a reliable source of information. Making it possible to compare outcomes across colleges where transfer students are concerned. In this report, a variety of measures were compared with administrative data. The survey data provided additional insights on student perspectives; indicators that cannot be captured with administrative data.

RECOMMENDATIONS FOR OCAS

Two main strategies were used to collect information on college students with prior Ontario university experience. The first strategy depended on transcripts uploaded during the application process and/or at a later stage in the students' college program for credit transfer purposes. The other strategy relied on self-declared prior university experience collected by OCAS. Cleaning and analyzing the self-declared prior Ontario university experience data has been time consuming and involved a significant amount of manual labour. This information contains valuable indicators not available through other information sources (i.e., Major, credential received or will receive at the first day of college, level achieved and years of enrollment). The self-declared OCAS information is expected to include a wider range of transfer students; including college entrants who have (some) prior PSE experience but did not upload their transcript either during the application process or at a later point. It is potentially the most comprehensive source of information concerning transfer students available for Ontario colleges.

Although, there are some challenges involved in using and analyzing the data. To begin, applicants write answers in open fields, when it comes to the name of the university and their program (major). This results in many spelling mistakes, errors, and impractical inputs. Moving toward a drop-down list of institutions, clusters of university programs, and credentials would be helpful. A number of mistakes have been made while filling out the start and end date. Using a pop-up calendar may prevent students from writing incorrect dates.

The highest received credential is causing some interpretation problems. Students filling out university and college experience come across the same drop-down menu when filling out their “credential received or will receive at the first day of college”. Available options included: certificate, diploma, degree, advanced diploma, graduate certificate, or other. This list of credentials does not distinguish between Bachelor’s, Master’s, or Doctoral Degrees. Nor does it distinguish between different types of certificates (Ontario College Certificates, College-approved Certificates, or (post-graduate) Certificates at the university level). Applicants possess multiple types of prior PSE experience, and the way in which the question is interpreted will determine the type of prior experience a credential is linked to. The applicants interpretation affects the option they choose when they do not expect to finish their credential by the start of a college program. Applicants might select the option ‘Other’ or ‘Unknown’, indicating they did not finish any of the listed credentials. Alternatively, they may decide to respond with the credential in which they are currently enrolled, or one that they completed prior to the credential they are enrolled in at the time of application.

Finally, all prior PSE experience will be sent to the colleges in separate files, resulting in multiple self-declared prior PSE submissions per applicant. For example, an applicant who attended one university and one prior college appears twice in the system, and the files are not automatically linked to the same student or applicant. Combining multiple types of experience in extracted files is undoubtedly challenging.

FUTURE DATA COLLECTION CONCERNING TRANSFER STUDENTS

To ensure maximized value when it comes to the information collected concerning transfer students, individual student data should be linked to program outcomes and pathway development practices. This would allow for evaluation of student enrollment and program participation based on prior experience (courses completed, grades, and proposed postsecondary outcome measures). It also informs the development and evaluation of academic pathways, articulation agreements, and credit transfer services. Common transfer pathways can be explored, and services put in place to facilitate smooth student transfers; without knowledge duplication that would negatively impact the applicant, the educational institutions, or the labour market that requires their skills.

A collective initiative between OCAS and the Ontario colleges should help assuage the difficulties associated with collecting, storing, and extracting data about transfer students. Future research should also include quality assurance of indicators for transfer students. Qualitative information regarding the patterns, motivations, and experiences of transfer students should be collected in an effort to remove barriers and improve support systems. This can be accomplished through strong institutional collaboration, development of pathways and articulation agreements, and opportunities for students supported by qualitative and quantitative findings.



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Appendices

Appendix A: Tables

Table 1: Demographics and program characteristics of transfer students with (some) university experience, (some) college experience or only a high school diploma into Algonquin College, using KPI data

