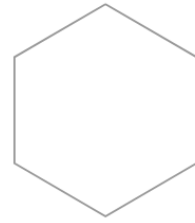


Labour Market Participation of Post-Secondary Graduates by Field and Level of Study

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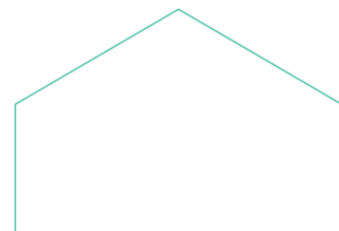


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Executive Summary

Upon completing post-secondary education (PSE), most graduates transition directly into the labour market – marking an important outcome at the individual level and for the government. For graduates, PSE is expected to improve employment prospects and earnings potential. For governments, post-secondary graduates constitute a critical segment of the labour supply and are some of the strongest contributors to the tax base, supporting essential public programs and services. For New Brunswick (NB), PSE plays a vital role in supporting the province's workforce and strengthening the regional economy by addressing long-term demographic challenges and existing and emerging labour market gaps.

NB's labour supply is strengthened when its post-secondary graduates participate effectively in occupations that make use of their education – both their field of study *and* their level of education. Understanding how these factors relate to graduates' employment and income provides important insights into how higher education can contribute to the supply of skilled labour in NB – and where potential gaps may exist.

This report analyzes the employment outcomes of individuals who obtained their highest post-secondary credentials from colleges and universities in NB¹ between 2005 and 2016. Using linked administrative data from the Postsecondary Student Information System (PSIS) and the 2016 Canadian Census, it explores how field of study and education level influence occupational outcomes and employment income for post-secondary graduates, with comparisons to high school graduates. Although the study does not directly measure job-education matches, it identifies the types of occupations NB graduates enter and how education characteristics – such as field of study and education level – influence those occupational outcomes. It also assesses whether higher education is associated with an earnings premium, and how this varies across fields of study. Together, these findings contribute to a clearer understanding of how PSE supports labour market participation in NB.


Summary of Findings²

Distribution of post-secondary graduates across fields of study

There are clear sex-based patterns in the fields of study chosen by post-secondary graduates in NB. Overall, sex differences in field of study are consistent across levels of education, but they tend to be more pronounced among college graduates, as shown in the examples below.

¹ The study considers post-secondary graduates from NB's public institutions in the Postsecondary Student Information System data set: the University of New Brunswick (UNB), St. Thomas University (STU), Mount Allison University (MTA), Université de Moncton (UMoncton), Collège communautaire du Nouveau-Brunswick (CCNB), New Brunswick Community College (NBCC), the New Brunswick College of Craft and Design (NBCCD), and the Maritime College of Forest Technology.

² Note that the outcomes discussed in this report were captured at a point in time – specifically, 2016.



In Architecture, Engineering, and Related Technologies:

- There is a quantitatively significant difference between the share of male and female graduates in this field, especially at the college level. Among college graduates, 68% of males studied in this field, compared to only 5% of females. At the bachelor's level, around 16% of males and 1% of females studied in the field.

In Health and Related Fields:

- Females are substantially more represented than males in this field of study, which is the most common field for female graduates at both the college and bachelor's levels. About 36% of female college graduates completed their studies in Health and Related Fields, compared with 3% of males. At the bachelor's level, approximately 30% of females and 9% of males studied in this area.

In Business, Management and Public Administration:

- This field is well represented among all post-secondary graduates, though to varying degrees. It is the second most common field of study among both male (10%) and female (35%) college graduates. Among bachelor's graduates, it ranks first for men (25%) and third for women (16%), placing it within the top three fields of study for all groups.

Occupational outcomes by education level and sex – Descriptive statistics

Among high school graduates³:

- Around 51% of female and 30% of male high school graduates were employed in Sales and Services – making this the most common occupation for both groups. These shares were higher than those observed among college and bachelor's graduates.
- Clear sex differences emerged at this level of education: 26% of males worked in Trades, Transport, and Equipment Operator jobs, compared to 3% of females.

Among college graduates:

- A notable proportion of college graduates also worked in Sales and Services, accounting for the second largest share of both males (22%) and females (17%).
- At the college level, the largest share of females (27%) worked in Health, while the largest share of males (41%) worked in Trades, Transport and Equipment Operator jobs.

³ In this study, high school graduates are defined as individuals aged 22-40 residing in NB who reported high school as their highest level of educational attainment at the 2016 snapshot.

- Sex differences were also pronounced in these fields: only 3% of males with a college diploma worked in Health occupations, and just 2% of females with a college diploma worked in Trades, Transport and Equipment Operator roles.

Among bachelor's graduates:

- Sales and service occupations were less prominent at this level: they did not rank among the top three fields, as larger shares of males and females worked in other occupations.
- Sex differences were also less pronounced for this group. They were most notable in the Health sector, where 28% of females were employed, compared to 7% of males.
- The largest share of male (20%) and female (30%) bachelor's graduates worked in Education, Law, and Social, Community and Government Services occupations.

Occupational outcomes by field and level of education – Multinomial logistic regression

At the high school level:

- Females had the highest predicted probability (51%) of working in Sales and Services – higher than females at the college and bachelor's levels.
- Males had the highest predicted probability (44%) of working in Trades, Manufacturing, Natural Resources and Related occupations – though, not as high as males who studied STEM⁴ at the college level – followed by Sales and Services.

In the STEM field of study:

- Male STEM graduates are very likely to be employed in occupations commonly associated with their fields of study. At the college level, they had a 63% predicted probability of working in Trades, Manufacturing, Natural Resources and Related occupations; at the bachelor's level, they had a 61% predicted probability of working in Natural and Applied Sciences.
- Female STEM graduates also tend to work in sectors related to their educational training – but without notable concentration in those occupations. Bachelor's graduates only had a 32% predicted likelihood of working in Natural and Applied Sciences occupations, while college graduates were just 8 percentage points more likely to work in Trades, Manufacturing, Natural Resources and Related occupations than in Sales and Services.

⁴ Science, Technology, Engineering and Mathematics (STEM) programs include Physical and Life Sciences and Technologies; Mathematics, Computer and Information Sciences; and Architecture, Engineering, and Related Trades.



In Health and Related Fields of study:

- Males and female post-secondary graduates who studied Health and Related Fields at the college or bachelor's level were most likely to work in Health occupations.
 - The predicted probability of females working in Health occupations was 66% for college graduates and 81% for bachelor's graduates. Meanwhile, for males, the predicted probability was 58% for college and 50% for bachelor's graduates.

Earning premiums by field of study and education level – Ordinary least squares regression

For males and females in most fields of study, having a bachelor's degree was associated with higher earnings than having only a high school diploma. In most cases, this earnings premium was larger than the premium observed for college graduates.


- At the college level, some fields of study were not associated with an earnings premium over high school graduates. At the bachelor's level, however, only males who studied Visual and Performing Arts, and Communications Technologies earned less than male high school graduates.

Fields of study with the highest earnings premiums:

- For males, the Architecture, Engineering, and Related Technologies field at the bachelor's level had the highest earnings premium.
 - While male college graduates in this field earned 12% more than male high school graduates, at the bachelor's level they earned 73% more.
 - A similar pattern was observed for females, with college graduates in the field earning about 12% more than female high school graduates, and bachelor's graduates earning 109% more.
- For females, Health and Related Fields had the highest premium among the fields that had a substantial share of graduates, also showing a substantial increase in income for graduates at the bachelor's level (121% more than female high school graduates) compared to the college level (33% more).

Key Takeaways

Overall, this study finds that PSE does shape labour market outcomes in NB, but its impact depends heavily on graduates' fields of study and the level of education they completed, with sex-based patterns further influencing graduates' educational and occupational pathways. For instance, as of 2016, women were more concentrated in health and education fields, while men



were more represented in STEM and technical programs – with these patterns shaping access to higher-earning occupations and contributing to occupational segregation.

In some cases, field of study has straightforward associations with occupational pathways. For example, male and female graduates of Health and Related Fields had the highest predicted probability of working in Health occupations. In other fields, however, we see more variation. Among STEM graduates, male college graduates were most likely to work in Trades, Manufacturing, Natural Resources and Related occupations, whereas bachelor's-level STEM graduates were more likely to work in Natural and Applied Sciences. Men showed even stronger concentrations in Natural and Applied Sciences than women with the same bachelor's-level STEM training, despite this being the most likely occupation for both groups.

These findings highlight important distinctions in education at different levels, even within the same field. College programs tend to emphasize practical, hands-on preparation that aligns graduates with technical and operational roles, while bachelor's programs typically provide more theoretical and analytical training suited to scientific, professional, or managerial occupations. These structural differences help explain why some fields show strong associations with specific occupations. They also help clarify why Sales and Service occupations attract a much larger share of high school graduates than post-secondary graduates. Individuals with specialized training tend to seek work where their field-specific skills are valued, while those with more general credentials may gravitate toward roles requiring broader skill sets.

Earnings outcomes reflect similar dynamics. Higher education is generally associated with higher earnings, but the size of these premiums varies widely across fields and is closely tied to the occupations graduates enter. Fields with strong pipelines into high paying scientific or professional roles tend to show the largest returns, while fields whose graduates work across a broader mix of occupations see more modest outcomes. These patterns also highlight meaningful differences between college and university pathways. On average, bachelor's graduates see a higher earnings premium than college graduates do, but their outcomes are dispersed because they enter a wide range of occupations – some highly remunerated, others less so. In practical terms, a university education can yield higher returns when graduates enter occupations that utilize specialized skills obtained from their field of study. This underscores the importance of supporting students in making informed program choices that align with their goals and the opportunities available in the labour market.

It is important to note that these outcomes represent a snapshot at a specific point in time – specifically, 2016. Since then, NB has experienced significant economic and demographic shifts, including pandemic-related disruptions, changing migration patterns, and evolving pressures tied to inflation, trade uncertainty, and sector-specific employment changes. These broader forces may have reshaped the pathways available to more recent graduates. Looking ahead, it will be important to revisit these patterns using 2021 and 2026 linked data to assess how labour market conditions – and study outcomes – have changed over time.

Introduction

As the province of New Brunswick (NB) continues to face major demographic challenges – including an aging population, youth outmigration, and declining fertility rates – it becomes increasingly important for the province to attract and retain skilled workers. One way to achieve this is by maximizing the contributions of graduates trained within the province, making the most of the graduates who study here. These post-secondary graduates are equipped with field-specific knowledge and are often familiar with regional industry needs, making them well positioned to help address labour shortages across key sectors in NB.

By employing linked data from the Postsecondary Student Information System (PSIS) and the 2016 Census, this report examines the labour market outcomes of individuals who graduated from public post-secondary institutions in NB between 2005 and 2016.

It explores how factors such as field of study and level of education relate to these outcomes, providing insight into the labour market participation of graduates who could contribute to the provincial labour force.

