

Post-Secondary Education Choices and Labour Market Outcomes of High School Graduates in the Atlantic Provinces



Ted McDonald, PhD
Pablo Miah, MA, MSc

Project Title

Post-secondary education choices and labour market outcomes of high school graduates in the Atlantic Provinces

Principal Investigator

Ted McDonald, Director, NB-IRDT

Research Team

Pablo Miah, Senior Data Analyst, NB-IRDT

Publication Date

April 2024

Acknowledgements

This project was undertaken by the New Brunswick Institute for Research, Data and Training (NB-IRDT) at the request of the Council of Atlantic Ministers of Education and Training (CAMET). The opinions, results and conclusions reported in this paper are those of the authors and are independent from the funding sources. The views expressed in this study do not necessarily represent those of CAMET or their partners.

Funding for this project was provided by CAMET.

Project Data

The analysis presented in this paper was conducted at the New Brunswick Research Data Centre (NBRDC), which is part of the Canadian Research Data Centre Network (CRDCN).

How to Cite This Product

McDonald, T., & Miah, P. (2024). Post-secondary education choices and labour market outcomes of high school graduates in the Atlantic Provinces. Fredericton, NB: New Brunswick Institute for Research, Data and Training.

Table of Contents

Executive Summary	1
New Brunswick (NB): Highlight of Findings	1
Newfoundland and Labrador (NL): Highlight of Findings	2
Nova Scotia (NS): Highlight of Findings	3
Key Takeaways	4
Introduction	6
Background	6
Data and Methodology.....	8
Data.....	8
Methodology.....	9
Transition to Post-Secondary Education	9
Interprovincial Retention Rates	11
Province of Employment and Income	12
Limitations	13
*New Brunswick: Descriptive Statistics	14
*Newfoundland and Labrador: Descriptive Statistics	37
*Nova Scotia: Descriptive Statistics	60
Discussion of Findings	83
Study Parameters.....	83
Literature Review and Comparison of Findings	83
Transition to Post-Secondary Education	83
Retention Rates.....	86
Income	87
Conclusion.....	89
References.....	90

* Individual tables of contents containing results sections for each province are provided on the following pages.

To proceed directly to the report, see the [Executive Summary](#).

New Brunswick: Table of Contents

Sample – High School Graduates	14
Transition to Post-Secondary Education	14
Transition to University	15
Gappers – University	18
Transition to College	19
Gappers – College	22
Interprovincial Retention and Return Rates of Graduates	23
Retention Rates of Graduates.....	23
Return Rates of NB PSE Graduates from Out-of-Province.....	26
Interprovincial Retention of PSE Non-Completers.....	27
Province of Employment: Graduates.....	28
Province of Employment: PSE Non-Completers	30
Income of Graduates and PSE Non-Completers.....	31
Median Income of Graduates	31
Median Income of PSE Non-Completers	35

New Brunswick: List of Tables

Table 1: High School Graduates in NB.....	14
Table 2: 1-Year Retention Rates of Graduates, by Gender – NB	24
Table 3: 3-Year Retention Rates of Graduates, by Gender – NB	25
Table 4: Median Income (2021 Constant \$) 1 Year After Graduation, by Gender – NB Graduates.....	33
Table 5: Median Income (2021 Constant \$) 1 Year After Graduation, by Gender – NB Graduates.....	33
Table 6: Median Income (2021 Constant \$) 1 Year After Graduation, by Field of Study – NB University Graduates	34
Table 7: Median Income (2021 Constant \$) 1 Year After Graduation by Field of Study – NB College Graduates.....	34
Table 8: Median Income (2021 Constant \$) 1 Year After Last Enrollment, by Gender – NB PSE Non-Completers.....	36
Table 9: Median Income (2021 Constant \$) 3 Years After Last Enrollment, by Gender – NB PSE Non-Completers.....	36

New Brunswick: List of Figures

Figure 1: Transition to PSE - NB High School Graduates	14
Figure 2: Transition to University – NB High School Graduates	15
Figure 3: Transition to University by Gender – NB High School Graduates	16
Figure 4: Transition to University by Location – NB High School Graduates	16
Figure 5: Transition to University by Family Composition– NB High School Graduates	17
Figure 6: Transition to University by Family Income – NB High School Graduates	17
Figure 7: Proportion of NB High School Graduates Enrolled in a University Who are Gappers	18
Figure 8: Proportion of NB High School Graduates Enrolled in a University Who are Gappers, by Gender.....	19
Figure 9: Transition to College – NB High School Graduates	19
Figure 10: Transition to College by Gender – NB High School Graduates	20
Figure 11: Transition to College by Location – NB High School Graduates	20
Figure 12: Transition to College by Family Composition – NB High School Graduates.....	21
Figure 13: Transition to College by Family Income – NB High School Graduates	21
Figure 14: Proportion of NB High School Graduates Enrolled in College Who are Gappers.....	22
Figure 15: Proportion of NB High School Graduates Enrolled in College Who are Gappers by Gender.....	22
Figure 16: 1-Year Retention Rates of Graduates – NB	23
Figure 17: 3-Year Retention Rates of Graduates – NB	24
Figure 18: 1-Year Retention Rates of University Graduates by Field of Study – NB	25
Figure 19: 1-Year Retention Rates of College Graduates by Field of Study – NB.....	26
Figure 20: 1-Year Return Rates of NB Residents Who Graduate from Out-of-Province Post-Secondary Institutions.....	27
Figure 21: 1-Year Retention Rates of PSE Non-Completers – NB	28
Figure 22: 1-Year Retention Rates of PSE Non-Completers – NB	28
Figure 23: Province of Employment 1-Year after Graduation (2015 -2019) – NB Graduates.....	29
Figure 24: Province of Employment 3-Year after Graduation (2015 -2017) – NB Graduates.....	30
Figure 25: Province of Employment after 1-Year of Last Year (2015 -2019) – NB PSE Non-Completers	30
Figure 26: Province of Employment 3-Year after Last Year (2015 -2017) – NB PSE Non-Completers.....	31
Figure 27: Median Income (2021 constant \$) 1-Year after Graduation – NB Graduates	32
Figure 28: Median Income (2021 constant \$) 3-Year after Graduation – NB Graduates	32
Figure 29: Median Income (2021 constant \$) 1-Year after Last Year – NB PSE Non-Completers ...	35
Figure 30: Median Income (2021 constant \$) 3-Year after Last Year – NB PSE Non-Completers ...	35

Newfoundland and Labrador: Table of Contents

Sample – High School Graduates.....	37
Transition to Post-Secondary Education	37
Transition to University	38
Gappers – University	41
Transition to College	42
Gappers – College	45
Interprovincial Retention Rates of Graduates.....	46
Retention Rates of Graduates.....	46
Return Rates of NL PSE Graduates from Out-of-Province	49
Interprovincial Retention of PSE Non-Completers.....	50
Province of Employment: Graduates.....	51
Province of Employment: PSE Non-Completers	52
Income of Graduates and PSE Non-Completers.....	54
Median Income of Graduates	54
Median Income of PSE Non-Completers	57

Newfoundland and Labrador: List of Tables

Table 10: High School Graduates in NL	37
Table 11: 1-Year Retention Rates of Graduates, by Gender – NL	47
Table 12: 3-Year Retention Rates of Graduates, by Gender – NL	48
Table 13: Median Income (2021 Constant \$) 1 Year After Graduation, by Gender – NL Graduates.....	55
Table 14: Median Income (2021 Constant \$) 3 Years After Graduation, by Gender – NL Graduates.....	56
Table 15: Median Income (2021 Constant \$) 1 Year After Graduation, by Field of Study – NL University Graduates	57
Table 16: Median Income (2021 Constant \$) 1 Year After Graduation, by Field of Study – NL College Graduates.....	57
Table 17: Median Income (2021 Constant \$) 1 Year After Last Enrollment, by Gender – NL PSE Non-Completers.....	59
Table 18: Median Income (2021 Constant \$) 3 Years After Last Enrollment, by Gender – NL PSE Non-Completers.....	59

Newfoundland and Labrador: List of Figures

Figure 31: Transition to PSE – NL High School Graduates.....	37
Figure 32: Transition to University – NL High School Graduates	38
Figure 33: Transition to University, by Gender – NL High School Graduates	39
Figure 34: Transition to University, by Location – NL High School Graduates.....	39
Figure 35: Transition to University, by Family Composition – NL High School Graduates.....	40
Figure 36: Transition to University, by Family Income – NL High School Graduates.....	40
Figure 37: Proportion of NL High School Graduates Enrolled in a University Who are Gappers.....	41
Figure 38: Proportion of NL High School Graduates Enrolled in a University Who are Gappers, by Gender	42
Figure 39: Transition to College – NL High School Graduates.....	42
Figure 40: Transition to College, by Gender – NL High School Graduates.....	43
Figure 41: Transition to College, by Location – NL High School Graduates.....	43
Figure 42: Transition to College, by Family Composition – NL High School Graduates.....	44
Figure 43: Transition to College, by Family Income – NL High School Graduates.....	44
Figure 44: Proportion of NL High School Graduates Enrolled in College Who are Gappers	45
Figure 45: Proportion of NL High School Graduates Enrolled in College Who are Gappers, by Gender.....	45
Figure 46: 1-Year Retention Rates of Graduates – NL	46
Figure 47: 3-Year Retention Rates of Graduates – NL	47
Figure 48: 1-Year Retention Rates of University Graduates, by Field of Study – NL.....	48
Figure 49: 1-Year Retention Rates of College Graduates, by Field of Study – NL.....	49
Figure 50: 1-Year Return Rates of NL Residents Who Graduate from Out-of-Province PSE Institutions.....	50
Figure 51: 1-Year Retention Rates of PSE Non-Completers – NL.....	50
Figure 52: 3-Year Retention Rates of PSE Non-Completers – NL.....	51
Figure 53: Province of Employment 1 Year After Graduation (2015-2019) – NL Graduates	52
Figure 54: Province of Employment 3 Years After Graduation (2015-2019) – NL Graduates.....	52
Figure 55: Province of Employment 1 Year After Last Enrollment (2015-2019) – NL PSE Non- Completers	53
Figure 56: Province of Employment 3 Years After Last Enrollment (2015-2017) – NL PSE Non- Completers	53
Figure 57: Median Income (2021 Constant \$) 1 Year After Graduation – NL Graduates	54
Figure 58: Median Income (2021 Constant \$) 3 Years After Graduation – NL Graduates.....	55
Figure 59: Median Income (2021 Constant \$) 1 Year After Last Enrollment – NL PSE Non- Completers	58
Figure 60: Median Income (2021 Constant \$) 3 Years After Last Enrollment – NL PSE Non- Completers	58

Nova Scotia: Table of Contents

Sample – High School Graduates.....	60
Transition to Post-Secondary Education	60
Transition to University	61
Gappers – University	64
Transition to College	65
Gappers – College	68
Interprovincial Retention Rates of Graduates.....	69
Retention Rates of Graduates.....	69
Return Rates of NS PSE Graduates from Out-of-Province	73
Interprovincial Retention of PSE Non-Completers.....	73
Province of Employment: Graduates.....	75
Province of Employment: PSE Non-Completers	76
Income of Graduates & PSE Non-Completers	77
Median Income of Graduates	77
Median Income of PSE Non-Completers	81

Nova Scotia: List of Tables

Table 19: High School Graduates in NS	60
Table 20: 1-Year Retention Rates of Graduates, by Gender – NS	70
Table 21: 3-Year Retention Rates of Graduates, by Gender – NS	71
Table 22: Median Income (2021 Constant \$) 1 Year After Graduation, by Gender – NS Graduates.....	79
Table 23: Median Income (2021 Constant \$) 3 Years After Graduation, by Gender – NS Graduates.....	79
Table 24: Median Income (2021 Constant \$) 1 Year After Graduation, by Field of Study – NS University Graduates	80
Table 25: Median Income (2021 Constant \$) 1 Year After Graduation, by Field of Study – NS College Graduates.....	80
Table 26: Median Income (2021 Constant \$) 1 Year After Last Enrollment, by Gender – NS PSE Non-Completers.....	82
Table 27: Median Income (2021 Constant \$) 3 Years After Last Enrollment, by Gender – NS PSE Non-Completers.....	82

Nova Scotia: List of Figures

Figure 61: Transition to PSE - NS High School Graduates	60
Figure 62: Transition to University – NS High School Graduates	61
Figure 63: Transition to University, by Gender – NS High School Graduates	62
Figure 64: Transition to University, by Location – NS High School Graduates.....	62
Figure 65: Transition to University, by Family Composition – NS High School Graduates.....	63
Figure 66: Transition to University, by Family Income – NS High School Graduates	63
Figure 67: Proportion of NS High School Graduates Enrolled in a University Who are Gappers	64
Figure 68: Proportion of NS High School Graduates Enrolled in a University Who are Gappers, by Gender	65
Figure 69: Transition to College – NS High School Graduates	65
Figure 70: Transition to College, by Gender – NS High School Graduates	66
Figure 71: Transition to College, by Location – NS High School Graduates.....	66
Figure 72: Transition to College, by Family Composition – NS High School Graduates.....	67
Figure 73: Transition to College, by Family Income – NS High School Graduates.....	67
Figure 74: Proportion of NS High School Graduates Enrolled in College Who are Gappers	68
Figure 75: Proportion of NS High School Graduates Enrolled in College Who are Gappers, by Gender.....	68
Figure 76: 1-Year Retention Rates of Graduates – NS	69
Figure 76: 3-Year Retention Rates of Graduates – NS	70
Figure 78: 1-Year Retention Rates of University Graduates, by Field of Study – NS.....	72
Figure 79: 1-Year Retention Rates of University Graduates, by Field of Study – NS.....	72
Figure 80: 1-Year Return Rates of NS Residents Who Graduate from Out-of-Province PSE Institutions.....	73
Figure 81: 1-Year Retention Rates of PSE Non-Completers – NS	74
Figure 82: 3-Year Retention Rates of PSE Non-Completers – NS	74
Figure 83: Province of Employment 1 Year After Graduation (2015-2019) – NS Graduates.....	75
Figure 84: Province of Employment 3 Years After Graduation (2015-2017) – NS Graduates.....	76
Figure 85: Province of Employment 1 Year After Last Enrollment (2015-2019) – NS PSE Non-Completers	76
Figure 86: Province of Employment 3 Years After Last Enrollment (2015-2017) – NS PSE Non-Completers	77
Figure 87: Median Income (2021 Constant \$) 1 Year After Graduation – NS Graduates.....	78
Figure 88: Median Income (2021 constant \$) 3 Years After Graduation – NS Graduates	78
Figure 89: Median Income (2021 Constant \$) 1 Year After Last Enrollment – NS PSE Non-Completers	81
Figure 90: Median Income (2021 Constant \$) 3 Years After Last Enrollment – NS PSE Non-Completers	81

Executive Summary

This study explores the post-secondary education choices and labour market outcomes of high school graduates in the Atlantic Provinces of New Brunswick, Newfoundland and Labrador and Nova Scotia,¹ using a linked data set containing school records from kindergarten through grade 12 (K-12), post-secondary education records and income tax records.

This report covers three dimensions of research for the high school graduates of each province:

- 1) The **post-secondary education choices** of graduates.
- 2) The **interprovincial mobility and retention rates** of graduates from high school and post-secondary education.
- 3) The **labour market outcomes** (employment and income) of graduates from high school and post-secondary education.

New Brunswick (NB): Highlight of Findings

Post-secondary education choices of NB graduates

About two-thirds of NB high school graduates pursue post-secondary education (university or college) somewhere in Canada.

- 40% of high school graduates from NB enroll in a public university in Canada.
- Approximately one-fourth (24%) of NB high school graduates pursue college education.
- Around 74% of NB high school graduates who attend university prefer to enroll in NB universities. Meanwhile, about 90% of high school graduates enrolling in college choose an institution in their home province (NB).
- 94% of NB high school graduates who transition to university do so within 6 months after high school graduation, compared to 71% of high school graduates who transition to college in the same timeframe.
- Only 6% of NB high school graduates who transition to university do so later (between 6 months and 2 years after graduation), while 29% of college enrollees do so.

¹ The Atlantic province of Prince Edward Island is not included in this study due to a lack of data availability.

Interprovincial mobility and retention rates of NB graduates

In NB, college graduates exhibit the highest 1-year interprovincial retention rates (93%) compared to university graduates (87%) and “leavers*” (89%).

** The term “leaver” refers to a high school graduate who is not pursuing post-secondary education. This terminology refers to their choice to “leave” formal education after high school graduation.*

More than half of NB's out-of-province university graduates and around 60% of out-of-province college graduates return to NB within 1 year of graduating.

Labour market outcomes of NB graduates

A majority of leavers* (95%) and college graduates (93%) are employed in NB 1 year post-graduation. In comparison, about 80% of university graduates are working in NB 1 year after graduation.

One year after graduation, NB university graduates earn the highest median income, followed by college graduates and then leavers (high school graduates who are not pursuing PSE). Leavers' median income is approximately half the income of college graduates.

- 1 year post-graduation, NB university graduates earn a median income of about \$37,000.
- NB college graduates earn a median income of around \$30,000.
- NB leavers earn a median income of about \$15,000 – the lowest among all categories

Newfoundland and Labrador (NL): Highlight of Findings

Post-secondary education choices of NL graduates

Approximately two-thirds (~64%) of NL high school graduates pursue post-secondary education (university or college) somewhere in Canada.

- 39% of NL high school graduates enroll in a public university in Canada.
- Around 25% of NL high school graduates pursue college education in Canada.
- Roughly 92% of NL high school graduates who attend university enroll in NL universities, while about 96% of those enrolling in college choose an institution in NL.
- 96% of NL high school graduates who transition to university do so within 6 months of high school graduation, compared to 74% of college enrollees.

- Only 4% of NL high school graduates who transition to university enroll later (between 6 months and 2 years after high school graduation), while 26% of college enrollees do so.

Interprovincial mobility and retention rates of NL graduates

In NL, leavers* demonstrate the highest 1-year retention rate after graduation from high school (87%), compared to college (86%) and university graduates (81%).

Around 45% of NL's out-of-province university graduates and around 53% of out-of-province college graduates return to NL within 1 year of graduating.

Labour market outcomes of NL graduates

A majority of leavers* (94%) and college graduates (87%) are employed in NL 1 year post-graduation. In comparison, approximately 79% of university graduates are working in NL 1 year after graduation.

One year after graduation, NL university graduates earn the highest median income, followed by college graduates and then leavers.* The median income of leavers is less than half the income of university and college graduates.

- 1 year post-graduation, NL university graduates earn a median income of about \$39,000.
- NL college graduates earn a median income of around \$29,000.
- NL leavers earn a median income of about \$13,500 – the lowest among all categories.

Nova Scotia (NS): Highlight of Findings

Post-secondary education choices of NS graduates

Approximately two-thirds of NS high school graduates pursue post-secondary education (university or college) somewhere in Canada.

- 42% of high school graduates from NS enroll in a public university in Canada.
- Around 23% of NS high school graduates opt for college education in Canada.
- Around 81% of NS high school graduates who attend university enroll in NS universities, while about 92% of those enrolling in college choose an institution in NS.
- 94% of NS high school graduates who transition to university do so within 6 months of high school graduation, as opposed to 70% of college enrollees.

- Only 6% of NS high school graduates who transition to university do so later (between 6 months and 2 years after high school graduation), along with 30% of college enrollees.

Interprovincial mobility and retention rates of NS graduates

NS college graduates exhibit the highest 1-year interprovincial retention rates (90%) compared to both university graduates and leavers* (both around 86%).

More than half of NS's out-of-province university graduates and around 60% of out-of-province college graduates return to NS within 1 year of graduating.

Labour market outcomes of NS graduates

A majority of leavers (95%) and college graduates (92%) are employed in NS 1 year post-graduation. Approximately 84% of university graduates are working in NS 1 year after graduation.

One year after graduation, NS university graduates earn the highest median income, followed by college graduates and then leavers.* The median income of leavers is almost half the income of college graduates.

- 1 year post-graduation, NS university graduates earn a median income of about \$35,000.
- NS college graduates earn a median income of around \$29,000.
- NS leavers earn a median income of about \$15,000 – the lowest among all categories.

Key Takeaways

Overall, we see similar trends in graduates' post-secondary education decisions, retention and employment outcomes across all three provinces, with only small variations.

For instance, about two-thirds of high school graduates across NB, NL and NS pursue post-secondary education somewhere in Canada, with similar proportions pursuing university (~40%) or college (~24%). Likewise, the timeframe in which graduates enroll in PSE is fairly consistent – with 90% across all provinces attending university and about 70% attending college within 6 months of high school graduation,

We do see some provincial variation in their choice of PSE institution, however. While a majority of high school graduates prefer to attend universities in their home province, the proportion varies from over 90% of NL graduates enrolling in universities in NL to 74% of NB graduates choosing to attend universities in NB. Likewise, there is a difference in the provinces' 1-year retention rates: While college graduates have the highest 1-year retention in NB and NS, leavers

(high school graduates not pursuing PSE) have the highest 1-year retention in NL. Of the three provinces, 1-year retention is slightly lower in NL.

Despite these variations, employment outcomes across the region seem consistent, with the majority of leavers and college graduates employed in their home provinces 1 year after graduation. The smaller proportion (~80%) of university graduates working in their home provinces suggests that university graduates may be more mobile in their employment pursuits.

We see a consistent trend in median income across the provinces 1 year after graduation, with university graduates earning the highest income, followed by college graduates and then leavers. Though college graduates earn approximately the same (~\$30,000) in each province, there is some variation in the earnings gap between university graduates and leavers. The largest gap between education levels is seen in NL, where university graduates earn the most (\$39,000) and leavers earn the least (\$13,500) compared to their NB and NS cohorts. This gap is smallest in NS, where university graduates earn around \$35,000 and leavers earn about \$15,000.

Ultimately, findings suggest that in the Atlantic provinces of New Brunswick, Newfoundland and Labrador and Nova Scotia, graduates exhibit ties to their home provinces. Those who pursue higher education often choose to do so within their home province – and those who study in their home province tend to stay and work in their home province after they graduate. Even among those who leave their home provinces to pursue PSE elsewhere, around half of university graduates and close to 60% of college graduates return after graduating.

While there are some differences in outcomes (such as between college and university graduates), we still find that the majority of high school, college and university graduates contribute to their local economies through attending local PSE institutions and/or working as members of the local labour force shortly after graduation.

These results are limited to a small window of observation due to data availability. However, additional years of data being made available would allow future iterations of this work to observe longer-term trends in graduate retention and earnings growth both within and between the Atlantic provinces.

Introduction

This study explores various aspects of post-secondary education choices and labour market outcomes among high school graduates in three Atlantic provinces:²

New Brunswick (NB)

Newfoundland and Labrador (NL)

Nova Scotia (NS)

Leveraging a linked data set that combines K-12³ school records from these three provinces with post-secondary education and income tax records from Statistics Canada, the study was conducted within the Statistics Canada NB Research Data Centre (RDC).

The research is divided into three dimensions, each focusing on different outcomes among high school graduates:

- 1) The **post-secondary education (PSE) choices** of high school graduates (*i.e.* transition to PSE).
- 2) The **interprovincial mobility and retention rates** of graduates from high school and post-secondary education.
- 3) The **labour market outcomes** (including employment and earned income) of graduates from high school and post-secondary education.

Background

For provincial education systems, graduates' experiences and outcomes of transitioning through public education into the workforce are vital indicators of success. However, without access to linked education and employment data, governments have a limited ability to track student transitions and pathways effectively. By providing access to standardized, accurate and timely statistics for the Atlantic provinces, this study aims to address this challenge and provide valuable evidence that can be used to inform policy discussions and decisions.

Research by Statistics Canada (2019) comparing earnings by level of education across Canada reports that higher educational attainment is one of the most important factors in earning a higher salary. The study shows, for instance, that women with a bachelor's degree in Canada earn around 40% more than women with a college diploma and around 60% more than women with a high school diploma (Statistics Canada [StatCan], 2019) – though, there are provincial variations, with some regions of Canada seeing higher earnings across all levels of education than others.

² The Atlantic province of Prince Edward Island is not included in this study due to a lack of data availability.

³ K-12: Kindergarten through grade 12.

Due to these regional variations in earnings, educational attainment may be even more important for youth in Atlantic Canada and their future labour market outcomes. A recent study by Eisen and Palacious (2023) compares median employment income in the Atlantic provinces to the national average. Their findings suggest that the Atlantic provinces lag behind the rest of the country in terms of employment income and employment rates, which was attributed to factors such as the aging population and the seasonal nature of employment in these regions.

Given the Atlantic region's demographic challenges, it is important not only to understand and support the transition of Atlantic high school graduates to post-secondary education but also to understand the retention and employment of graduates in the region, as well as the likelihood of return among those who leave their home provinces to study elsewhere.

Tracking student transitions and pathways through higher education and/or the labour market across the region enables us to better understand the impact of existing educational systems and policies, and results may be used in the formation of more refined policies focused on improving pathways across public schools, post-secondary education (PSE) and the labour force. Ultimately, these may result in increased PSE participation rates and better alignment of skills between education and employment.

Data and Methodology

Data

The analysis in this study relies on a linked student-level data set that connects K-12 school records provided by the Departments of Education in New Brunswick (NB), Newfoundland and Labrador (NL) and Nova Scotia (NS) with post-secondary education records and income tax records available through Statistics Canada for a combined data set accessible through the Statistics Canada NB Research Data Centre (RDC).

Data Name	Data Type	Years available
K-12 School Records	Public school student demographics	2012-2020*
Postsecondary Information System (PSIS)	Enrollments and graduates of Canadian public post-secondary institutions	2012-2021**
T1 Family File (T1FF)	Income tax from the T1 Family File	2012-2020***

* Academic years. PEI data was unavailable at study commencement.

** Available until April of the year indicated.

*** Calendar years.

K-12 School Records

The K-12 School Records data set contains information on students in public schools across New Brunswick, Newfoundland and Labrador and Nova Scotia from Kindergarten (“Primary” in NS) to grade 12. It includes information on each student, the school they attended, their subjects and course information for subjects from grades 10-12. The data set contains information on students enrolled in public schools by basic demographics such as gender and province of residence, as well as academic information including school name, grade level, program of study, year of enrollment and graduation year. Data are available for the 2012/13 to 2019/20 academic years.

Postsecondary Student Information System (PSIS)

The PSIS is a national data set that provides information on graduates from all publicly funded post-secondary institutions in Canada. It contains longitudinal student records that enable analysis of post-secondary issues including enrollment, persistence, graduation and program of study. From the PSIS, it is possible to disaggregate the demographic profiles of high school graduates (from K-12 school records) who enrolled in a public post-secondary institution across Canada, by gender, type of institution (university or college), timing of enrollment (within 6 months or between 6 months to 2 years of graduating) and location of PSE institution.

The PSIS also provides details about the type of program undertaken by enrolled and graduating students and their fields of study. The individuals who have not completed post-secondary programs within a certain timeframe can be flagged using enrollment year and no graduation year. The PSIS excludes information on apprenticeship programs or pre-technology programs.

T1 Family File (T1FF)

The T1FF contains tax records derived from the T1 schedule for Canadian income tax and combines information from the T1 and T4 files. The T1FF contains demographic and geographic characteristics such as age, province of taxation and province of residence as of December 31st of the tax year, as well as earnings information for census families, working-age individuals and seniors.

In the T1FF, a family composition indicator helps to determine if a high school graduate resides in a couple or lone-parent family. The indicator is based on Statistics Canada's concept of census families which comprise married or common-law couples, with or without children, or lone parents with at least one child residing in the same dwelling. Those not fitting within these categories are classified as "persons not in census families."⁴

The T1FF data set also provides information on family income to determine if an individual resides in a low-income household or otherwise. The Low-Income Measure (LIM) is a relative indicator of low income, set at 50% of the adjusted median family income to account for varying family needs.⁵ Families are deemed low income if their earnings fall below the LIM specific to their family type and size.

Methodology

Transition to Post-Secondary Education

We use the following definitions and methodologies throughout the analysis to examine students' education and transition decisions:

High School Graduates

Students who have graduated from a public high school in NB, NL or NS are identified through the K-12 School Records. All high school graduates are considered to have completed their education by the end of an academic year, such as July 1, 2015, for the 2014/15 academic year.

⁴ Persons not in census families include individuals living alone or within a household but not as part of a couple or lone-parent family. ([StatCan, 2023a](#))

⁵ Adjustments are made based on family size, with each additional adult or child over 15 years old increasing needs by 40% of the first adult, and each child under 16 increasing needs by 30% of the first adult. ([StatCan, 2023a](#))

Leavers

Leavers are high school graduates who have not made a transition to a public PSE institution (in Canada) within 2 years of graduation. If a graduate has been identified in the K-12 School Records data and is not present in PSIS data within 2 years of graduation, they are considered not to have pursued PSE and are classified as a leaver.

Transition to Post-Secondary Education (PSE)

High school graduates from K-12 School Records data are linked to Postsecondary Student Information System (PSIS) data to determine the graduates who have made the transition to PSE.

It must be noted that enrollment in pre-university courses, General Equivalency Diploma (GED), non-credential or non-formal certification programs are not flagged as “Transition to PSE.”

The proportion of high school graduates enrolled and not enrolled in universities and community colleges in Canada is estimated for each cohort and disaggregated by student characteristics such as gender, family composition and family income and indicators for type of institution (university or college) and location of PSE institution.

PSIS data span from 2012 to 2020 (calendar years); however, Statistics Canada restricts PSIS outputs for institutions in Newfoundland and Labrador, Prince Edward Island, New Brunswick colleges, Ontario colleges and Saskatchewan and Manitoba institutions before the 2015/16 academic year.

Consequently, the transition to PSE analysis starts with the 2015 high school graduate cohort, focusing on their first choice of PSE after graduation without accounting for subsequent switches or departures.

Continuers (Direct Entrants)

Continuers or direct entry refer to high school graduates who are enrolled at a PSE institution within 6 months of graduation. Students are assumed to have graduated from high school by July 1 of the corresponding academic year, and therefore direct entry students are considered those enrolled in PSE prior to January 1 of the following year (i.e., if a student graduated by July 1, 2015, they would be considered a direct entrant if enrolled in a PSE by January 1, 2016).

Gappers

High school graduates enrolled in PSE between 6 months and 2 years after high school graduation are considered gappers. Gappers can only be estimated until the 2019 cohort due to the available data ending in 2020. The number and proportion of gappers in universities and community colleges are estimated for each cohort by gender and institution type (i.e., college, university).

Descriptive statistics regarding characteristics, including family income level and composition based on T1FF indicators, are available for 98% of high school graduates linked to the T1FF. Among these, 12-14% of graduates are not linked to a family in the census, indicating a lack of tax information until they file taxes as adults, thus categorizing them as "persons not in census families."

Interprovincial Retention Rates

Interprovincial Retention of Graduates

Retention rates are determined based on graduates' residency in the years following graduation using the declared province of taxation from the T1FF as of December 31 of the tax year. For instance, the 1-year retention rate for leavers in 2018 is calculated as the number of leavers filing tax in 2019 divided by the number of leavers in 2018:

$$\text{1-year retention rate for Leavers in 2018} = \frac{\# \text{Leavers filing tax in 2019}}{\# \text{Leavers in 2018}}$$

Notably, observations of post-secondary graduates from universities in Atlantic Canada primarily commence from 2017 onwards (earliest cohort), while data for college graduates are available from 2015 onward. We report 1-year and 3-year retention rates post-graduation and break down the rates by institution, gender and field of study.⁶

Return rate calculations are based on high school graduates who completed their post-secondary studies outside of their home province. The return rates represent the percentage of these graduates returning to their home province after graduation and are calculated by determining the proportion of tax-filing graduates in this group who declare their home province as their province of taxation 1 year post-graduation.

For example, for NB high school graduates in the 2018 cohort of university graduates from institutions outside NB, the numerator for the 1-year return rate comprises the number of university graduates who filed taxes in NB (home province) in 2019. The denominator for return rates encompasses the number of graduates in the 2018 cohort:

$$\text{1-year retention rate for university} \\ \text{graduates (NB residents) in 2018} = \frac{\# \text{University graduates filing tax in NB in 2019}}{\# \text{University graduates in 2018}}$$

Interprovincial Retention of PSE Non-Completers

PSE non-completers are high school graduates who enroll in post-secondary education (PSE), either in their home province or out-of-province, but do not complete their PSE program within 6 years of entry to university or 3 years of entry to college.

⁶ Based on Primary groupings of Classification of Instructional Programs (CIP) ([StatCan, 2022](#)).

We calculate the retention rate for Non-Completers using the most recent (last) year of PSE enrollment. For instance, the 1-year retention rate for Non-Completers in 2018 is determined by the number of Non-Completers filing taxes in 2019 divided by the number of Non-Completers in 2018:

$$\text{1-year retention rate for university} = \frac{\# \text{ University Non-Completers filing tax in 2019}}{\# \text{ University Non-Completers in 2018}}$$

We report 1-year and 3-year retention rates and break down the rates by institution and gender.

Province of Employment and Income

The province of employment is determined by the declared province of taxation from the T1FF 1 year and 3 years after graduation, specifically for individuals who report earned income (before-tax).

Earned income encompasses employment income (wages/salaries before tax) and net self-employment income (gross income minus operational costs and capital cost allowance). Before-tax income may be negative, zero, or positive, depending on reported net self-employment.

Individuals with an earned income of zero, resulting from no reported employment income and no net self-employment income, are not classified as employed.