	University exp.	University exp.	College exp.	College exp.	Only High School exp.	Only High School exp.
Gender						
Female	2078	60%	1876	56%	3569	47%
Male	1327	38%	1398	42%	3836	51%
Other/None	71	2%	57	2%	166	2%
Age at cohort start						
<20	159	5%	391	12%	5048	67%
20-21	563	16%	997	30%	1219	16%
22-23	787	23%	588	18%	461	6%
24-25	577	17%	386	12%	228	3%
>25	1277	37%	887	27%	422	6%
None	113	3%	82	2%	193	3%
Disability						
Yes	546	16%	803	24%	1755	23%
No	2696	78%	2260	68%	5127	68%
Prefer not to say	215	6%	251	8%	631	8%
Missing	19	1%	17	1%	58	1%
College Program Cluster						
Business	810	23%	574	17%	1271	17%
Community Service	537	15%	448	13%	1356	18%
Creative and Applied Arts	572	16%	603	18%	1082	14%
Engineering/Technology	566	16%	576	17%	1523	20%
Health	556	16%	549	16%	552	7%
Hospitality	220	6%	272	8%	522	7%
Prep/Upgrading	215	6%	309	9%	1265	17%
College Credential						
Certificate	388	11%	690	21%	1861	25%
Diploma	1809	52%	1846	55%	4216	56%
Advanced diploma	487	14%	454	14%	1235	16%
Graduate certificate	683	20%	265	8%	30	0%
Degree	109	3%	76	2%	229	3%
Main goal in enrolling College program						

	University exp.	University exp.	College exp.	College exp.	Only High School exp.	Only High School exp.
To prepare for employment/career	2836	82%	2478	74%	4786	63%
To prepare for further college or university study	342	10%	510	15%	1895	25%
To pursue an interest or for personal development	201	6%	217	7%	547	7%
Other	35	1%	52	2%	152	2%
Missing	62	2%	74	2%	191	3%

Table 2: Demographics and program characteristics of transfer students with (some) university experience, (some) college experience or only a high school diploma into Cambrian College, using KPI data

	University exp.	(%)	College exp.	(%)	Only High School exp.	(%)
Gender						
Female	352	60%	566	59%	916	44%
Male	233	40%	383	40%	1142	55%
Other/None	4	1%	18	2%	35	2%
Age at cohort start						
<20	44	7%	135	14%	1447	69%
20-21	129	22%	323	33%	353	17%
22-23	152	26%	170	18%	104	5%
24-25	100	17%	100	10%	53	3%
>25	154	26%	221	23%	105	5%
None	10	2%	18	2%	31	1%
Disability						
Yes	95	16%	197	20%	388	19%
No	455	77%	691	71%	1528	73%
Prefer not to say	37	6%	77	8%	167	8%
Missing	2	0%	2	0%	10	0%
College Program Cluster						
Business	93	16%	60	6%	129	6%
Community Service	45	8%	132	14%	367	18%
Creative and Applied Arts	26	4%	44	5%	153	7%
Engineering/Technology	176	30%	302	31%	855	41%
Health	190	32%	332	34%	285	14%
Hospitality	0	0%	0	0%	0	0%
Prep/Upgrading	59	10%	97	10%	304	15%

	University exp.	(%)	College exp.	(%)	Only High School exp.	(%)
College Credential						
Certificate	157	27%	312	32%	880	42%
Diploma	131	22%	329	34%	744	36%
Advanced diploma	172	29%	218	23%	426	20%
Graduate certificate	93	16%	18	2%	1	0%
Degree	36	6%	90	9%	42	2%
Main goal in enrolling College program						
To prepare for employment/career	460	78%	710	73%	1373	66%
To prepare for further college or university study	98	17%	168	17%	537	26%
To pursue an interest or for personal development	19	3%	53	5%	101	5%
Other	6	1%	16	2%	39	2%
Missing	6	1%	20	2%	43	2%

Table 3: Demographics and program characteristics of transfer students with (some) university experience, (some) college experience or only a high school diploma into Fanshawe College, using KPI data

	University exp.	(%)	College exp.	(%)	Only High School exp.	(%)
Gender						
Female	1229	61%	1511	54%	3028	48%
Male	755	37%	1259	45%	3184	50%
Other/None	40	1%	34	1%	115	2%
Age at cohort start						
<20	145	7%	362	13%	4225	67%
20-21	339	17%	893	32%	1187	19%
22-23	552	27%	538	19%	334	5%
24-25	366	18%	315	11%	166	3%
>25	572	28%	652	23%	304	5%
None	50	2%	44	2%	111	2%
Disability						
Yes	316	16%	661	24%	1305	21%
No	1574	78%	1903	68%	4423	70%
Prefer not to say	128	6%	231	8%	581	9%
Missing	6	0%	9	0%	18	0%
College Program Cluster						