While formal education is generally associated with improved employment prospects and earnings, the relationship between a graduate's field of study, their level of education, and their eventual occupational placement is complex. Misalignments between education and employment (commonly referred to as education-job mismatches) can lead to suboptimal labour market outcomes, including reduced earnings, job dissatisfaction, underemployment, and outmigration of workers.


This report leverages linked data to examine the labour market experiences of NB's post-secondary graduates. It focuses on their selection into different occupations, how this changes by field of study, and how earnings are influenced by field and level of study. By comparing their labour market outcomes with those of high school graduates, the study provides a detailed picture of the returns to education, revealing areas where NB graduates experience positive labour market outcomes and where those outcomes are less favourable.

Literature Review

Studies on NB's changing population landscape highlight some of the long-standing demographic shifts and challenges that have made it particularly important for the Government of New Brunswick (GNB) to attract and retain young skilled workers to participate in the provincial labour market and help boost the economy.

Turning the tide: Demographic developments in New Brunswick, 1951-2020 (Bonsall, 2021)

In *Turning the tide*, Bonsall (2021) describes population and demographic changes that occurred in NB from 1951 to 2020. From 1951 to 1991, for instance, the province experienced a



compound annual population growth rate of 0.92%. However, this growth essentially flatlined from 1991 to 2007, resulting in minimal population increase. Of the whole study period, population growth in NB was at its lowest during the 2000-2010 decade, with an annual increase of just 0.03%.


An examination of population-change components over time shows a declining number of births and an increasing number of deaths, with deaths exceeding births in NB by 2015. Low interprovincial migration also contributed to the province's demographic challenges. From 1984 to 2017, net interprovincial migration remained close to zero and often dipped into the negative, with the number of people leaving the province often matching or exceeding those moving in. This pattern was especially pronounced among youth. Between 1991 and 2000, population growth from net natural increase (+2,706.9) and net international migration (+189.7) was partially offset by a net interprovincial migration loss of -946.7. This pattern was consistent throughout the 1981-2020 period, highlighting a long-term challenge to retain residents from other provinces.

The outmigration of residents, particularly youth, exacerbates the problem of an aging population by reducing the share of young, working-age individuals in the province while the proportion of seniors continues to grow. Between 1971 and 2020, the percentage of seniors in NB rose by 13.3 percentage points as the large 'baby boom' generation moved from the younger to the older half of the population distribution.

However, the population outlook in NB began to shift around 2017, when interprovincial migration in the province began to improve. Net interprovincial migration rose from an average annual loss of around -600 persons in the 1972-2007 period to an average gain of about 900 in the 2017-2020 period. This change in interprovincial migration was possibly driven by the comparatively lower cost of living in NB. This is especially likely as a majority of the observed in-migration was from Ontario, a province with a comparatively higher cost of living.

It is important to note that while our current study focuses on a period of low or negative net interprovincial migration due to data availability (i.e., 2005-2016), emerging trends since 2017 suggest there has been a reversal, and these migration patterns likely influence both labour supply and workforce composition.

As the population in NB began to change, so too did supply and demand for labour across sectors. Notably, between 2002 and 2022, the number of individuals retiring each year nearly doubled. The most current provincial forecast for job openings predicts that 74% of openings from 2023 to 2032 are expected to come from retirements, while only 26% are expected to come from the creation of new jobs (GNB, 2023a). This surge in retirements is expected to lead to thousands of job vacancies across various sectors, including businesses, hospitals, and schools in NB. To address this issue, the Department of Post-Secondary Education, Training and Labour (PETL) is committed to fostering a skilled workforce capable of supporting businesses in establishing, operating, and expanding within the province. Recently, the department aimed to increase the labour force to a minimum of 408 300 by December 2024 (GNB, 2023b). These projections emphasize the province's need for a skilled workforce participating in the labour market.



Promoting labour force participation requires an understanding of the labour market outcomes experienced by its potential workforce. On the one hand, positive labour market outcomes, such as high-paying jobs or increased employment opportunities, job satisfaction, or improved education-job relatedness, can encourage higher labour market participation rates and encourage the retention of skilled labour. On the other hand, negative outcomes, like low wages or poor working conditions, can discourage participation or even encourage out-migration in the search for better opportunities. Given this complexity, the literature on factors that shape post-secondary graduates' outcomes – such as field of study, geographic context, institutional quality, and broader labour market conditions – is broad, though relevant studies are summarily discussed below.


Retention, attraction, and labour market outcomes of post-secondary graduates in New Brunswick (Boco et al., 2021)

In 2021, researchers at DataNB carried out a study on graduates from public post-secondary institutions in NB public using the Education and Labour Market Longitudinal Platform (ELMLP) data set, which combines information on education and tax records (Boco et al., 2021). Their report showed that the majority of credentials awarded in the province were in the fields of Business, Management and Public Administration or in Architecture, Engineering, and Related Technologies. The report also indicated that in their first full year after graduation, NB graduates earned a taxable income of around \$36 000, which increased to \$40 000, by their second full year. Earnings outcomes varied by province of origin and residence, as graduates who had resided in Ontario prior to admission, and who returned to Ontario after graduation, had better earnings outcomes than their counterparts who remained in NB.

Results also varied by level of study. For instance, taxable income was shown to increase with level of education, with college graduates earning the least and graduate students (i.e., master's/PhD graduates) earning the most. Examining earnings by field of study showed that Education graduates had the highest taxable income of all the fields of study, while individuals with Arts, Humanities and Communications degrees earned the lowest. Overall, the report found that differences in taxable incomes were primarily driven by differences in level and field of study.

Labour market outcomes of 2015 postsecondary graduates three years after graduation (Reid et al., 2020)

The broader literature shows that labour market outcomes vary widely across occupations, fields of study, levels of study, and their interactions. Using data from the National Graduates Survey (NGS), Reid et al. (2020) examined the labour market outcomes of post-secondary graduates three years after graduation (specifically looking at the class of 2015). Their study focused on students who entered the labour market at the end of a long period of economic growth in which Canada saw high employment and low unemployment rates. The report was intended to serve as a baseline for comparing the outcomes of graduates in 2020 and subsequent years, anticipating they may face challenges brought about by the onset of COVID-19.



The study quantitatively showed that completing PSE led to high rates of employment, with 90% of 2015 graduates successfully securing employment within three years of completing their post-secondary programs. Among the employed cohort, a significant majority (91%) were engaged in full-time employment. Women were more likely than men to work part-time, but much of this difference was tied to the fields they studied: if women had worked in the same fields as men, the gap in the proportions of men and women working part-time would have decreased by 38%. Part-time employment was also found to be most prevalent for graduates from the Humanities field of study.

The authors also commented on the alignment between graduates' jobs and their fields of study using self-reported measures in the NGS. Approximately 81% of graduates reported that their employment was directly related to their respective fields of study. Notably, the proportion of graduates who reported job relatedness rose with increasing levels of educational attainment. A majority of the graduates felt adequately qualified for their roles, with 24% feeling overqualified and only 2% feeling underqualified. This proportion differed by field of study, with graduates of the Humanities especially reporting being overqualified in their roles.


Examining earnings outcomes showed that earnings increased by level of study and varied across fields of study. At the college, bachelor's, and doctoral levels, graduates in the fields of Mathematics, Computer and Information Sciences; Architecture, Engineering, and Related Technologies; and Health and Related Fields had the highest median employment income. Similar to results found in Lemieux (2014; discussed below), Reid et al. showed that a substantial proportion of graduates in fields of study with high median employment income reported working in jobs related to their field of study. Further examination of the median employment income of male and female graduates by level and field of study showed that differences in the earnings of men and women were not statistically significant in most fields.

Overall, Reid et al.'s study showed positive labour market outcomes for the 2015 cohort of graduates in 2018, with high employment rates. For those who were employed, it found high likelihood of full-time employment, high levels of education-job relatedness, a high proportion of graduates feeling just-qualified for their jobs, earnings rising with levels of education, and high levels of job satisfaction.

Occupations, fields of study and returns to education (Lemieux, 2014)

An earlier study by Lemieux (2014) combined data from the 2005 NGS and the 2006 Census and analyzed the relationship between occupation, field of study, and returns to education. Because the NGS provides information on self-reported measures of job relatedness, Lemieux was able to analyse education-occupation alignment and its influence on the earnings outcome of graduates. Ordinary Least Squares (OLS) modelling was used to estimate the relevant earnings regressions.

The study revealed that the proportion of graduates who reported having occupations related to their field of study varied by field of study, with a substantial proportion of those who studied Health and Education having occupations related to their studies. Conversely, only 50% of



graduates with a diploma in Humanities reported their job being closely or somewhat related to their education.

The study revealed a strong relationship between education-job relatedness and earnings. The average log earnings were calculated for each combination of occupation and field of study, relative to the mean earnings of all workers. The results showed that Engineering graduates working in science occupations (with high level of relatedness) earned 27% above the overall average earnings. This was higher than the earnings of all Engineering graduates across occupations, which was 19% above average earnings, and higher than the earnings of all workers in science occupations, regardless of their field of study (which was 22% above average earnings). Graduates who studied Engineering and individuals working in science-related occupations earned above average incomes compared to all workers – illustrating the earnings advantage of studying Engineering or working in the sciences. However, there was an even greater earnings premium when Engineering graduates worked in science occupations (i.e. when a person's occupation closely aligned with their field of study).


To further analyze the earnings premium associated with increased with job relatedness, Lemieux compared Canadian-born bachelor's degree holders aged 25 to 64 at the time of the Census to high school diploma holders aged 20 to 59, using information available in the Census data. After identifying the general wage gap between high school and university graduates, the report separated the effects of PSE on earnings into three broad channels:

- i. General skills acquired through a university program in a given field of study increase productivity and wages, regardless of occupation (i.e., the productivity effect).
- ii. Having a university education helps workers access jobs in higher-paying occupations.
- iii. Field-specific skills are more valuable when graduates work in jobs that match their program of study.

The results indicated that the productivity effect accounts for about half of the wage gap, while the other two match effects each account for about one-quarter of the gap. The study identified that while PSE can improve worker earnings, there are different channels through which that could occur, and there is significant heterogeneity in the returns to education depending on field of study and occupation.

Education-occupation alignment and earnings premiums among Canadian university graduates (Manuel, 2023)

Manuel (2023) utilized data from the 2006 and 2016 Canadian Census and the 2011 National Household Survey to examine a sample of bachelor's degree holders and to estimate the earnings premium associated with university graduates working in occupations that require knowledge related to their field of study. Unlike studies that employed self-reported measures of relatedness, this paper employed a unique alignment score measure, detailed in the report, to



quantify the degree of alignment between specific occupations and fields of study.⁵ An OLS regression model was estimated, with predictors including field of study, occupation, industry of employment, the derived alignment score, a dummy variable indicating perfect education-job alignment, and other demographic features, with the natural logarithm of weekly earnings as the dependent variable.