The province of employment is categorized as Home (province of completion of high school), Atlantic Canada or Rest of Canada.

We present graduates' province of employment by education level (high school, college, university) 1 year and 3 years after graduating from their most recent program (or after the last year attending PSE for Non-Completers), and by type of institution, gender and field of study.

To meet Statistics Canada privacy rules, the province of employment for PSE graduates (university and college) is reported collectively for both graduates from home institutions and out-of-province institutions.

We report the median taxable income for each graduation year cohort (or for last year of PSE attendance for PSE non-completers) between 2015 and 2019. We examine median rather than average income, as the former is less affected by those who report zero or negative income. All income values have been converted to 2021 Constant dollars.

Limitations

Due to data constraints, our analysis could not encompass university graduates before 2017. Additionally, the disclosure of results pertaining to 3-year median income by field of study for post-secondary education (PSE) graduates was hindered by small sample sizes, although further data collection over subsequent years could address this limitation.

The analysis of graduate outcomes regarding unemployment, specifically through Employment Insurance (EI) income receipt, could not be estimated due to small sample size. Further, the available data lack employment characteristic details such as work hours and job permanency.

Data limitations mean that experiences of students with disabilities, first-generation immigrants or minority groups based on various factors such as race, ethnicity, gender or sexual orientation have not been explored. However, linking to the Longitudinal Immigration Database (IMDB) and Census data would allow these dimensions to be considered.

Lastly, the COVID-19 pandemic may have caused disruptions to students educational and labour market pathways, potentially delaying PSE enrollment or program completion in 2020-2021, thus necessitating further analysis to gauge the pandemic's impact.

| The results are for each province are presented in separate sections, linked below:

New Brunswick

Newfoundland and Labrador

Nova Scotia

New Brunswick: Descriptive Statistics

Sample – High School Graduates

Table 1 shows the number of graduates in New Brunswick (NB) in each academic year, with an almost equal distribution of female and male graduates.

Overall, 96% of NB graduates could be linked to the T1 Family File (T1FF). The linkage rate is relatively lower for the most recent cohort (2020), indicating some graduates could not be linked to a family census and may have yet to file taxes by themselves (as adults).

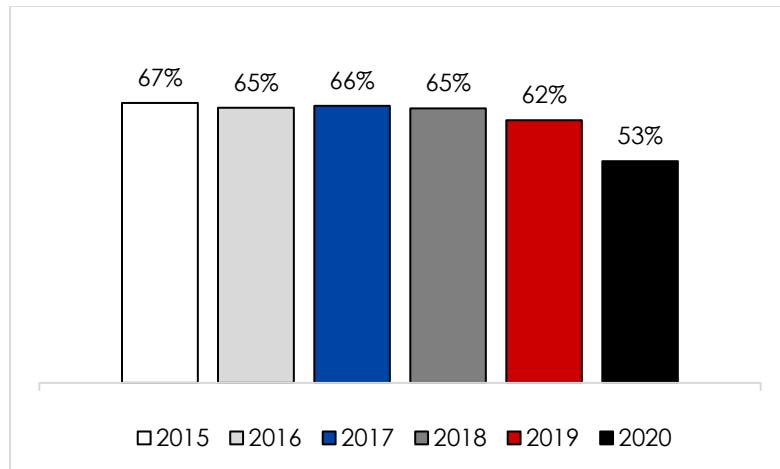
Table 1: High School Graduates in NB

Graduation Year	Total	Female	Male	Linked to T1FF (share of total)
2015	7130	50%	50%	98%
2016	7240	50%	50%	99%
2017	7040	49%	51%	98%
2018	6980	50%	50%	97%
2019	6780	50%	50%	95%
2020	7000	49%	51%	90%
Overall	42,170	50%	50%	96%

Transition to Post-Secondary Education

Around two-thirds of NB high school graduates pursue some sort of public post-secondary education (university or college) in Canada (Figure 1).

Figure 1: Transition to PSE – NB High School Graduates



We see a notable decline in transition to PSE in 2020 because PSIS data end in 2021. As a result, gappers (*those who delay PSE enrollment until between 6 months and 2 years after high school graduation*) cannot be differentiated from leavers (*high school graduates who do not pursue further education*).

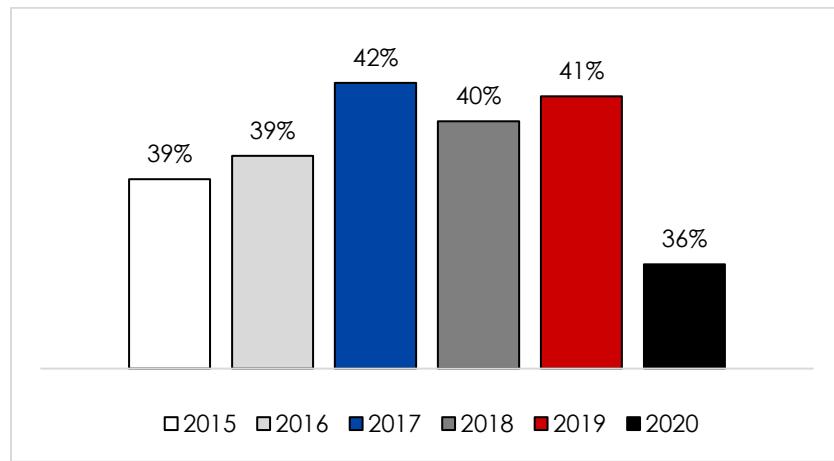
Similarly, 2019 rates also exhibit a slight decline compared to previous years because PSIS data end in April 2021 – less than 2 full years since July 2019 – again making it difficult to differentiate between gappers and leavers. Additional years of data would likely show that the 2019 transition rates are similar to those for 2015 – 2018 cohorts; however, for the 2020 cohort, transition rates may have been affected by the COVID-19 pandemic.

Transition to University

Approximately 40% of high school graduates from NB enroll in public university across Canada (Figure 2).

For the 2020 cohort, there is about a 6 percentage point decline in transition to university compared to the 2019 cohort. This can be attributed to PSIS data only being available until April 2021, which prevents us from differentiating between gappers and leavers.

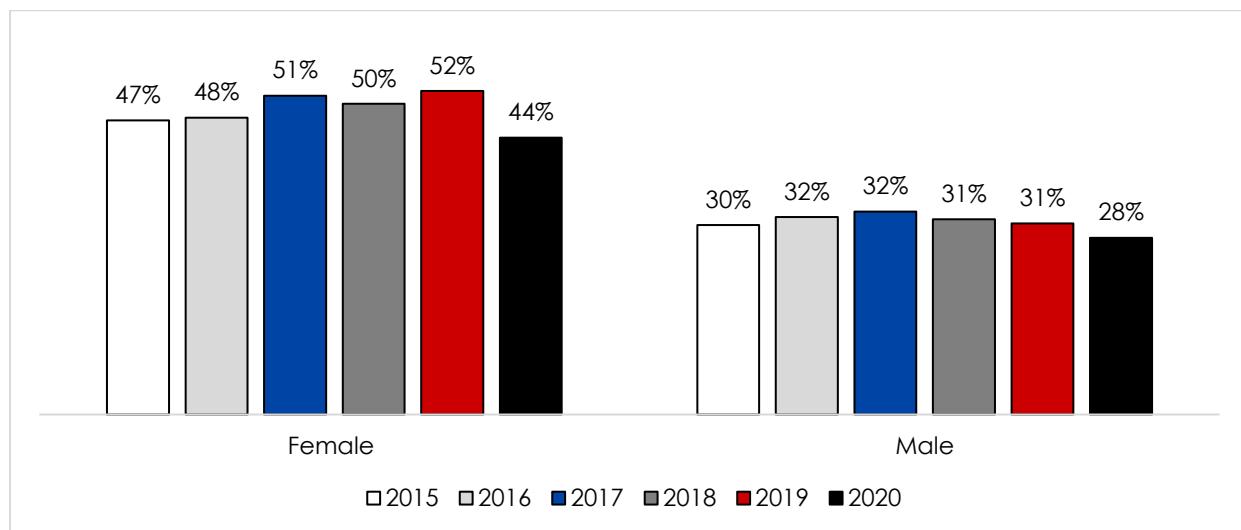
Figure 2: Transition to University – NB High School Graduates



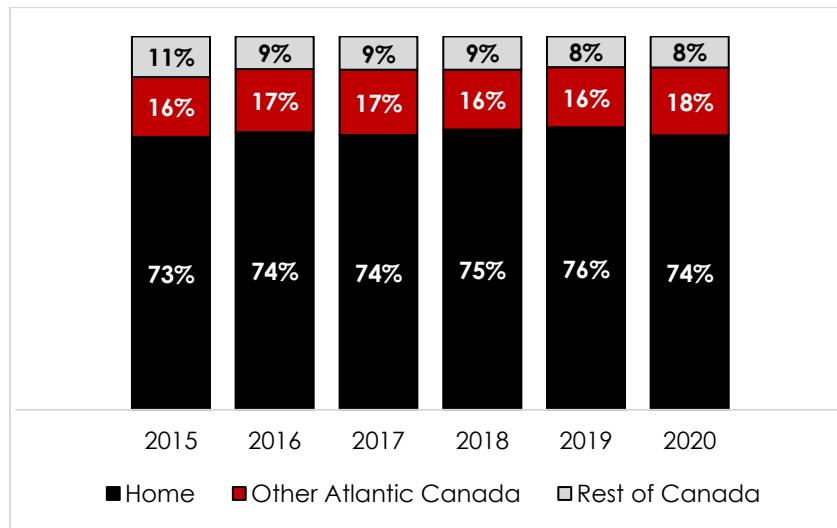
Gender

Disaggregating transition rates to university by gender in Figure 3 shows that close to 50% of female high school graduates in NB end up pursuing university education. On the contrary, the transition rate to university for male high school graduates is around 20 percentage points lower than that of females.

Similar to overall university transition rates, transitions for the 2020 female cohort are 8 percentage points lower than the 2019 cohort. The 2019 male cohort exhibits a relatively lower drop in transition (3 percentage points) compared to the previous cohort.

Figure 3: Transition to University, by Gender – NB High School Graduates**Location of PSE Institution – University**

Among NB high school graduates who enroll in public universities, almost three-quarters of them choose to attend NB universities, as shown in Figure 4.

Figure 4: Transition to University, by Location – NB High School Graduates

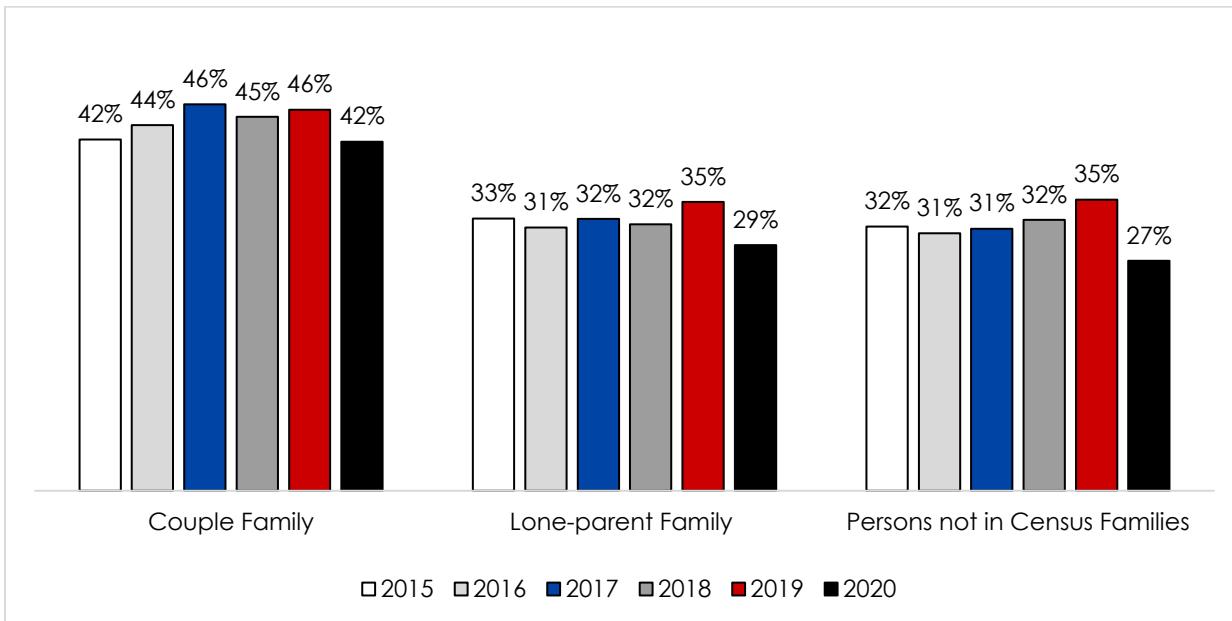
Approximately 17% of these graduates stay in Atlantic Canada (non-NB) for university education. The remaining 9% pursue undergraduate degrees in Canadian universities outside Atlantic Canada.

Family Composition

Comparing transition to university by family composition in Figure 5 shows that around 44% of high school graduates from couple families end up pursuing university education. A lower

proportion (32%) of high school graduates from lone parent families are likely to enroll in university. The rates are similar for graduates under category “persons not in Census Families,” which could indicate that these individuals likely are not living with other family members.

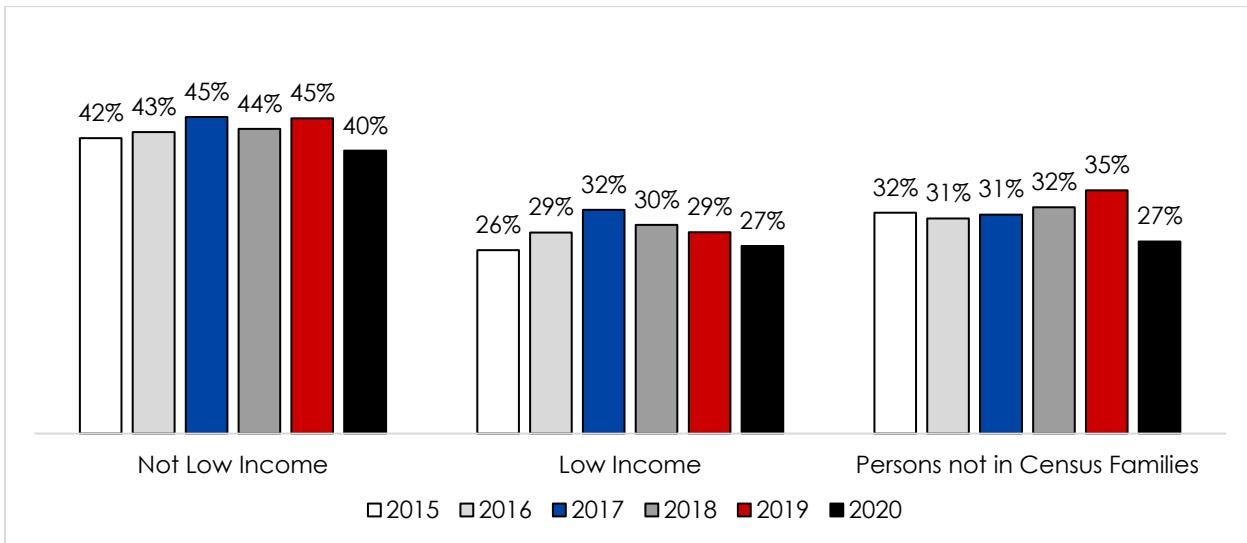
Figure 5: Transition to University, by Family Composition – NB High School Graduates



Family Income

The ratio of transitions to universities among NB high school graduates increases with higher income categories (Figure 6). 29% of graduates from the low-income households pursue university education within 2 years of high school graduation, which is about 15 percentage points lower than the graduates from households living above the low-income threshold.

Figure 6: Transition to University, by Family Income – NB High School Graduates



Gappers – University

This section investigates the proportion of gappers as a subset of those who have transitioned to a university.

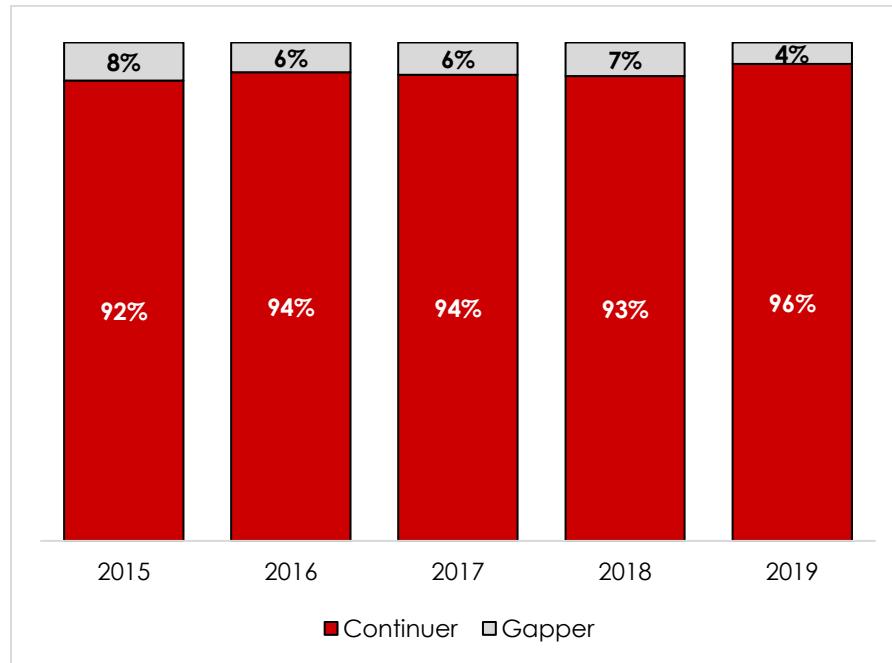
Gappers are defined as the high school graduates who transition to a PSE between 6 months and 2 years after their high school graduation, as opposed to those who transition to a PSE within 6 months following graduation (known as “continuers”). There is a “gap” in their transition from public to post-secondary education.

The proportion of gappers is estimated until the 2019 cohort, as data are available until April 2021 (i.e., gappers within the 2020 cohort cannot be observed in the current data).

Figure 7 illustrates that a small proportion of NB high school graduates who transition to university are gappers. Instead, the majority (over 90%) transition within 6 months of high school graduation (i.e., “continuers”).

The proportion of gappers in the 2019 cohort is lower than for previous cohorts, as a full two years of post-secondary data are not available for this cohort.

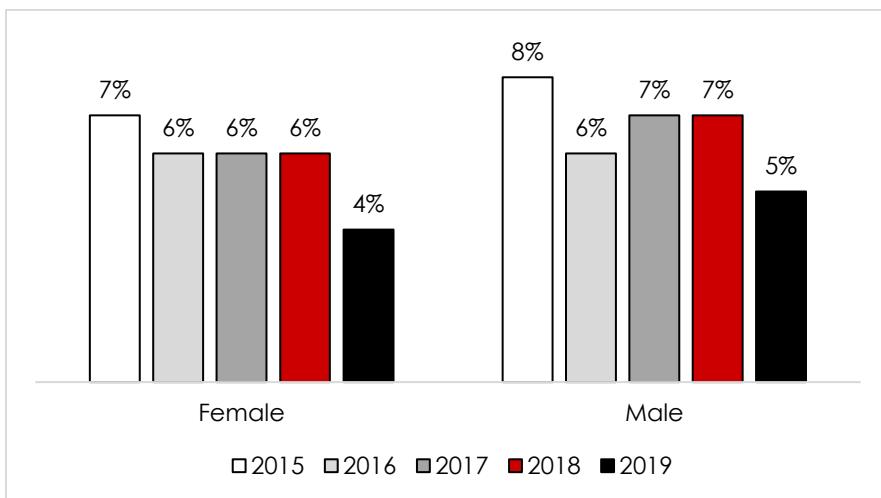
Figure 7: Proportion of NB High School Graduates Enrolled in a University Who are Gappers



Gender

Figure 8 breaks down the proportion of NB gappers by gender. In general, the share of university students who are gappers does not vary widely between male and female graduates from NB public high schools.

Figure 8: Proportion of NB High School Graduates Enrolled in a University Who are Gappers, by Gender

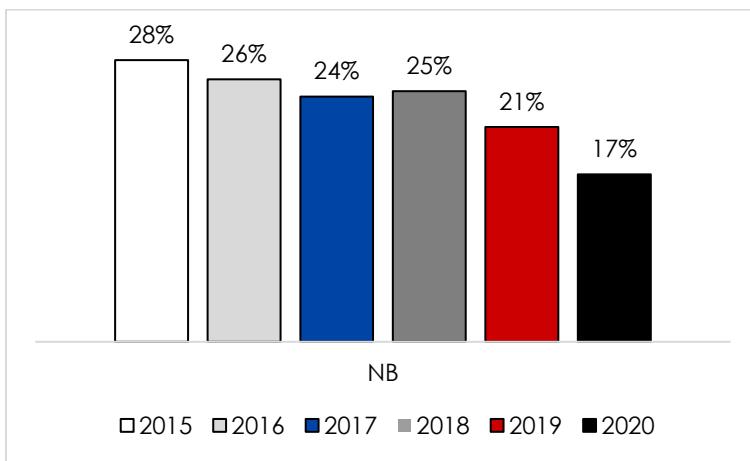


Transition to College

Overall, around one-fourth (24%) of NB high school graduates transition to college (Figure 9).

For the period 2015-2018, 26% of NB high school graduates pursue college education. However, the transition rate drops in 2019 and 2020 by 4 and 8 percentage points, respectively. This is due to the fact that PSIS data end in April 2021, and therefore gappers cannot be differentiated from leavers – a trend consistent throughout this report across various categories.

Figure 9: Transition to College – NB High School Graduates

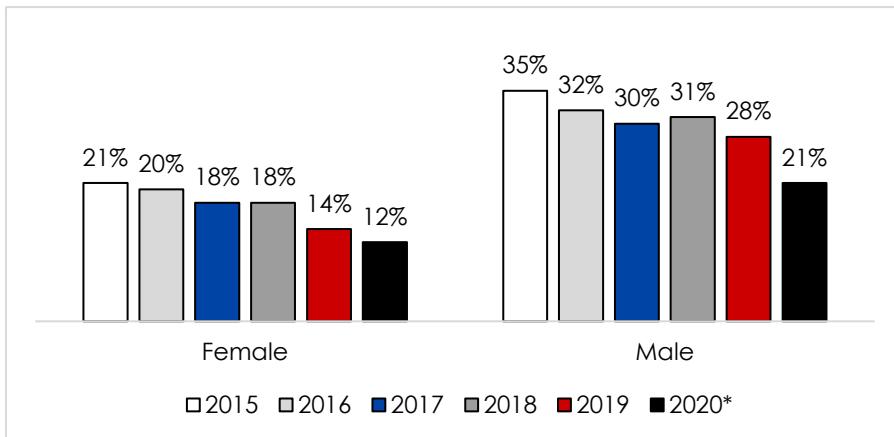


Gender

Figure 10 shows that around 30% of male high school graduate enroll in college for their post-secondary education, while the transition rate for female high school graduates is approximately 12 percentage points lower. The college enrollment rates for both males and females

experience a drop in 2019 and 2020, which, again, is likely due to insufficient years of data to observe all the gappers.

Figure 10: Transition to College by Gender – NB High School Graduates

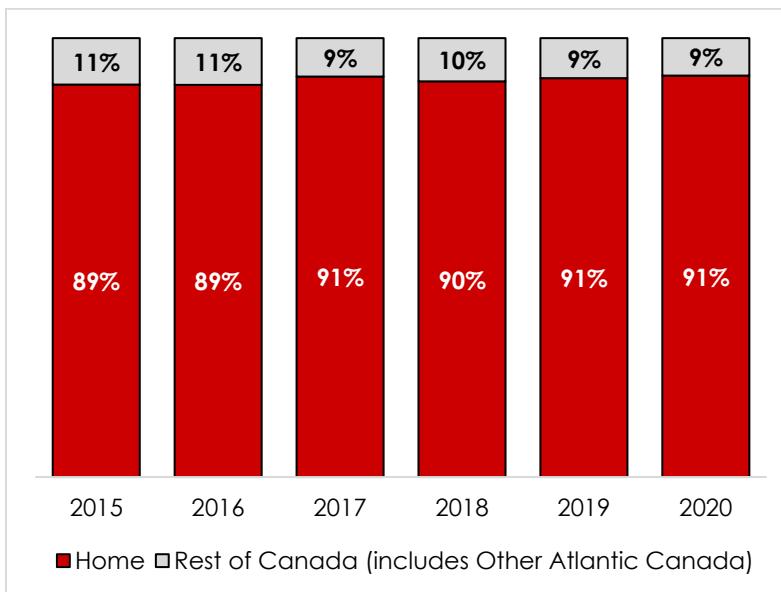


Location of PSE Institution – College

Around 90% of NB high school graduates enrolling in college choose an institution in their home province (NB) – a rate that is consistent over the years (Figure 11).

Due to small counts, students enrolled in colleges within the Atlantic provinces (outside NB) and the rest of Canada have been grouped together.

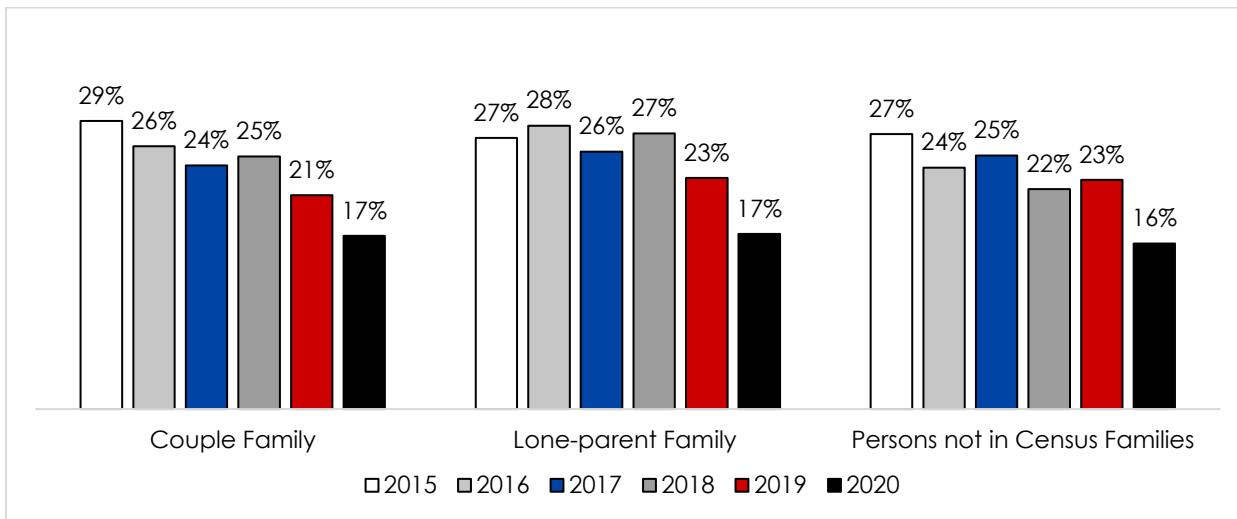
Figure 11: Transition to College, by Location – NB High School Graduates



Family Composition

Figure 12 illustrates that unlike university enrollments, rates of transition to college do not vary by family composition. In the case of graduates from couple families, around 24% pursue a college education, whereas for high school graduates under the categories of lone-parent family and persons not in Census families, the rates are around 25% and 23%, respectively.

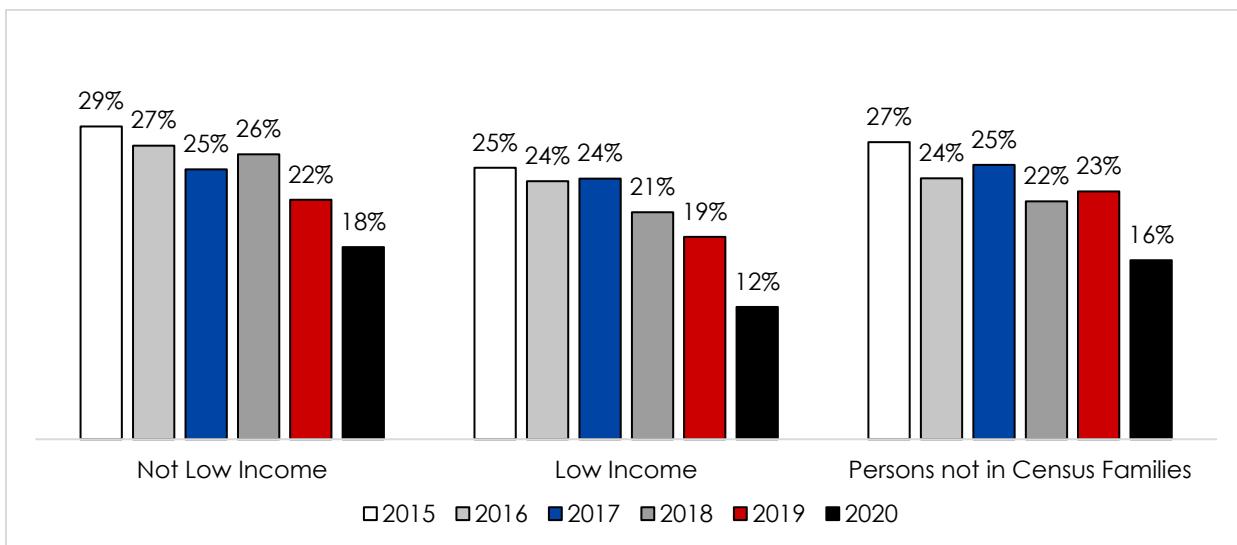
Figure 12: Transition to College, by Family Composition – NB High School Graduates



Family Income

One-fourth (25%) of high school graduates from families with earnings above the low-income threshold transition to college within 2 years of high school graduation. As similar proportion (23%) of graduates from low-income households pursue a college education (Figure 13).

Figure 13: Transition to College, by Family Income – NB High School Graduates

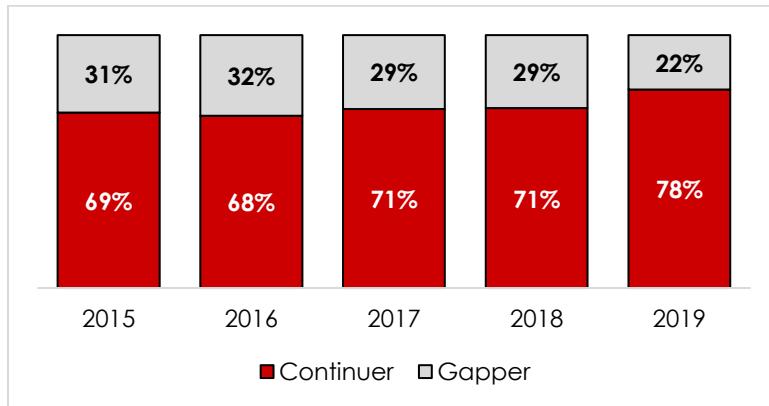


Gappers – College

A notable proportion (29%) of NB high school graduates who are college-bound delay their entry by at least 6 months following their graduation, as depicted in Figure 14. As a reminder, those who enroll in PSE between 6 months and 2 years after their high school graduation are known as “gappers.”

The noticeable decline in the college transition rates in [Figure 9](#) among more recent cohorts (2019 and 2020) is likely attributable to almost one-third of college enrollees being gappers.

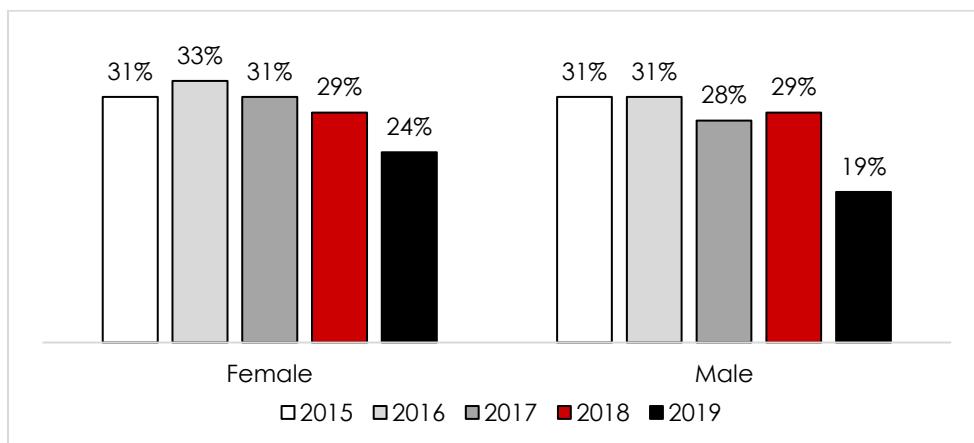
Figure 14: Proportion of NB High School Graduates Enrolled in College Who are Gappers



Gender

A fairly consistent share of male college-pursuers are gappers, ranging from 28% to 31% of the 2015-2018 cohorts. The latest male cohort (2019) exhibits the lowest share of gappers, at 19% – although, with more data expected post-April 2021, this share is likely to increase. Female college-pursuers demonstrate comparable rates to their male counterparts, albeit with a smaller drop in the 2019 cohort, in which 24% of college enrollees are gappers.

Figure 15: Proportion of NB High School Graduates Enrolled in College Who are Gappers, by Gender



Interprovincial Retention and Return Rates of Graduates

This section calculates the interprovincial retention rates of graduates based on their highest level of education (high school, college or university). A graduate is considered retained in New Brunswick 1 and 3 years after graduation if they declare NB as their province of taxation during those respective periods.