	University exp.	(%)	College exp.	(%)	Only High School exp.	(%)
Business	534	26%	518	18%	1117	18%
Community Service	268	13%	402	14%	1021	16%
Creative and Applied Arts	353	17%	512	18%	1041	16%
Engineering/Technology	306	15%	525	19%	1507	24%
Health	384	19%	583	21%	496	8%
Hospitality	46	2%	111	4%	236	4%
Prep/Upgrading	133	7%	153	5%	909	14%
College Credential						
Certificate	279	14%	506	18%	1698	27%
Diploma	737	36%	1340	48%	3202	51%
Advanced diploma	372	18%	489	17%	1066	17%
Graduate certificate	553	27%	379	14%	9	0%
Degree	83	4%	90	3%	352	6%
Main goal in enrolling College program						
To prepare for employment/career	1625	80%	2105	75%	4128	65%
To prepare for further college or university study	254	13%	435	16%	1614	26%
To pursue an interest or for personal development	102	5%	166	6%	364	6%
Other	23	1%	38	1%	98	2%
Missing	20	1%	60	2%	123	2%

Table 4: Demographics and program characteristics of transfer students with (some) university experience, (some) college experience or only a high school diploma into Seneca College, using KPI data

	University experience		College experience		Only High School experience	
Gender						
Female	2000	63%	1096	64%	3113	54%
Male	1133	36%	595	35%	2574	45%
Other/None	50	1%	30	2%	89	2%
Age at cohort start						
<20	114	4%	172	10%	3583	62%
20-21	364	11%	469	27%	1103	19%
22-23	819	26%	348	20%	422	7%
24-25	591	19%	203	12%	196	3%
>25	1218	38%	488	28%	297	5%

	University experience		College experience		Only High School experience	
None	77	2%	41	2%	175	3%
Disability						
Yes	334	10%	309	18%	894	15%
No	2612	82%	1252	73%	4266	74%
Prefer not to say	227	7%	157	9%	594	10%
Missing	10	0%	3	0%	22	0%
College Program Cluster						
Business	1382	43%	368	21%	1272	22%
Community Service	379	12%	362	21%	1278	22%
Creative and Applied Arts	336	11%	298	17%	868	15%
Engineering/Technology	498	16%	174	10%	849	15%
Health	266	8%	227	13%	568	10%
Hospitality	108	3%	117	7%	383	7%
Prep/Upgrading	214	7%	175	10%	558	10%
College Credential						
Certificate	361	11%	326	19%	870	15%
Diploma	1123	35%	837	49%	2849	49%
Advanced diploma	414	13%	265	15%	1334	23%
Graduate certificate	1069	34%	153	9%	17	0%
Degree	216	7%	140	8%	706	12%
Main goal in enrolling College program						
To prepare for employment/career	2546	80%	1213	70%	3547	61%
To prepare for further college or university study	375	12%	351	20%	1678	29%
To pursue an interest or for personal development	174	5%	89	5%	337	6%
Other	38	1%	31	2%	126	2%
Missing	50	2%	37	2%	88	2%

Table 5: Demographic characteristics of Ontario University transfer students into the four participating colleges, using administrative data

	Algonquin		Cambrian		Fanshawe		Seneca	
Gender								
Female	3026	62%	297	64%	2115	62%	2766	62%
Male	1850	38%	169	36%	1269	37%	1715	38%

	Algonquin		Cambrian		Fanshawe		Seneca	
Unknown/ Other	0	0%	1	0%	6	0%	12	0%
Age								
<20	410	8%	47	10%	273	8%	244	5%
20-21	921	19%	80	17%	631	19%	695	15%
22-23	1315	27%	127	27%	1006	30%	1471	33%
24-25	811	17%	80	17%	623	18%	942	21%
>25	1419	29%	133	28%	857	25%	1141	25%
Language								
English	4586	94%	423	91%	3027	89%	na	
French	101	2%	17	4%	5	0%	na	
Other	189	4%	27	6%	48	1%	na	
None	0	0%	0	0%	310	9%	na	
First generation PSE								
No	3632	74%	344	74%	na		511	11%
Yes	898	18%	83	18%	na		1030	23%
Missing	346	7%	40	9%	na		2952	66%
Study load								
Full-time	4739	97%	428	92%	na		na	
Part-time	135	3%	39	8%	na		na	
Missing	2	0%	0	0%	na		na	
Indigenous status								
Yes	108	2%	55	12%	na		na	
No	1958	40%	412	88%	na		na	
Unknown	2810	58%	0	0%	na		na	
Citizenship status								
Canadian	na		450	96%	3341	99%	4297	96%
Other	na		8	2%	47	1%	196	4%
Unknown	na		9	2%	2	0%	0	0%
Income tercile of Ontario DA								
Low income	na		na		na		946	21%
Mid income	na		na		na		1369	30%
High income	na		na		na		1968	44%
Missing	na		na		na		210	5%