The research aimed to assess the extent to which the labour market values the expertise acquired by university graduates and whether their skills are most highly valued in occupations closely aligned with their fields of study. Results revealed that graduates employed in occupations perfectly aligned with their field of study earned approximately 40% more than individuals working in the same field, in similarly paid occupations, but with poor education-job alignment. In other words, university graduates employed in field-related occupations received an earnings premium compared to their counterparts working in unrelated, but otherwise comparable, occupations. This finding was further corroborated when analyzed by field of study, with the strongest alignment premiums observed among graduates of Engineering, Mathematics and Statistics, and Legal Studies programs. This premium is indicative of the value created by a strong match between field-specific knowledge and occupation-specific requirements, rather than simply a function of higher-paying occupations attracting better-matched graduates.

The report concluded that the labour market not only values university education but also specifically rewards graduates working in occupations requiring the specialized knowledge acquired through their fields of study.

Although Lemieux (2014) and Reid et al. (2020) used self-reported measures of relatedness and the exact extent as estimated by the reports might vary, each report came to the same, consistent suggestion:

Employment in certain occupations, such as science occupations, is associated with higher earnings, which increase even more when the occupation is related to the individual's field of study.

Numerous studies have shown the benefits of PSE, including higher earnings and more favourable occupational outcomes. However, there is a need to further explore how these findings apply specifically to NB – particularly to youth who completed their education within the province. This study explores these questions by leveraging linked longitudinal data to observe NB's post-secondary graduates and connect their highest educational attainment to occupational outcomes as captured in the 2016 Canadian Census.

⁵ The alignment score measures the dissimilarity between a field of study and the knowledge required for related occupations. Fields of study (Classification of Instructional Programs [CIP] codes; StatCan, 2017) were linked to US occupations (Standard Occupational Classification [SOC] codes; U. S. Bureau of Labor Statistics, 2018) via the National Center for Education Statistics (NCES) crosswalk, which matches programs to occupations requiring the corresponding skills (NCES, 2026). Canadian National Occupational Classification (NOC) codes (StatCan, 2021) were mapped to SOC codes to identify the set of occupations associated with each field of study. Finally, the O*NET database provided standardized knowledge scores for each occupation, which were used to calculate the alignment score (O*NET, 2015).

Data and Methodology

Data

This study uses a linked, individual-level data set accessible through the NB Research Data Centre (RDC) that connects both the 2016 Census data set with the PSIS data set, both available through Statistics Canada.

Postsecondary Student Information System (PSIS)

PSIS is a national survey that provides information on student enrolments and graduates of Canadian public post-secondary institutions, including information on the students themselves (i.e., demographics) and the programs and courses in which they enrolled. Using this data set, we were able to flag post-secondary graduates who obtained their highest post-secondary credential in NB. PSIS also provides information on the field of study corresponding to each graduate's highest completed education.

2016 Census Data

The Census data set used in this report refers to the Census of Population conducted by Statistics Canada every five years. It provides data on the occupational outcomes of post-secondary graduates according to the 2016 National Occupational Classification (NOC; Statistics Canada [StatCan], 2023), which indicates the broad occupational categories in which they are employed. The data set was also used to observe graduates' employment income, which allowed us to examine the earnings premiums associated with higher levels of education.

Because PSIS data were linked to the 2016 Census, our analysis of post-secondary graduates was restricted to individuals who graduated between 2005 and 2016. The first available year of PSIS data is 2005, and occupation outcomes for graduates after 2016 are not observed.

Methodology

Using PSIS data, we observed individuals who completed post-secondary programs at public institutions (i.e., colleges/universities) in NB between 2005 and 2016. Our analysis considered each individual's highest level of educational attainment and was restricted to those whose highest qualification was a college diploma or an undergraduate (i.e., bachelor's) degree. Individuals who pursued further education after obtaining these credentials were excluded.

The PSIS records for these post-secondary graduates were then linked to 2016 Census data, which allowed us to examine labour market outcomes, including occupations and earnings. To focus specifically on NB residents, our analysis was further restricted to individuals who reported residing in NB at the time of the 2016 Census. Graduates living outside the province in 2016 were excluded.

Occupational Classification and Groupings

The National Occupational Classification (NOC) system is a tool designed to classify occupations across Canada. This study relied on one of the two primary dimensions of the NOC: broad occupational category (skill type).

Broad occupational categories are defined by the first digit of the NOC code and include the following:

NOC Code	Broad Occupational Category
0	Legislative and Senior Management Occupations
1	Business, Finance and Administration Occupations
2	Natural and Applied Sciences and Related Occupations
3	Health Occupations
4	Occupations in Education, Law and Social, Community and Government Services
5	Occupations in Art, Culture, Recreation and Sport
6	Sales and Service Occupations
7	Trades, Transport and Equipment Operators and Related Occupations
8	Natural Resources, Agriculture and Related Production Occupations
9	Occupations in Manufacturing and Utilities

(StatCan, 2023)

The NOC structure allowed us to assess how education level and field of study correlate with the types of jobs individuals obtain. By grouping occupations consistently across education levels and sex, we were able to compare patterns of occupational distributions across education levels and fields of study.

Classification of Instructional Programs – Primary Grouping

This study used the Classification of Instructional Programs – Primary Grouping (CIP-PG) to categorize graduates by their field of study. The CIP system is maintained by Statistics Canada and provides a standardized framework to classify PSE programs.

The Primary Grouping level aggregates detailed fields into broader categories, including the following:

CIP-PG Code	CIP-PG Field of Study
01	Education
02	Visual and Performing Arts, and Communications Technologies
03	Humanities
04	Social and Behavioural Sciences and Law
05	Business, Management and Public Administration
06	Physical and Life Sciences and Technologies
07	Mathematics, Computer and Information Sciences
08	Architecture, Engineering, and Related Technologies
09	Agriculture, Natural Resources and Conservation
10	Health and Related Fields
11	Personal, Protective and Transportation Services
12	Other

(StatCan, 2017)

For this analysis, fields of study were grouped using the CIP-PG structure to maintain consistency across education levels and to ensure sufficient sample sizes. This also allowed for meaningful comparison across sex and credential types. Using CIP-PG groupings provides a structured way to assess how field of study relates to occupational outcomes while minimizing issues related to data sparsity and classification ambiguity.

In cases where cell sizes were too small for reliable analysis, fields were combined into broader categories discussed later in the report.

Regression Modelling

For our analysis, we used both multinomial logistic regression and linear multivariate regression. The multinomial logistic regression estimated the impact of field of study on occupational selection while adjusting for covariates, and the linear regression examined the effect of field of study on earnings. All models included a common set of covariates: age group, marital status, visible minority status, field of study, part-time/full-time work status, number of weeks worked in the prior year, and parental status. All covariates were treated as categorical variables.

The field of study variable was constructed to capture both the field of study and the level of education. This was done by estimating separate models for college diploma holders (also referred to throughout the report as college graduates) and bachelor's degree holders (also referred to as bachelor's graduates) and including high school graduates as the reference category for the field of study variable. High school graduates were defined as individuals aged 22 to 40 in 2016 who reported high school as their highest educational attainment. Because high school programs are not field-specific, these individuals were assigned a separate code in the field of study variable. This approach allowed occupational and earnings outcomes for each field of study to be compared to high school graduates, although differences between education levels were observable only within the context of field of study.

Multinomial Logistic Regression

To examine occupational outcomes by field of study, we conducted separate multinomial logistic regressions for the following subgroups:

- males with a college diploma
- males with a bachelor's degree
- females with a college diploma
- females with a bachelor's degree

In each model, the outcome variable was the individual's occupational category, with the base (reference) category being Sales and Service occupations, given its prevalence across all groups. This approach allowed us to explore how the likelihood of entering different broad occupational categories varies by field of study within each sex-education group, highlighting patterns of occupational selection.

Occupation categories were collapsed into six groups to allow for sufficient sample sizes for the multinomial regression:

Occupation categories (collapsed) for multinomial regression
Management Occupations and Business, Finance and Administration Occupations
Natural and Applied Sciences Occupations
Health Occupations
Occupations in Education, Law and Social, Community and Government Services and Occupations in Art, Culture, Recreation and Sport
Sales and Service Occupations (<i>reference category</i>)
Trades, Transport and Equipment Operators and Related Occupations; Natural Resources, Agriculture and Related Production Occupations; and Occupations in Manufacturing and Utilities

Similar to the regression above, education level was omitted from the model. This is because stratifying by educational attainment and sex, and specifying high school graduates as the baseline group for the field of study variable, inherently adjusts for education-level differences within each sex.

The field of study variable was also collapsed into six groups for a sufficient sample size:

Fields of study (collapsed) for multinomial regression
Education Field of Study
Visual and Performing Arts, and Communications Technologies; Humanities; and Social and Behavioural Sciences and Law Field of Study
Business, Management and Public Administration Field of Study
Physical and Life Sciences and Technologies; Mathematics, Computer and Information Sciences; and Architecture, Engineering, and Related Technologies Field of Study
Agriculture, Natural Resources and Conservation; Personal, Protective and Transportation Services; and Other Field of Study
Health and Related Fields – Field of Study

Average predicted probabilities and associated confidence intervals were computed for each occupational group and field of study to facilitate interpretation. The full regression equation is delineated in [Appendix B](#).

Ordinary Least Squares (OLS) Regression

This regression model was used to assess the impact of field of study on employment income relative to high school graduates, estimated separately for males and females. To control for variations across education level, separate regressions were estimated for individuals with college diplomas and bachelor's degrees. This approach produced four distinct models: one each for college-educated males, females with a college diploma, males with a bachelor's degree, and females with a bachelor's degree – similar to the multinomial regression analysis.

In each model, high school graduates of the same sex served as the reference group for the field of study variable. This specification allowed for the comparison of income outcomes by field of study while holding education level constant within each sex group. It also allowed for indirect comparisons across college diploma holders and bachelor's degree holders, since both groups shared a common reference category.

Education level was not included as a covariate, as stratifying the sample by educational attainment and using high school graduates as the baseline effectively accounted for differences in education level within each sex-specific model.

The models used the natural logarithm of employment income in 2016 as the dependent variable and were weighted using Census composite weights. The regression equation is specified in [Appendix B](#).



Limitations

A key limitation of this analysis is that the use of highly aggregated categories for fields of study and for occupations may mask variation within these groups. Occupations or programs within the same category may differ in important ways that are not captured in the current analysis.

Additionally, the report might be limited by the potential misclassification of outcomes for individuals who were still enrolled in post-secondary studies in 2016. These individuals may have been temporarily underemployed while studying, meaning their reported income and occupation in the 2016 Census may not reflect their long-term labour market outcomes. More recent graduates in 2016 (e.g., those who completed their studies in 2014, 2015, or 2016) may exhibit weaker outcomes – such as lower incomes or underemployment – simply because they had less time in the labour market compared to earlier cohorts.

Finally, it is important to note that these findings reflect a snapshot of graduate outcomes in 2016 – approximately ten years ago as of the time of writing. At the time of analysis, linked Census-PSIS data from 2021 were not yet available; and once accessible, they will capture labour market conditions during a period of significant transition (i.e., the COVID-19 pandemic). Over the past decade, NB's labour market has been shaped by a combination of major forces, including demographic change, shifting patterns of interprovincial and international migration, evolving sectoral hiring trends, and educational and labour market disruptions associated with the COVID-19 pandemic. The impact of many of these developments on our selected outcomes may not be fully observable until 2026 linked Census-PSIS data become available.