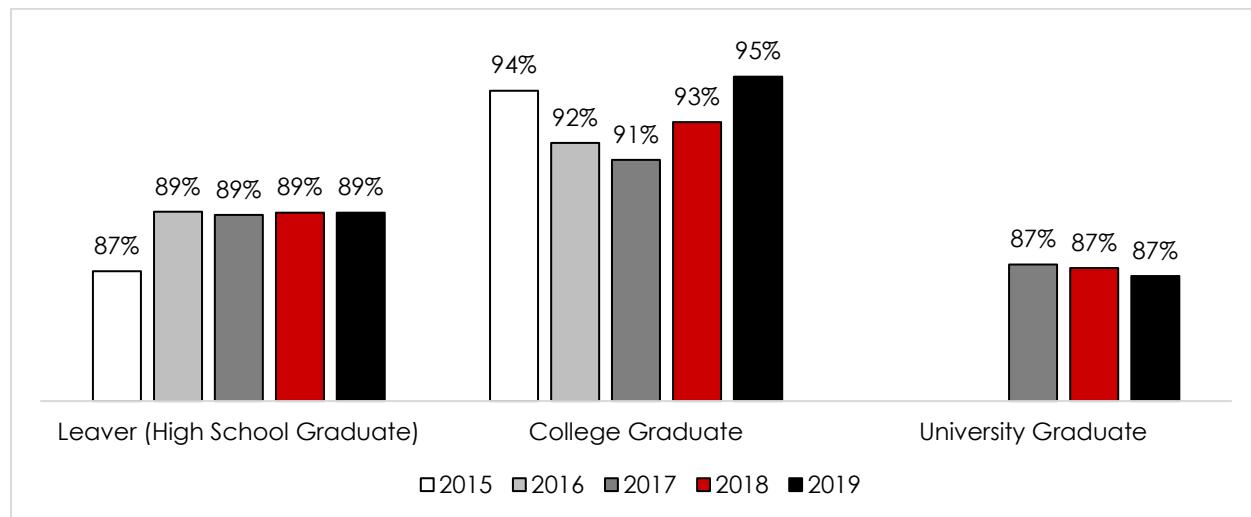
Retention Rates of Graduates

1-Year Retention

NB College graduates exhibit the highest 1-year retention rate after graduation (from college) in Figure 16, with 93% remaining in the province.

Meanwhile, 87% of graduates from university still reside in NB 1 year post-graduation.⁷ About 89% of high school graduates who do not transition to PSE ("leavers") remain in NB after 1 year.

Figure 16: 1-Year Retention Rates of Graduates – NB



3-Year Retention

After 3 years post-graduation, 89% of college graduates are living in NB while just about 82% of university graduates are retained. Approximately 85% of leavers (high school graduates who do not transition to PSE) remain in the province post-high school graduation (Figure 17).

⁷ These 1-year retention rates for college and university graduates are comparable to the rates estimated in Balzer et al., (2023). See [Discussion of Findings](#).

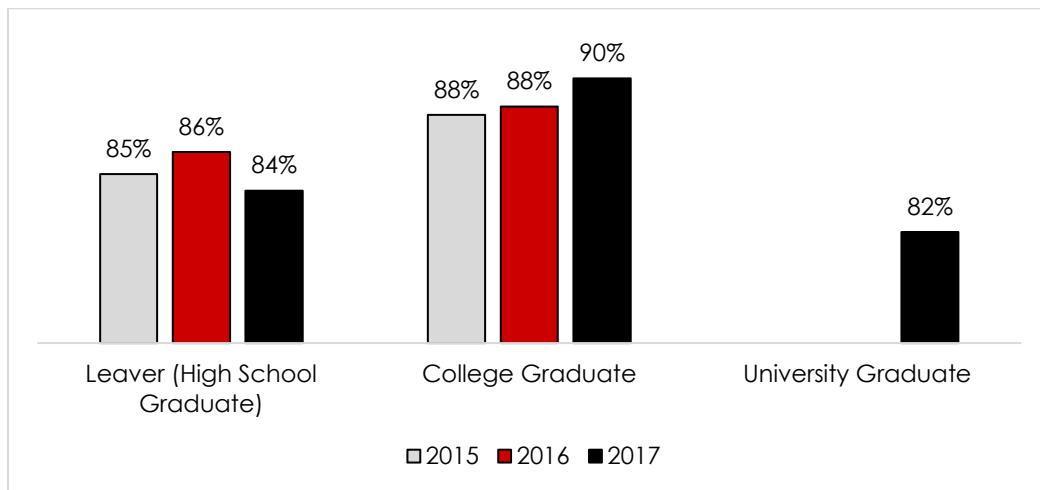
Figure 17: 3-Year Retention Rates of Graduates – NB**Gender: 1-Year Retention**

Table 2 shows 1-year retention rates by gender. Among leavers, female high school graduates exhibit retention rates that are 2-3 percentage points higher than their male counterparts. In general, gender differences for college graduates are minimal (approximately 1 percentage point). However, 1-year retention rates for female university graduates are 5-10 percentage points higher than for males.

Table 2: 1-Year Retention Rates of Graduates, by Gender – NB

	Leaver		College Graduate		University Graduate	
Graduation Year	Female	Male	Female	Male	Female	Male
2015	87%	86%	93%	94%		
2016	91%	87%	90%	93%		
2017	89%	90%	89%	93%	89%	84%
2018	91%	88%	94%	91%	91%	81%
2019	90%	88%	93%	94%	88%	84%

Gender: 3-Year Retention

After 3 years post-graduation, 87% of female leavers (high school graduates) remain in the province while 83% of male high school graduates are retained (Table 3).

There is little gender difference for college graduates, as both female and male graduates exhibit 3-year retention rates around 90%. For the one cohort of university graduates that can be observed (2017), 83% of females reside in the province 3 years post-graduation as opposed to 79% of male graduates.

Table 3: 3-Year Retention Rates of Graduates, by Gender – NB

Graduation Year	Leaver		College Graduate		University Graduate	
	Female	Male	Female	Male	Female	Male
2015	87%	83%	90%	89%		
2016	89%	84%	88%	89%		
2017	85%	83%	91%	89%	83%	79%

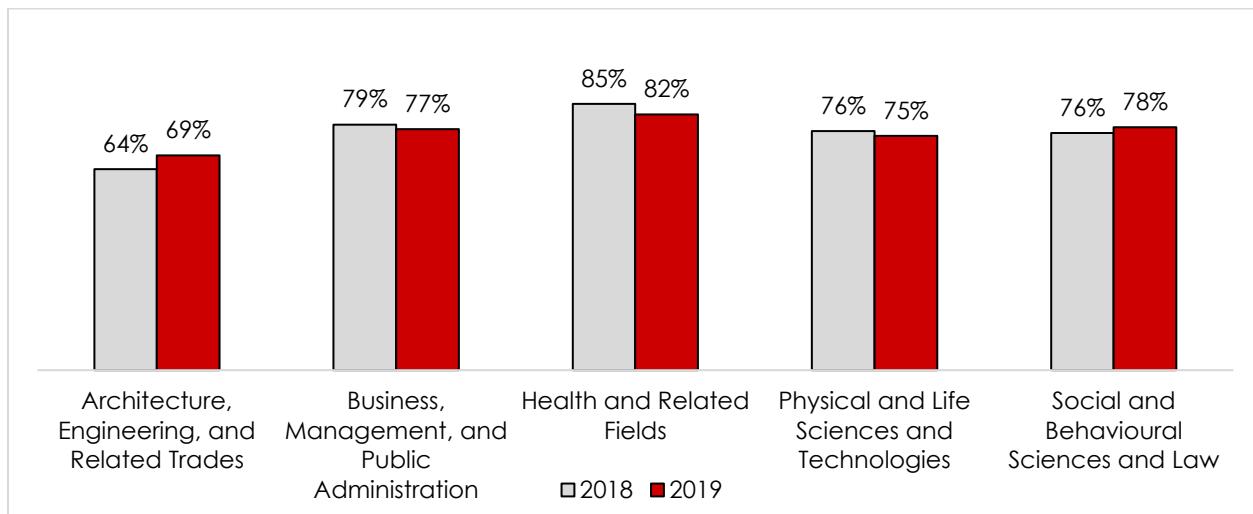
PSE Field of Study

The field of study of post-secondary education (PSE) graduates is based on Statistics Canada's Variant of the Classification of Instructional Programs (CIP): 2021 Version 1.0 for Primary groupings (StatCan, 2022).

There are 13 categories listed under primary groupings. However, to meet Statistics Canada's disclosure requirements, only the rates for the top 5 primary groups are released. It should be noted that small counts also prohibited the release of rates prior to 2018 for university graduates and prior to 2017 for college graduates. Consequently, only 1-year retention rates by field of study could be released in this report.

University Field of Study: 1-Year Retention

In Figure 18, university graduates in "Health and Related Fields" exhibit the highest 1-year retention rate, at 83%. The lowest retention rate can be observed for graduates in "Architecture, Engineering, and Related Trades," with 67% retained after 1 year. Around 77% of university graduates in other categories remain in the province 1-year after graduation.

Figure 18: 1-Year Retention Rates of University Graduates, by Field of Study – NB

College Field of Study: 1-Year Retention

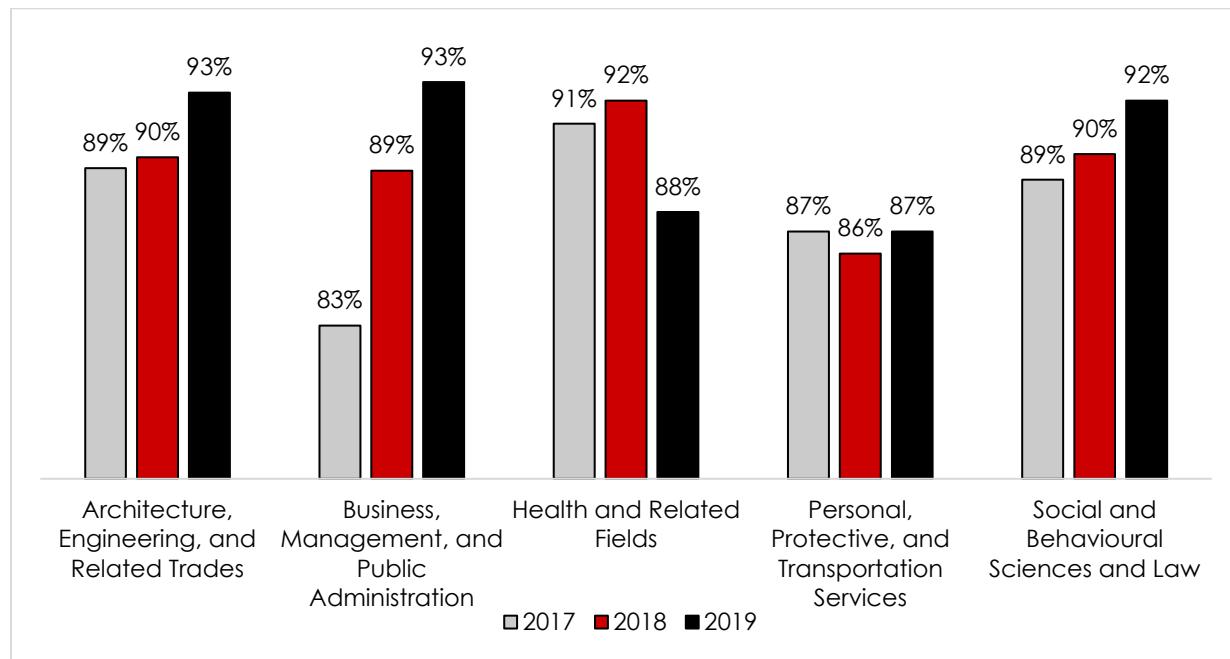
College graduates in general exhibit 1-year retention rates close to or above 90% for most fields of study in Figure 19.

91% of individuals in “Architecture, Engineering, and Related Trades” and in “Social and Behavioural Sciences and Law” reside in NB 1 year post graduation, making these the fields of study with the highest retention rates.

The lowest 1-year retention rate among college graduates is observed among graduates in the “Personal, Protective, and Transportation Services” category, at 86%.

A gradually increasing trend can be observed for graduates in the “Business, Management, and Public Administration” and “Social and Behavioural Sciences and Law” categories.

Figure 19: 1-Year Retention Rates of College Graduates, by Field of Study – NB



Return Rates of NB PSE Graduates from Out-of-Province

Along with the retention rates of individuals who graduated from institutions within NB, we also present the return rates of NB high school graduates who completed their PSE studies outside their home province.

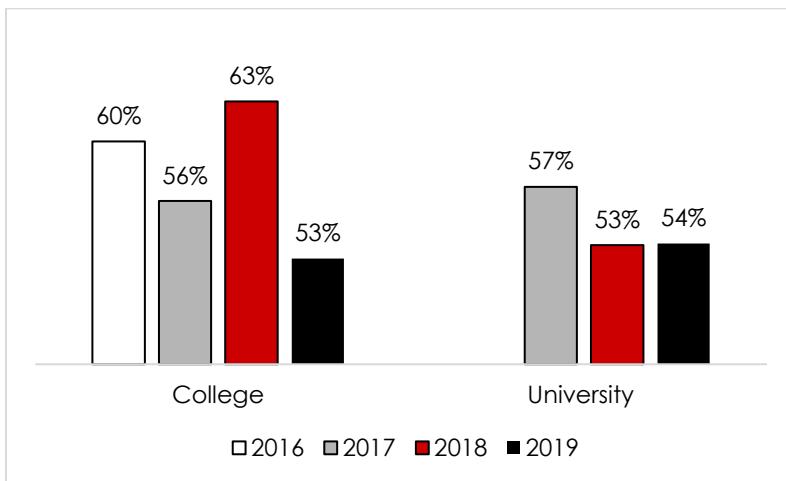
These rates represent the percentage of PSE graduates returning to NB after graduation, calculated by observing the proportion of tax-filing PSE graduates who declare NB as their province of taxation 1 year post-graduation.

Figure 20 shows that more than half (54%) of NB high school graduates who complete their university education outside NB return to the province 1 year after completing their degree.

For individuals who obtain a college diploma outside of New Brunswick, an even higher proportion (around 57%) of them return to NB after 1 year.

For both university and college graduates, over half return to their home province of NB within 1 year after graduating.

Figure 20: 1-Year Return Rates of NB Residents Who Graduate from Out-of-Province PSE Institutions



Interprovincial Retention of PSE Non-Completers

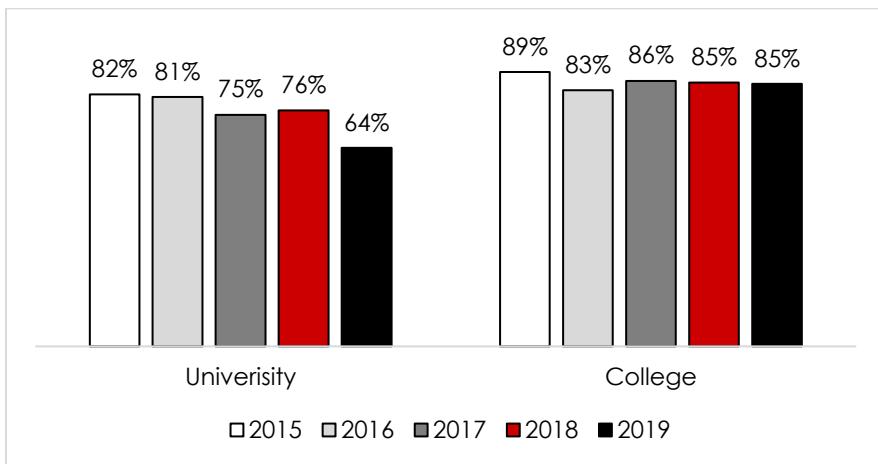
PSE non-completers are high school graduates who enroll in post-secondary education (PSE) but do not complete their program within 6 years of starting university or within 3 years of starting college.

We calculate the retention rates of PSE non-completers using the most recent year of their PSE enrollment.

1-Year Retention

Overall, 77% of university non-completers reside in NB 1 year after their most recent university enrollment. However, a declining trend can be observed over the years, as 64% of university non-completers are retained for the 2019 cohort.

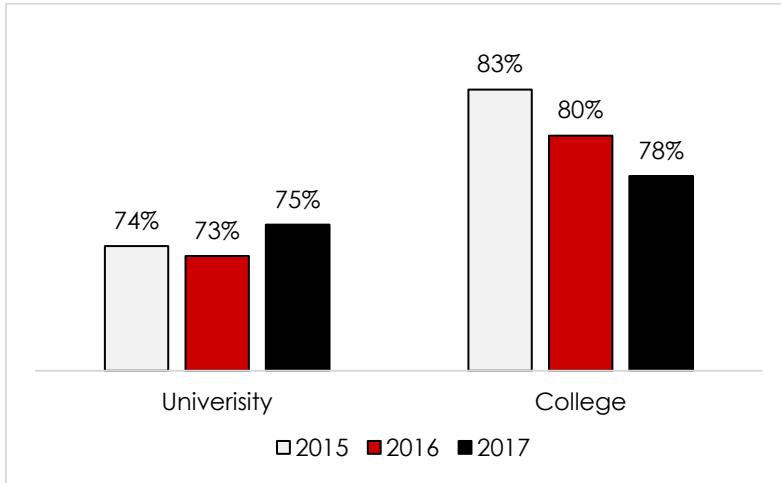
On the other hand, 1-year retention rates for college non-completers are consistent for the 2015-2019 cohorts at the higher rate of 86% (Figure 21).

Figure 21: 1-Year Retention Rates of PSE Non-Completers – NB

3-Year Retention

After 3 years, approximately 74% of university non-completers reside in NB, as shown in Figure 22.

Around 80% of college non-completers live in the province 3 years after their most recent college enrollment.

Figure 22: 1-Year Retention Rates of PSE Non-Completers – NB

Province of Employment: Graduates

Province of employment is determined by graduates' declared province of taxation in the T1 Family File (T1FF) 1 and 3 years after graduation for individuals reporting earned income. Earned income includes employment income (before-tax wages/salaries) and net self-employment income (gross income minus operational costs and capital cost allowances).

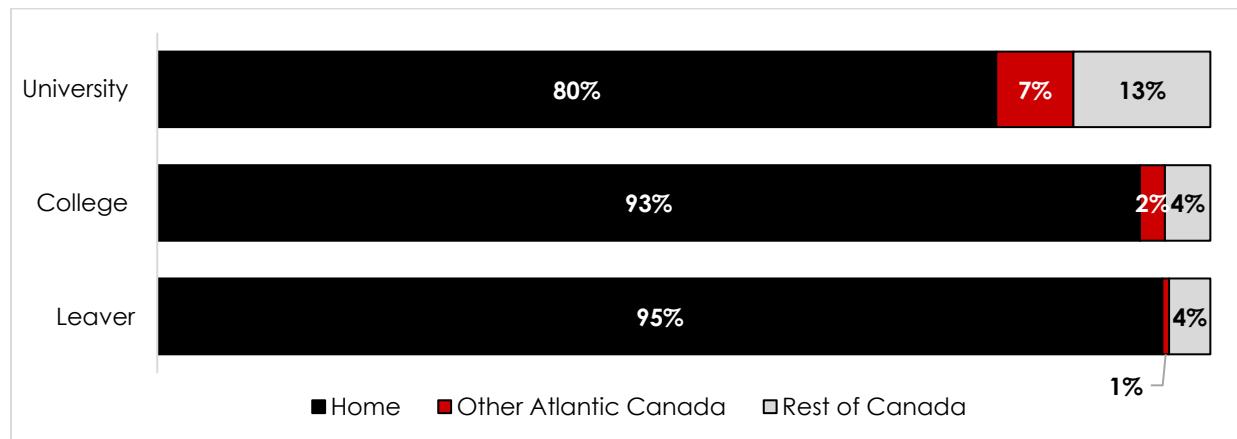
The province of employment for PSE graduates (university and college) is reported collectively for both graduates from NB institutions and out-of-province institutions. Thus, in this section, NB university or college graduates refer to PSE graduates from any PSE institution in Canada.

1 Year After Graduation

Among NB university graduates with earned income, about 80% are in their home province (NB) 1 year post-graduation (Figure 23).

13% of NB university graduates are employed outside Atlantic Canada 1 year after their graduation. Approximately 4% of employed leavers and 4% of college graduates are working outside of Atlantic Canada.

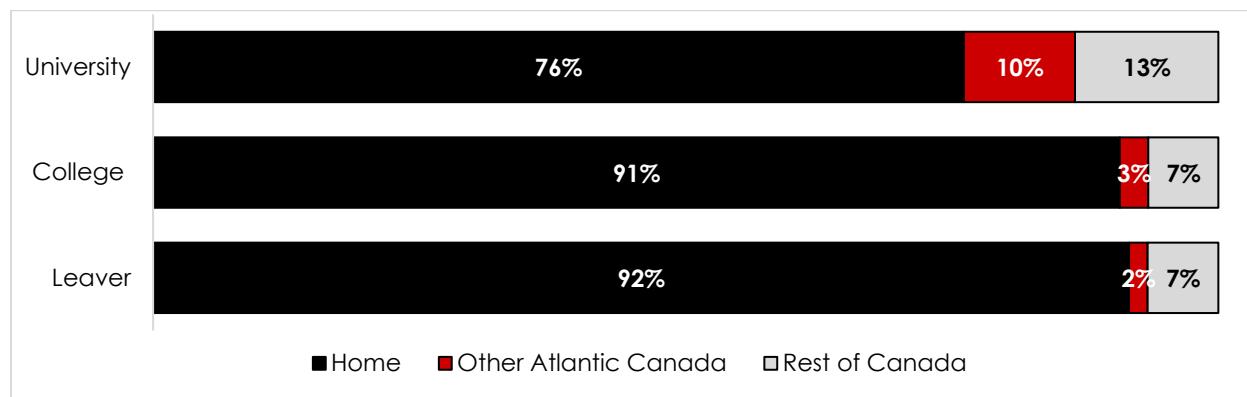
Figure 23: Province of Employment 1 Year After Graduation (2015-2019) – NB Graduates



3 Years After Graduation

Three years post-graduation, 76% of employed university graduates work in NB, and 10% are employed in other Atlantic provinces (Figure 24). This may indicate that some graduates who were working in NB after 1 year may have migrated to other parts of Atlantic Canada after 3 years.

For both leavers and college graduates, 7% work outside Atlantic Canada – a 3 percentage points increase relative to the groups' province of employment 1 year after graduation.

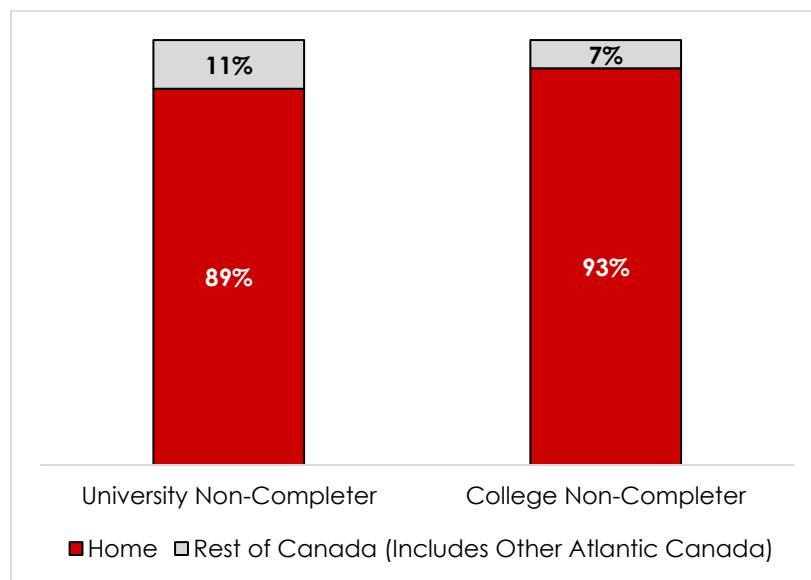
Figure 24: Province of Employment 3 Years After Graduation (2015-2017) – NB Graduates

Province of Employment: PSE Non-Completers

For PSE non-completers, the province of employment is estimated 1 and 3 years after their most recent PSE enrollment at either a university or college.

1 Year After Last Enrollment

89% of university non-completers with reported earned income declare NB as their province of taxation (Figure 25). Among college non-completers working 1 year after leaving college, 93% are located in NB.

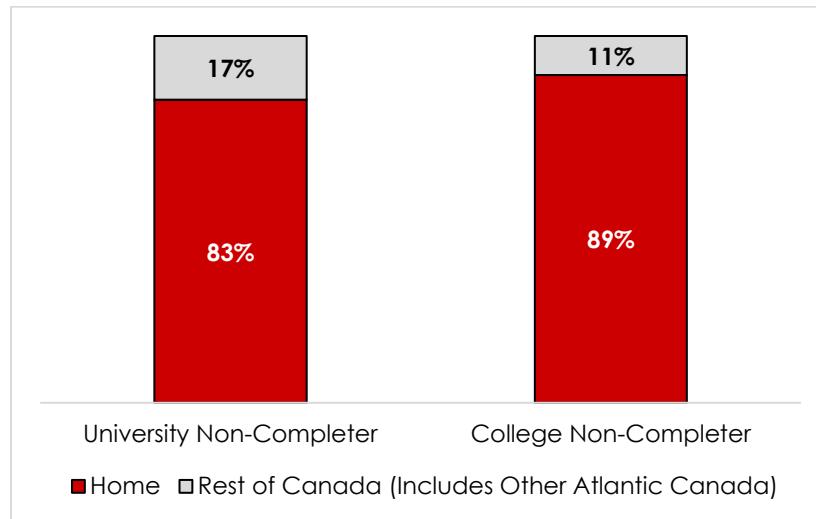
Figure 25: Province of Employment 1 Year After Last Enrollment (2015-2019) – NB PSE Non-Completers

3 Years After Last Enrollment

Figure 26 shows an increase in the proportion of university non-completers working outside their home province of New Brunswick – from 11% after 1 year to 17% after 3 years.

Similarly, for college non-completers, the percentage working outside NB rises to 11% after 3 years, which is 4 percentage points higher than after 1 year.

Figure 26: Province of Employment 3 Years After Last Enrollment (2015-2017) – NB PSE Non-Completers



Income of Graduates and PSE Non-Completers

We present the median taxable income for each graduating year cohort and for each cohort of PSE non-completers.

If should be noted that income is reported for graduates and PSE non-completers regardless of their location of study and province of employment.

All income figures have been adjusted to reflect 2021 Constant dollars.

Median Income of Graduates

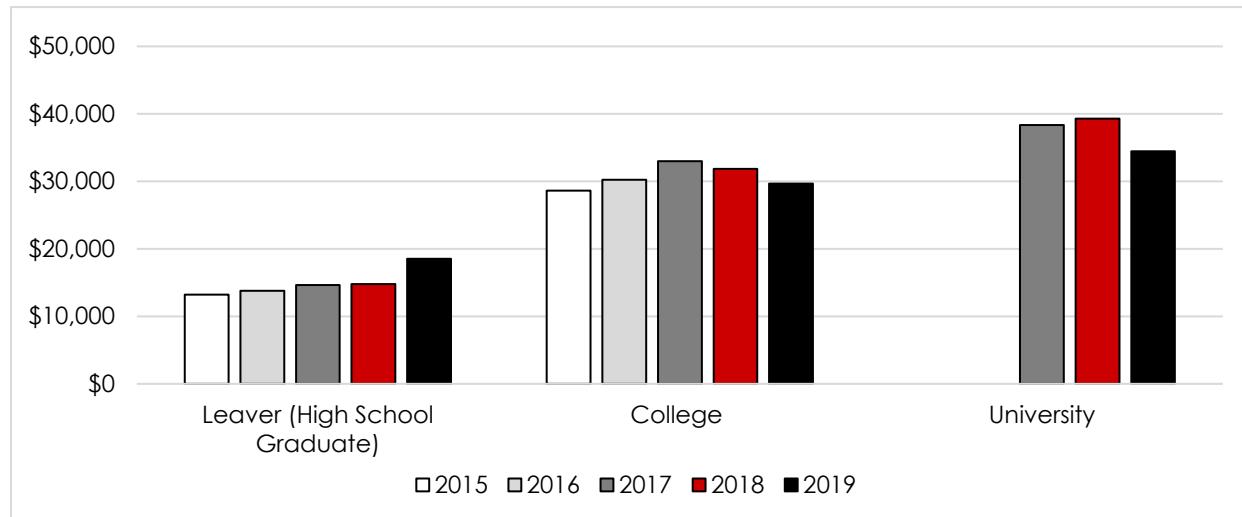
1 Year After Graduation

The median income of university graduates is approximately \$37,000 1 year after graduation (Figure 27).

The earnings of college graduates 1 year post-graduation hovers around \$30,000.

On the other hand, leavers (high school graduates who are not pursuing PSE) earn about \$15,000, the lowest among all categories.

Figure 27: Median Income (2021 Constant \$) 1 Year After Graduation – NB Graduates



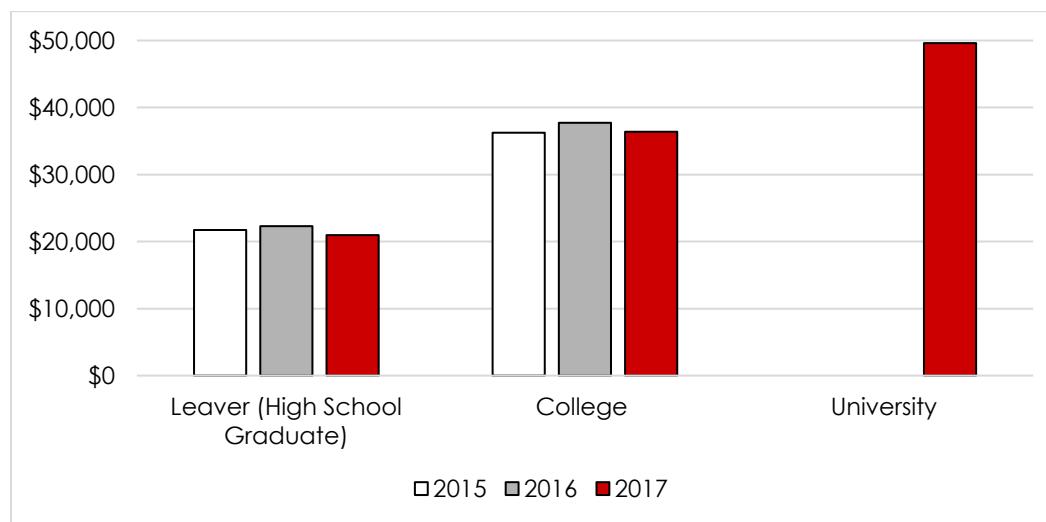
3 Years After Graduation

After 3 years, the 2017 cohort of university graduates reports a median income close to \$50,000 (Figure 28).

The 3-year earnings of college graduates are approximately \$37,000 – a \$7,000 increase relative to their 1-year earnings.

Leavers experience a similar increase in their earnings after 3 years, reaching above \$21,000.

Figure 28: Median Income (2021 Constant \$) 3 Years After Graduation – NB Graduates



Gender: 1 Year After Graduation

The income breakdown by gender in Table 4 reveals that male graduates typically earn more than females across all categories 1 year after graduation.

However, the difference in earnings between females and males is narrower for college graduates, with a gap of approximately \$2000 - \$2500. In contrast, the earnings gap between male and female leavers appears to be wider, with male leavers earning approximately \$4,500 - \$5,500 more than females.

Table 4: Median Income (2021 Constant \$) 1 Year After Graduation, by Gender – NB Graduates

	Leaver		College Graduate		University Graduate	
Graduation Year	Female	Male	Female	Male	Female	Male
2015	\$12,085	\$16,673	\$28,422	\$29,205		
2016	\$11,583	\$17,430	\$28,902	\$30,778		
2017	\$12,486	\$18,023	\$31,378	\$33,875	\$38,761	\$38,109
2018	\$13,593	\$18,053	\$30,053	\$32,920	\$38,654	\$42,158
2019	\$11,249	\$16,665	\$29,580	\$29,893	\$32,288	\$38,433

Gender: 3 Years After Graduation

After 3 years, the earnings gap between males and females becomes wider across all categories.

Male university graduates earn about \$6,800 more compared to female university graduates. College graduates earn close to \$40,000 after three years while female graduates earn approximately \$33,000. Similarly, after 3 years, the median income for male leavers is above \$25,000, while for female leavers it is about \$17,400.

Table 5: Median Income (2021 Constant \$) 1 Year After Graduation, by Gender – NB Graduates

	Leaver		College Graduate		University Graduate	
Graduation Year	Female	Male	Female	Male	Female	Male
2015	\$17,232	\$25,289	\$33,234	\$39,164	\$47,338	\$54,178
2016	\$18,643	\$25,483	\$33,646	\$40,486		
2017	\$16,503	\$25,081	\$32,898	\$39,412		

University Field of Study

The income breakdown by field of study of university graduates in Table 6 depicts that graduates in "Health and Related Fields" and "Architecture, Engineering, and Related Trades" are among the highest earners, with around \$58,000 and \$56,000 in annual income, respectively.

On the other hand, graduates of "Physical and Life Sciences and Technologies" report the lowest earnings of around \$17,000.