Note: First generation for Seneca is based on Seneca's entering student survey, at least one parent reported with a degree

Table 6: KPI indicators language, completed degrees, first generation PSE and study load per college

	Algonquin		Cambrian		Fanshawe		Seneca		
Language									
English	4862	80%	2702	78%	495	84%	1665	82%	
French	259	4%	190	5%	48	8%	21	1%	
Other	877	14%	519	15%	40	7%	318	16%	
None	91	1%	65	2%	6	1%	20	1%	
First generation PSE									
No	6797	73%	2646	76%	445	76%	1493	74%	
Yes	2448	26%	816	23%	144	24%	525	26%	
Missing	27	0%	14	0%	0	0%	6	0%	
Study load									
Full-time	9174	99%	3436	99%	577	98%	2004	99%	
Part-time	74	1%	33	1%	10	2%	16	1%	
Missing	24	0%	7	0%	2	0%	4	0%	

Table 7: Number of individuals per Ontario University transferring into the four colleges (not restricted to one school per person)

	All Colleges		Algonquin		Cambrian		Fanshawe		Seneca	
Algonquin University	40	0%	13	0%	4	1%	20	1%	3	0%
Brock University	426	3%	97	2%	13	3%	199	6%	117	3%
Carleton University	2255	16%	1993	38%	20	4%	99	3%	143	3%
Lakehead University	164	1%	65	1%	16	3%	54	2%	29	1%
Laurentian University	375	3%	64	1%	231	49%	50	1%	30	1%
McMaster University	421	3%	65	1%	8	2%	168	5%	180	4%
Nipissing University	163	1%	72	1%	25	5%	42	1%	24	1%
OCAD University	52	0%	0	0%	1	0%	7	0%	44	1%
Queen's University	332	2%	164	3%	10	2%	55	2%	103	2%
Ryerson University	685	5%	57	1%	5	1%	87	2%	536	11%
Trent University	262	2%	162	3%	5	1%	49	1%	46	1%
University of Guelph	747	5%	153	3%	28	6%	255	7%	311	7%
University Of Ontario Institute of Technology	206	1%	29	1%	2	0%	30	1%	145	3%
University of Ottawa	2046	15%	1825	35%	23	5%	70	2%	128	3%
University of Toronto	1157	8%	108	2%	20	4%	101	3%	928	20%

	All Colleges		Algonquin		Cambrian		Fanshawe		Seneca	
University of Waterloo	466	3%	80	2%	13	3%	145	4%	228	5%
Western University	1906	14%	88	2%	16	3%	1589	45%	213	5%
University of Windsor	315	2%	39	1%	2	0%	206	6%	68	1%
Wilfrid Laurier University	541	4%	91	2%	11	2%	239	7%	200	4%
York University	1393	10%	105	2%	14	3%	71	2%	1203	26%
Total	13952	100%	5270	100%	467	100%	3536	100%	4679	100%

Table 8: KPI indicators measuring demands on students' time while at the college in a typical 7-day week, per college

	Algonquin		Cambrian		Fanshawe		Seneca	
Travelling to and from the college								
None	555	6%	170	5%	71	12%	142	7%
1-5 hours	4631	50%	1744	50%	336	57%	1125	56%
6-10 hours	2384	26%	897	26%	135	23%	511	25%
11-15 hours	1024	11%	416	12%	30	5%	147	7%
16-20 hours	320	3%	111	3%	10	2%	44	2%
21-25 hours	147	2%	48	1%	3	1%	13	1%
More than 25 hours	109	1%	37	1%	1	0%	22	1%
Missing	102	1%	53	2%	3	1%	20	1%
Coursework outside of class								
None	265	3%	54	2%	15	3%	48	2%
1-5 hours	1560	17%	597	17%	128	22%	286	14%
6-10 hours	2580	28%	998	29%	166	28%	571	28%
11-15 hours	1797	19%	658	19%	98	17%	413	20%
16-20 hours	1340	14%	483	14%	80	14%	303	15%
21-25 hours	720	8%	260	7%	40	7%	171	8%
More than 25 hours	880	9%	352	10%	60	10%	206	10%
Missing	130	1%	74	2%	2	0%	26	1%
Participating in college activities other than attending class								
None	5670	61%	2082	60%	341	58%	1209	60%
1-5 hours	2546	27%	1008	29%	182	31%	561	28%
6-10 hours	435	5%	154	4%	32	5%	109	5%
11-15 hours	205	2%	69	2%	12	2%	46	2%
16-20 hours	120	1%	37	1%	11	2%	35	2%