While this limits our ability to comment on the experiences of more recent graduate cohorts, the 2016 results remain valuable as a baseline for comparison and for the insights they offer into the structural features of the NB labour market.

Results

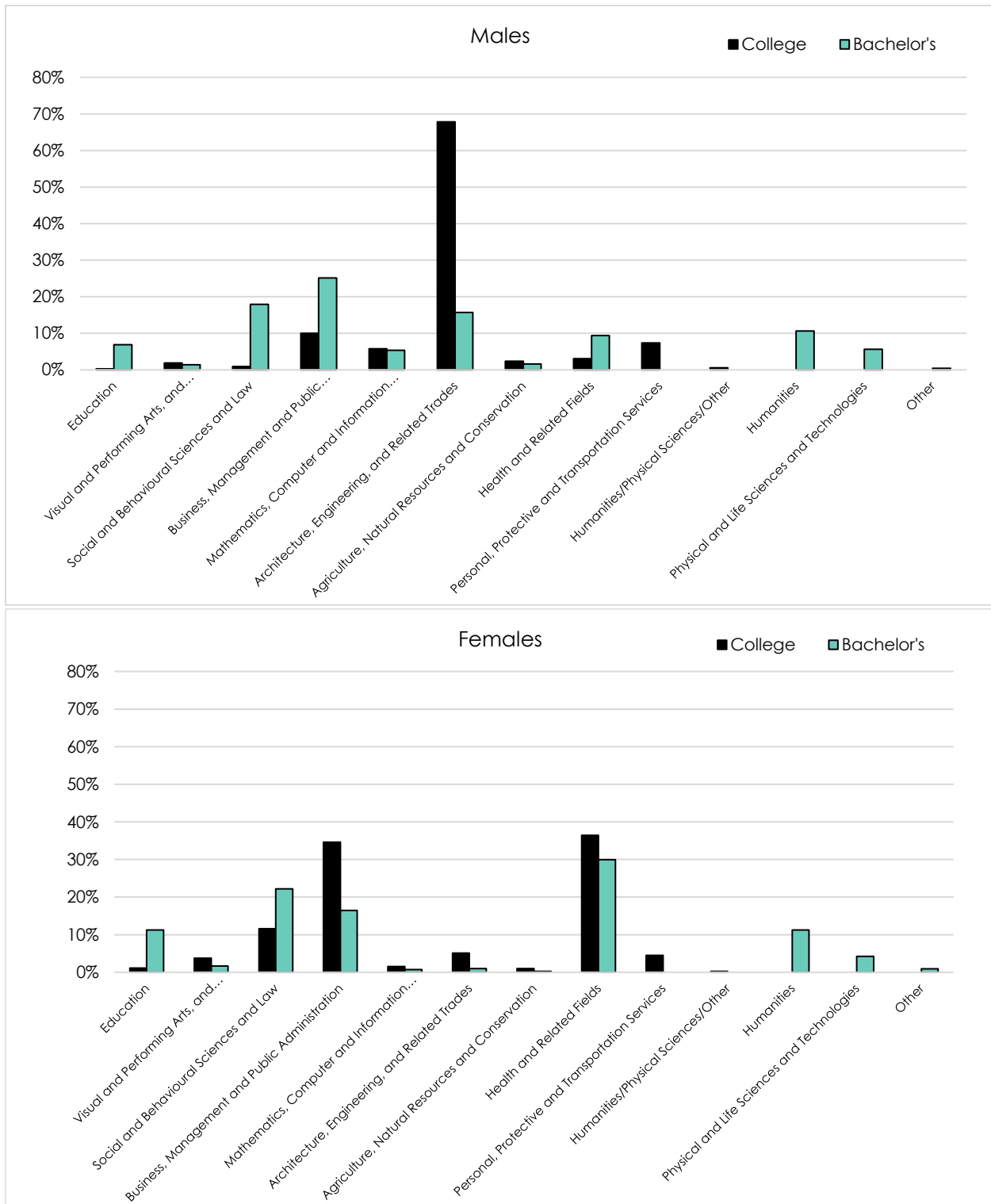
Field of Study Distribution by Education Level and Sex

Table 1: Number of post-secondary graduates by field of study, level of education, and sex

Field of study	College		Bachelor's	
	Females	Males	Females	Males
Education	85	20	1435	455
Visual and Performing Arts, and Communications Technologies	275	150	215	90
Social and Behavioural Sciences and Law	850	75	2825	1185
Business, Management and Public Administration	2540	800	2095	1660
Mathematics, Computer and Information Sciences	110	460	90	355
Architecture, Engineering, and Related Technologies	375	5440	130	1035
Agriculture, Natural Resources and Conservation	75	190	35	105
Health and Related Fields	2675	245	3805	620
Personal, Protective and Transportation Services	330	590	0	0
Humanities/Physical and Life Sciences/Other*	20	45	n/a	n/a
Humanities*	n/a	n/a	1430	700
Physical and Life Sciences and Technologies*	n/a	n/a	540	370
Other*	n/a	n/a	120	30
Total	7340	8020	12 720	6610

*Note: Due to low counts, those who completed a college program in Humanities, Physical and Life Sciences and Technologies, and Other fields were grouped into one category for college graduates, though they remain separate in bachelor's degree results.

Figure 1: Field of study distribution (proportion) of post-secondary graduates by level of education and sex



*Note: Due to low counts, those who completed a college program in Humanities, Physical and Life Sciences and Technologies, and Other fields were grouped into one category for college graduates, though they remain separate in bachelor's degree results.




Figure 1 above shows the distribution of fields of study within each sample group – that is, the proportion of male and female graduates with a college diploma or a bachelor's degree who completed their program in each field.

For both males and females with a college diploma, the fields of Humanities, Physical and Life Sciences and Technologies, and Other had counts lower than the minimum threshold of releasable counts set by Statistics Canada to protect respondent's privacy. These fields therefore were combined into one category for college graduates (titled "Humanities/Physical and Life Sciences/Other"). However, they remain separate categories when results are presented for bachelor's graduates. No bachelor's-educated individuals were recorded as having a degree in the Personal, Protective and Transportation Services field of study.

A substantial share of college-educated males specialized in Architecture, Engineering, and Related Technologies, with approximately 68% of them completing a program in this field. The strong concentration of males in this area implies that significantly lower proportions of males with college diplomas were distributed among other fields of study. In comparison, only 16% of bachelor's-educated males held a degree in Architecture, Engineering, and Related Technologies – making it the field with the third-largest share of bachelor's-educated males.

There was a comparatively lower concentration of females in Architecture, Engineering, and Related Technologies. Only 5% of females with college diplomas and 1% of females with bachelor's degrees completed a program in the field.

While Figure 1 shows that college graduates – particularly males – were more concentrated in Architecture, Engineering, and Related Technologies, Table 2 below illustrates how training within the same field can differ by level of education, often preparing students for distinct career pathways.

In Canada, colleges typically offer shorter and more practical hands-on programs that lead to diplomas or certificates, whereas universities tend to emphasize theoretical and research-based education, culminating in bachelor's, master's, or doctoral degrees (University Canada West, 2024).

To highlight these differences, Table 2 provides select examples of college and bachelor's programs in NB, along with the careers they typically prepare students for.

Table 2: Sample programs and career possibilities in select fields by education level

Field of study: Architecture, Engineering, and Related Technologies			
College*		Bachelor's*	
Sample programs	Career possibilities	Sample programs	Career possibilities
Applied Manufacturing Methods	<ul style="list-style-type: none"> • Design manager • Product engineer • Mechanical/manufacturing technologist 	Chemical Engineering	<ul style="list-style-type: none"> • Research and development engineer • Environmental engineer • Process safety and risk engineer
Civil Engineering Technician	<ul style="list-style-type: none"> • Architectural technician • Drafting technologist • Land surveyor 	Civil Engineering	<ul style="list-style-type: none"> • Hydrotechnical engineer • Civil/construction engineer • Mineral engineer
Electrical and Electronics Engineering Technician	<ul style="list-style-type: none"> • Electrical and electronics engineering technologist/technician 	Electrical Engineering	<ul style="list-style-type: none"> • Electrical engineer (designs semiconductor devices) • Electronics engineer (designs electrical devices)
Welding Engineering Technology	<ul style="list-style-type: none"> • Engineering assistant • Welding inspector/foreman • Laboratory technician • Robotic welding programmer 	Mechanical Engineering	<ul style="list-style-type: none"> • Mechanical engineer • Aerospace engineer • Automotive engineer • Biomedical engineer
Field of study: Business, Management and Public Administration			
College		Bachelor's	
Sample programs	Career possibilities	Sample programs	Career possibilities
Accounting and Payroll Administration	<ul style="list-style-type: none"> • Payroll administrator • Accounting clerk • Bookkeeper • Accounting technician 	Accounting	<ul style="list-style-type: none"> • Staff accountant • Financial estimator • Accounting analyst • Internal auditor
Administrative Professional: Health Services	<ul style="list-style-type: none"> • Medical administrative assistant • Patient coordinator • Medical records administrator 	Finance	<ul style="list-style-type: none"> • Financial assistant • Financial estimator • Associate accountant • Financial advisor

Business Administration: Accounting	<ul style="list-style-type: none"> • Account technician • Accountant • Auditor • Financial clerk/analyst 	Marketing	<ul style="list-style-type: none"> • Account coordinator/manager • Climate change coordinator • Print/online media coordinator • Copywriter
Digital Marketing	<ul style="list-style-type: none"> • Digital marketing specialist • Social media specialist • Content strategist • Search engine optimization specialist 	International Business	<ul style="list-style-type: none"> • Management analyst • International sales representative • Project manager • Advertising representative

** In extracting this table, it was assumed that programs within the School or Faculty of Engineering belonged to the Architecture, Engineering, and Related Technologies field of study, and that programs within the School or Faculty of Management or Business were classified under the Business, Management and Public Administration field. Details in the tables were extracted from the New Brunswick Community College (NBCC, 2026) and University of New Brunswick (UNB, n.d.) websites.*

There are clear distinctions in training within the same field depending on education level, which we can infer from Table 2. For example, college programs in Architecture, Engineering, and Related Technologies appear to be more technical, applied, and industry-focused, preparing students for hands-on careers in engineering-related or technology-driven fields. They emphasize practical skills alongside foundational technical knowledge. In contrast, university programs in Architecture, Engineering, and Related Technologies appear to represent core engineering disciplines that apply scientific and mathematical principles to design, analyze, and improve systems, processes, and technologies across industries, preparing students to tackle complex problems in applied science and high-level engineering sectors.

These differences in program orientation and field-of-study patterns may translate into different occupational outcomes, as explored later in the report.