Table 6: Median Income (2021 Constant \$) 1 Year After Graduation, by Field of Study – NB University Graduates

Field of Study	2018	2019
Architecture, Engineering, and Related Trades	\$56,919	\$56,348
Business, Management, and Public Administration	\$44,601	\$44,579
Health and Related Fields	\$55,008	\$61,035
Physical and Life Sciences and Technologies	\$17,097	\$14,478
Social and Behavioural Sciences and Law	\$27,398	\$20,727

College Field of Study

Among college graduates, those in "Health and Related Fields" report the highest earnings among all categories, with about \$34,000 in median income (Table 7).

On the other hand, the lowest earnings are reported by graduates in "Social and Behavioural Sciences and Law," with a median income of approximately \$28,000. For other field of study, the median income hovers around \$30,000.

Table 7: Median Income (2021 Constant \$) 1 Year After Graduation, by Field of Study – NB College Graduates

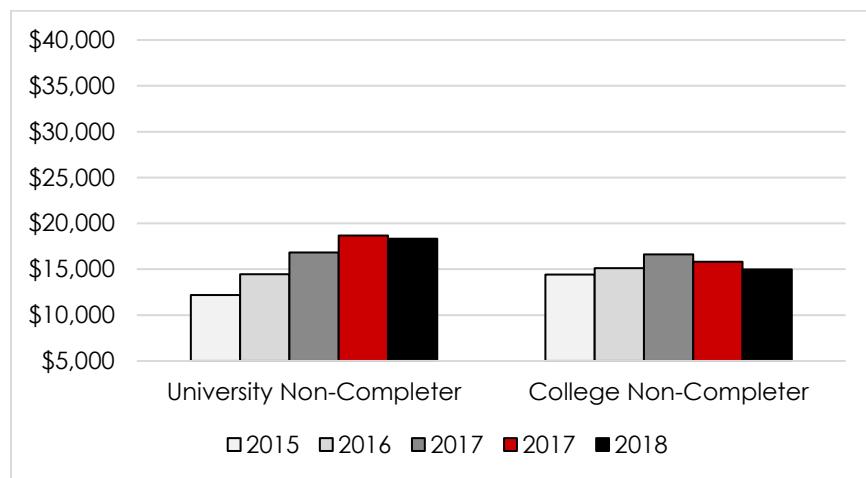
Field of Study	2017	2018	2019
Architecture, Engineering, and Related Trades	\$33,984	\$29,628	\$29,059
Business, Management, and Public Administration	\$32,355	\$30,265	\$29,684
Health and Related Fields	\$32,138	\$35,362	\$34,684
Personal, Protective, and Transportation Services	\$33,006	\$31,752	\$31,142
Social and Behavioural Sciences and Law	\$30,618	\$26,548	\$26,039

Median Income of PSE Non-Completers

1 Year After Last Enrollment

The median income for university non-completers 1 year after leaving their program is close to \$16,000, with an increasing trend from 2015 to 2017. The earlier cohorts of college non-completers (2015 - 2017) earn close to university non-completers (\$15,000 - \$16000). However, in more recent years, it appears that college non-completers still earn in that range, while university non-completers' median income is above \$18,000.

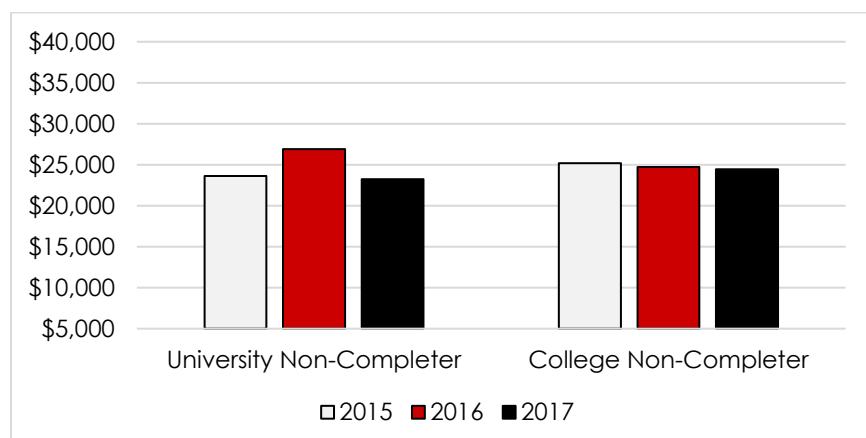
Figure 29: Median Income (2021 Constant \$) 1 Year after Last Enrollment – NB PSE Non-Completers



3 Years After Last Enrollment

Three years after leaving their post-secondary education, both university and college non-completers earn close to \$25,000, showing little disparity between two groups (Figure 30).

Figure 30: Median Income (2021 Constant \$) 3 Years After Last Enrollment – NB PSE Non-Completers



Gender: 1 Year After Last Enrollment

The gender breakdown in Table 8 indicates that male college non-completers earn approximately \$2,500 - \$3,500 more than females 1 year after their most recent college enrollment. Likewise, male university non-completers consistently report higher income than their female counterparts across all years.

Table 8: Median Income (2021 Constant \$) 1 Year After Last Enrollment, by Gender – NB PSE Non-Completers

	College Non-Completer		University Non-Completer	
Last Year	Female	Male	Female	Male
2015	\$12,421	\$15,666	\$11,637	\$13,428
2016	\$13,127	\$16,106	\$13,348	\$17,430
2017	\$15,743	\$16,938	\$16,503	\$17,046
2018	\$13,911	\$17,309	\$18,584	\$20,814
2019	\$12,811	\$15,415	\$17,290	\$20,206

Gender: 3 Years After Last Enrollment

Table 9 shows that 3 years since leaving college, male non-completers earn close to \$26,000, whereas female median income is approximately \$21,000.

For university non-completers, males report around \$30,000 annually, while female non-completers earn less than \$25,000 in each year.

Table 9: Median Income (2021 Constant \$) 3 Years After Last Enrollment, by Gender – NB PSE Non-Completers

	College Non-Completer		University Non-Completer	
Last Year	Female	Male	Female	Male
2015	\$19,247	\$28,534	\$21,149	\$30,436
2016	\$20,739	\$27,137	\$24,490	\$28,792
2017	\$23,452	\$24,755	\$16,503	\$28,121

The following section presents findings for Newfoundland and Labrador, followed by a section of findings for Nova Scotia.

This report concludes with a Discussion of Findings and Conclusion.

Newfoundland and Labrador: Descriptive Statistics

Sample – High School Graduates

Table 10 shows the number of graduates in Newfoundland and Labrador (NL) in each academic year, with an almost equal distribution of female and male graduates.

In total, 96% of NL graduates could be linked to the T1 Family File (T1FF) family. However, the linkage rate is somewhat lower for the most recent cohort (2020), indicating some graduates could not be linked to a family census and may have yet to file taxes by themselves (as adults).

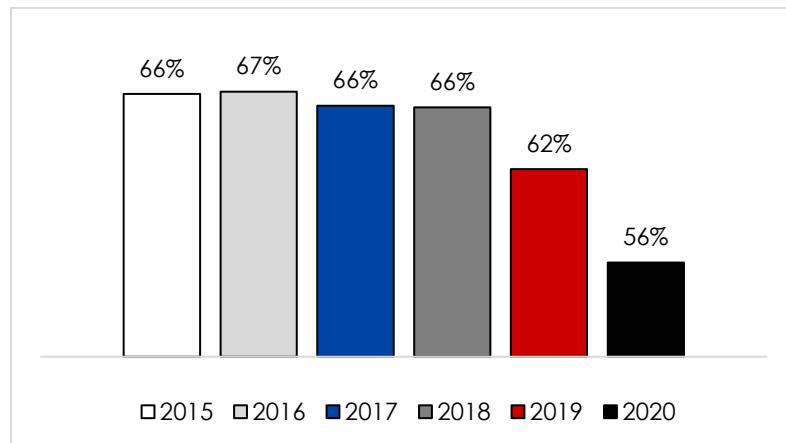
Table 10: High School Graduates in NL

Graduation Year	Total	Female	Male	Linked to T1FF (share of total)
2015	4,440	50%	50%	98%
2016	4,540	50%	50%	98%
2017	4,550	51%	49%	98%
2018	4,450	48%	52%	98%
2019	4,470	49%	51%	96%
2020	4,580	50%	50%	91%
Overall	27,030	50%	50%	96%

Transition to Post-Secondary Education

Roughly two-thirds of NL high school graduates pursue some form of public post-secondary education (university or college) in Canada (Figure 31).

Figure 31: Transition to PSE – NL High School Graduates



We see a noticeable decline in transition to PSE in 2020 because PSIS data end in 2021. As a result, gappers (*those who delay PSE enrollment until between 6 months and 2 years after high school graduation*) cannot be differentiated from leavers (*high school graduates who do not pursue further education*).

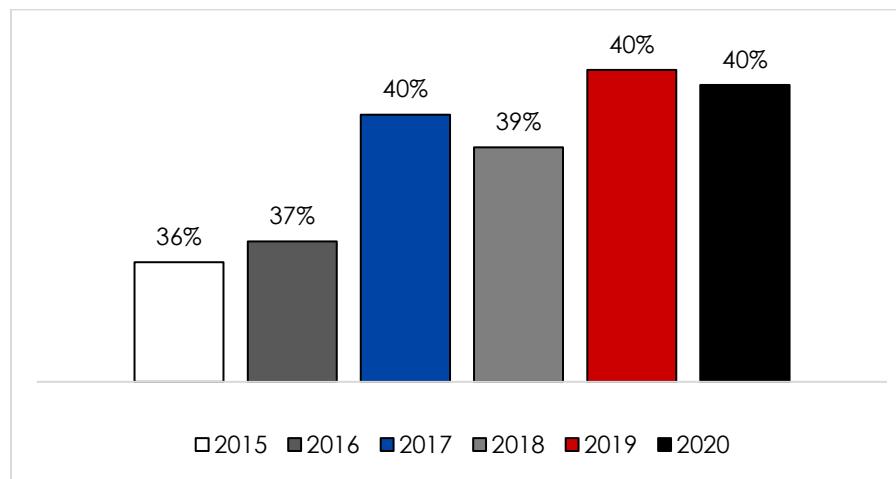
Similarly, 2019 rates also exhibit a slight decline compared to previous years because PSIS data end in April 2021 – less than 2 full years since July 2019 – again making it difficult to differentiate between gappers and leavers. However, for the 2020 cohort, transition rates may have been affected by the COVID-19 pandemic.

Transition to University

Roughly 39% of high school graduates from NL enroll in public universities across Canada (Figure 32).

For the 2020 and 2019 cohorts, unlike transition to all PSE in [Figure 31](#), the rates are similar to previous years. Later sections exhibit that among those who transition to university, the vast majority are continuers (i.e., they enroll in university within 6 months of high school graduation). Thus, the share of unobserved gappers in 2020 and 2019⁸ is not large enough to reduce these years' transition rates relative to previous cohorts.

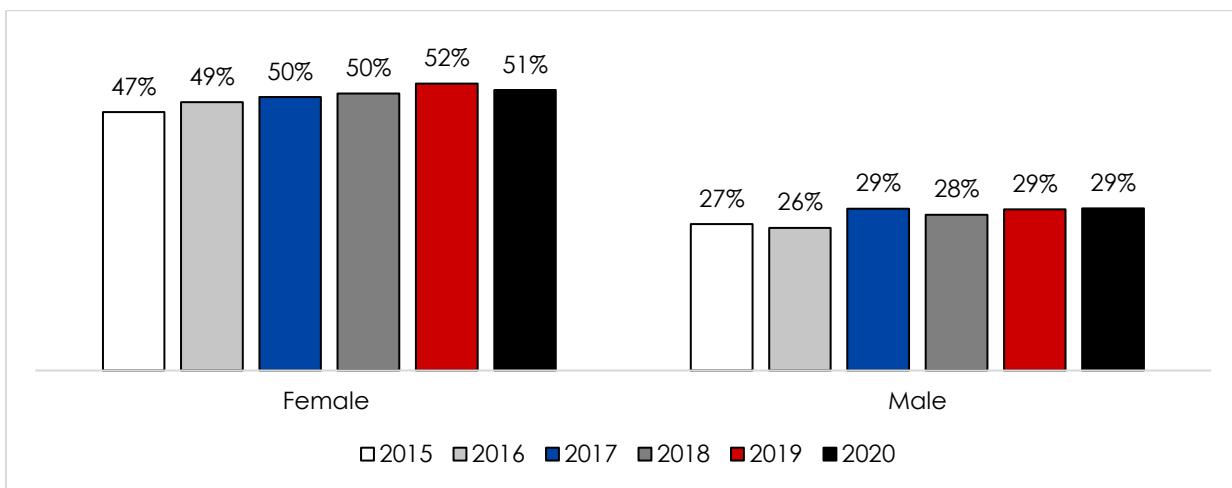
Figure 32: Transition to University – NL High School Graduates



Gender

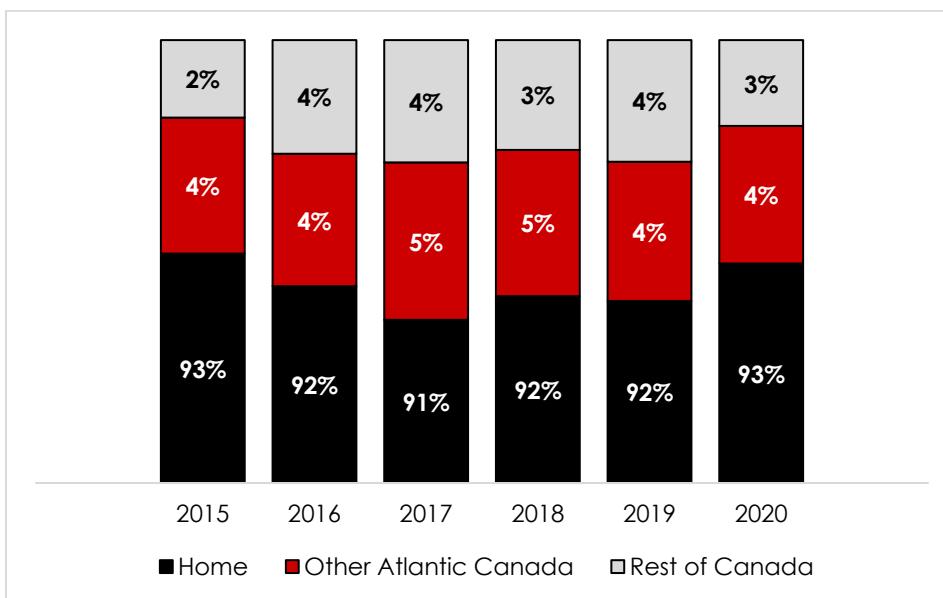
Disaggregating transition rates to university by gender in Figure 33 reveals that close to 50% of female high school graduates in NL pursue university education. In contrast, the transition rate to university for male high school graduates is approximately 28%.

⁸ Not all gappers can be observed in the 2020 and 2019 cohorts due to the unavailability of PSIS data after April 2021.

Figure 33: Transition to University, by Gender – NL High School Graduates**Location of PSE Institution – University**

Among NL high school graduates who enroll in public universities, almost 92% of them choose to attend NL universities (Figure 34).

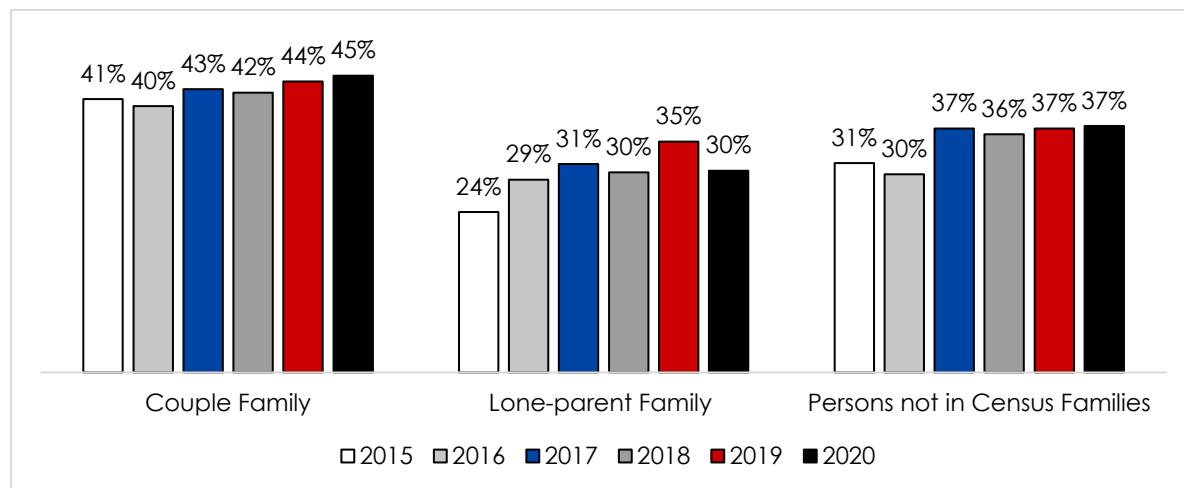
Approximately 4% of these graduates stay in Atlantic Canada (non-NL) for university education. The remaining graduates pursue undergraduate degrees in Canadian universities outside Atlantic Canada.

Figure 34: Transition to University, by Location – NL High School Graduates

Family Composition

Comparing transitions to university by family composition in Figure 35 shows that around 42% of high school graduates from couple families end up pursuing university education. A lower proportion (30%) of high school graduates from lone-parent families are likely to enroll in university.

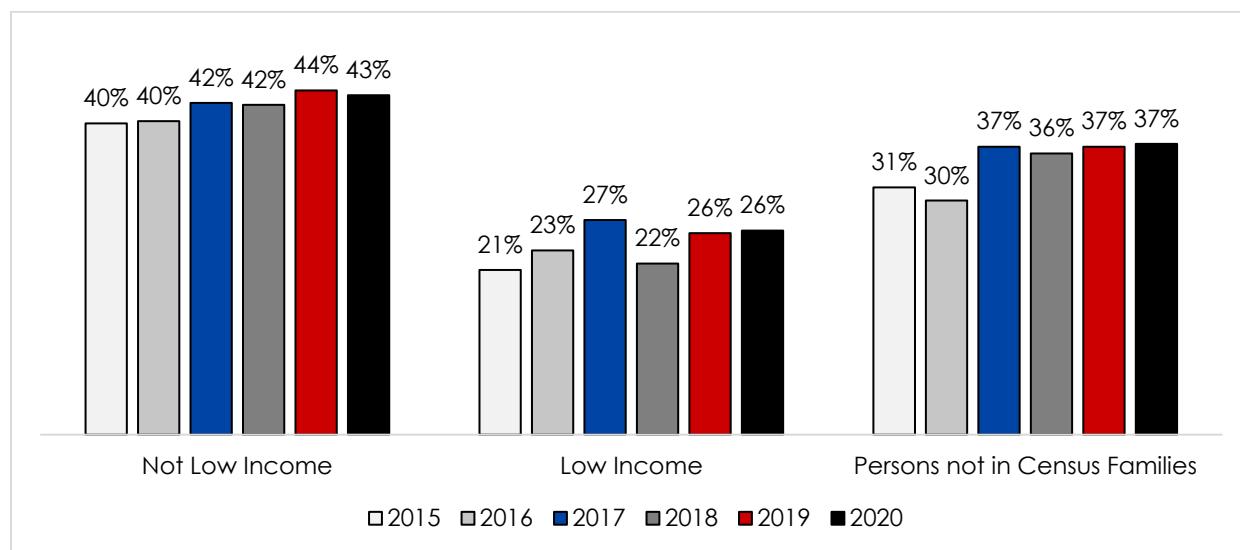
Figure 35: Transition to University, by Family Composition – NL High School Graduates



Family Income

The ratio of transitions to universities among NL high school graduates increases with higher income categories (Figure 36). 24% of graduates from low-income households pursue university education within 2 years of high school graduation, which is approximately 18 percentage points lower than the graduates from households living above the low-income threshold.

Figure 36: Transition to University, by Family Income – NL High School Graduates



Gappers – University

This section investigates the proportion of gappers as a subset of those who have transitioned to a university.

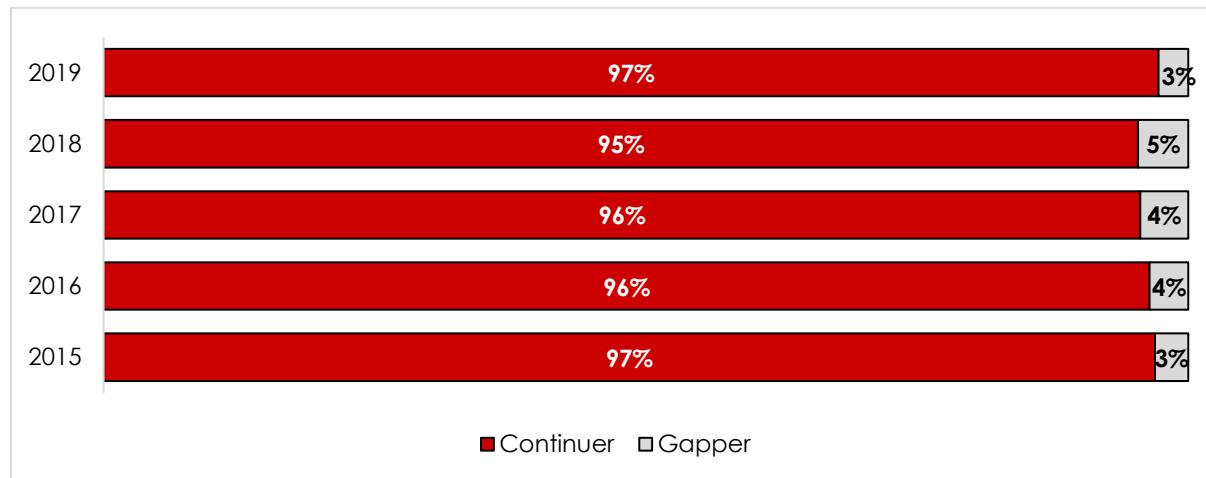
Gappers are defined as the high school graduates who transition to a PSE between 6 months and 2 years after their high school graduation, as opposed to those who transition to a PSE within 6 months following graduation (known as “continuers”). There is a “gap” in their transition from public to post-secondary education.

The proportion of gappers is estimated until the 2019 cohort, as data are available until April 2021 (i.e., gappers within the 2020 cohort cannot be observed in the current data).

Figure 37 illustrates that a small proportion of NL high school graduates who transition to university are gappers. Instead, over 96% transition within 6 months of graduation (i.e., “continuers”).

Due to the overwhelming share of continuers and small counts of gappers, we do not observe the effects of unobservable gappers for the 2019 and 2020 cohorts.

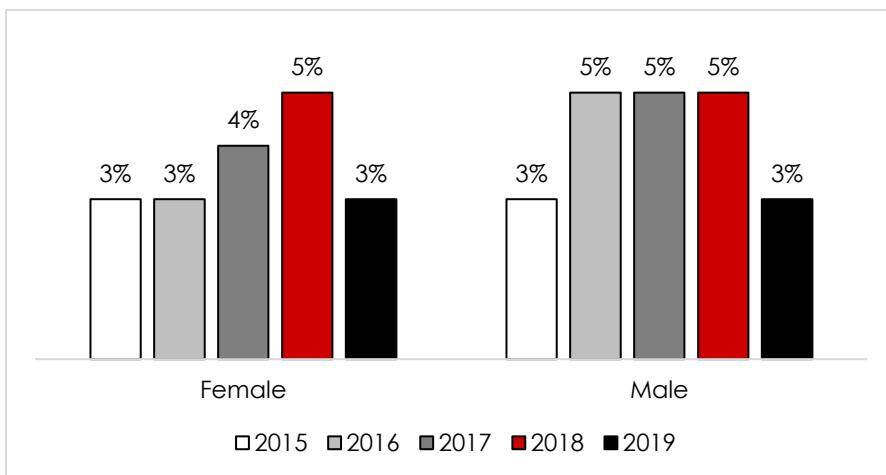
Figure 37: Proportion of NL High School Graduates Enrolled in a University Who are Gappers



Gender

Figure 38 breaks down the proportion of NL gappers by gender. In general, the share of university students who are gappers does not vary widely between male and female graduates from NL public high schools.

Figure 38: Proportion of NL High School Graduates Enrolled in a University Who are Gappers, by Gender

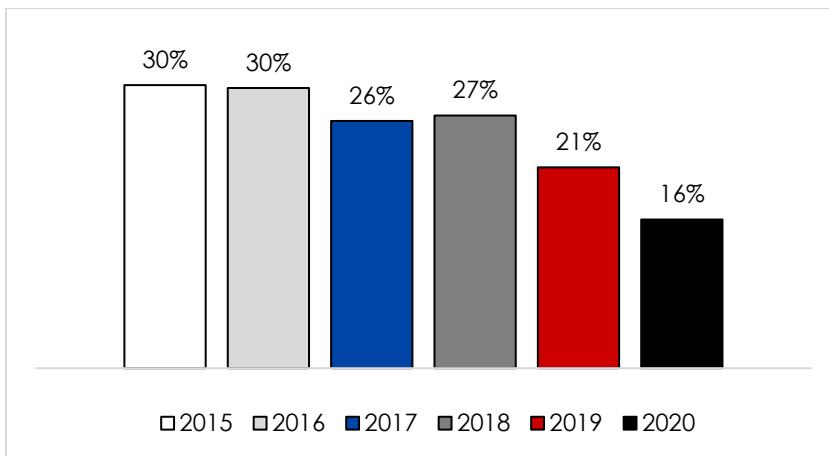


Transition to College

One-fourth (25%) of NL high school graduates transition to college (Figure 39).

For the period 2015-2018, approximately 28% of NL high school graduates pursue college education. However, the transition rate drops in 2019 and 2020 by 6 and 9 percentage points, respectively. This decrease is attributed to the fact that PSIS data end in April 2021, and therefore gappers cannot be differentiated from leavers – a trend consistent throughout this report across various categories.

Figure 39: Transition to College – NL High School Graduates

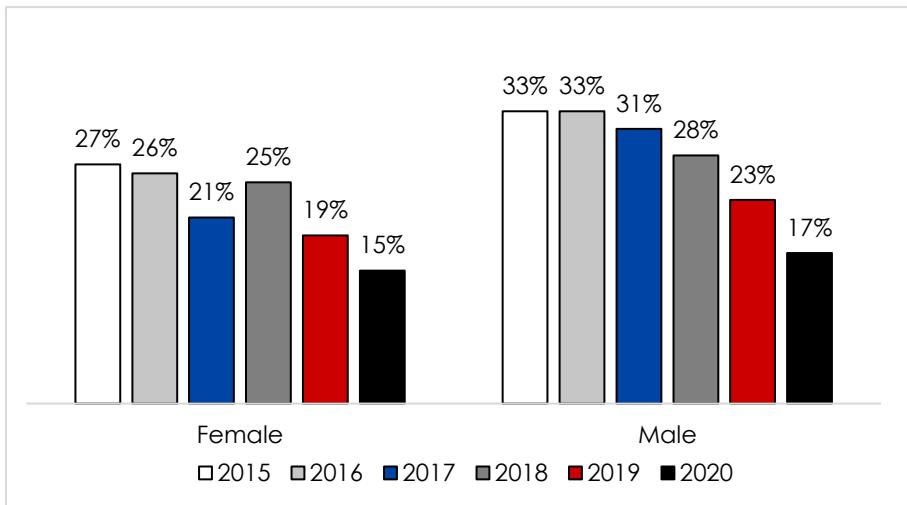


Gender

Figure 40 shows that around 27% of male high school graduates enroll in college for their post-secondary education, while the transition rate for female high school graduates is approximately 5 percentage points lower. The college enrollment rates for both males and females experience

a drop in 2019 and 2020, which, again, is likely due to insufficient years of data to observe all gappers.

Figure 40: Transition to College, by Gender – NL High School Graduates

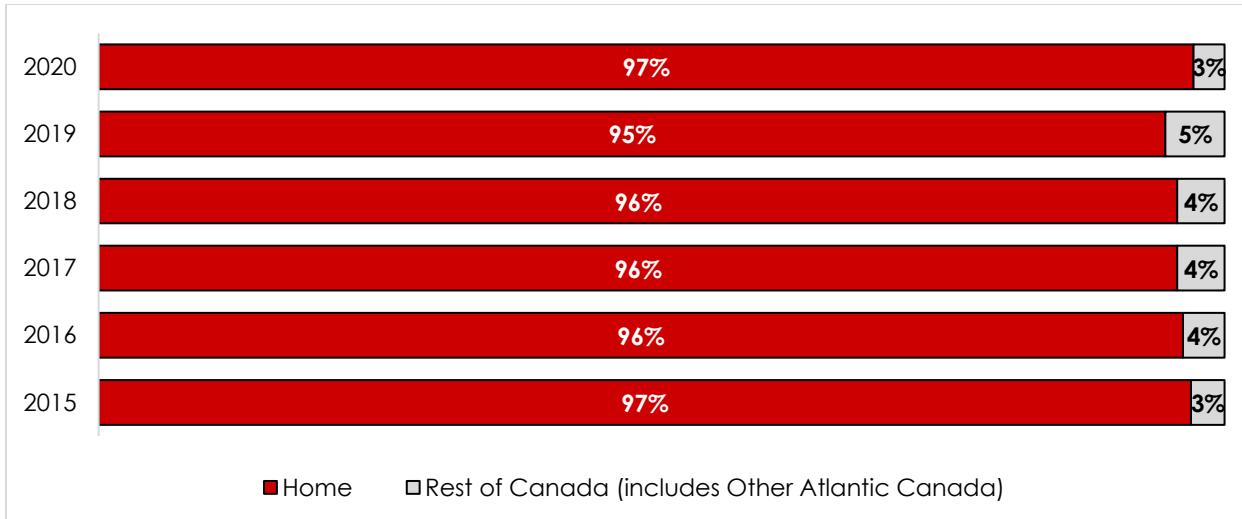


Location of PSE Institution – College

Approximately 96% of NL high school graduates enrolling in college choose an institution in their home province (NL) – a rate that remains consistent over the years (Figure 41).

Due to small counts, students enrolled in colleges within the Atlantic provinces (outside NL) and the rest of Canada have been grouped together.

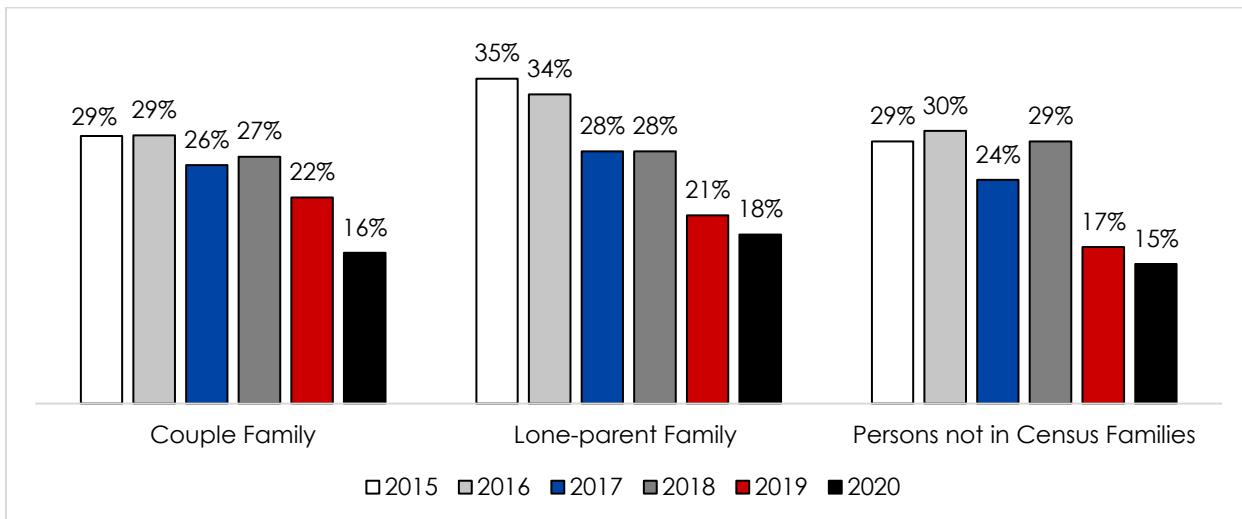
Figure 41: Transition to College, by Location – NL High School Graduates



Family Composition

Figure 42 shows that unlike university enrollments, rates of transition to college do not vary significantly by family composition. In the case of graduates from couple families, approximately 25% pursue a college education. For high school graduates under the categories of lone families and persons not in census families, the rates are around 27% and 23%, respectively.