	Algonquin		Cambrian		Fanshawe		Seneca	
21-25 hours	75	1%	21	1%	6	1%	20	1%
More than 25 hours	74	1%	24	1%	1	0%	19	1%
Missing	147	2%	81	2%	4	1%	25	1%
Participating in volunteer activities								
None	6358	69%	2364	68%	425	72%	1325	65%
1-5 hours	2002	22%	739	21%	120	20%	502	25%
6-10 hours	443	5%	178	5%	32	5%	83	4%
11-15 hours	158	2%	52	1%	5	1%	39	2%
16-20 hours	83	1%	33	1%	2	0%	24	1%
21-25 hours	26	0%	8	0%	4	1%	6	0%
More than 25 hours	64	1%	23	1%	0	0%	20	1%
Missing	138	1%	79	2%	1	0%	25	1%
Working for pay								
None	4041	44%	1380	40%	261	44%	915	45%
1-5 hours	603	7%	220	6%	34	6%	150	7%
6-10 hours	836	9%	330	9%	46	8%	185	9%
11-15 hours	982	11%	388	11%	77	13%	201	10%
16-20 hours	1132	12%	440	13%	84	14%	220	11%
21-25 hours	782	8%	328	9%	43	7%	168	8%
More than 25 hours	776	8%	324	9%	40	7%	165	8%
Missing	120	1%	66	2%	4	1%	20	1%
Providing care for dependents								
None	5849	63%	2209	64%	412	70%	1338	66%
1-5 hours	1117	12%	400	12%	60	10%	239	12%
6-10 hours	513	6%	187	5%	28	5%	109	5%
11-15 hours	356	4%	130	4%	19	3%	62	3%
16-20 hours	235	3%	76	2%	10	2%	41	2%
21-25 hours	185	2%	65	2%	9	2%	39	2%
More than 25 hours	911	10%	348	10%	49	8%	178	9%
Missing	106	1%	61	2%	2	0%	18	1%

Table 9: Demographics all enrolled Seneca students, demographics of sample who have a record of previously attending/ transferred from an Ontario university (submitted university transcript), and grad certs excluded, at Seneca College, 2015

	All non-international entrants (N=27,554)		Sample who submitted Ontario university transcript (N=4,493)		Sample who submitted Ontario university transcript, grad certs excluded (N=3,066)	
Gender						
Female	14,958	54.3%	2766	61.6%	1813	59.1%
Male	12,506	45.4%	1715	38.2%	1241	40.5%
Unknown	90	0.3%	12	0.3%	12	0.4%
Age at cohort start						
<20	11,776	42.7%	244	5.4%	244	8.0%
20-21	4,606	16.7%	695	15.5%	628	20.5%
22-23	3,648	13.2%	1471	32.7%	852	27.8%
24-25	2,260	8.2%	942	21.0%	586	19.1%
>25	5,264	19.1%	1141	25.4%	756	24.7%
Parents education						
Did not report a degree (include don't know)	10820	39.3%	1030	22.9%	1029	33.6%
Degree	6374	23.1%	511	11.4%	510	16.6%
Missing	10360	37.6%	2952	65.7%	1527	49.8%
Income tercile of Ontario DA						
Low income	7885	28.6%	946	21.1%	632	20.6%
Mid income	8676	31.5%	1369	30.5%	984	32.1%
High income	9418	34.2%	1968	43.8%	1304	42.5%
Missing	1575	5.7%	210	4.7%	146	4.8%
Citizenship						
Canadian	23953	86.9%	4297	95.6%	2924	95.4%
Domestic- other	3601	13.1%	196	4.4%	142	4.6%
Born in Canada						
Yes	16520	60.0%	2961	65.9%	1995	65.1%
No	10616	38.5%	1512	33.7%	1053	34.3%
Missing	418	1.5%	20	0.5%	18	0.6%