Returning to our discussion of Figure 1, results also show that the largest proportion of both bachelor's- and college-educated females graduated from Health and Related Fields. This includes about 30% of females with a bachelor's degree and 36% of females with a college diploma. Although females were significantly represented in this field of study at both education levels, the concentration was slightly higher among college graduates in the province.

These findings align with those of Lemieux (2014), who found that health and engineering programs accounted for a larger share of diplomas at the college level (i.e., community college or collège d'enseignement général et professionnel [CEGEP] in Quebec) than at the university level. Although the Lemieux study did not disaggregate findings by sex, our results show a similar pattern in the Architecture, Engineering, and Related Technologies field regardless of sex – that is, higher proportions of college-educated individuals than bachelor's degree holders graduated from this field. The pattern varied slightly for males in Health and Related Fields,

where there was a higher share of bachelor's degree holders than college diploma holders, though it is important to note the lower representation of males in this field compared to females.

Some fields had significantly higher representation of bachelor's degree holders compared to college diploma holders. For example, 22% of female bachelor's graduates studied Social and Behavioural Sciences and Law, compared to 12% of female college graduates. A similar pattern appeared among males: 18% of bachelor's degree holders studied in this field, compared to only 1% with college diplomas. The Humanities field displayed the same trend: 11% of both male and female bachelor's graduates had studied in this field, whereas the number of college graduates in the field was so small that it had to be combined with other fields to meet the minimum threshold for data release. The Education field also showed a substantially higher share of bachelor's degree holders compared to college diploma holders for both sexes: 7% vs. 0.2% among males, and 11% vs. 1% among females.

A distinct pattern was observed in the Business, Management and Public Administration field. Among males, there was higher representation among bachelor's degree holders than college diploma holders (25% vs. 10%). However, among females, representation was higher among college graduates (35% vs. 16%).

For females at both education levels, the top three fields of study were Health and Related Fields, Social and Behavioural Sciences and Law, and Business, Management and Public Administration, although the order varied by level of education:

Females - college		Females – bachelor's	
1	Health and Related Fields	1	Health and Related Fields
2	Business, Management and Public Administration	2	Social and Behavioural Sciences and Law
3	Social and Behavioural Sciences and Law	3	Business, Management and Public Administration

Notably, there were larger proportions of females with a college diploma than those with a bachelor's degree in Health and Related Fields and in Business, Management and Public Administration. Meanwhile, there was a larger proportion of bachelor's-educated females in Social and Behavioural Sciences and Law.

The top three fields for male graduates were as follows:

Males – bachelor’s		Males – college	
1	Business, Management and Public Administration	1	Architecture, Engineering, and Related Technologies
2	Social and Behavioural Sciences and Law	2	Business, Management and Public Administration
3	Architecture, Engineering, and Related Technologies	3	Personal, Protective and Transportation Services

Overall, the Business, Management and Public Administration field of study was highly represented among post-secondary graduates in NB – across sex and education levels. Though, the extent of this representation varied considerably and ranged from 10% to 35%, depending on the category.

In general, concentrations by education level varied by sex.

Males were more concentrated in Architecture, Engineering, and Related Technologies, while females were more represented in Health and Related Fields.

A larger share of college graduates (compared to bachelor’s graduates) had studied Architecture, Engineering, and Related Technologies, while bachelor’s graduates were more concentrated than college graduates in Social and Behavioural Sciences and Law.

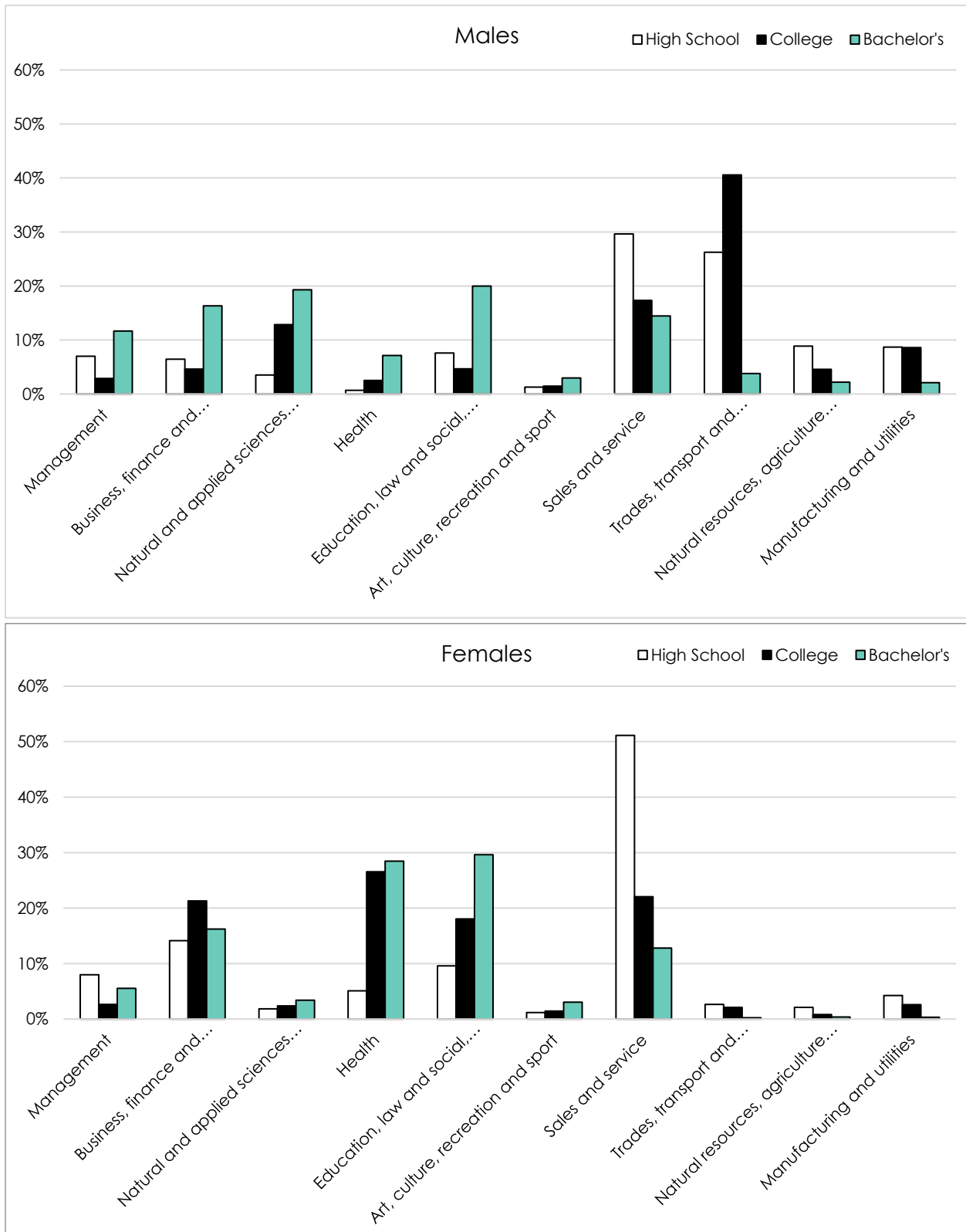
Occupational Distribution by Sex and Education Level


In this section of the report, we compare occupational outcomes, reflecting the distribution of individuals across various occupations by education level while accounting for sex differences.

Figure 2 below shows the proportion of each category of student (high school diploma holders, college diploma holders, and bachelor’s degree holders) working in each occupational category.

The top panel shows the proportion of males with varying levels of education working in each field, and the bottom panel shows the occupational distribution for females.

Figure 2: Occupational distribution (proportion) of post-secondary graduates by sex and level of education





The highest proportion of high school graduates – both male and female – worked in Sales and Service occupations, with a more substantial share of females (51%) than males (30%) employed in this field. This occupational category contained a higher concentration of high school graduates than individuals from other education levels, regardless of sex. Bachelor's-educated males and females were the least represented in the field. These results might be expected, as the general skills and knowledge that are typically acquired in high school may be easier to apply in Sales and Service occupations, which do not often require specialized skills.


Several other occupational categories also had a higher representation of high school graduates than individuals with post-secondary credentials, for both sexes. However, each of these occupations typically accounted for less than 10% of all samples. This was the case for Natural Resources, Agriculture and Related Production occupations, as well as for Manufacturing and Utilities occupations. In these categories, high school diploma holders were the most concentrated, and bachelor's degree holders were the least represented. This suggests that these occupational fields tend not to attract individuals with higher levels of PSE.

As noted by Manuel (2023), the knowledge and skills that university graduates in a given field of study possess are often valued by employers who require that expertise. Compared to high school graduates, individuals with a college or bachelor's education not only acquire general foundational skills but also receive specialized training aligned with their field of study. Such training may increase their motivation to seek employment within their respective fields, where their qualifications and skill sets are directly applicable and valued by employers. Consequently, fewer individuals with PSE tend to seek opportunities in fields that require more general training and less specialized expertise. These differences may help explain the lower proportion of post-secondary graduates employed in Sales and Service occupations, where field-specific PSE is typically not required and may not be as highly valued.

In some occupational categories, bachelor's degrees were the most prominent credential. For instance, the largest proportions of both males (20%) and females (30%) with a bachelor's degree worked in occupations in Education, Law and Social, Community and Government Services – demonstrating the attraction of highly-educated individuals to roles in this field. Notably, this result could be influenced by the requirement for a bachelor's degree for teaching occupations in the Education sector (GNB, 2024; Jobs in Education, 2025). It might also reflect the significant representation of bachelor's-educated individuals in the Social and Behavioural Sciences and Law field of study, which is typically linked to occupations in the field and therefore contributes to a larger supply of labour for these roles.

A gradient was observed for females working in Education, Law and Social, Community and Government Services. Representation rose by level of education, with bachelor's-educated females being the most prominent while high school-educated females were the least prominent. This pattern did not hold among males, however, as those with a bachelor's degree were still the most prominent, but those with college diplomas were the least represented.

Natural and Applied Sciences and Related occupations also had a significant share of bachelor's degree holders. The difference was particularly notable among males: of those with a bachelor's degree, 19% worked in this field, compared to only 4% of those with a high school



education. A similar pattern was observed among females, though the differences across education levels were much smaller due to their lower overall representation in the category. Specifically, 3% of females with a bachelor's degree worked in Natural and Applied Sciences, compared to 1.8% of female high school graduates. Overall, the concentration of individuals in this occupational category increased with higher levels of education for both males and females – bachelor's degree holders were the most prominent, while high school graduates were the least represented. Again, this pattern highlights the specialized nature of occupations in this field, which often require advanced expertise associated with higher education levels.

A similar pattern was observed in Health occupations, although females were more represented than males. Among bachelor's-educated females, 28% worked in Health occupations – the second-largest representation among bachelor's-educated females – compared to 5% of their counterparts with only a high school education. Among males, 7% of bachelor's degree holders worked in this category, compared to 1% of high school-educated males.


Figure 2 reveals considerable sex differences in occupational distribution across all education levels. Specifically, 41% of males with a college diploma worked in the Trades, Transport and Equipment Operators category, compared to only 2% of their female counterparts. Similar patterns were observed at the high school and bachelor's degree levels.