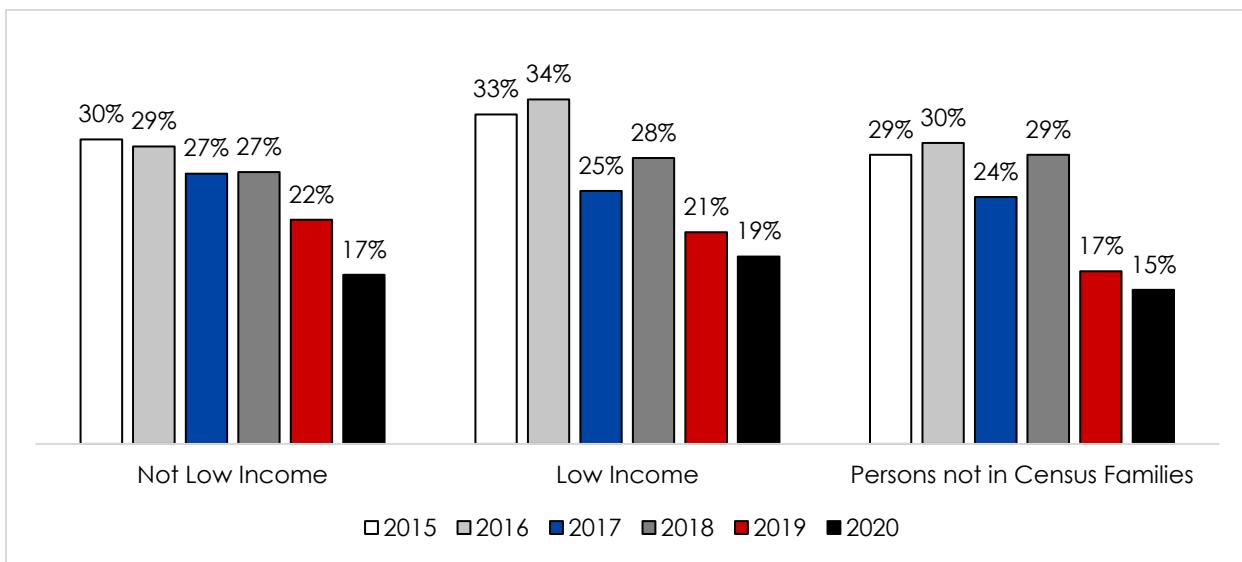
Figure 42: Transition to College, by Family Composition – NL High School Graduates



Family Income

One in four (25%) high school graduates from families with earnings above the low-income threshold transition to college within 2 years of high school graduation. A similar proportion (27%) of graduates from low-income households pursue a college education (Figure 43).

Figure 43: Transition to College, by Family Income – NL High School Graduates

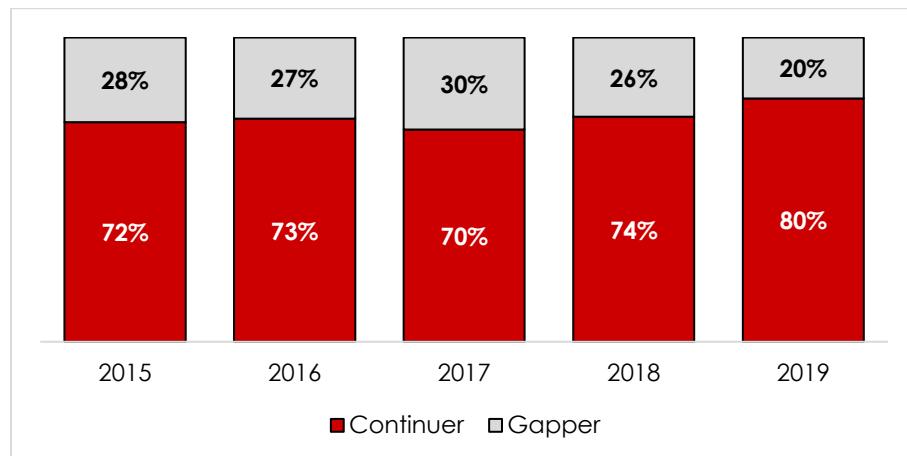


Gappers – College

A notable proportion (26%) of NL graduates who are college-bound delay their entry by at least 6 months following their graduation, as depicted in Figure 44. As a reminder, those who enroll in PSE between 6 months and 2 years after their high school graduation are known as “gappers.”

The noticeable decline in college transition rates in [Figure 39](#) among more recent cohorts (2019 and 2020) is likely attributable to almost one-fourth of college enrollees being gappers.

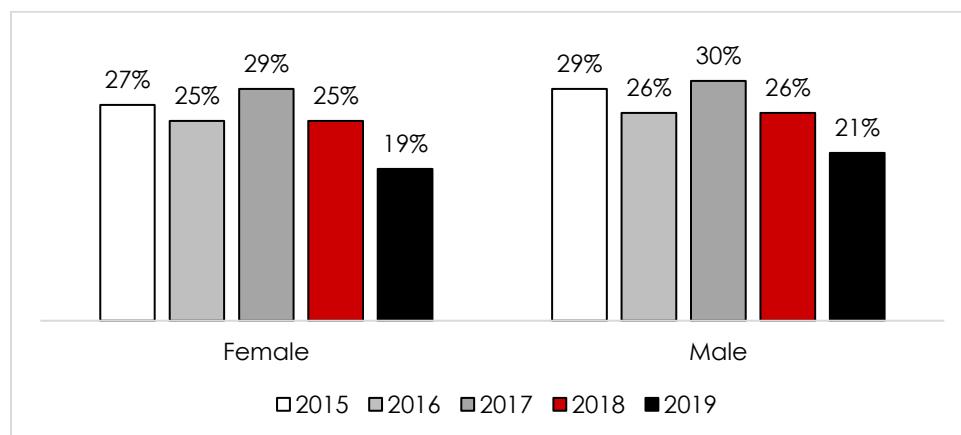
Figure 44: Proportion of NL High School Graduates Enrolled in College Who are Gappers



Gender

A fairly consistent share of male college-pursuers are gappers, ranging from 26% to 30% of the 2015-2018 cohorts (Figure 45). The latest male cohort (2019) exhibits the lowest share of gappers, at 21% – although, with more data expected post-April 2021, this share is likely to increase. Female college-pursuers demonstrate comparable rates to their male counterparts, albeit with a smaller drop in the 2019 cohort, in which 24% of college enrollees are gappers.

Figure 45: Proportion of NL High School Graduates Enrolled in College Who are Gappers, by Gender



Interprovincial Retention Rates of Graduates

This section calculates the interprovincial retention rates of graduates based on their highest level of education (high school, college or university). A graduate is considered retained in Newfoundland and Labrador 1 and 3 years after graduation if they declare NL as their province of taxation during those respective periods.

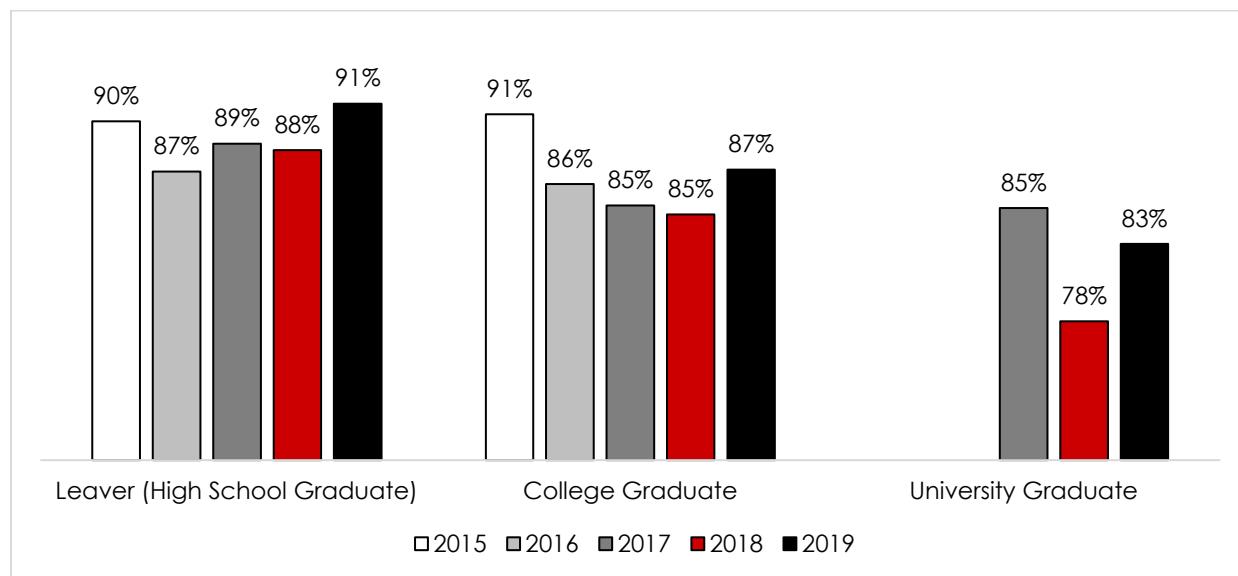
Retention Rates of Graduates

1-Year Retention

NL leavers (i.e., high school graduates who do not transition to PSE) demonstrate the highest 1-year retention rate after graduation from high school in Figure 46, with 87% remaining in the province.

Meanwhile, 81% of university graduates still reside in NL 1 year post-graduation. Approximately 86% of college graduates remain in NL after 1 year.

Figure 46: 1-Year Retention Rates of Graduates – NL



3-Year Retention

After 3 years post-graduation, 81% of college graduates are living in NL, while just about 80% of university graduates are retained. Approximately 83% of leavers (high school graduates who do not transition to PSE) remain in the province post-high school graduation (Figure 47).

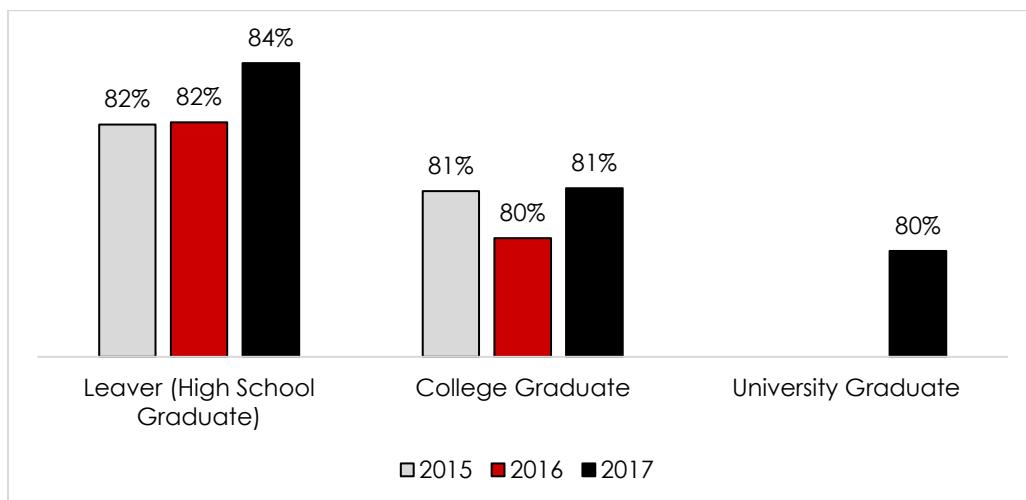
Figure 47: 3-Year Retention Rates of Graduates – NL**Gender: 1-Year Retention**

Table 11 shows 1-year retention rates according to gender. In general, gender differences for leavers (high school graduates) are minimal, (approximately 1 percentage point). Among college graduates, females exhibit 1-year retention rates that are 2-4 percentage points higher than their male counterparts. Among university graduates, female retention rates are 6-13 percentage points higher than those for males.

Table 11: 1-Year Retention Rates of Graduates, by Gender – NL

Graduation Year	Leaver		College Graduate		University Graduate	
	Female	Male	Female	Male	Female	Male
2015	91%	90%	94%	92%		
2016	88%	87%	88%	85%		
2017	89%	90%	89%	83%	88%	75%
2018	92%	88%	85%	83%	80%	74%
2019	91%	91%	89%	86%	85%	79%

Gender: 3-Year Retention

The 3-year retention rate for both female and male leavers (high school graduates) is at 90% (Table 12).

Around 82% of female college graduates remain in the province after 3 years, while 80% of male college graduates are retained. For the one cohort of university graduates that can be observed (2017), 81% of females reside in the province 3 years post-graduation as opposed to 75% of male graduates.

Table 12: 3-Year Retention Rates of Graduates, by Gender – NL

Graduation Year	Leaver		College Graduate		University Graduate	
	Female	Male	Female	Male	Female	Male
2015	85%	80%	81%	83%		
2016	84%	82%	81%	78%		
2017	86%	83%	83%	80%	81%	75%

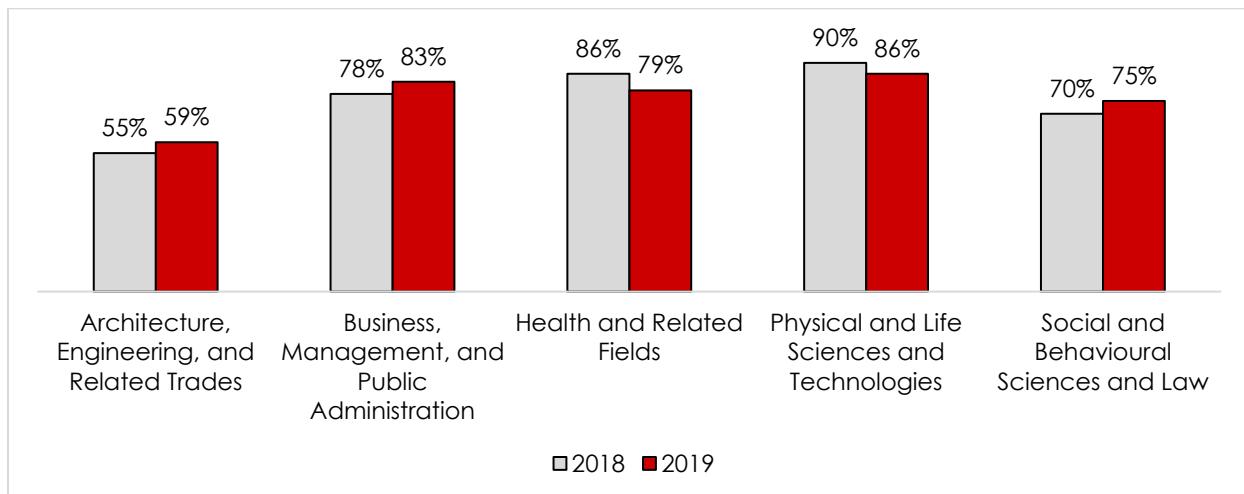
PSE Field of Study

The field of study of post-secondary education (PSE) graduates is based on Statistics Canada's Variant of the Classification of Instructional Programs (CIP): 2021 Version 1.0 for Primary groupings (StatCan, 2022).

There are 13 categories listed under primary groupings. However, to meet Statistics Canada's disclosure requirements, only the rates for the top 5 primary groups are released. It should be noted that small counts also prohibited the release of rates prior to 2018 for university graduates and prior to 2017 for college graduates. Consequently, only 1-year retention rates by field of study could be released in this report.

University Field of Study: 1-Year Retention

In Figure 48, university graduates in "Physical and Life Sciences and Technologies" exhibit the highest 1-year retention rate at 88%. The lowest retention rates can be observed for graduates in "Architecture, Engineering & Related Trades" with only 57% retained after 1 year.

Figure 48: 1-Year Retention Rates of University Graduates, by Field of Study – NL

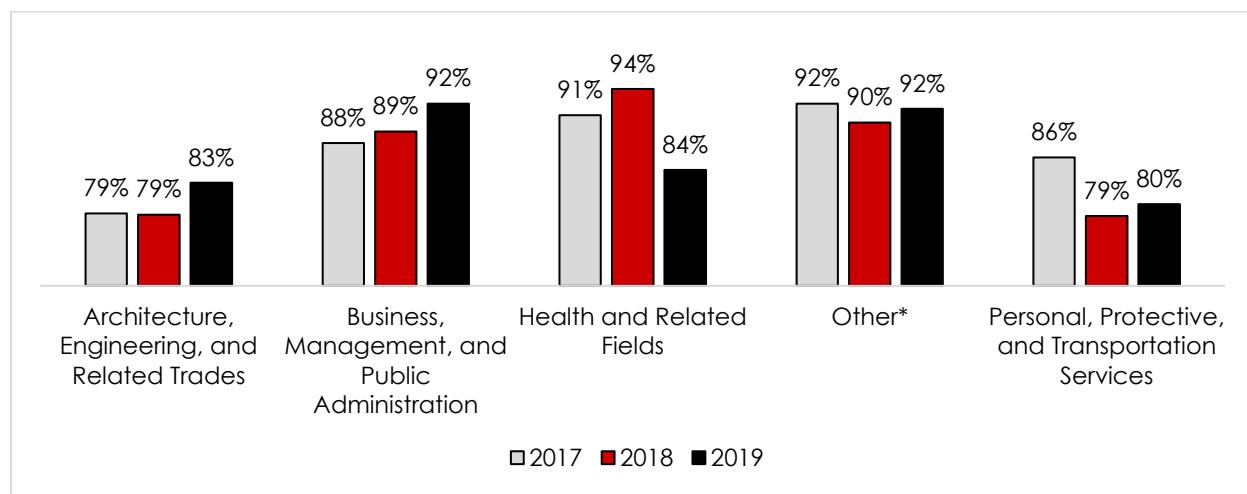
College Field of Study: 1-Year Retention

College graduates in general exhibit 1-year retention rates close to or above 90% for most fields of study in Figure 49.

The lowest 1-year retention rates among college graduates can be observed for graduates of “Architecture, Engineering, and Related Trades” and “Personal, Protective, and Transportation Services,” at 80% and 81%, respectively.

A gradually increasing trend can be observed for graduates in the “Business, Management, and Public Administration” category.

Figure 49: 1-Year Retention Rates of College Graduates, by Field of Study – NL



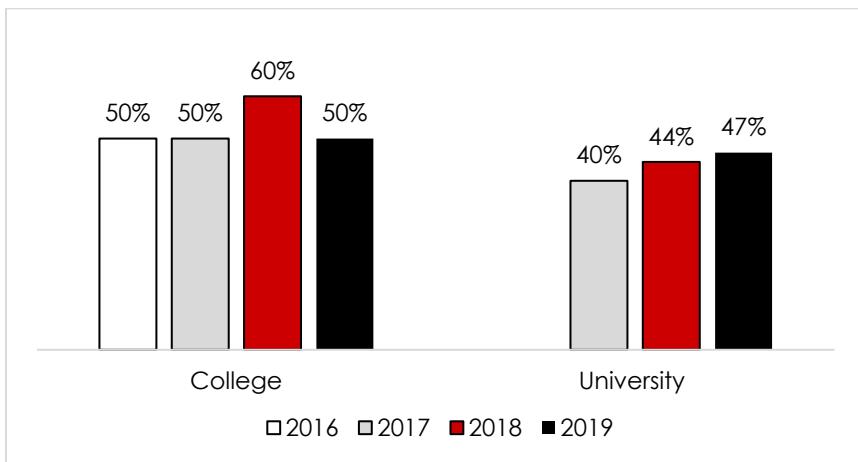
*The category “Other” includes diplomas in “Pre-technology education/pre-industrial arts programs^{CAN},” “Inclusive postsecondary education” and “Multidisciplinary/interdisciplinary studies.”

Return Rates of NL PSE Graduates from Out-of-Province

Along with the retention rates of individuals who graduated from institutions within NL, we also present the return rates of NL high school graduates who completed their PSE studies outside their home province.

These rates represent the percentage of PSE graduates returning to NL after graduation, calculated by observing the proportion of tax-filing PSE graduates who declare NL as their province of taxation 1 year post-graduation.

Figure 50 shows that less than half (45%) of NL high school graduates who complete their university education outside NL return to the province 1 year after completing their degree. Similarly, for individuals who obtain a college diploma outside of NL, around 52% of them return to NL after 1 year. For both university and college graduates, the majority return to their home province of NL within 1 year after graduating.

Figure 50: 1-Year Return Rates of NL Residents Who Graduate from Out-of-Province PSE Institutions

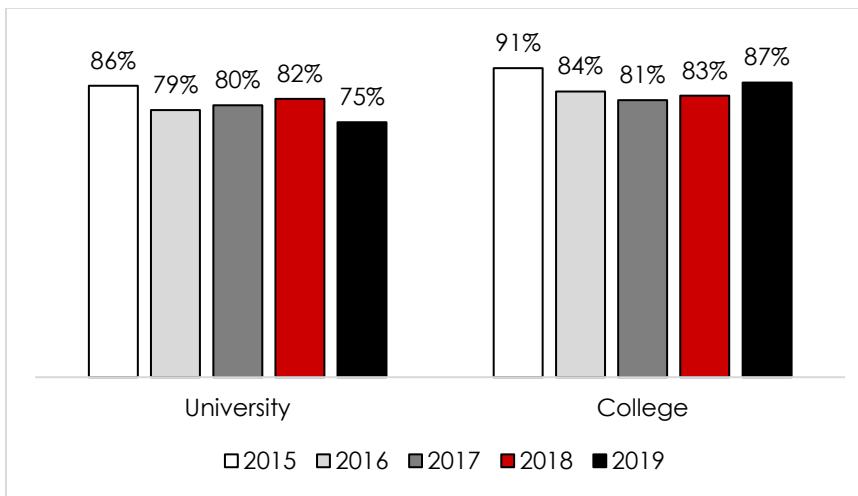
Interprovincial Retention of PSE Non-Completers

PSE non-completers are high school graduates who enroll in post-secondary education (PSE) but do not complete their program within 6 years of starting university or within 3 years of starting college.

We calculate the retention rates of PSE non-completers using the most recent year of their PSE enrollment.

1-Year Retention

Overall, 80% of university non-completers reside in NL 1 year after their most recent university enrollment. In contrast, the 1-year retention rates for college non-completers are consistent across the 2015-2019 cohorts at the higher rate of 85% (Figure 51).

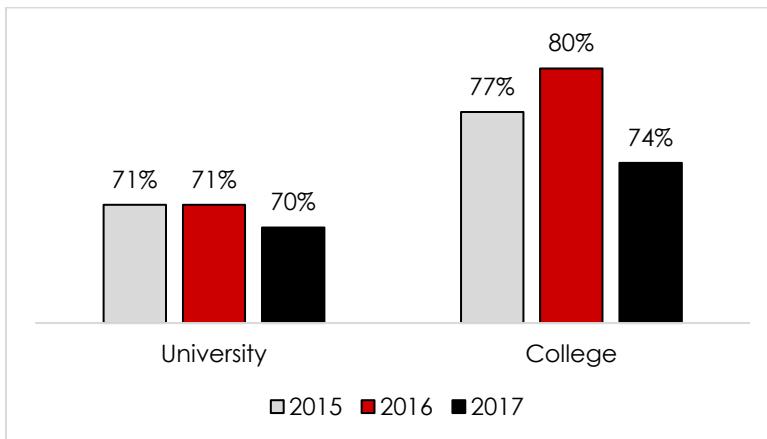
Figure 51: 1-Year Retention Rates of PSE Non-Completers – NL

3-Year Retention

After 3 years, approximately 71% of university non-completers reside in NL, as shown in Figure 22.

Around 77% of college non-completers live in the province 3 years after their most recent college enrollment.

Figure 52: 3-Year Retention Rates of PSE Non-Completers – NL



Province of Employment: Graduates

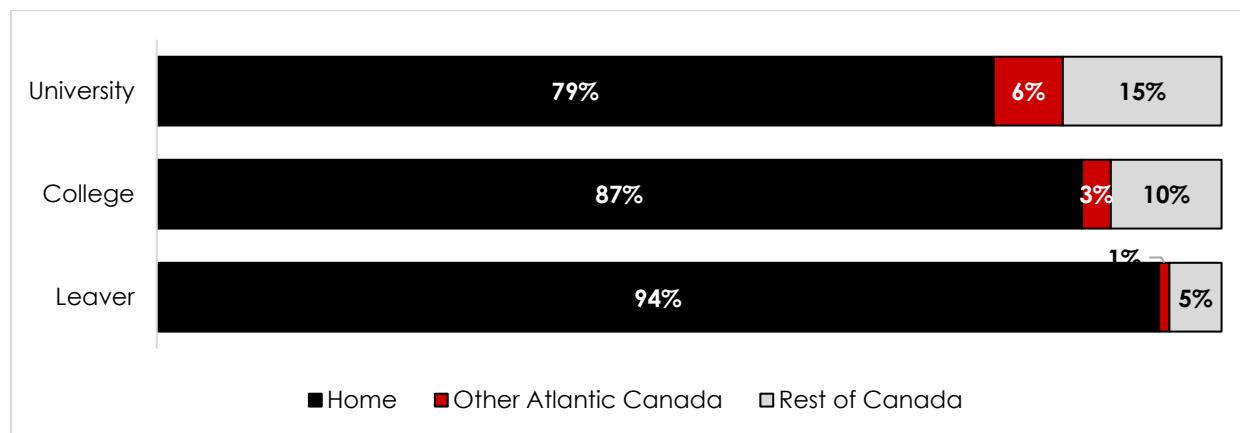
Province of employment is determined by graduates' declared province of taxation in the T1 Family File (T1FF) 1 and 3 years after graduation for individuals reporting earned income. Earned income includes employment income (before-tax wages/salaries) and net self-employment income (gross income minus operational costs and capital cost allowances).

The province of employment for PSE graduates (university and college) is reported collectively for graduates from institutions in NL and those outside the province. Therefore, in this section, NL university or college graduates refer to PSE graduates from any PSE institution in Canada.

1 Year After Graduation

Among NL university graduates with earned income, about 79% are in their home province (NL) 1 year post-graduation (Figure 53).

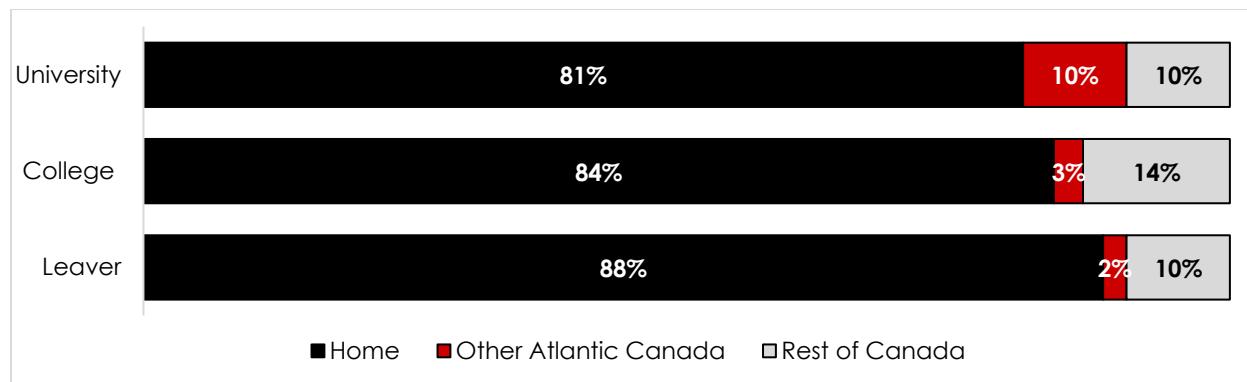
15% of NL university graduates are employed outside Atlantic Canada 1 year after their graduation. Approximately 5% of employed leavers and 10% of college graduates are working outside of Atlantic Canada.

Figure 53: Province of Employment 1 Year After Graduation (2015-2019) – NL Graduates

3 Years After Graduation

Three years post-graduation, 81% of employed university graduates work in NL, and 10% are employed in other Atlantic provinces (Figure 54). This suggests that some graduates who were working in other Atlantic provinces after 1 year may have relocated outside of Atlantic Canada after 3 years.

Among both leavers and college graduates, we see an increased share of employed individuals outside Atlantic Canada 3 years post-graduation – 10% and 14%, respectively.

Figure 54: Province of Employment 3 Years After Graduation (2015-2019) – NL Graduates

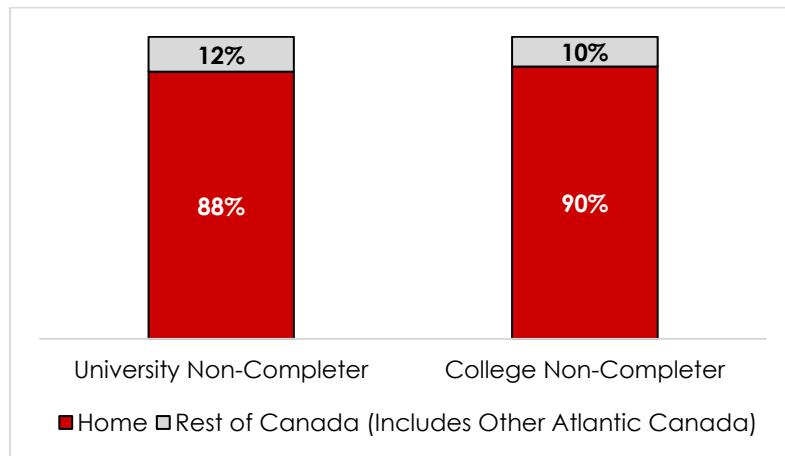
Province of Employment: PSE Non-Completers

For PSE non-completers, the province of employment is estimated 1 and 3 years after their most recent PSE enrollment at either a university or college.

1 Year After Last Enrollment

88% of university non-completers with reported earned income declare NL as their province of taxation (Figure 53). Among college non-completers working 1 year after leaving college, 90% are located in NL.

Figure 55: Province of Employment 1 Year After Last Enrollment (2015-2019) – NL PSE Non-Completers

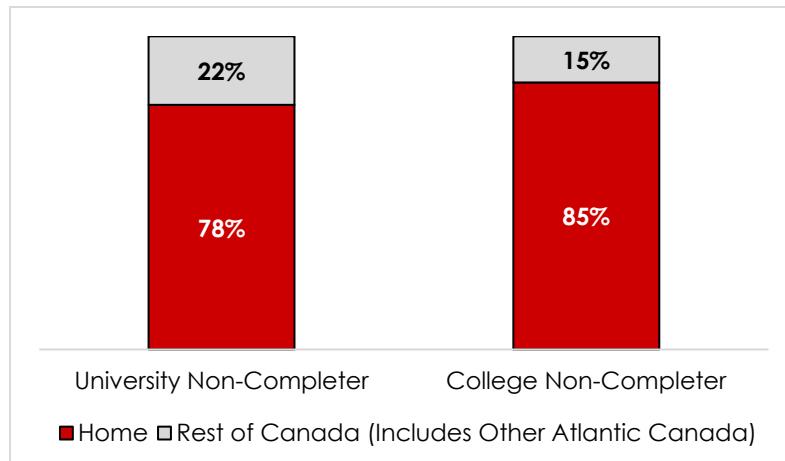


3 Years After Last Enrollment

Figure 56 shows an increase in the proportion of university non-completers working outside their home province of Newfoundland and Labrador – from 12% after 1 year to 22% after 3 years.

Similarly, for college non-completers, the percentage working outside NL rises to 15% after 3 years, which is 5 percentage points higher than after 1 year.

Figure 56: Province of Employment 3 Years After Last Enrollment (2015-2017) – NL PSE Non-Completers



Income of Graduates and PSE Non-Completers

We present the median taxable income for each graduating year cohort and for each cohort of PSE non-completers.

If should be noted that income is reported for graduates and PSE non-completers regardless of their location of study and province of employment.

All income figures have been adjusted to reflect 2021 Constant dollars.

Median Income of Graduates

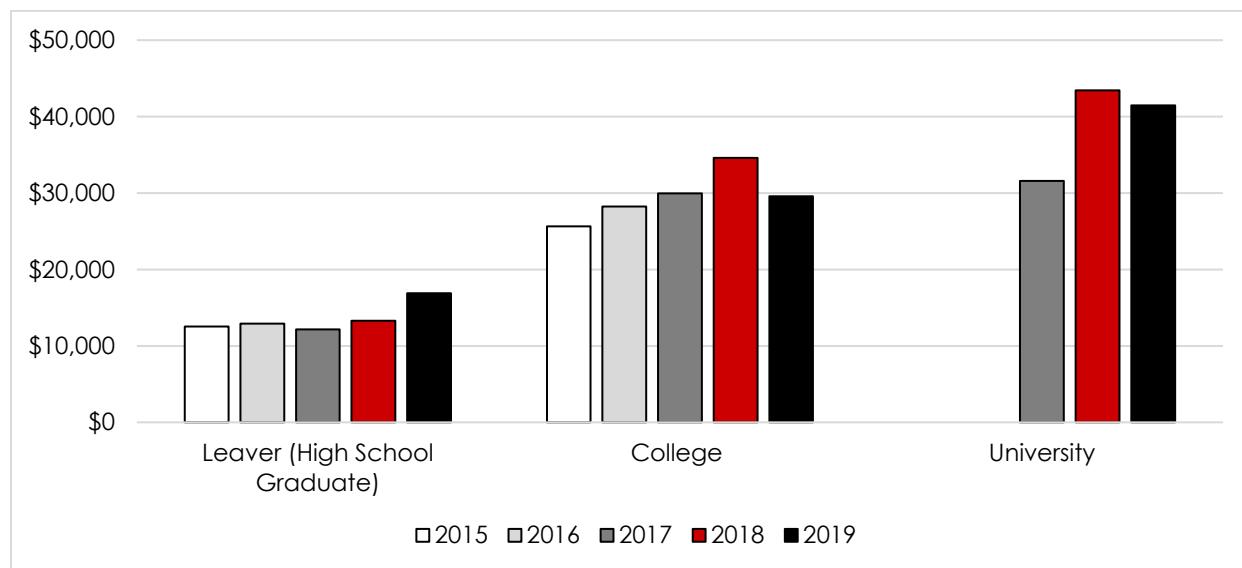
1 Year After Graduation

The median income of university graduates is approximately \$39,000 1 year after graduation (Figure 57).

The earnings of college graduates are around \$29,000 during the same period.

Conversely, leavers (high school graduates who are not pursuing PSE) earn approximately \$13,500, the lowest among all categories.