Appendix B: Data description per College

Table 1: Data description Algonquin College

Data	Description
Year	Academic years 2014/2015, 2015/2016 and 2016/2017
Source	Students with self-reported prior experience at an Ontario University (OCAS EC data from the Coltrane transmission)
Population	Every student who self-declared prior University experience at one of the Ontario universities. Students who show up multiple times in the dataset because of multiple university experiences are clustered and shown as 1 application. Students who show up multiple times in the dataset because they started multiple programs at Algonquin College in the same academic year, are treated as multiple entries. E.g. student X started Program 1 in 2016F and Program 2 in 2017W, this student will be treated as two separate applications. Duplicates due to change of address, change of program specialization (e.g., Business (Core) into Business specialization) or change of student load will be deleted.
Standard data	The student destination college program and cluster, student load and start term/cohort was added through GeneSIS. Even as the student demographics: gender, date of birth (Calculated as the age on sept 1, Jan 1, or May 1, dependent on semester started), mother tongue, first generation and indigenous status (the latter two are cross referenced with GeneSIS for Student records to adjust for post-registration changes). Start and end date: Students who started their university program after they started their Algonquin college program are removed from the dataset (the self-declared experience is most probably declared while applying for an Algonquin program later in time). If the students' end date of the university program is documented after the start of their college program, the self-declared end date is replaced for the first day of enrollment in the college program. Assuming that a student cannot be enrolled in a college and university program at the same time. Name university: Self-declared by the student but corrected on spelling mistakes. Degree completed: When a Credential Code (Credential received by the applicant) was available, the code has been used. When the student filled out 00=Unknown or 96=Other; assumptions have been made to estimate the completed Degree based on the following indicators: years of enrollment, College Credential, Major description and/or checked using the transcripts on file.
Additional data	Transfer credit file: the student numbers from the OCAS application with prior University experience were used to search in the Laserfiche files for students who got external credits granted from 2014 till the most recent files available. It was checked if the credits were exempted for the same AC program and the amount of courses exempted. University cluster: We used the self-declared Major from OCAS and manually clustered the programs: we used the field-of-study codes of the University Student Information System (USIS).

Table 2: Data description Cambrian College

Data	Description
Year	Academic years 2015/2016, 2016/2017 and 2017/2018
Source	University data information as available from XML transcripts extract. Only electronic transcripts received from OCAS during the application process. Student has one record for each term at the University attended and one additional for the credential Date Granted. The 'Credential Granted' and 'university program' was pulled directly from the university transcript received from OCAS. Credential would only be populated if the credential was earned in the term of the record. So, if a student attended 6 terms and earned the credential in the 6th term, the 5 other terms would be blank. Which of the fields get populated is dependent on the sending institution.
Population	Cambrian student data pulled from OCAS data and Banner Academic records.
Standard data	Student ID was excluded and substituted for grouping. The destination College Program Code and Program Title was added. Even as the destination credential and credential description for the College Program. The student cohort is based on the version of the destination program entered into. Age is calculated based upon age as of the cohort term indicated and as of the first of the month. Gender, citizenship, language, country of birth, indigenous, and first-generation data based on OCAS submissions. Indigenous data further cross referenced with internal Banner Student records to adjust for post-registration changes.
Additional data	The amount of credits transferred is not available

Table 3: Data description Fanshawe College

Data	Description
Year	Academic years 2014/2015, 2015/2016 and 2016/2017
Source	The data comes from the OCAS download, EDI transcripts and data that has been entered into our SIS based on paper transcripts
Population	<p>Fanshawe College created a report a few years ago to assist with identifying transfer students. This report is available to the Office of the Registrar.</p> <p>We are able to enter report parameters such as term (e.g. 17F for 17Fall) and current applicant/student status. For example, we use this report to invite students to a transfer orientation, so we would select the term they are entering and the statuses of either Confirmed, Registered not Paid, Registered Paid.</p> <p>For this project we ran the report for each of the terms in the identified sample period and we selected students who had been in the Registered Paid status.</p> <p>The report readily provides the following information that has been recorded on the Student Information system.</p>
Standard data	Surname, First name, Address, Program, Program level, Date of Birth, Previous institution(s), Years range of attendance for previous institution
Additional data	<p>For the project we needed to collect additional information that is not provided on the above report.</p> <p>Using the first report above – we created a saved list of the student ID's and with assistance from our Systems team we were able to collect the additional information such as date of birth, gender, citizenship and native language.</p> <p>All of this information was pulled from the student record on our SIS. Most of this data was populated on student records via the OCAS download of applicant data.</p>