While males appeared substantially more likely than females to work in Trades, Transport and Equipment Operator roles, there were clear differences in concentration across education levels. Male college graduates were the most prominent in this field, with only 4% of male bachelor's degree holders represented in the category. Among females, high school graduates were the most concentrated, with fewer than 1% of female bachelor's degree holders working in this field.

These results likely reflect the strong representation of males with college diplomas in the Architecture, Engineering, and Related Technologies field of study who were trained for practical, hands-on roles, as shown in [Table 2](#) above.

Many of these roles share skill sets with Trades, Transport and Equipment Operators and Related occupations, particularly in areas that involve technical, applied, and operational work. The applied and technical nature of college-level training in this field – particularly when combined with hands-on or apprenticeship experience – likely provides skills that are directly transferable to and valued within these and related occupations.

Later in this study, a regression analysis is used to examine occupational distribution by field of study to assess the strength of the association between field of study and occupation among this group of graduates.



Males had higher representation than females in Trades, Transport and Equipment Operator occupations; in Manufacturing and Utilities occupations; in Natural Resources, Agriculture and Related Production occupations; and in Natural and Applied Sciences occupations – at each education level.

Meanwhile, females had higher representation than males in Education, Law and Social, Community and Government Services; in Health occupations; and in Business, Finance and Administration occupations – at each education level.

At the bachelor's level, 28% of females worked in Health occupations compared to 7% of their male counterparts, and results are similar at the high school and college levels of education. An identical sex-based pattern was observed for occupations in Education, Law and Social, Community and Government Services. Considered alongside the field of study results displayed in [Figure 1](#), this highlights a significant representation of females in Health, both as a field of study and as an occupation.

While females appear more likely than their male counterparts to work in Health occupations, the proportion of individuals (both males and females) working in the field rose with increased education. This might reflect the specialized educational requirements typically expected for Health and related occupations.

Different patterns were observed among those working in Business, Finance and Administration occupations. Among males, bachelor's degree holders were the most common (16%), followed by high school graduates (6%). In contrast, among females, college diploma holders were the most represented (21%), followed by bachelor's degree holders (16%).

These findings highlight higher female representation in Business, Finance and Administration occupations, with females equaling or outnumbering males across all observed education levels. The result is identical to findings for graduates who studied Business, Management and Public Administration, where a larger proportion of males held bachelor's degrees than college diplomas, while a larger females held college diplomas than bachelor's degrees. Regression results (discussed later in the report) reveal the extent of the relationship between this field of study and this occupational category.

Table 3 below summarily presents the top three fields of study and occupational categories, in order, for each sample group observed in the report.

Table 3: Top three fields of study and occupational categories for each sample group

	Top 3 Fields of study	Top 3 Occupations
College-educated males	<ol style="list-style-type: none"> 1. Architecture, Engineering, and Related Technologies 2. Business, Management and Public Administration 3. Personal, Protective and Transportation Services 	<ol style="list-style-type: none"> 1. Trades, Transport and Equipment Operators and Related occupations 2. Sales and Service occupations 3. Natural and Applied Sciences and Related occupations
College-educated females	<ol style="list-style-type: none"> 1. Health and Related Fields 2. Business, Management and Public Administration 3. Social and Behavioural Sciences and Law 	<ol style="list-style-type: none"> 1. Health occupations 2. Sales and Service occupations 3. Business, Finance and Administration occupations
Bachelor's-educated males	<ol style="list-style-type: none"> 1. Business, Management and Public Administration 2. Social and Behavioural Sciences and Law 3. Architecture, Engineering, and Related Technologies 	<ol style="list-style-type: none"> 1. Occupations in Education, Law and Social, Community and Government Services 2. Natural and Applied Sciences and Related occupations 3. Business, Finance and Administration occupations
Bachelor's-educated females	<ol style="list-style-type: none"> 1. Health and Related Fields 2. Social and Behavioural Sciences and Law 3. Business, Management and Public Administration 	<ol style="list-style-type: none"> 1. Occupations in Education, Law and Social, Community and Government Services 2. Health occupations 3. Business, Finance and Administration occupations
High school males	Not applicable	<ol style="list-style-type: none"> 1. Sales and Service occupations 2. Trades, Transport and Equipment Operators and Related occupations 3. Natural Resources, Agriculture and Conservation and Related Production occupations
High school females	Not applicable	<ol style="list-style-type: none"> 1. Sales and Service occupations 2. Business, Finance and Administration occupations 3. Occupations in Education, Law and Social, Community and Government Services



Multinomial Logistic Regression Analysis

The preceding section alluded to variations in occupational outcomes, which might be due to field of study. That is, some of the observed occupational patterns may be influenced by the specific fields of study pursued by graduates. To further examine these relationships, we conducted a multinomial regression analysis to assess the extent to which field of study predicts the occupational outcomes of post-secondary graduates.

The analysis was done by computing multinomial regressions for each sample group separately, where occupational categories were the probable outcomes, with Sales and service occupations being the reference category. Separate regressions were estimated for college-educated males, college-educated females, bachelor's-educated males, and bachelor's-educated females.

For the field of study variable, the models for college-educated and bachelor's-educated males included high school-educated males as the reference group, while the models for college- and bachelor's-educated females included high school-educated females as the reference group. This allowed us to examine whether individuals within a given field of study had higher odds of employment in specific occupations compared to those with only a high school education, while accounting for sex differences. Because the college-level and bachelor's-level models shared a common reference group, outcomes for college- and bachelor's-educated individuals could also be indirectly compared within each sex. Consequently, although separate models were estimated for college- and bachelor's-educated individuals, the predicted probabilities for the field of study variable are presented in a single table, as they share the same reference category.

Based on the multinomial logistic regressions, the predicted probabilities of individuals in each field of study working in each occupation were calculated, including the predicted probability for high school graduates. The predicted probabilities are presented below, with the full multinomial regression result included in the [Appendix](#).

By focusing on predicted probability, the absolute likelihood of an individual being in a certain occupation is captured – not a relative comparison to a base category. Due to the low counts of students in either niche fields of study or occupations, occupation categories and fields of study had to be combined to allow for a large enough sample size for a multinomial logistic regression. For brevity, categories in the displayed table and report were also renamed.

Occupational categories were grouped as follows:

Occupation categories (collapsed) for multinomial regression
<ul style="list-style-type: none"> Management occupations and Business, Finance and Administration occupations <i>For brevity, this category is also referred to as Mngt/Bus.</i>
<ul style="list-style-type: none"> Natural and Applied Sciences and Related occupations
<ul style="list-style-type: none"> Health occupations
<ul style="list-style-type: none"> Occupations in Education, Law and Social, Community and Government Services and Occupations in Art, Culture, Recreation and Sport <i>For brevity, this category is also referred to as Edu/Art.</i>
<ul style="list-style-type: none"> Sales and service occupations
<ul style="list-style-type: none"> Trades, Transport and Equipment Operators and Related occupations; Natural Resources, Agriculture and Related Production occupations; and Manufacturing and Utilities occupations <i>For brevity, this category is referred to as Trades, Manufacturing, Natural Resources and Related.</i>

Fields of study categories were also grouped as follows:

Fields of study (collapsed) for multinomial regression
<ul style="list-style-type: none"> Education field of study
<ul style="list-style-type: none"> Visual and Performing Arts, and Communications Technologies; Humanities; and Social and Behavioural Sciences and Law field of study <i>For brevity, this field is referred to as Arts/Humanities/Soc sci.</i>
<ul style="list-style-type: none"> Business, Management and Public Administration field of study <i>For brevity, this field is referred to as Business/Mngt/Admin.</i>
<ul style="list-style-type: none"> Physical and Life Sciences and Technologies; Mathematics, Computer and Information Sciences; and Architecture, Engineering, and Related Technologies field of study <i>These are collectively referred to as STEM⁶ field of study in this report.</i>
<ul style="list-style-type: none"> Agriculture, Natural Resources and Conservation; Personal, Protective and Transportation Services; and Other – field of study <i>For brevity, this field is referred to as Agric/PPT/Other.</i>
<ul style="list-style-type: none"> Health and Related Fields – field of study

⁶ STEM is also defined as Science, Technology, Engineering and Mathematics, which Physical and Life Sciences and Technologies; Mathematics, Computer and Information Sciences; and Architecture, Engineering, and Related Technologies fall under.

Table 4: Predicted probabilities and confidence intervals of occupational outcomes for females by field of study and level of education

	Occupational Outcomes					
	Mngt/Bus	Natural and Applied Sciences	Health	Edu/Art	Sales and Service	Trades, Manufacturing, Natural Resources and Related
High school diploma	0.22	0.02	0.05	0.11	0.51	0.09
	(0.21, 0.23)	(0.02, 0.02)	(0.05, 0.06)	(0.10, 0.11)	(0.50, 0.52)	(0.08, 0.09)
College-educated females						
Education	0.00	0.00	0.00	0.77	0.23	0.00
	(0.00, 0.00)	(0.00, 0.00)	(0.00, 0.00)	(0.68, 0.86)	(0.14, 0.32)	(0.00, 0.00)
Arts/Humanities/Soc sci	0.09	0.01	0.04	0.63	0.21	0.03
	(0.07, 0.11)	(0.00, 0.01)	(0.02, 0.05)	(0.60, 0.66)	(0.18, 0.23)	(0.02, 0.03)
Business/Mngt/Admin	0.48	0.01	0.03	0.14	0.30	0.04
	(0.46, 0.50)	(0.01, 0.01)	(0.03, 0.04)	(0.13, 0.16)	(0.28, 0.31)	(0.03, 0.05)
STEM	0.19	0.19	0.03	0.06	0.22	0.30
	(0.16, 0.23)	(0.15, 0.22)	(0.02, 0.05)	(0.04, 0.08)	(0.19, 0.26)	(0.26, 0.34)
Agric/PPT/Other	0.08	0.06	0.01	0.28	0.50	0.07
	(0.05, 0.11)	(0.03, 0.08)	(0.00, 0.02)	(0.24, 0.33)	(0.45, 0.55)	(0.05, 0.10)
Health	0.13	0.01	0.66	0.07	0.10	0.03
	(0.12, 0.15)	(0.00, 0.01)	(0.64, 0.68)	(0.06, 0.08)	(0.08, 0.11)	(0.02, 0.04)
Bachelor's-educated females						
Education	0.04	0.00	0.02	0.88	0.05	0.00
	(0.03, 0.05)	(0.00, 0.00)	(0.02, 0.03)	(0.86, 0.90)	(0.04, 0.07)	(0.00, 0.00)
Arts/Humanities/Soc sci	0.29	0.01	0.07	0.43	0.19	0.01
	(0.28, 0.31)	(0.01, 0.02)	(0.06, 0.07)	(0.42, 0.45)	(0.17, 0.20)	(0.01, 0.01)
Business/Mngt/Admin	0.51	0.03	0.01	0.27	0.16	0.01
	(0.49, 0.53)	(0.02, 0.04)	(0.01, 0.02)	(0.25, 0.29)	(0.15, 0.18)	(0.00, 0.01)
STEM	0.15	0.32	0.21	0.19	0.10	0.03
	(0.12, 0.18)	(0.29, 0.36)	(0.18, 0.24)	(0.16, 0.22)	(0.08, 0.12)	(0.02, 0.04)
Agric/PPT/Other	0.22	0.17	0.06	0.34	0.18	0.02

	Occupational Outcomes					
	Mngt/Bus	Natural and Applied Sciences	Health	Edu/Art	Sales and Service	Trades, Manufacturing, Natural Resources and Related
	(0.15, 0.28)	(0.11, 0.23)	(0.02, 0.10)	(0.27, 0.42)	(0.12, 0.24)	(0.00, 0.05)
Health	0.05	0.00	0.81	0.07	0.07	0.01
	(0.04, 0.06)	(0.00, 0.01)	(0.79, 0.82)	(0.06, 0.08)	(0.06, 0.07)	(0.00, 0.01)

Note: The full, unabbreviated occupation and field of study categories are provided in the text above.