Figure 57: Median Income (2021 Constant \$) 1 Year After Graduation – NL Graduates

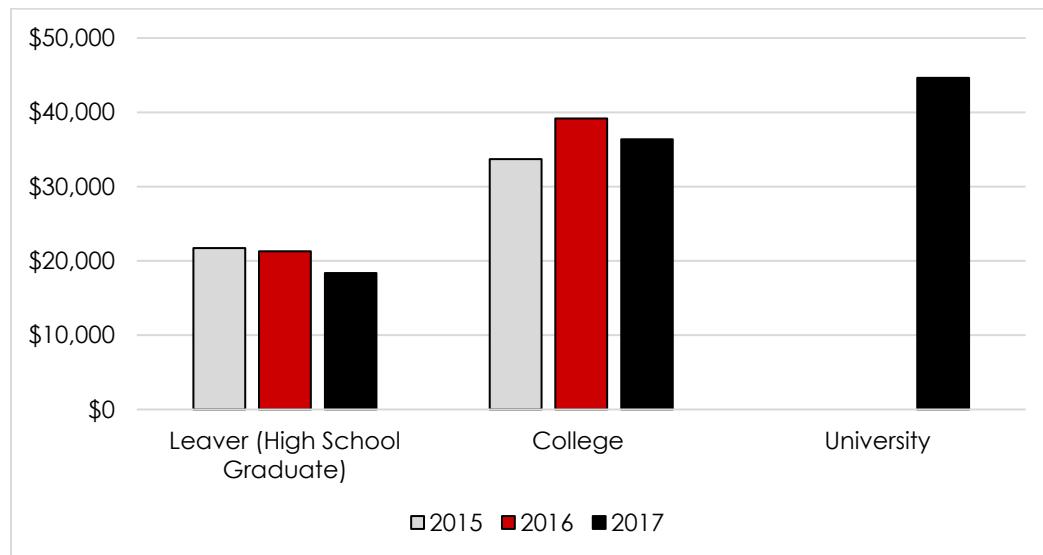


3 Years After Graduation

After 3 years, the 2017 cohort of university graduates reports a median income close to \$45,000 (Figure 58).

College graduates' earnings after 3 years are approximately \$36,000 – a \$7,000 increase compared to their 1-year earnings. Leavers experience a comparable increase in their earnings after 3 years, reaching above \$20,000.

Figure 58: Median Income (2021 Constant \$) 3 Years After Graduation – NL Graduates



Gender: 1 Year After Graduation

The income breakdown by gender in Table 13 shows that the earnings gap between females and males is narrower for university graduates.

Conversely, the gap widens for college graduates, with male college graduates earning approximately \$6,000 more than their female counterparts.

Male high school graduates (leavers) report a median income ranging from \$14,000 to \$15,000, whereas female graduates earn between \$10,500 and \$11,000.

Table 13: Median Income (2021 Constant \$) 1 Year After Graduation, by Gender – NL Graduates

Graduation Year	Leaver		College Graduate		University Graduate	
	Female	Male	Female	Male	Female	Male
2015	\$11,637	\$14,099	\$22,044	\$27,975		
2016	\$10,370	\$15,003	\$22,725	\$30,888		
2017	\$10,315	\$14,006	\$27,035	\$32,898	\$31,704	\$31,486
2018	\$11,256	\$15,292	\$31,858	\$36,318	\$43,433	\$43,220
2019	\$8,645	\$13,332	\$26,351	\$32,288	\$40,308	\$44,474

Gender: 3 Years After Graduation

After 3 years, the earnings gap between males and females widens for college graduates (Table 14).

Male college graduates earn close to \$41,000 after 3 years, whereas female graduates earn approximately \$27,000.

Median income for male leavers exceeds \$24,000 after 3 years, while for female leavers, it is about \$16,000.

Among the university cohort, female graduates report higher median income than males 3 years post-graduation.

Table 14: Median Income (2021 Constant \$) 3 Years After Graduation, by Gender – NL Graduates

Graduation Year	Leaver		College Graduate		University Graduate	
	Female	Male	Female	Male	Female	Male
2015	\$18,239	\$24,953	\$26,632	\$37,374		
2016	\$15,444	\$25,703	\$25,924	\$44,236		
2017	\$14,875	\$20,955	\$30,075	\$42,344	\$46,253	\$39,955

University Field of Study

The income breakdown by field of study of university graduates in Table 16 reveals that graduates in “Health and Related Fields” and “Architecture, Engineering, Related Trades” are among the highest earners, with approximately \$72,000 and \$68,000 in annual income, respectively.

Conversely, graduates of “Physical and Life Sciences and Technologies” report the lowest earnings, at around \$14,000.

Table 15: Median Income (2021 Constant \$) 1 Year After Graduation, by Field of Study – NL University Graduates

Field of Study	2018	2019
Architecture, Engineering, and Related Trades	\$67,008	\$68,430
Business, Management, and Public Administration	\$49,167	\$48,016
Health and Related Fields	\$71,043	\$72,700
Physical and Life Sciences and Technologies	\$14,442	\$13,332
Social and Behavioural Sciences and Law	\$22,300	\$18,436

College Field of Study

Among college graduates, those in “Health and Related Fields” report the highest 1-year earnings among all categories, with approximately \$41,500 in median income (Table 17).

Conversely, the lowest earnings are reported by graduates in the “Other” category, with a median income of less than \$10,000.

Table 16: Median Income (2021 Constant \$) 1 Year After Graduation, by Field of Study – NL College Graduates

Field of Study	2017	2018	2019
Architecture, Engineering, and Related Trades	\$38,978	\$36,743	\$36,038
Business, Management, and Public Administration	\$28,555	\$24,106	\$23,643
Health and Related Fields	\$43,647	\$40,778	\$39,996
Other*	\$11,726	\$7,964	\$7,812
Personal, Protective, and Transportation Services	\$33,441	\$25,911	\$25,414

*The category “Other” includes diplomas in “Pre-technology education/pre-industrial arts programs^{CAN},” “Inclusive postsecondary education,” and Multidisciplinary/interdisciplinary studies.”

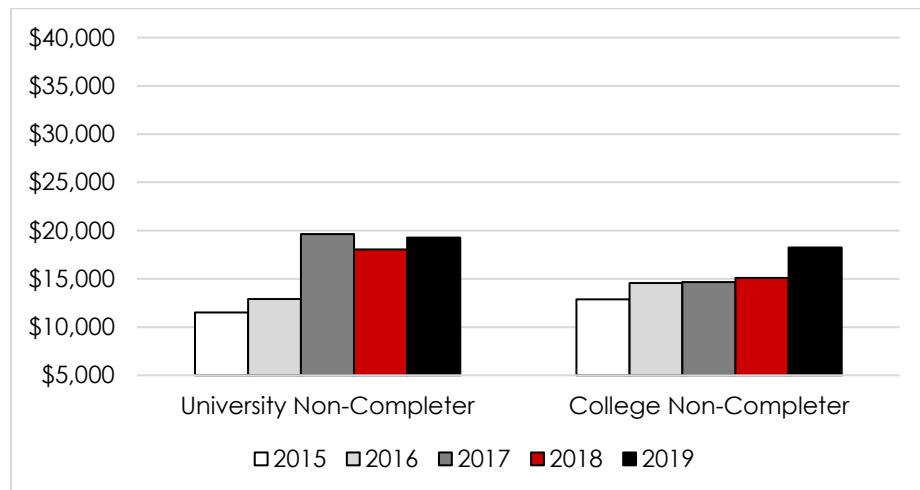
Median Income of PSE Non-Completers

1 Year After Last Enrollment

The median income for university non-completers 1 year after leaving their program is close to \$16,000, with earnings reaching close to \$20,000 for the 2017-2019 cohorts (Figure 59).

For earlier cohorts (2015 and 2016), college non-completers earn more than university non-completers. However, for the period spanning 2016-2019, college non-completers report lower median income compared to university non-completers.

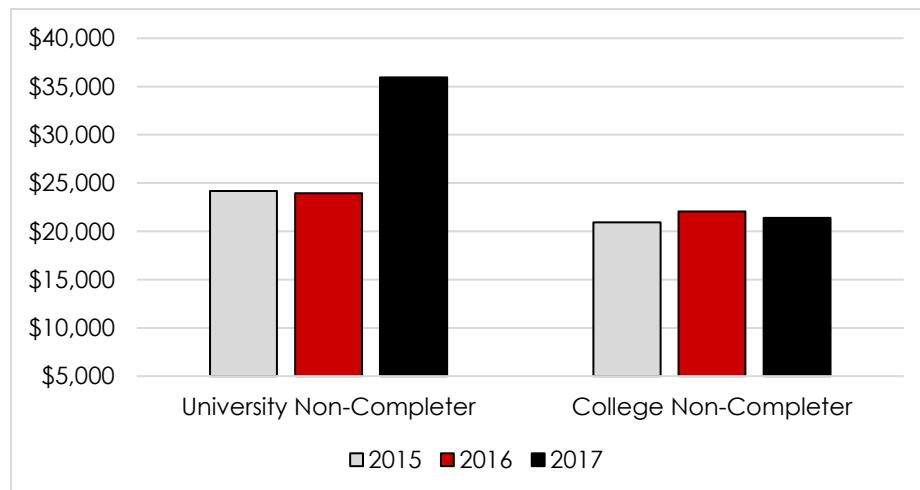
Figure 59: Median Income (2021 Constant \$) 1 Year After Last Enrollment – NL PSE Non-Completers



3 Years After Last Enrollment

Three years after leaving their post-secondary education, university non-completers earn \$28,000, whereas college non-completers earn around \$21,000 (Figure 60).

Figure 60: Median Income (2021 Constant \$) 3 Years After Last Enrollment – NL PSE Non-Completers



Gender: 1 Year After Last Enrollment

The gender breakdown in Table 17 indicates that male college non-completers earn approximately \$5,000 more than females 1 year after their most recent college enrollment. Similarly, male university non-completers consistently report higher income (by \$2,500 - \$3,500) than their female counterparts across all cohorts.

Table 17: Median Income (2021 Constant \$) 1 Year After Last Enrollment, by Gender – NL PSE Non-Completers

	College Non-Completer		University Non-Completer	
Last Year	Female	Male	Female	Male
2015	\$10,295	\$14,211	\$10,854	\$14,771
2016	\$12,024	\$18,312	\$12,135	\$15,554
2017	\$13,897	\$15,092	\$19,000	\$22,041
2018	\$13,380	\$16,991	\$17,522	\$19,964
2019	\$13,644	\$20,935	\$19,894	\$17,811

Gender: 3 Years After Last Enrollment

Table 18 shows that 3 years after leaving college, male non-completers earn nearly \$23,500, whereas female median income is approximately \$18,500.

Among university non-completers, males report around \$28,000 annually, while females earn less than \$26,000 each year.

Table 18: Median Income (2021 Constant \$) 3 Years After Last Enrollment, by Gender – NL PSE Non-Completers

	College Non-Completer		University Non-Completer	
Last Year	Female	Male	Female	Male
2015	\$17,904	\$24,058	\$24,282	\$23,946
2016	\$21,401	\$23,497	\$25,041	\$22,394
2017	\$16,395	\$23,018	\$28,881	\$38,761

The following section presents findings for Nova Scotia.

This report concludes with a Discussion of Findings and Conclusion.

Nova Scotia: Descriptive Statistics

Sample – High School Graduates

Table 19 shows the number of graduates in Nova Scotia (NS) in each academic year, with an almost equal distribution of female and male graduates.

In total, 94% of NS graduates could be linked to the T1 Family File (T1FF). However, the linkage rate is somewhat lower for the most recent cohorts, suggesting that some graduates could not be linked to a census family and may have yet to file taxes by themselves (as adults).

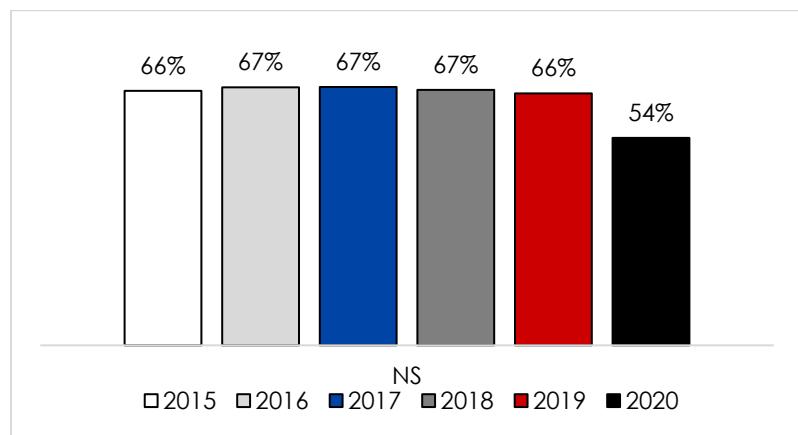
Table 19: High School Graduates in NS

Graduation Year	Total	Female	Male	Linked to T1FF (share of total)
2015	9,130	49%	51%	98%
2016	8,800	50%	50%	97%
2017	8,750	50%	50%	96%
2018	8,810	50%	50%	95%
2019	8,600	50%	50%	91%
2020	8,840	50%	50%	85%
Overall	52930	50%	50%	94%

Transition to Post-Secondary Education

About two-thirds of NS high school graduates pursue some form of public post-secondary education (university or college) in Canada (Figure 61).

Figure 61: Transition to PSE - NS High School Graduates



We see a notable decline in transition to PSE in 2020 because PSIS data end in 2021. As a result, gappers (*those who delay PSE enrollment until between 6 months and 2 years after high school graduation*) cannot be differentiated from leavers (*high school graduates who do not pursue further education*).

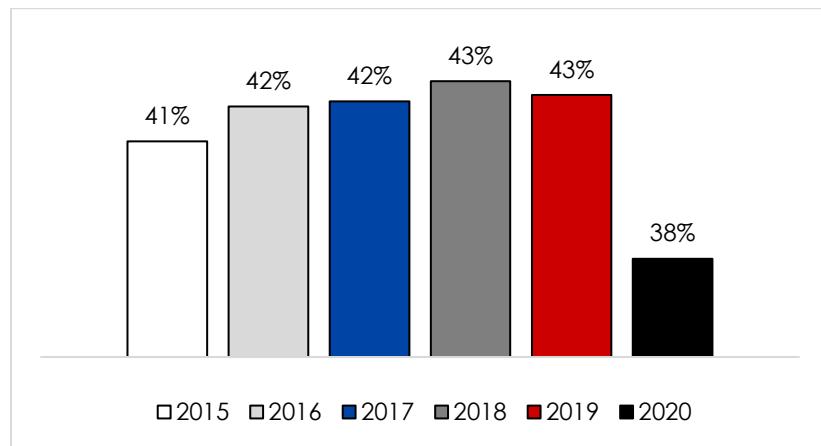
Similarly, 2019 rates also exhibit a slight decline compared to previous years because PSIS data end in April 2021 – less than 2 full years since July 2019 – again making it difficult to differentiate between gappers and leavers. However, for the 2020 cohort, transition rates may have been affected by the COVID-19 pandemic.

Transition to University

Roughly 42% of NS high school graduates enroll in public universities across Canada (Figure 62).

The 2020 cohort shows a decline in transition rates of about 5 percentage points compared to 2019. This can be attributed to the lack of availability PSIS data post-April 2021, because of which gappers (individuals who enroll between 6 months and 2 years post-graduation) are not observed.

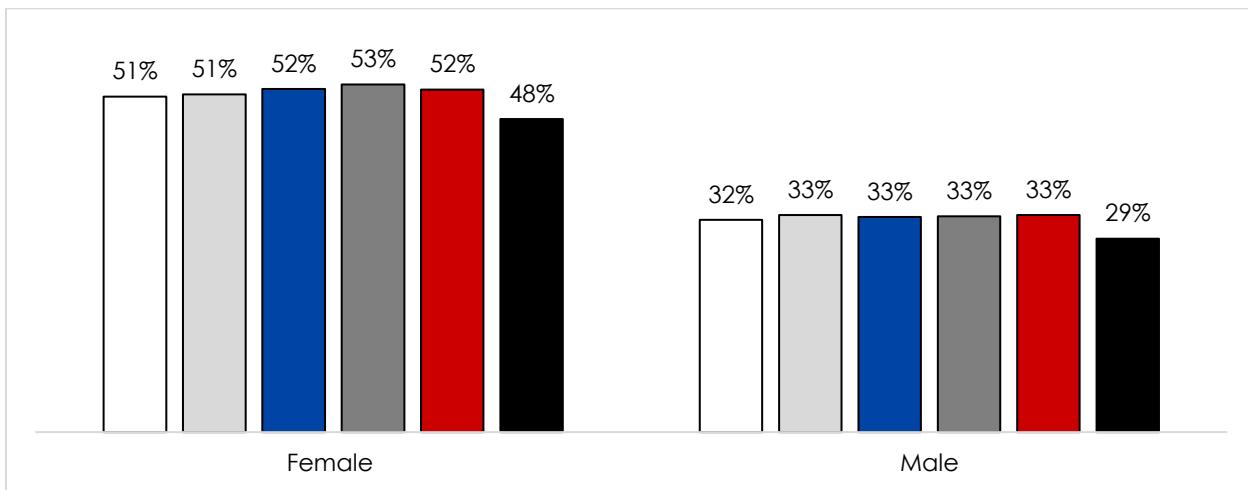
Figure 62: Transition to University – NS High School Graduates



Gender

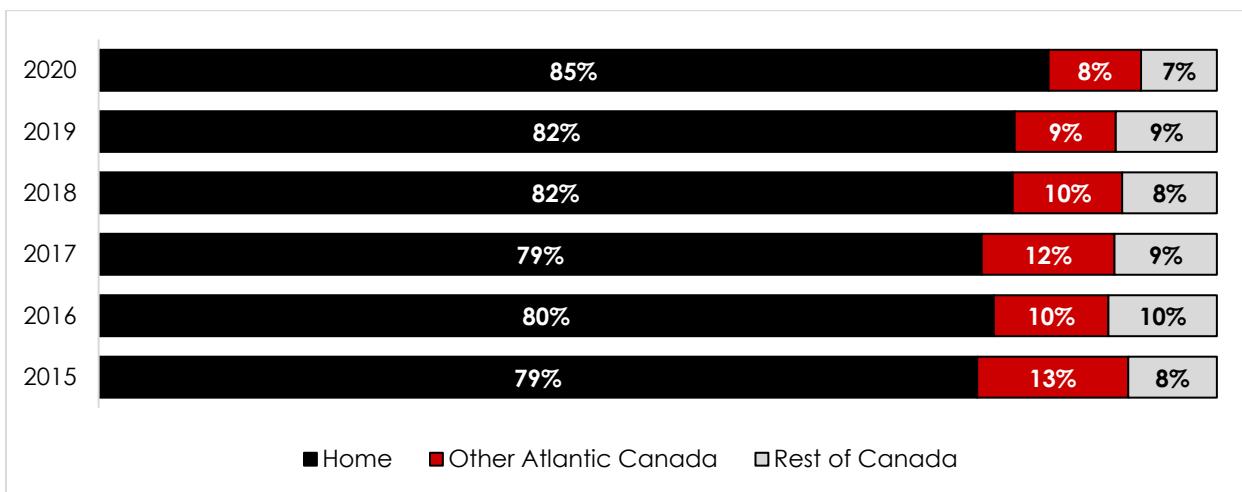
Disaggregating transition rates to university by gender in Figure 63 reveals that close to 51% of female high school graduates in NS pursue a university education. In contrast, the transition rate to university for male high school graduates is approximately 19 percentage points lower than that of females.

Regarding the 2020 cohort, there is a 4 percentage point drop in transition rates for both females and males compared to the 2019 cohorts.

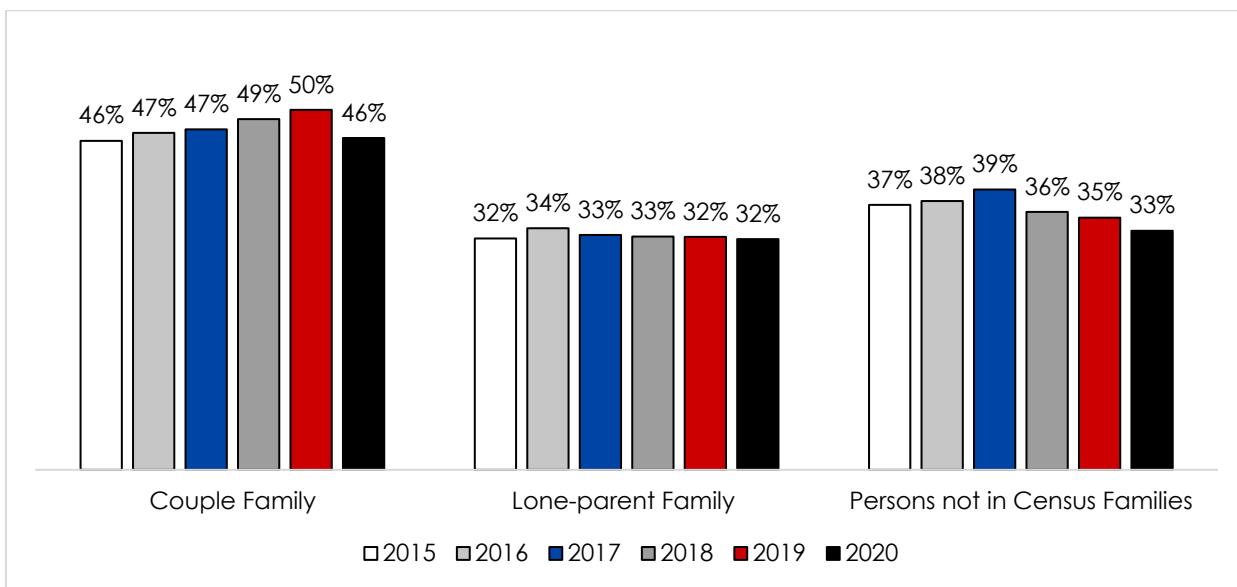
Figure 63: Transition to University, by Gender – NS High School Graduates**Location of PSE Institution – University**

Among NS high school graduates who enroll in public universities, nearly 81% of them choose to attend NS universities (Figure 64).

Around 10% of these graduates attend universities in other Atlantic Canada (non-NS) provinces, while the remaining 9% pursue undergraduate degrees outside of Atlantic Canada.

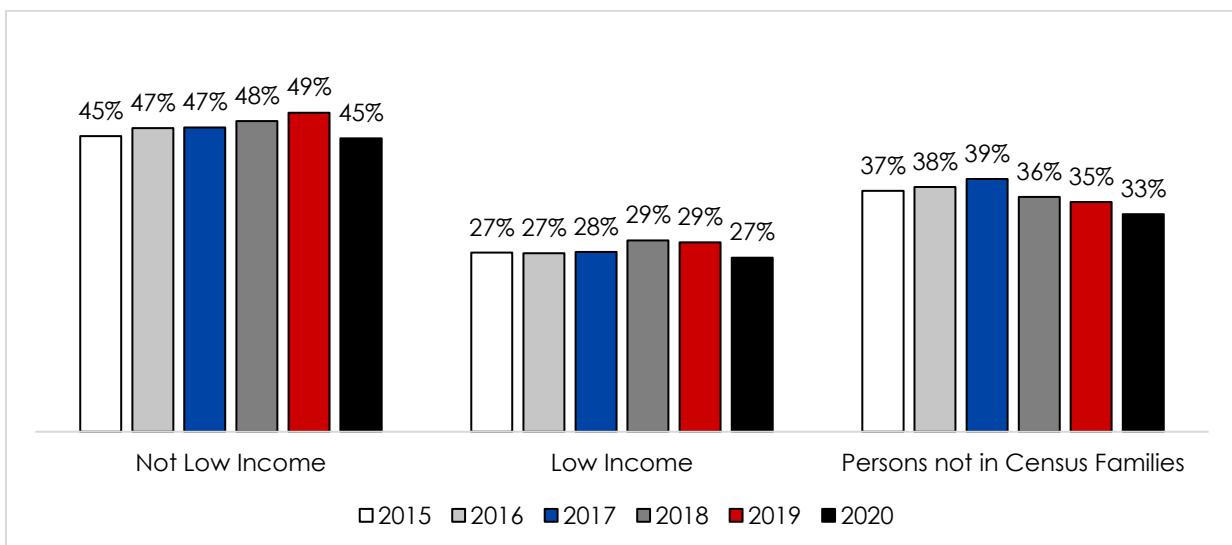
Figure 64: Transition to University, by Location – NS High School Graduates**Family Composition**

Comparing transitions to university by family composition in Figure 65 shows that about 48% of high school graduates from couple families end up pursuing university education. A lower proportion (33%) of high school graduates from lone-parent families enroll in university.

Figure 65: Transition to University, by Family Composition – NS High School Graduates

Family Income

The ratio of transitions to universities among NS high school graduates increases with higher income categories (Figure 66). Specifically, 28% of graduates from low-income households pursue university education within 2 years of high school graduation, which is approximately 19 percentage points lower than graduates from households living above the low-income threshold.

Figure 66: Transition to University, by Family Income – NS High School Graduates

Gappers – University

This section investigates the proportion of gappers as a subset of those who have transitioned to a university.

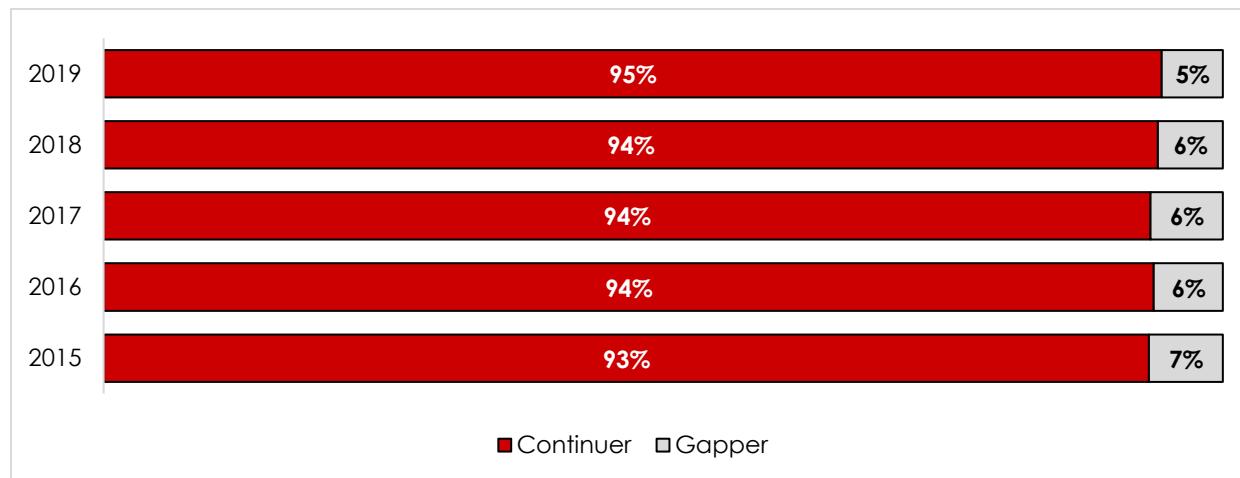
Gappers are defined as the high school graduates who transition to a PSE between 6 months and 2 years after their high school graduation, as opposed to those who transition to a PSE within 6 months following graduation (known as “continuers”). There is a “gap” in their transition from public to post-secondary education.

The proportion of gappers is estimated until the 2019 cohort, as data are available until April 2021 (i.e., gappers within the 2020 cohort cannot be observed in the current data).

Figure 67 shows that a small proportion of NS high school graduates who transition to university are gappers. Instead, around 94% transition to university within 6 months of graduation (i.e., “continuers”).

The lower proportion of gappers observed for the 2019 cohort is likely due to the lack of available PSIS data post-April 2021, which prevents us from observing all gappers during this year.

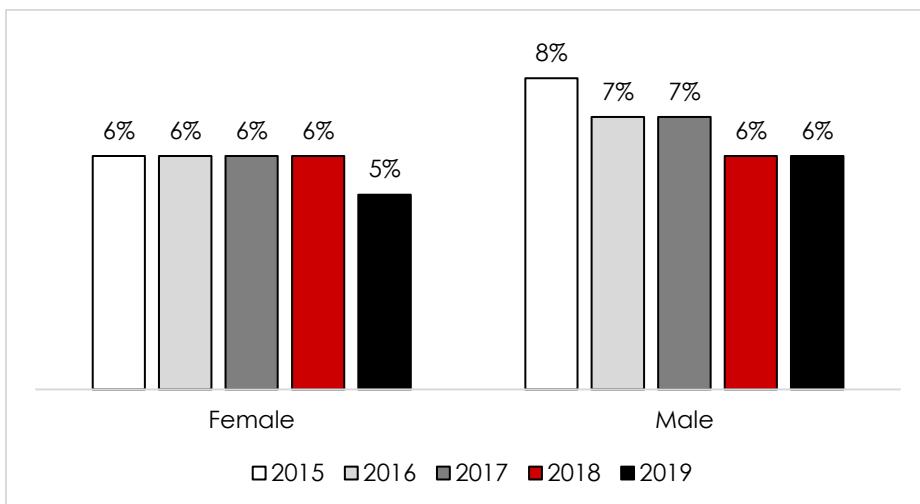
Figure 67: Proportion of NS High School Graduates Enrolled in a University Who are Gappers



Gender

Figure 68 breaks down the proportion of NS gappers by gender. Overall, there is minimal variation in the proportion of male and female gappers among graduates from NS public high schools.

Figure 68: Proportion of NS High School Graduates Enrolled in a University Who are Gappers, by Gender

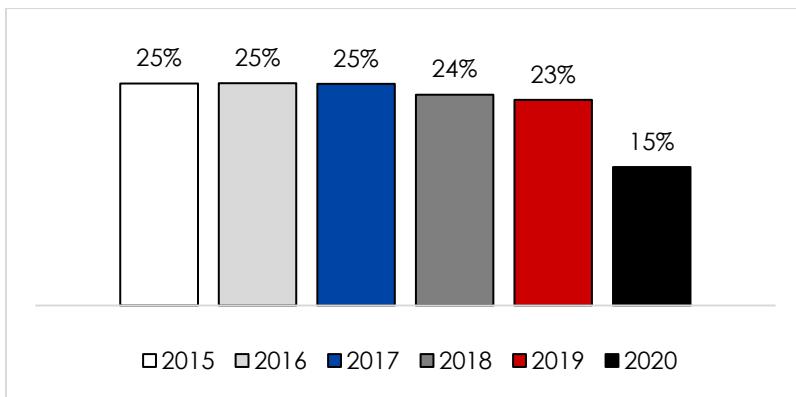


Transition to College

Overall, one-fourth (23%) of NS high school graduates transition to college (Figure 69).

Between 2015 and 2019, the college transition rate stays around 25%. However, for the 2020 cohort, the rate declines by 8 percentage points. This decline is attributed to the end of PSIS data collection in April 2021, which prevents differentiation between gappers and leavers – a trend consistent throughout this report across various categories.

Figure 69: Transition to College – NS High School Graduates

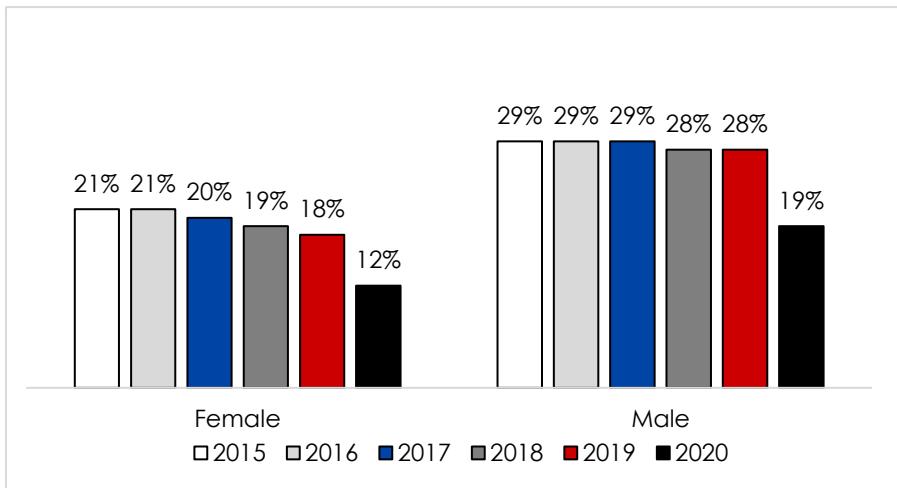


Gender

Figure 70 shows that approximately 27% of male high school graduates enroll in college for their post-secondary education, while the transition rate for female high school graduates is approximately 8 percentage points lower. Both male and female college enrollment rates

experience a drop in 2020, which, again, is likely due to insufficient years of data to observe all gappers.