Table 4: Data description Seneca College

Data	Description
Year	Academic years 2015/2016, 2016/2017 and 2017/2018
Source	Student with either: OCAS transcripts = All electronic postsecondary transcripts from an Ontario college or university, contains Ontario postsecondary institution name as well as whether a credential obtained and the date. Or Transfer credit file = All courses submitted to Seneca for transfer credit requests (includes institutions outside Ontario but excluded for this study). Contains name of previous institution along with its status of declined or granted.
Population	Non-international entrants (enrolled on day 10) who reported previously attending an Ontario University (via submitting a transcript) vs those who did not. Only students who are enrolled in full-time programs (approved by MTCU) were included in the study (Ontario College Credentials). Previous university and transfer credit: Files were merged by student ID and counts of attendance at previous Ontario universities and applied and granted transfer credit were conducted.
Standard data	Age: Calculated as the age on sept 1, Jan 1, or May 1, dependent on semester started Parents Education (coded as whether either parent has a university degree): All entering Seneca students who are required to do mandatory placement testing must complete a background survey (degree and grad certs mostly excluded from English and math placement and therefore do not do this survey) which includes the following questions: 14. The highest level of education completed by my father/guardian is: <ol style="list-style-type: none"> 1. Completed elementary education 2. Some high school 3. Completed high school 4. Some trade/vocational training 5. Completed college or CEGEP 6. Some University 7. Completed Bachelor's degree 8. Completed professional degree (e.g. Lawyer, M.D.) 9. Completed advanced degree (e.g. M.A., PhD) 10. Don't know 15. The highest level of education completed by my mother/guardian is: <ol style="list-style-type: none"> 1. Completed elementary education 2. Some high school 3. Completed high school 4. Some trade/vocational training 5. Completed college or CEGEP 6. Some University 7. Completed Bachelor's degree 8. Completed professional degree (e.g. Lawyer, M.D.) 9. Completed advanced degree (e.g. M.A., PhD) 10. Don't know Transfer credit file: All courses submitted to Seneca for transfer credit requests (includes institutions outside Ontario but excluded for this study). Contains name of previous institution along with its status of declined or granted.
Additional data	Income: For a proxy of each student's household income, the student's permanent postal code was matched to household income data from the 2006 Census. Using the six-digit permanent postal code in the College's student information system, each student from Ontario was assigned to a 2006 Dissemination Area (DA) using a 2011 Statistics Canada postal code conversion file (PCCF). If a student's permanent postal code was missing or invalid, the Ontario high school postal code was used. A student's neighbourhood income group was derived by splitting the DAs into income terciles of low, medium and high, based on the average pre-tax household income for Ontario households. In addition to neighbourhood income, whether a student ever received a loan from the Ontario Student Assistance Program (OSAP) at any. Citizenship: Country of passport (reported to Seneca) Born in Canada: As reported on OCAS

Table 5: Data description KPI Student Satisfaction and Engagement Survey

Data	Description
Year	Academic years 2014/2015, 2015/2016 and 2016/2017
Source	Students who filled out the KPI Student Satisfaction and Engagement Survey at one of the four participating colleges (Algonquin, Cambrian, Fanshawe or Seneca college)
Population	All students who are enrolled in semester/term/level 2 (Question 2) and who are NOT enrolled at the college on an International Study Permit (Question 78.). Grouped according to Question 75. Education completed before entering this program includes one of the two following options: 'University Degree' or 'Some university'. In order to create the comparisons: Students are included who filled out as their highest completed education 'College diploma' or 'Some previous college' are categorized as College experience and students who filled out 'High school diploma' is classified as only High School experience.
Standard data	(1.) Program: break out by credential and program area (cluster OCC title) (66.) Traveling to and from the college (67.) Coursework outside of class (68.) Participating in college activities other than attending classes or labs (69.) Participating in volunteer activities (70.) Working for pay (71.) Providing care for dependents (e.g., children, spouse/partner, relatives, etc.) (72.) Gender (73.) Age (74.) First language (75.) Completed or partially completed university degree
Additional data	(76.) Main goal in enrolling in this program (prepare for employment, prepare for further study, pursue an interest or for personal development, other) (77.) Full-time/Part-time student enrollment (79.) First generation PSE (80.) Physical, intellectual, mental health or learning disability (81.) Self-identified Aboriginal person