Table 4 shows the predicted probabilities of females in each level of education working in each occupational category by their field and level of study, with 95% confidence intervals provided in parentheses. As explained above, different regression models were used to obtain these results. However, the predicted probabilities for high school-educated females remained consistent across models. This is because female high school graduates served as the reference category for both models, and their data did not change; therefore, their predicted probability of working in each occupation category remained identical.

Female high school graduates

The results show that female high school graduates have the highest predicted probability of working in Sales and Service occupations (51%), followed by Management or Business (Mngt/Bus) occupations (22%). Sales and Service roles are typically not expected to require field-specific expertise, making them suitable for high school graduates who may lack such specialized skills. Although this does not confirm that these roles have low formal education requirements, it aligns with common perceptions that they are more accessible to individuals with limited PSE.

Among females, those with a high school education are more likely than females at other education levels to work in Sales and Service occupations. This is followed by college graduates who studied Agriculture/PPT/Other, with a 50% predicted probability of working in these occupations.

Conversely, only about 2% of female high school graduates are predicted to work in Natural and Applied Sciences occupations. This reflects the importance of PSE and field-specific knowledge for employment in this occupation category.

As a reminder to the reader, certain fields were combined and shortened for brevity. The full list is available above.

Female graduates of Education

Females with a college diploma and those with a bachelor's degree in the Education field of study are most likely to work in Education/Art occupations, followed by Sales and Service occupations. The model estimated that 77% of college-educated females who studied Education work in Education/Art occupations, compared to 88% of those with a bachelor's degree who do the same. Relative to women with different fields of studies, those with a bachelor's degree in Education have the highest likelihood of working in Education/Art occupations.

Among the two groups, females with a college diploma have a higher predicted probability of working in Sales and service occupations than those with a bachelor's degree (23% vs. 5%). For both education levels, the probability of working in other occupational sectors is very low (less than 6%). This could indicate that employment opportunities in Education/Art occupations are readily available and attract the majority of skilled workers from the Education field. This may also suggest that the expertise gained in Education programs is highly field-specific and less transferable to other occupational areas – especially occupations requiring skills relevant to them. Education graduates are trained specifically for occupations in Education/Art and therefore are more likely to be channeled into them.


Female graduates of Arts/Humanities/Social Sciences

For females with a college diploma in the Arts/Humanities/Social Sciences field, about 63% are predicted to work in Education/Art occupations, followed by a 21% probability of working in Sales and Service roles. They have very low likelihood (less than 10%) of working in other occupational categories. Among females with a bachelor's degree in the same field, 43% are predicted to work in Education/Art occupations, 29% in Management/Business occupations, and 19% in Sales and Service occupations. These results suggest some association between studying Arts/Humanities/Social Sciences and employment in Education/Art occupations.

This distribution by field of study reflects a larger proportion of bachelor's degree holders in Humanities and Social Sciences, and a larger proportion of college graduates in Arts. These differences in field composition may help explain the observed variation in occupational outcomes. The higher share of college graduates in the Arts field may partly account for their higher likelihood of working in Education/Art occupations. Meanwhile, the higher concentration of bachelor's degree holders in the Humanities and Social Sciences fields may explain why they appear more likely to diversify into other areas such as Management/Business or Sales and Services. However, because fields of study were combined in the data, it is difficult to isolate the effects of individual fields and draw conclusions based on the observed outcomes.

Female graduates of Business, Management and Public Administration

Both females with a college diploma and those with a bachelor's degree in this field have the highest probability of working in Management/Business occupations, with minimal differences between the two groups. Specifically, females with a bachelor's degree in the field have a 51% probability of working in Management/Business occupations, compared to 48% among college



diploma holders. Overall, the model predicts that approximately half of women trained in Business, Finance, and Public Administration will work in Management/Business occupations, regardless of education level.

For females with a college diploma in Business, Management and Public Administration, the next most common occupational category is Sales and Service occupations, with a predicted probability of 30%. In contrast, for those with a bachelor's degree in the field, the second most likely category is Education/Art occupations (27%). This pattern suggests that bachelor's-educated women in this field are somewhat more likely to work in roles requiring higher qualifications or broader skill sets, while college-educated women are more concentrated in Sales and Service roles that might require fewer specialized skills. Females trained in Business, Management and Public Administration at the bachelor's level may have acquired other skills or knowledge transferrable to Education/Art occupations.


Female post-secondary graduates from the Business, Management and Public Administration field have the highest likelihood compared to high school graduates and post-secondary graduates in any other field of study to work in Management/Business occupations.

Female graduates of STEM

According to model estimates, college-educated females in the STEM field of study have the highest predicted probability (30%) of working in Trades, Manufacturing, Natural Resources and Related occupations, followed by a 22% chance of working in Sales and Service occupations, and then a 19% chance (each) of working in Management/Business occupations and Natural and Applied Sciences occupations. Overall, the distribution of female college graduates in this field of study across occupational categories is relatively even, with no strong concentration in a single category. Although Trades, Manufacturing, Natural Resources and Related occupations are the most common, the difference from the next category (Sales and Service occupations) is only 8 percentage points. Trades, Manufacturing, Natural Resources and Related occupations might be the most common due to the applied and technical nature of college-level STEM training, which emphasizes the hands-on training typically valued in those occupations.

This outcome also aligns with findings from Frank (2019), who reported that STEM graduates with college-level credentials were more likely than their bachelor's degree counterparts to leave STEM occupations. The study also found that professional occupations in business and finance were among the most common destinations for women exiting STEM occupations. Over time, females with a college diploma may transition into occupations in Business, Finance and Administration, increasing their representation in those sectors. Notably, females with a college diploma in STEM fields are equally likely to work in Management/Business or in Natural and Applied Sciences occupations.

In contrast, among bachelor's-educated females, only about 3% from this field are predicted to work in Trades, Manufacturing, Natural Resources and Related occupations. This suggests meaningful differences in the occupational outcomes of STEM graduates by education level. This is likely due to variations in the type of training provided in STEM programs across education levels. College programs tend to emphasize applied, hands-on skills that might align with



technical or trades-related occupations, whereas bachelor's programs are typically more theoretical and likely oriented toward professional or scientific roles. Consistent with this, bachelor's-educated females in this field have a 32% predicted probability of working in Natural and Applied Sciences occupations – higher than that of college-educated females.

Bachelor's-educated females with STEM training also have higher predicted probabilities of working in several other occupational categories – such as Health, Education/Art, and Management/Business – before Sales and Service occupations, where their predicted probability is among the lowest (around 10%). This pattern suggests that the technical and analytical skills acquired through STEM education help equip these graduates for a range of specialized occupations. Only a small share who are unable to secure such positions may turn to Sales and Service roles, which may rely more heavily on general, non-specialized skills.

Across females in all education levels and fields of study, college graduates from STEM programs have the highest likelihood of working in Trades, Manufacturing, Natural Resources and Related occupations, while bachelor's-educated graduates from STEM programs have the highest likelihood of working in Natural and Applied Sciences and Related occupations.

Females graduates of Health and Related Fields

Females with a college education in Health and Related Fields were highly concentrated in Health-related occupations, with a 66% predicted probability of working in this area. Smaller proportions are likely to be employed in Management/Business (13%) and Sales and Service occupations (10%). Among females with a bachelor's degree in the Health and Related Fields, 81% are predicted to work in Health occupations, with only small shares in Management/Business (5%), Education/Art (7%), and Sales and Service roles (7%). The results show that females who studied Health and Related Fields – at both the college and bachelor's levels – are more likely than graduates from other fields to work in Health occupations, with an even stronger concentration among those holding a bachelor's degree.


Female graduates of Agriculture/Personal, Protective and Transportation Services/Other

It is difficult to isolate the effects of specific fields of study in the Agric/PPT/Other category due to the combination of fields; however, at the bachelor's level, we do see some concentration (34%) in Education/Art occupations, followed by Management/Business occupations (22%) and Natural and Applied Sciences and Related occupations (17%).

Female graduates' occupation outcomes: Discussion

The results discussed above imply that graduates in different fields of study tend to cluster in specific occupations, suggesting an association between field of study and occupational outcomes. These patterns generally align with expectations about the occupations most closely related to each field.

While most individuals in each discipline are predicted to work in occupations often associated with their training, among college-educated women, Sales and Service occupations are



typically the most common destination after the occupations directly related to their area of study. In contrast, the occupational outcomes for bachelor's-educated women vary depending on the field of study. This pattern may indicate the following:

When occupations directly related to one's field of study are not available, bachelor's-educated women have broader employment options beyond positions with lower educational requirements – such as those commonly found in Sales and Service occupations – whereas college-educated women tend to have fewer alternatives.

Graduates of the STEM field are likely to have a relatively even distribution across occupations, suggesting that the skills developed in STEM programs are applicable to a wide range of roles and provide diverse employment opportunities. The low concentration of female STEM graduates in related occupations could be a reflection of the low representation of women in STEM programs. In contrast, females who studied Education or Health and Related Fields are highly concentrated in occupations directly associated with those areas.

Sales and Service occupations have the highest predicted probability of employment among high school graduates, consistent with broader expectations that individuals with minimal PSE may find these roles more accessible than other occupations. Across all subgroups of females, the likelihood of working in Trades, Manufacturing, Natural Resources and Related occupations is generally low, with the exception of college-educated females in STEM, who have a 30% predicted probability of employment in this category. For all other groups, including high school graduates, the predicted probability of working in Trades, Manufacturing, Natural Resources and Related occupations is below 8%.


Below, we consider the occupational outcomes of males by field of study and level of education.

It should be noted that the number of college-educated males in the Education field of study was very small, resulting in estimation errors when fitting the multinomial logit model. To ensure model stability and comparability of results across groups, this category was excluded from the analysis for that group.