Figure 70: Transition to College, by Gender – NS High School Graduates

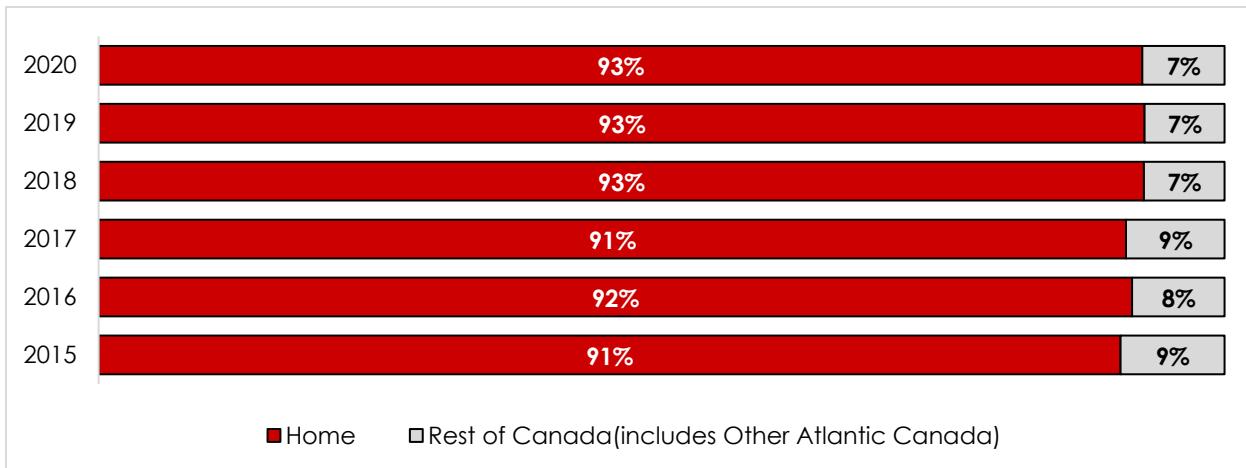


Location of PSE Institution – College

Roughly 92% of high school graduates who enroll in college choose an institution in their home province (NS) – a trend that remains consistent over the years (Figure 71).

Due to small counts, students enrolled in colleges within the Atlantic provinces (outside NS) and the rest of Canada have been combined into one category.

Figure 71: Transition to College, by Location – NS High School Graduates

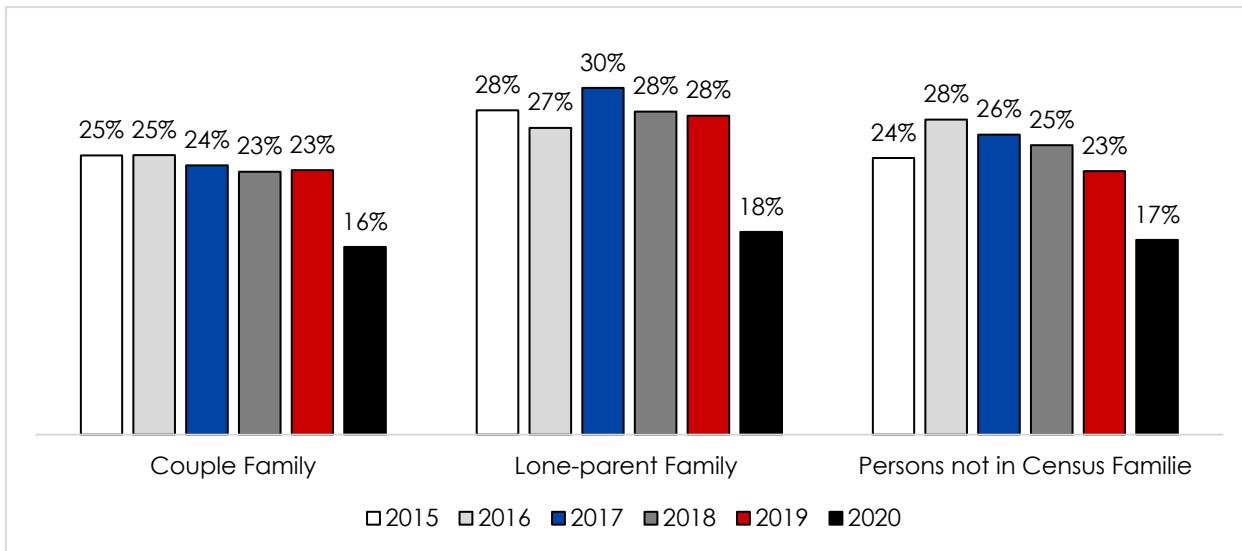


Family Composition

Figure 72 demonstrates that unlike university enrollments, rates of transition to college have less variation based on family composition. Approximately 23% of high school graduates from

couple families pursue college education, while 27% of graduates from lone-parent families and 24% of individuals not in Census families transition to college.

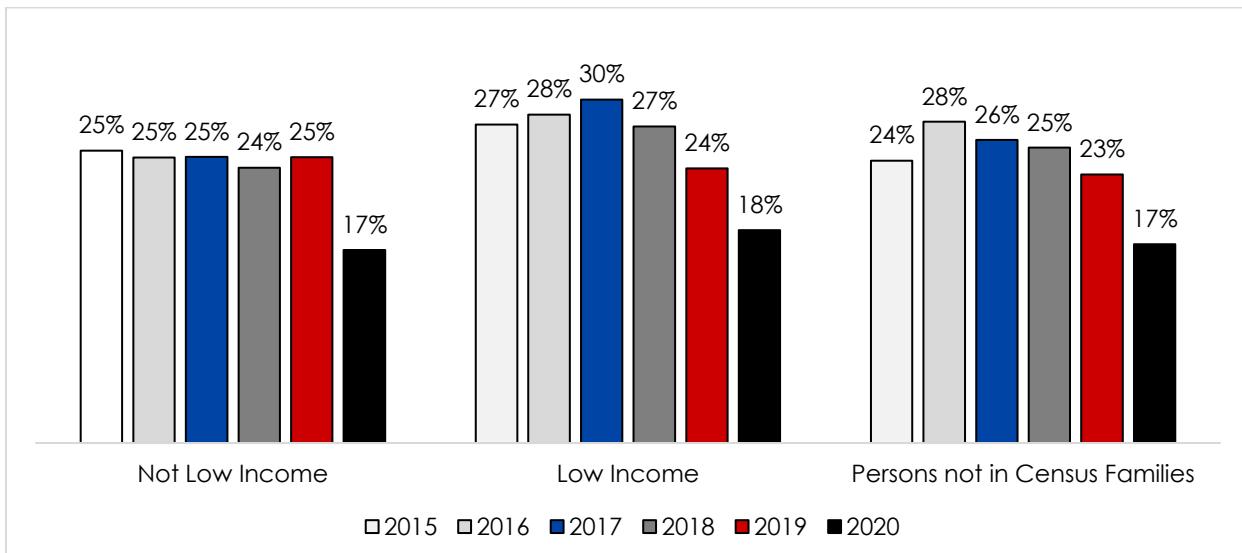
Figure 72: Transition to College, by Family Composition – NS High School Graduates



Family Income

One-fourth of high school graduates from families with earnings above the low-income threshold transition to college within 2 years of high school graduation. A similar proportion (23%) of graduates from low-income households pursue a college education (Figure 73).

Figure 73: Transition to College, by Family Income – NS High School Graduates

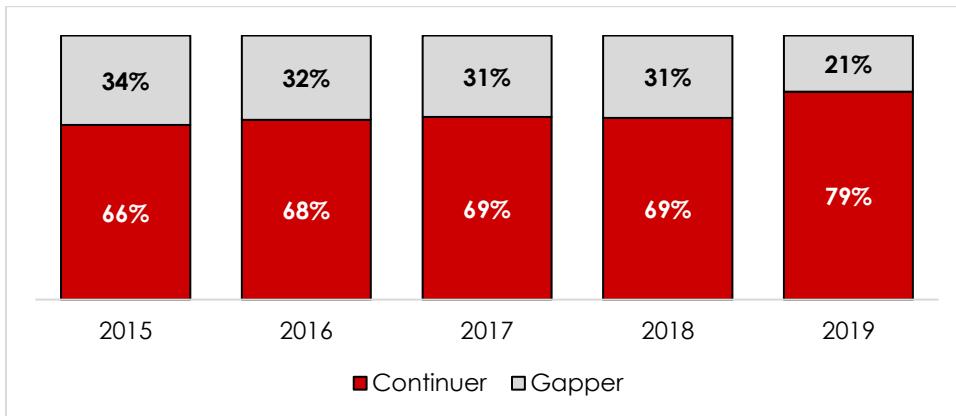


Gappers – College

A notable proportion (30%) of NS graduates who are college-bound delay their entry by at least 6 months following their graduation, as shown in Figure 74. As a reminder, those who enroll in PSE between 6 months and 2 years after their high school graduation are known as “gappers.”

The noticeable decline in college transition rates among the 2020 cohort in [Figure 69](#), is likely due to nearly one-third of college enrollees being gappers.

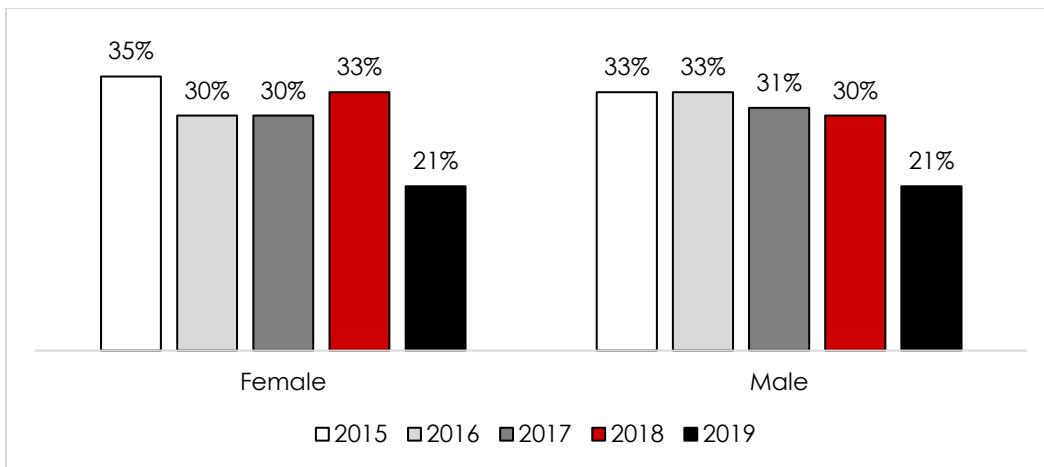
Figure 74: Proportion of NS High School Graduates Enrolled in College Who are Gappers



Gender

A fairly consistent share of male college-pursuers are gappers, ranging from 31% to 33% of the 2015-218 cohorts (Figure 75) – although, with more data expected post-April 2021, this share is likely to increase. Female college-pursuers demonstrate comparable rates to their male counterparts, with a similar drop in the 2019 cohort.

Figure 75: Proportion of NS High School Graduates Enrolled in College Who are Gappers, by Gender



Interprovincial Retention Rates of Graduates

This section calculates the interprovincial retention rates of graduates based on their highest level of education (high school, college or university). A graduate is considered retained in Nova Scotia 1 and 3 years after graduation if they declare NS as their province of taxation during those respective periods.

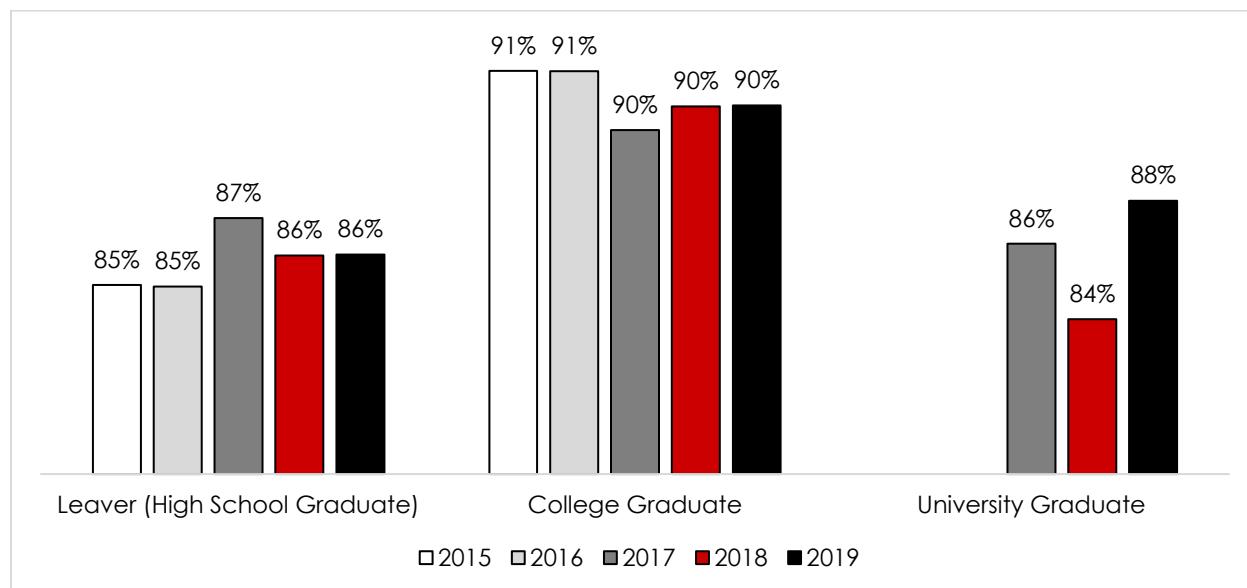
Retention Rates of Graduates

1-Year Retention

College graduates display the highest 1-year retention rate post-graduation, with 90% remaining in the province (Figure 76).

The 1-year retention rates for university graduates and high school graduates who do not pursue post-secondary education (i.e., leavers) is around 86%.

Figure 76: 1-Year Retention Rates of Graduates – NS



3-Year Retention

After 3 years post-graduation, 87% of college graduates reside in NS, while approximately 84% of university graduates are also retained in the province. About 83% of leavers remain in NS post-high school graduation (Figure 77).

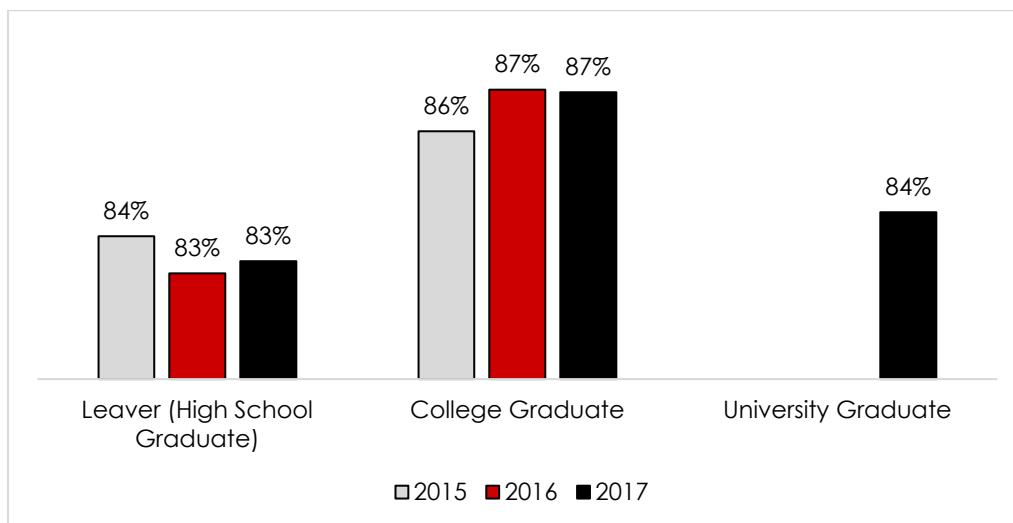
Figure 77: 3-Year Retention Rates of Graduates – NS**Gender: 1-Year Retention**

Table 20 presents 1-year retention according to gender. Among leavers (high school graduates who are not pursuing PSE), females show slightly higher retention rates than their male counterparts, with a difference of 1-2 percentage points. Gender differences among college graduates are minimal, typically around 2 percentage points in difference. However, female university graduates consistently exhibit higher 1-year retention rates than males, with a margin of 5 percentage points difference.

Table 20: 1-Year Retention Rates of Graduates, by Gender – NS

	Leaver		College Graduate		University Graduate	
Graduation Year	Female	Male	Female	Male	Female	Male
2015	86%	84%	90%	92%		
2016	85%	85%	92%	91%		
2017	88%	86%	93%	88%	88%	82%
2018	86%	85%	91%	89%	84%	84%
2019	87%	86%	94%	88%	89%	84%

Gender: 3-Year Retention

The 3-year retention rate for both female and male leavers (high school graduates) stands at 85% (Table 21).

Among college graduates, approximately 89% of females remain in the province after 3 years, whereas 85% of males are retained. For the single cohort of university graduates that can be observed (2017), 85% of females reside in the province 3 years post-graduation, compared to 82% of males.

Table 21: 3-Year Retention Rates of Graduates, by Gender – NS

	Leaver		College Graduate		University Graduate	
Graduation Year	Female	Male	Female	Male	Female	Male
2015	85%	82%	87%	85%		
2016	85%	81%	88%	85%		
2017	86%	81%	90%	85%	85%	82%

PSE Field of Study

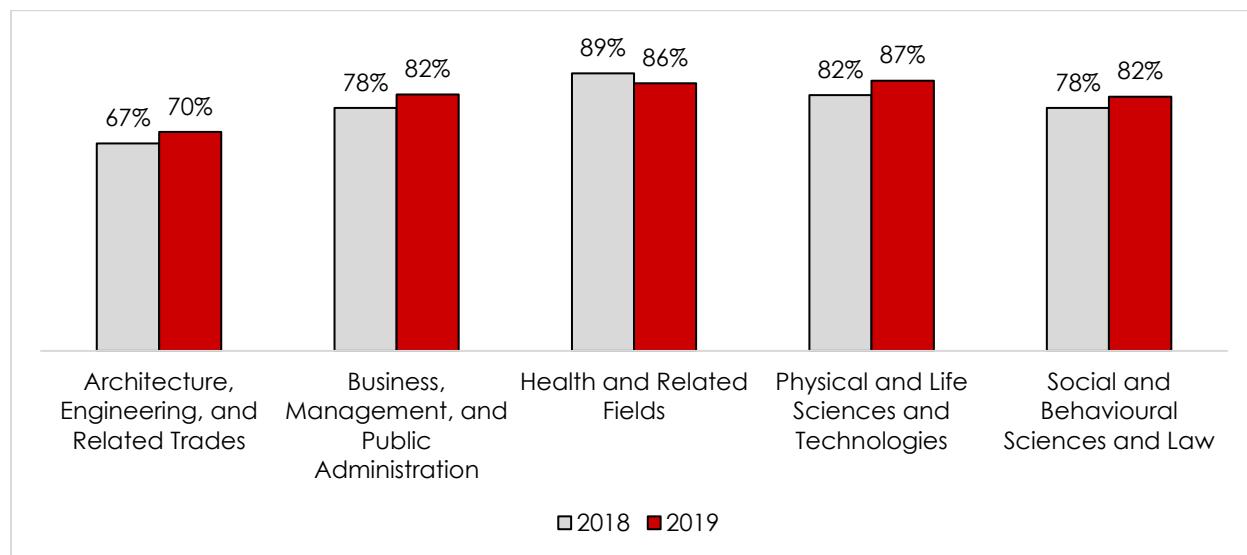
The field of study of post-secondary education (PSE) graduates is based on Statistics Canada's Variant of the Classification of Instructional Programs (CIP): 2021 Version 1.0 for Primary groupings (StatCan, 2022).

There are 13 categories listed under primary groupings. However, to meet Statistics Canada's disclosure requirements, only the rates for the top 5 primary groups are released.

It should be noted that small counts also prohibited the release of rates prior to 2018 for university graduates and prior to 2017 for college graduates. Consequently, only 1-year retention rates by field of study could be released in this report.

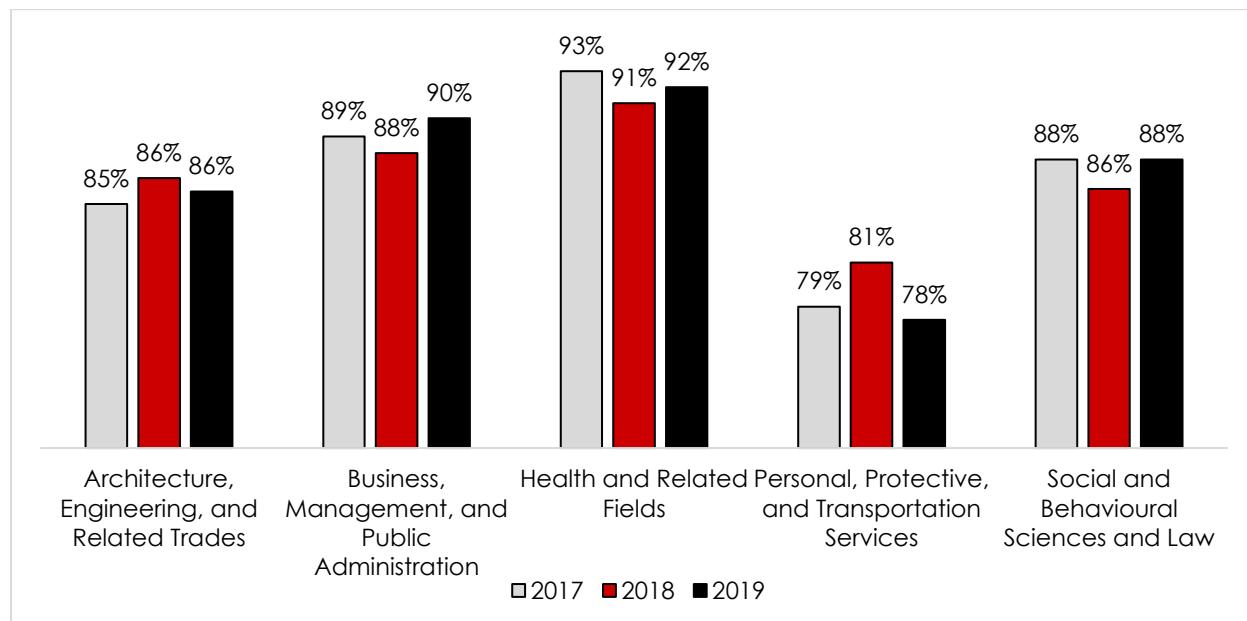
University Field of Study: 1-Year Retention

In Figure 78, university graduates in "Health and Related Fields" exhibit the highest 1-year retention rate at 87%. The lowest retention rates are observed among graduates in "Architecture, Engineering, and Related Trades," with only 69% retained after 1 year.

Figure 78: 1-Year Retention Rates of University Graduates, by Field of Study – NS**College Field of Study: 1-Year Retention**

The highest 1-year retention rates are among college graduates in "Health and Related Fields," with 92% of individuals located in NB 1 year after graduation (Figure 79).

Conversely, the lowest 1-year retention rate among college graduates is observed in the "Personal, Protective, and Transportation Services" category, at 79%.

Figure 79: 1-Year Retention Rates of University Graduates, by Field of Study – NS

Return Rates of NS PSE Graduates from Out-of-Province

Along with the retention rates of individuals who graduated from institutions within NS, we also present the return rates of NS high school graduates who completed their PSE studies outside their home province.

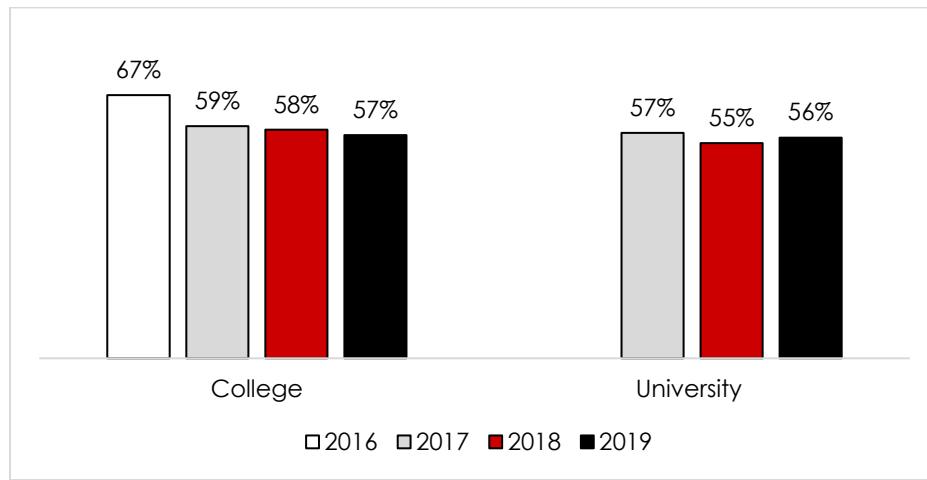
These rates represent the percentage of PSE graduates returning to NS after graduation, calculated by observing the proportion of tax-filing PSE graduates who declare NS as their province of taxation 1 year post-graduation.

As shown in Figure 80, approximately 59% of NS high school graduates who complete their university education outside NS return to the province within 1 year after obtaining their degree.

Similarly, for individuals who earn a college diploma outside of NS, about 56% of them return to NS after 1 year.

Overall, the majority of both university and college graduates return to their home province within 1 year after graduating.

Figure 80: 1-Year Return Rates of NS Residents Who Graduate from Out-of-Province PSE Institutions



Interprovincial Retention of PSE Non-Completers

PSE non-completers are high school graduates who enroll in post-secondary education (PSE) but do not complete their program within 6 years of starting university or within 3 years of starting college.

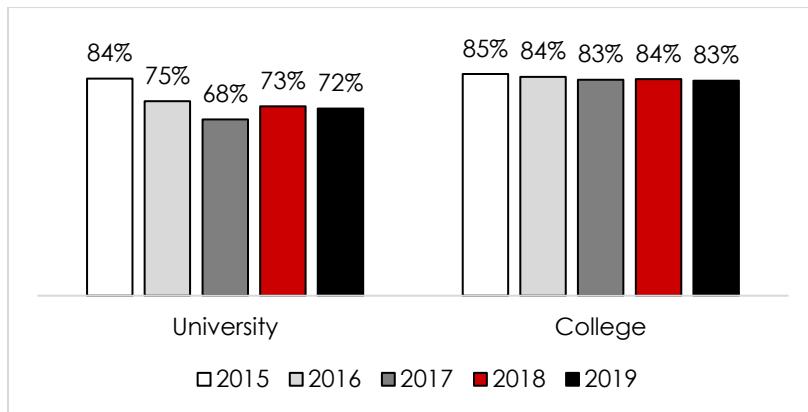
We calculate the retention rates of PSE non-completers using the most recent year of their PSE enrollment.

1-Year Retention

Overall, 72% of university non-completers reside in NS 1 year after their most recent university enrollment.

In contrast, even more college non-completers reside in NS 1 year after their most recent university enrollment, with a consistent retention rate of 84% (Figure 81).

Figure 81: 1-Year Retention Rates of PSE Non-Completers – NS

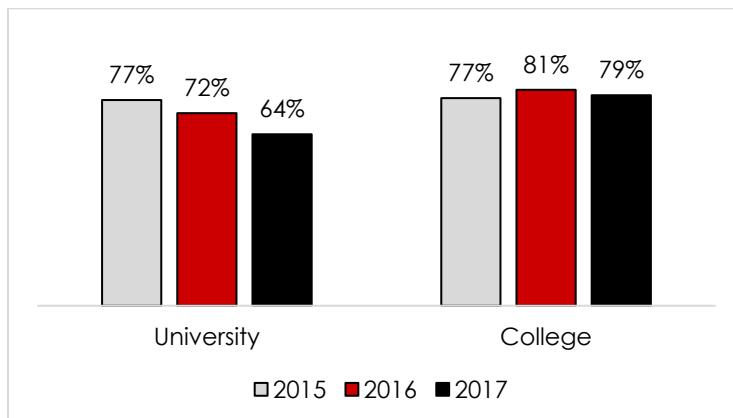


3-Year Retention

After 3 years, approximately 76% of university non-completers reside in NS, as shown in Figure 22.

Around 79% of college non-completers live in the province 3 years after their most recent college enrollment.

Figure 82: 3-Year Retention Rates of PSE Non-Completers – NS



Province of Employment: Graduates

Province of employment is determined by graduates' declared province of taxation in the T1 Family File (T1FF) 1 and 3 years after graduation for individuals reporting earned income. Earned income includes employment income (before-tax wages/salaries) and net self-employment income (gross income minus operational costs and capital cost allowances).

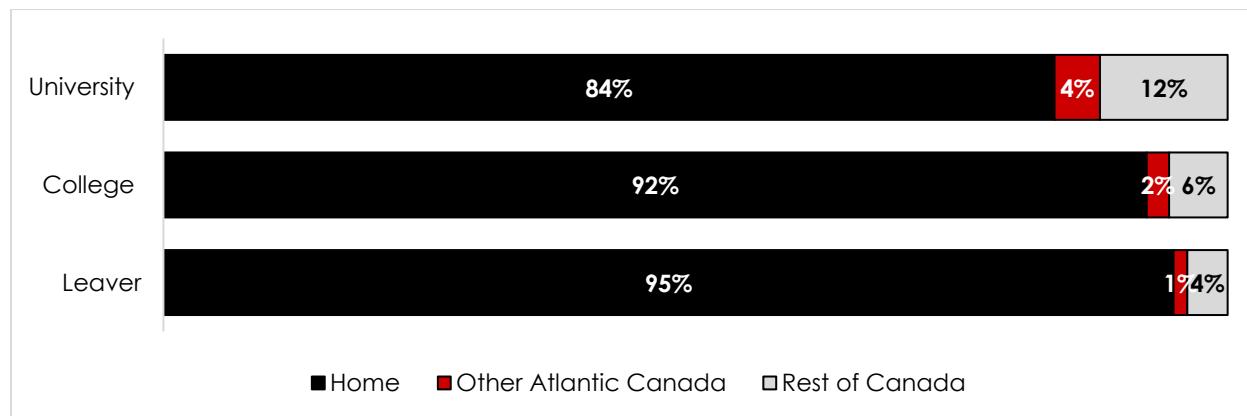
The province of employment for PSE graduates (university and college) is reported collectively for graduates from institutions in NS and those outside the province. Therefore, in this section, NS university or college graduates refer to PSE graduates from any PSE institution in Canada.

1 Year After Graduation

Among NS university graduates with earned income, approximately 84% are in their home province (NS) after 1 year (Figure 83). 12% of NS university graduates are employed outside Atlantic Canada 1 year after their graduation.

Approximately 4% of employed leavers and 6% of college graduates are working outside of Atlantic Canada 1 year after graduation.

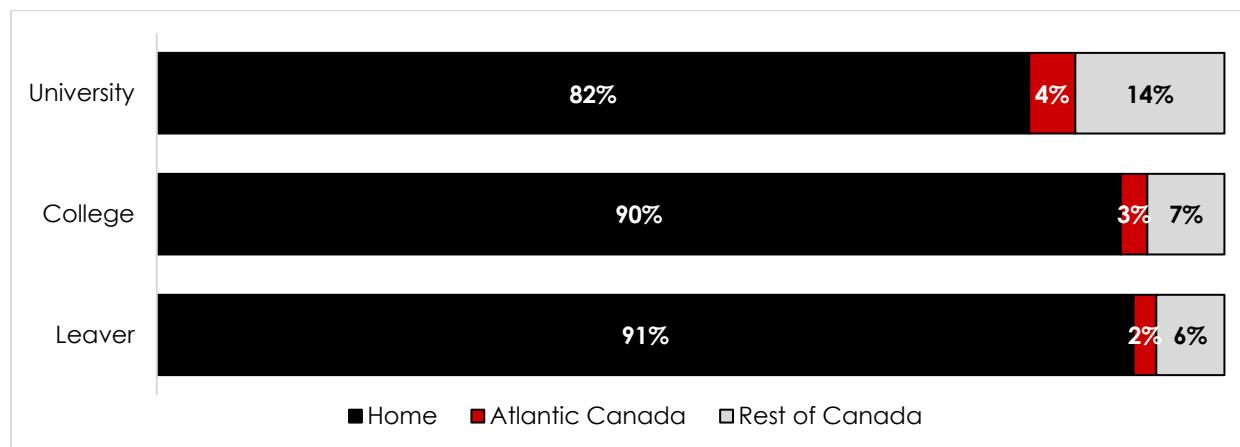
Figure 83: Province of Employment 1 Year After Graduation (2015-2019) – NS Graduates



3 Years After Graduation

After 3 years, 82% of employed NS university graduates work in NS, and 14% are employed in other Atlantic provinces.

For leavers and college graduates, the share of individuals working outside Atlantic Canada is at 6% and 7%, respectively (Figure 84).

Figure 84: Province of Employment 3 Years After Graduation (2015-2017) – NS Graduates

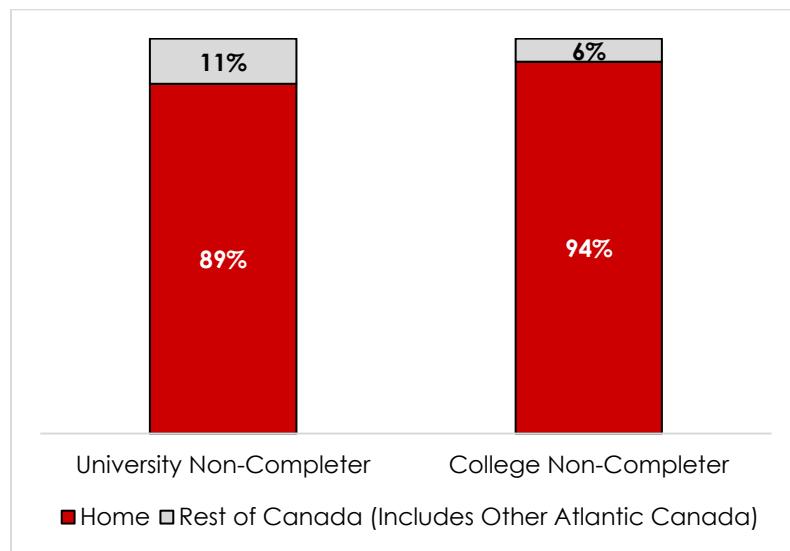
Province of Employment: PSE Non-Completers

For PSE non-completers, the province of employment is estimated one and three years after their most recent PSE enrollment at either a university or college.

1 Year After Last Enrollment

89% of NS university non-completers with the reported earned income declared NS as their province of taxation 1 year after their last university enrollment (Figure 85).

Among college non-completers working 1 year after leaving college, 94% are located in their home province of NS.

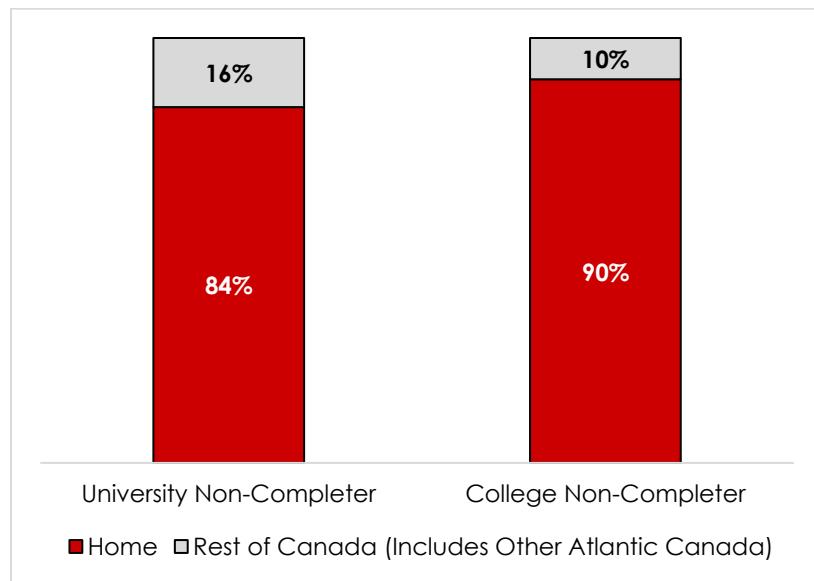
Figure 85: Province of Employment 1 Year After Last Enrollment (2015-2019) – NS PSE Non-Completers

3 Years After Last Enrollment

In Figure 86, we can see that the proportion of NS university non-completers working outside their home province of NS increases from 11% after 1 year to 16% after 3 years.

Similarly, for college non-completers, the percentage working outside NS rises to 10% after 3 years, which is 4 percentage points higher than after 1 year.

Figure 86: Province of Employment 3 Years After Last Enrollment (2015-2017) – NS PSE Non-Completers



Income of Graduates & PSE Non-Completers

We present the median taxable income for each graduating year cohort and for each cohort of PSE non-completers.

It should be noted that income is reported for graduates and PSE non-completers regardless of their location of study and province of employment.

All income figures have been adjusted to reflect 2021 Constant dollars.

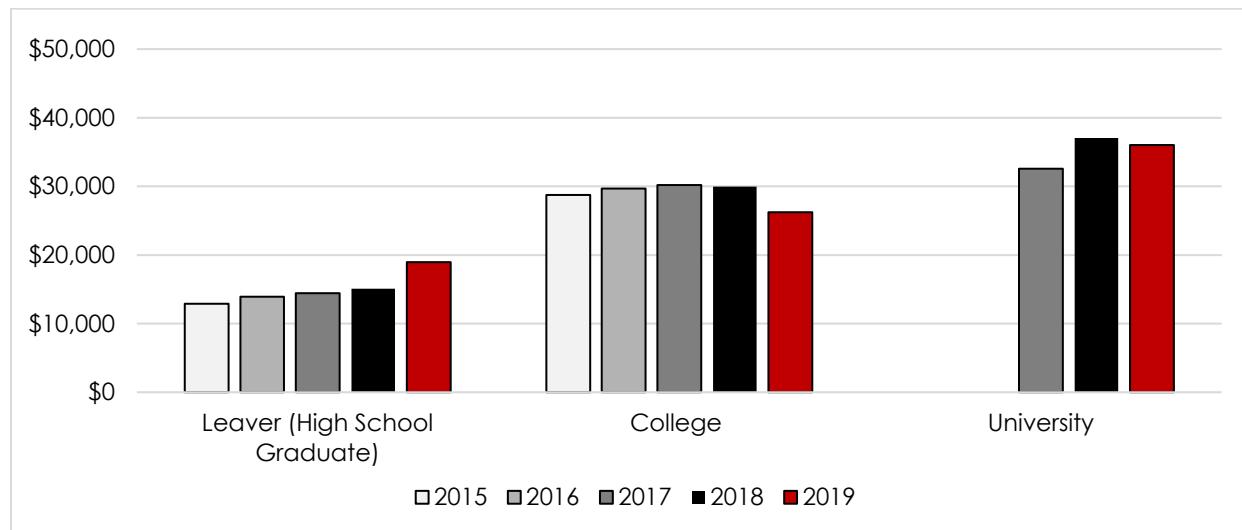
Median Income of Graduates

1 Year After Graduation

Median income of NS university graduates is approximately \$35,000 1 year after graduation (Figure 87).

The earnings of college graduates 1 year post-graduation hovers around \$29,000. Meanwhile, leavers (high school graduates who are not pursuing PSE) earn about \$15,000 1 year after high school graduation, the lowest among all categories.

Figure 87: Median Income (2021 Constant \$) 1 Year After Graduation – NS Graduates

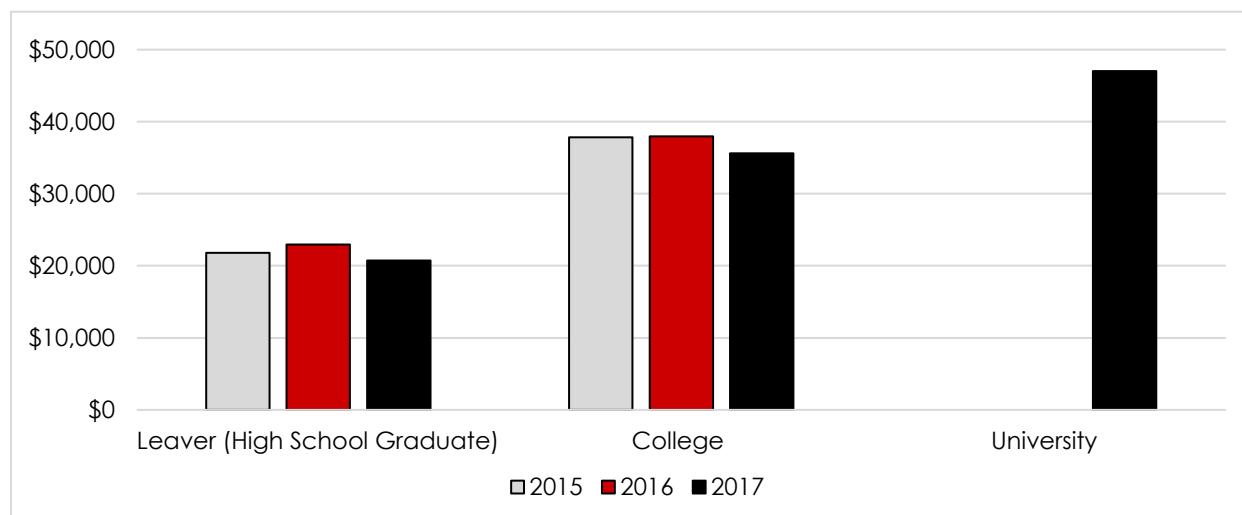


3 Years After Graduation

After 3 years, the 2017 cohort of NS university graduates (the only cohort whose median income can be observed at this time) reports a median income close to \$47,000 (Figure 88).

The 3-year earnings of college graduates are approximately \$37,000 – a \$9,000 increase relative to their 1-year earnings. Leavers experience a similar increase in their earnings 3 years after graduation, reaching above \$22,000.

Figure 88: Median Income (2021 constant \$) 3 Years After Graduation – NS Graduates



Gender: 1 Year After Graduation

The income breakdown by gender in Table 4 indicates that male graduates generally earn more than females across all categories 1 year after graduation.

Median income for male college graduates is around \$30,000 while earnings for female college graduates are approximately \$27,000.

The earnings gap between male and female leavers appears wider, with male leavers earning approximately \$4,500 - \$5,000 more than their female counterparts.

Table 22: Median Income (2021 Constant \$) 1 Year After Graduation, by Gender – NS Graduates

	Leaver		College Graduate		University Graduate	
	Female	Male	Female	Male	Female	Male
Graduation Year						
2015	\$11,637	\$16,561	\$25,960	\$29,429		
2016	\$12,576	\$17,209	\$27,468	\$31,109		
2017	\$12,812	\$17,372	\$28,012	\$32,246	\$33,224	\$31,161
2018	\$12,849	\$17,947	\$28,672	\$30,902	\$35,044	\$39,185
2019	\$12,186	\$16,769	\$23,747	\$27,914	\$35,100	\$36,663

Gender: 3 Years After Graduation

After 3 years, male university graduates earn approximately \$1,400 more compared to female university graduates.

College graduates earn close to \$41,000 after 3 years, while female graduates earn approximately \$31,000.

Meanwhile, after 3 years, the median income for male leavers exceeds \$25,000, while for female leavers, it is about \$17,400.

Table 23: Median Income (2021 Constant \$) 3 Years After Graduation, by Gender – NS Graduates

	Leaver		College Graduate		University Graduate	
	Female	Male	Female	Male	Female	Male
Graduation Year						
2015	\$17,680	\$25,289	\$30,324	\$42,074		
2016	\$17,871	\$25,814	\$33,425	\$42,030		
2017	\$16,503	\$24,538	\$29,858	\$38,761	\$46,144	\$47,555

University Fields of Study

The income breakdown by field of study of university graduates in Table 24 shows that graduates in "Health and Related Fields" and "Architecture, Engineering, and Related Trades" are among the highest earners, making around \$74,300 and \$57,500 annual income, respectively.

In contrast, university graduates in "Physical and Life Sciences and Technologies" report the lowest earnings, at around \$15,500.

Table 24: Median Income (2021 Constant \$) 1 Year After Graduation, by Field of Study – NS University Graduates

Field of Study	2,018	2,019
Architecture, Engineering, and Related Trades	\$59,468	\$55,515
Business, Management, and Public Administration	\$40,778	\$40,204
Health and Related Fields	\$74,122	\$74,471
Physical and Life Sciences and Technologies	\$16,991	\$14,165
Social and Behavioural Sciences and Law	\$26,761	\$23,123

College Field of Study

Among college graduates, those in "Health and Related Fields" report the highest earnings among all categories 1 year after graduation, with about \$37,000 (Table 25).

The lowest earners 1 year after graduation are graduates in "Personal, Protective, and Transportation Services" and "Social and Behavioural Sciences and Law," with a median income of approximately \$23,000.

Table 25: Median Income (2021 Constant \$) 1 Year After Graduation, by Field of Study – NS College Graduates

Field of Study	2017	2018	2019
Architecture, Engineering, and Related Trades	\$32,029	\$29,203	\$28,643
Business, Management, and Public Administration	\$27,361	\$23,150	\$22,706
Health and Related Fields	\$36,807	\$37,592	\$36,871
Personal, Protective, and Transportation Services	\$27,904	\$21,345	\$20,935
Social and Behavioural Sciences and Law	\$26,166	\$22,300	\$21,873

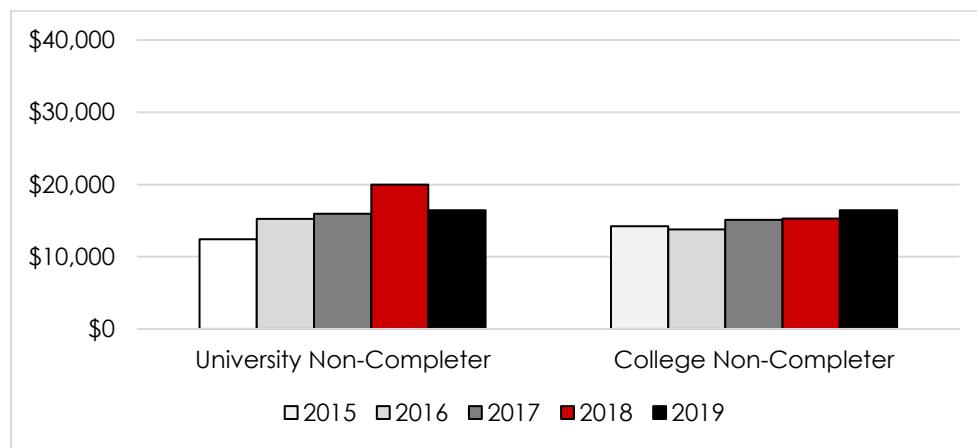
Median Income of PSE Non-Completers

1 Year After Last Enrollment

The median income for university non-completers 1 year after leaving their program is close to \$16,000, with Figure 89 showing an increasing trend from 2015 to 2018.

For earlier cohorts (2015-2017) of college non-completers, earnings are comparable to those of university non-completers, ranging from \$13,000 to \$15,000.

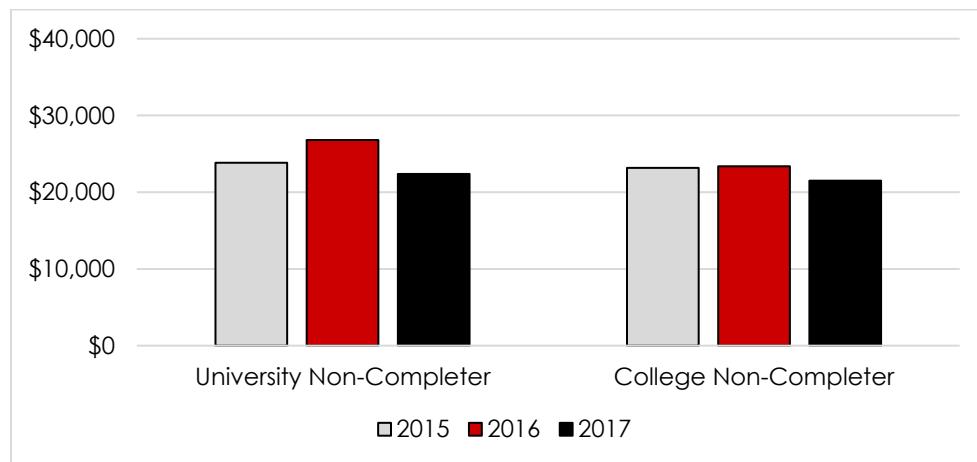
Figure 89: Median Income (2021 Constant \$) 1 Year After Last Enrollment – NS PSE Non-Completers



3 Years After Last Enrollment

Three years after leaving post-secondary education, university and college non-completers earn close to \$24,000 and \$23,000, respectively (Figure 90).

Figure 90: Median Income (2021 Constant \$) 3 Years After Last Enrollment – NS PSE Non-Completers



Gender: 1 Year After Last Enrollment

The gender breakdown presented in Table 26 shows that 1 year after their last PSE enrollment, male college non-completers earn approximately \$16,000, while female non-completers report the median income of around \$13,000.

Male university non-completers generally report a median income that is around \$2500 higher than that of their female counterparts across the years.

Table 26: Median Income (2021 Constant \$) 1 Year After Last Enrollment, by Gender – NS PSE Non-Completers

	College Non-Completers		University Non-Completers	
Last Year	Female	Male	Female	Male
2015	\$11,078	\$15,666	\$11,190	\$13,763
2016	\$11,804	\$15,775	\$14,341	\$16,878
2017	\$14,115	\$15,526	\$15,309	\$18,023
2018	\$12,318	\$16,460	\$20,814	\$18,796
2019	\$15,103	\$17,602	\$12,915	\$16,561

Gender: 3 Years After Last Enrollment

Table 27 indicates that 3 years after leaving college, male non-completers earn a median income close to \$27,000, whereas female college non-completers earn approximately \$17,000.

For university non-completers, males report around \$28,000 annually, while females earn less than \$25,000 each year.

Table 27: Median Income (2021 Constant \$) 3 Years After Last Enrollment, by Gender – NS PSE Non-Completers

	College Non-Completer		University Non-Completer	
Last Year	Female	Male	Female	Male
2015	\$18,687	\$27,415	\$21,932	\$28,646
2016	\$18,533	\$27,799	\$24,490	\$32,212
2017	\$15,635	\$25,732	\$20,629	\$24,103

Discussion of Findings

Study Parameters

The main objective of this study was to examine three dimensions of the post-secondary education choices and labour market outcomes of high school graduates in the Atlantic Provinces of New Brunswick (NB), Newfoundland and Labrador (NL) and Nova Scotia (NS).⁹

The outcomes investigated include:

- 1) The **post-secondary education (PSE) choices** of high school graduates (*i.e.* transition to PSE).
- 2) The **interprovincial mobility and retention rates** of graduates from high school and post-secondary education.
- 3) The **labour market outcomes** (including employment and earned income) of graduates from high school and post-secondary education.

The report delves into several aspects of high school graduates' pathways, including their timing of entry into post-secondary education, categorized as either immediate entry (*within 6 months of graduation, with graduates termed "continuers"*) or delayed entry (*between 6 months and 2 years, with graduates termed "gappers"*), interprovincial retention rates, province of employment and income levels.

Whenever feasible, the findings are disaggregated by gender, educational attainment (high school diploma, college diploma, university degree), family composition, household income and geographic location (Home [*i.e.*, province of high school graduation], within Atlantic Canada and Rest of Canada [*i.e.*, outside Atlantic Canada]).

Literature Review and Comparison of Findings

High school and post-secondary graduates' mobility, further education decisions and labour market outcomes have been the subject of extensive research in Canada and elsewhere. Research in Canada has primarily focused on three types of data, including Statistics Canada data, primary survey data and provincial administrative data.

Transition to Post-Secondary Education

Similar to the current study's investigation of the transition of NB, NL and NS high school graduates to PSE across Canada between 2015-2020, a previous study (Gorman-Asal et al., 2022) conducted by the New Brunswick Institute for Research, Data and Training (NB-IRDT)

⁹ The Atlantic province of Prince Edward Island is not included in this study due to a lack of data availability.

examined the transition of NB high school graduates aged 19 to 23 to PSE institutions within NB between 2014 and 2019.

Gorman-Asal et al. (2022) utilized K-12 enrollment and graduation data from the NB Department of Education and Early Childhood Development (EECD), along with data from 7 NB public post-secondary institutions,¹⁰ which were linked to the Citizen Database (NB Medicare Registry). Table 28 presents comparative results from both studies. Though employing different methodologies applied to different data sets, the Table illustrates similar findings for NB high school graduates transitioning to NB institutions, which serve as a validity check for the findings of the current study.

Table 28: Transition to PSE: Results from Gorman-Asal et al. (2022) and Current Study

	Gorman-Asal et al. (2022)	Current Study	
Outcome	Across NB (2014 - 2019)	Across Canada (2015 - 2020)	Across NB (2015 - 2020)
Transition to University	33% of NB high school graduates transition to NB universities.	40% of NB high school graduates transition to universities across Canada.	31% of NB high school graduates transition to NB universities.
Gappers vs Continuers – University	92% of NB graduates who transition to NB universities do so within 6 months of graduation.	94% of NB graduates who transition to universities do so within 6 months of graduation.	N/A
Transition to College	20% of NB high school graduates transition to NB colleges.	21% of NB high school graduates transition to colleges across Canada.	21% of NB high school graduates transition to NB colleges.
Gappers vs Continuers – College	28% of NB graduates who transition to NB colleges are gappers (delayed NB PSE entry between 6 months - 2 years).	29% of NB graduates who transition to colleges are gappers.	N/A

The study by Gorman-Asal et al. (2022) also highlighted the significant impact of family characteristics on student transitions to PSE (study period of 2014-2019). They found that graduates who are part of a single parent family type are less likely to pursue university education (in NB) compared to those with a non-single parent family type (34% vs 23%).

¹⁰ The 7 NB PSE institutions examined by Gorman-Asal et al. (2022) include Collège Communautaire du Nouveau-Brunswick (CCNB), Mount Allison University (MTA), New Brunswick Community College (NBCC), the New Brunswick College of Craft and Design (NBCCD), Saint Thomas University (STU), Université de Moncton (UdeM) and the University of New Brunswick (UNB).

Additionally, graduates from neighbourhoods with the highest income quintiles have a 17 percentage point higher transition rate to NB universities than those from the lowest quintiles.

Our current study of NB graduates' transitions to PSE shows that both household composition and income have a notable impact on rates of transition to university, but not transition to college. For instance, we find that the proportion of NB high school graduates from low-income households who transition to university is 15 percentage points lower than those whose families are above the low-income threshold; however, there is only a 2 percentage point difference in transition rates to college.

Likewise, we find that 44% of NB high school graduates from families with two parents transition to university, compared to 32% of graduates from lone-parent families (a difference of 12 pp). However, the proportion who transition to college is nearly identical between both groups (24% of graduates from couple families vs. 25% from lone-parent families).¹¹

The similarity of our findings to those of Gorman-Asal et al. (2022) not only serves as a validity check of the current study but also emphasizes the greater extent to which social determinants such as household composition and income may act as barriers to university entry compared to college.

Another study (StatCan, 2024) on education indicators in Canada utilized the Pan-Canadian Education Indicators Program (PCEIP), an ongoing initiative of the Canadian Education Statistics Council that provides regular statistical snapshots of Canada's education systems, including elementary, secondary and post-secondary education.¹²

The PCEIP study found that in 2016, among 19-23-year-old in the Atlantic provinces, the PSE participation rate was 68% for New Brunswick, 71% for Newfoundland and Labrador and 67% for Nova Scotia. These rates are similar to the PSE transition rates in our current study (university and college, combined). The study (StatCan, 2024) also found that having at least one parent with post-secondary education and belonging to the highest household income bracket in Canada increases PSE participation among NB youth by nearly 20 percentage points. Moreover, the PSE participation rate among NB youth with lone parents is 11 percentage points lower compared to those with two parents (married couple category).

Although our study does not take into account the education levels of graduates' parents, our findings regarding transition rates according to household composition and family income are similar to those of the both the PCEIP study (StatCan, 2024) and Gorman-Asal et al. (2022).

¹¹ It should be noted that there are limitations to both studies, as Gorman-Asal et al. (2022) exclude from their findings those individuals who live by themselves (no parent in household). Similarly, the current study includes a separate category for "persons not in census families;" these individuals are not referenced in our above discussion of findings for couple families and lone-parent families.

¹² Data sources used by the PCEIP include the Postsecondary Student Information System (PSIS), Labour Force Survey (LFS) and National Household Survey (NHS) by Statistics Canada.

Retention Rates

NB-IRD studies on graduate retention (Balzer et al., 2023; Bhuiyan et al., 2020; Boco & McDonald, 2021) have indicated that individuals with NB as their home province are more likely to stay in NB after completing their post-secondary education compared to those from outside the province. College students tend to exhibit higher retention rates than university graduates.

These earlier findings match those of the current study, which reveals that over 80% of post-secondary graduates (both university and college graduates) remain in their home province (i.e., the province where they graduated from high school) 1 year after graduation.

College graduates exhibit retention rates close to 90% across all examined provinces within the first year after graduation. After 3 years, retention rates for both university and college graduates hover around 80%.

A comparison of findings is presented in Table 29 below – between the current study and the most recent NB-IRD study on this topic.

Balzer et al. (2023) utilized linked university data from the Maritime Provinces Higher Education Commission (MPHEC), college data provided directly from PSE institutions and Citizen Data (NB Medicare Registry data). Despite employing different methodologies and data (i.e., Citizen Data), compared to the current study (which uses T1FF data), the 2023 NB-IRD study came to a similar finding as ours: that New Brunswickers who study in-province are more inclined to remain in the province after graduation.

Table 29: PSE Graduate Interprovincial Retention Rate Results from 2023 NB-IRD Study and Current Study

	Balzer et al., 2023 (2010 - 2020)		Current Study (2015 - 2019)					
Retention Rates	New Brunswick		New Brunswick		Newfoundland & Labrador		Nova Scotia	
	University	College	University**	College	University**	College	University**	College
1-Year	88%	94%	87%	93%	81%	86%	*86%	90%
3-Year*	76%	89%	82%	89%	80%	81%	84%	87%

*For 3-Year retention rates, Balzer et al. (2023) cover the 2010-2018 cohorts, and the current study covers the 2015-2017 cohorts.

**The university category covers the 2017-2019 cohorts for 1-Year retention rates, and only 2017 for 3-Year retention rates.

The higher retention rates among college students in each study could be attributed to the fact that many college students were previously residents of NB. Higher retention rates are anticipated among graduates already residing in their home province owing to established family and social ties. Moreover, university graduates are often more mobile in their job search, seeking positions that align with their skill level and wage expectations.

It should be noted that in the current study, we show only the retention of PSE graduates who studied in their home province (for example, individuals who graduated from high school in NB and then from a post-secondary institution in NB). The high retention rates suggest that the majority of graduates end up staying in their home provinces.

Income

This study's income estimations reveal that New Brunswick (NB) university graduates earn approximately \$37,000 1 year after graduation, which increases to \$50,000 after 3 years, in inflation-adjusted terms (2021 Constant \$).

Similarly, Newfoundland and Labrador (NL) university graduates report median incomes of \$39,000 and \$45,000 1 year and 3 years post-graduation, respectively.

Nova Scotia (NS) university graduates have median incomes of around \$35,000 1 year after graduation, rising to approximately \$47,000 after 3 years.

The MPHEC Graduate Outcome Survey (2023) similarly estimated the median incomes of bachelor's graduates from Maritime universities who did not possess any prior post-secondary credentials before enrolling in their bachelor's degree. It is worth noting, though, that the MPHEC study (2023) was not restricted to Maritime residents, potentially including outcomes from international and out-of-province residents.

A comparison between university graduates in Table 30 indicates that the median incomes reported by MPHEC (2023) and the current study are similar, though the graduating cohorts differ.

Table 30: University Graduate (First-Degree Holder) Median Income from MPHEC (2023) and Current Study

MPHEC Graduate Outcomes Survey, 2023 (2012-2020)			Current Study (2015 – 2019)					
Graduation Year	Graduates from NB*	Graduates from NS*	Graduation Year	NB Graduates		NS Graduates		
	2-Year	2-Year		1-Year	3-Year	1-Year	3-Year	
2012	\$45,226	\$48,878						
2014	\$48,503	\$45,882	2017	\$38,327	\$49,618	\$32,572	\$47,013	
2018	\$48,878	\$46,537	2018	\$39,291		\$37,061		
2020	\$46,818	\$46,818	2019	\$34,475		\$36,038		

*Province of Graduation, employed anywhere in Canada
Note: 2021 Constant \$

The 1-year median income of university graduates reported in the current study is lower than that of the MPHEC survey. However, the 3-year median incomes reported by NB and NS

graduates are higher than the 2-year income from the MPHEC survey (2023), which illustrates broad consistency between the results from different data sources.

The Statistics Canada data sets utilized in the current study – the Postsecondary Student Information System (PSIS) and T1 Family File (T1FF) – have been extensively examined in various other educational analyses conducted by government bodies, organizations and researchers to determine labour market outcomes across Canada.

A study by Frenette (2022) focused on "gappers" – individuals who delay their entry into post-secondary education following high school graduation.¹³ Their research utilized the T1 Family File, among other data sets, to analyze the impact of taking a gap year before pursuing post-secondary education in Canada. The study found that, on average, men who enrolled in post-secondary education within 3 months after high school graduation earned approximately 11.6% more than those who took a gap year. Similarly, women who pursued post-secondary education shortly after high school graduation earned approximately 12.5% more than their counterparts who took a gap year. However, for men who took a gap year before enrolling in a non-degree post-secondary education program, there was a 14.6% increase in earnings compared to those who did not take a gap year, whereas no significant correlation was observed for women.

Although a consideration of differences in median income between gappers and continuers is beyond the scope of this work, future research in this area could further the current study's findings to estimate the impact of time of entry to PSE on future earnings within the Atlantic region.

¹³ This study uses the same terminology as Frenette (2022) and defines "gappers" as high school graduates who delay entry to post-secondary education until between 6 months and 2 years following their high school graduation.

Conclusion

This examination of the post-secondary education decisions, mobility and retention and labour market outcomes of graduates in New Brunswick, Newfoundland and Labrador and Nova Scotia finds similar trends overall across all three provinces, with relatively small variations in outcomes.

For instance, about two-thirds of high school graduates across NB, NL and NS pursue post-secondary education somewhere in Canada, with similar proportions pursuing university (~40%) or college (~24%). Likewise, the timeframe in which graduates enroll in PSE is fairly consistent – with 90% across all provinces attending university and about 70% attending college within 6 months of high school graduation,

We do see some provincial variation in graduates' choice of PSE location, however. While a majority of high school graduates attend universities in their home province, this proportion varies. For example, over 90% of NL graduates enroll in universities in NL, while a notably smaller proportion (74%) of NB graduates choose to attend universities in NB. Likewise, there is a difference in the provinces' 1-year retention rates: While college graduates have the highest 1-year retention in NB and NS, leavers (high school graduates not pursuing PSE) have the highest 1-year retention in NL. Of the three provinces, 1-year retention is slightly lower in NL.

Despite these variations, employment outcomes across the region seem consistent, with the majority of leavers and college graduates employed in their home provinces 1 year after graduation. The smaller proportion (~80%) of university graduates working in their home provinces suggests that university graduates may be more mobile in their employment pursuits.

Ultimately, findings suggest that in the Atlantic provinces of New Brunswick, Newfoundland and Labrador and Nova Scotia, graduates exhibit ties to their home provinces. Those who pursue higher education often choose to do so within their home province – and those who study in their home province tend to stay and work in their home province after they graduate. While there are some differences in outcomes (such as between college and university graduates), we still find that the majority of high school, college and university graduates contribute to their local economies through attending local PSE institutions and/or working as a member of the local labour force shortly after graduation.

Given the richness of the linked data used in this work, even more detailed analyses of trends and patterns in graduates' education and labour market outcomes are possible. Future research in this area could examine education and labour market outcomes based on the characteristics of high school and post-secondary students – taking into account factors such as their grades, subjects studied and experiential learning opportunities. Expanding this work to include these and other details would allow for a more comprehensive understanding of graduates' educational and employment decisions, which in turn might inform targeted efforts supporting student transitions to higher education and employment within their home provinces.

References

- Balzer, A., McDonald, T., Miah, P., & Mokhtar, R. (2023). Graduate retention in New Brunswick: 2019 and 2020 cohort update. Fredericton, NB: New Brunswick Institute for Research, Data and Training. <https://www.unb.ca/nbirdt/research/publications/graduate-retention-in-new-brunswick-2019-and-2020-cohort-update.html>
- Bhuiyan, E.M., Daigle, B., McDonald, T., & Miah, P (2020). College & university graduate retention in New Brunswick: 2010 - 2018. Fredericton, NB: New Brunswick Institute for Research, Data and Training. <https://www.unb.ca/nbirdt/research/publications/college-and-university-graduate-retention-in-new-brunswick-2010--2018.html>
- Boco E., Leonard, P., & McDonald T. (2021). Retention, attraction, and labour market outcomes of post-secondary graduates in New Brunswick. Fredericton, NB: New Brunswick Institute for Research, Data and Training. <https://www.unb.ca/nbirdt/research/publications/retention-attraction-and-labour-market-outcomes-of-post-secondary-graduates-in-new-brunswick.html>
- Eisen, B. & Palacious, M. (2023). Comparing median employment in the Atlantic region to the rest of Canada. Fraser Institute. <https://www.fraserinstitute.org/studies/comparing-median-employment-income-in-the-atlantic-region-to-the-rest-of-canada>
- Gorman-Asal, M., McDonald, T., Miah, P., & Mokhtar, R. (2022). Student transition to post-secondary education in New Brunswick: 2014-2019 high school graduates. Fredericton, NB: New Brunswick Institute for Research, Data and Training. <https://www.unb.ca/nbirdt/research/publications/student-transition-to-post-secondary-education-in-new-brunswick.html>
- Frenette, M. (2022). Is taking a gap year between high school and postsecondary education beneficial or detrimental in the long term? *Economic and social reports*, 2(5). Statistics Canada. <https://doi.org/10.25318/3628001202200500004-eng>
- MPHEC Graduate Outcomes Survey. (2023). Employment profile of Maritime university first-degree holders. Fredericton, NB: Maritime Provinces Higher Education Commission. https://www.mphec.ca/media/222087/Class-of-2020_Employment-Profile_Report.pdf
- New Brunswick Institute for Research, Data and Training (2021). Atlantic Student Tracking System (ASTS) Codebook for Years 2012/13 - 2019/20. Fredericton, NB: New Brunswick, Institute for Research, Data and Training.
- Statistics Canada. (2019, April 3). *Census in Brief: Does education pay? A comparison of earnings by level of education in Canada and its provinces and territories*. <https://www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016024/98-200-x2016024-eng.cfm>

Statistics Canada (2022, November 7). Variant of the Classification of Instructional Programs (CIP) Canada 2021 Version 1.0 for Primary groupings.
<https://www23..gc.ca/imdb/p3VD.pl?Function=getVD&TVD=1486532>

Statistics Canada (2023a, July 12). T1 Family File, Final Estimates, 2021: Section 1 - The data.
<https://www150.statcan.gc.ca/n1/pub/72-212-x/2023001/sect1-eng.htm>

Statistics Canada. (2023b, October 12). Number of graduates from secondary schools, by school type and program type (Table 37-10-0111-01).
<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710011101>

Statistics Canada. (2024, March 26). Education indicators in Canada: Report of the Pan-Canadian Education Indicators Program (Table 81-582-X).
<https://www150.statcan.gc.ca/n1/en/catalogue/81-582-X>