Table 5: Predicted probabilities and confidence intervals of occupational outcomes for males by field of study and level of education

	Mngt/Bus	Natural and Applied Sciences	Health	Edu/Art	Sales and Service	Trades, Manufacturing, Natural Resources and Related
High school diploma	0.13	0.03	0.01	0.09	0.30	0.44
	(0.13, 0.13)	(0.03, 0.04)	(0.01, 0.01)	(0.08, 0.09)	(0.29, 0.31)	(0.43, 0.45)
College-educated males						
Arts/Humanities/Soc sci	0.07	0.21	0.03	0.36	0.24	0.09
	(0.04, 0.11)	(0.16, 0.26)	(0.01, 0.06)	(0.29, 0.42)	(0.19, 0.29)	(0.05, 0.13)
Business/Mngt/Admin	0.28	0.07	0.02	0.08	0.32	0.23
	(0.24, 0.31)	(0.05, 0.09)	(0.01, 0.03)	(0.06, 0.10)	(0.29, 0.35)	(0.20, 0.26)
STEM	0.06	0.16	0.00	0.02	0.13	0.63
	(0.05, 0.06)	(0.15, 0.17)	(0.00, 0.00)	(0.02, 0.03)	(0.12, 0.14)	(0.62, 0.64)
Agric/PPT/Other	0.07	0.12	0.00	0.22	0.23	0.35
	(0.05, 0.09)	(0.10, 0.15)	(0.00, 0.01)	(0.19, 0.25)	(0.20, 0.26)	(0.32, 0.39)
Health	0.09	0.00	0.58	0.09	0.12	0.12
	(0.06, 0.13)	(0.00, 0.00)	(0.51, 0.64)	(0.05, 0.13)	(0.07, 0.16)	(0.08, 0.17)
Bachelor's-educated males						
Education	0.08	0.01	0.01	0.78	0.05	0.08
	(0.06, 0.11)	(0.00, 0.02)	(0.00, 0.02)	(0.74, 0.82)	(0.02, 0.07)	(0.05, 0.11)
Arts/Humanities/Soc sci	0.27	0.05	0.05	0.34	0.20	0.11
	(0.25, 0.29)	(0.04, 0.05)	(0.04, 0.06)	(0.32, 0.36)	(0.18, 0.21)	(0.09, 0.12)
Business/Mngt/Admin	0.57	0.04	0.01	0.11	0.19	0.08
	(0.54, 0.59)	(0.03, 0.05)	(0.00, 0.01)	(0.10, 0.13)	(0.17, 0.21)	(0.07, 0.09)
STEM	0.13	0.61	0.03	0.10	0.07	0.07
	(0.11, 0.14)	(0.59, 0.64)	(0.02, 0.04)	(0.08, 0.11)	(0.06, 0.08)	(0.05, 0.08)
Agric/PPT/Other	0.36	0.16	0.00	0.17	0.14	0.18
	(0.28, 0.43)	(0.10, 0.22)	(0.00, 0.00)	(0.10, 0.23)	(0.08, 0.20)	(0.11, 0.24)
Health	0.14	0.01	0.50	0.17	0.11	0.07
	(0.11, 0.16)	(0.00, 0.01)	(0.46, 0.54)	(0.14, 0.20)	(0.09, 0.13)	(0.05, 0.09)

Male high school graduates



Male high school graduates are most likely to be employed in Trades, Manufacturing, Natural Resources and Related occupations, with a predicted probability of 44%, followed by Sales and Service occupations (30%). These findings suggest that limited formal education often channels men into physically intensive or customer-facing roles, where fewer formal qualifications might be required. The substantial representation of males in Trades, Manufacturing, Natural Resources and Related occupations represents a clear difference in outcomes compared to female high school graduates employed in this field (i.e., 44% vs. 9%). Despite this, there was significant representation of male high school graduates in Sales and Service occupations, in line with outcomes of their female counterparts (i.e., 30% for males, 51% for females). Male high school graduates were least represented in Health occupations (1%).

Male graduates of Arts/Humanities/Social Sciences

Among college-educated males who studied Arts/Humanities/Social Sciences, outcomes are dispersed. The largest share of these graduates is predicted to work in Education/Art occupations (36%), followed by Sales and Service occupations (24%) and then Natural and Applied Sciences and Related occupations (21%). This pattern may reflect the broader and more versatile nature of these fields, which tend to prepare graduates for a range of potential career paths rather than a single defined occupation. Graduates of this field tend to enter a variety of occupational categories, rather than concentrating in any single one.


There is a similarly even spread for bachelor's-educated males – with a 34% predicted probability of working in Education/Art occupations – followed by Management/Business (27%) and then Sales and Service occupations (20%). Both groups are most likely to work in Education/Art occupations, though their predicted probabilities are only marginally higher than those of other occupations. However, the group of graduates with the highest likelihood of working in Education/Art occupations is bachelor's-educated males who studied Education: they have a 78% probability of working in this category.

Male graduates of Business, Management and Public Administration

For college-educated males who studied Business, Management and Public Administration, Sales and Service occupations are predicted to be the most common (32%), followed by Management/Business occupations (28%) and Trades, Manufacturing, Natural Resources and Related occupations (23%).

In contrast, bachelor's-educated males from the same field have a higher likelihood of working in occupations closely aligned with their studies: 57% are predicted to work in Management/Business occupations, 19% in Sales and Services roles, and 11% in Education/Art occupations. Overall, male bachelor's graduates in Business, Management and Public Administration are the most likely to work in Management/Business roles.

The relatively high share of college-educated Business graduates employed in Trades, Manufacturing, Natural Resources and Related occupations or Sales and Service roles may indicate some degree of occupational mismatch or underutilization of field-specific skills for males in this field. In general, men with a college diploma have higher predicted probabilities of



working in Trades, Manufacturing, Natural Resources and Related occupations than either bachelor's-educated men or women overall. Even among those who studied fields not typically linked to these occupations, such as Business, Management and Public Administration, approximately 23% are predicted to work in Trades, Manufacturing, Natural Resources and Related roles.

Male graduates of STEM

Among STEM graduates, college-educated males have the highest predicted probability of working in Trades, Manufacturing, Natural Resources and Related occupations (63%), followed by smaller shares in Natural and Applied Sciences (16%) and Sales and Service occupations (13%). This strong association with trade-related work likely reflects the applied and technical orientation of many college-level STEM programs, which emphasize hands-on skills suited to manufacturing and skilled-trades sectors rather than scientific research roles (New Brunswick Community College, 2026).


Whereas 16% of college-educated STEM graduates are predicted to work in Natural and Applied Sciences and Related occupations, this predicted probability rises to 61% of bachelor's-educated males in STEM fields. This suggests that the skills acquired at the bachelor's level are more directly aligned with scientific and analytical roles than with trade-oriented positions. Among male bachelor's graduates in the field, this is followed by 13% predicted probability of working in Management/Business and 10% predicted probability of working in Education/Art occupations. This group has one of the lowest likelihoods of working in Trades, Manufacturing, Natural Resources and Related occupations.

Compared to males in other fields and education levels, college-educated males in STEM have the highest likelihood of working in Trades, Manufacturing, Natural Resources and Related occupations; and compared to males in other fields and education levels, their bachelor's-educated counterparts have the highest likelihood of working in Natural and Applied Sciences. This pattern mirrors the findings for female STEM graduates: at the college level, the most common occupations are in Trades, Manufacturing, Natural Resources and Related occupations, whereas at the bachelor's level, they are most likely to work in Natural and Applied Sciences.

Overall, the influence of education level on occupational outcomes appears similar for both sexes, though males remain far more likely than females to work in Trades, Manufacturing, Natural Resources and Related roles (63% vs. 30%) and in Natural and Applied Sciences roles (61% vs 32%).

Male graduates of Agriculture/Personal, Protective and Transportation Services/Other

Male college graduates of Agriculture/PPT/Other are likely to be widely distributed across occupations. Notably, Trades, Manufacturing, Natural Resources and Related occupations(35%), Sales and Service occupations (23%), and Education/Art occupations (22%) are predicted to be the most common sectors. For bachelor's-educated graduates in the field, Management/Business occupations (36%), Trades, Manufacturing, Natural Resources and



Related occupations (18%), and Education/Art occupations (17%) are the most likely occupational categories.

Male graduates of Health and Related Fields

Males educated in Health and Related Fields have the highest likelihood of working in Health occupations. College-educated males have about a 58% predicted probability of working in Health, with smaller proportions predicted to work in Sales and Service occupations (12%) and in Trades, Manufacturing, Natural Resources and Related occupations (12%). This indicates that males with college-level training in Health and Related Fields are likely to participate in the Health sector after graduation.

Males with a bachelor's degree in Health and Related Fields are also most likely to work in Health occupations (50%), with predicted employment probabilities of 17% in Education/Art occupations and 14% in Management/Business occupations. The results suggest that being educated in Health and Related Fields is crucial for occupations in the Health sector. For instance, high school graduates and post-secondary graduates in other fields of study are predicted to have less than a 6% probability of working in Health.


Overall, for both college- and bachelor's-educated males, those who studied Health and Related Fields are highly concentrated in occupations associated with their field of study.

Male graduates' occupation outcomes: Discussion

For males educated in the STEM field, we see occupational differences that are associated with differences in training by education level. STEM programs at the college level typically provide students with applied and technical skills, which partly explains why college-educated males in STEM are concentrated in occupations in Trades, Manufacturing, Natural Resources and Related occupations requiring these skills. STEM programs at the bachelor's level are usually more theoretical, possibly preparing students for scientific roles like occupations in the Natural and Applied Sciences occupational category. These conclusions are generally similar to those reached for female graduates above.

Occupation differences by education level were also observed among those who studied Business, Management and Public Administration. Bachelor's-educated males in these fields have the highest predicted probability of working in Management/Business occupations, whereas college-educated males are most likely to work in Sales and Service occupations. However, the predicted probability for male college graduates working in Sales and Service roles is only 4 percentage points higher than for Management/Business occupations. Overall, this suggests that bachelor's-educated males are more likely than their college-educated counterparts to work in Management/Business occupations, while male college graduates are more evenly distributed across Sales and Service and Management/Business occupations.

In contrast to the fields discussed above, graduates from other fields of study do not display a strong concentration in any single occupational category. This pattern is most evident in



combined fields, likely due to the variety of disciplines they include, such as the collapsed categories of Arts/Humanities/Social Sciences and Agriculture/PPT/Other.

Ordinary Least Squares Estimation

As presented in this section of the analysis, we also estimated an ordinary least squares regression model examining the factors that influence the employment income of NB post-secondary graduates, as well as the extent to which they have an influence.

The results for female NB graduates are displayed in Table 6 below. Estimations from two separate regression models are presented side by side – one consisting of females with a college diploma and those with a high school diploma, and the other consisting of females with a bachelor's degree and those with a high school diploma.

In both regression models, the field of study variable uses high-school-educated females as the reference category. The key reason for specifying the models as described above was to enable a comparative field of study analysis. This common reference allowed for an indirect comparison of earnings outcomes across fields of study for college- and bachelor's-educated females in the province.

For ease of interpretation and discussion, Table 6 below has been converted to show percentage changes, representing the change in employment income associated with each category relative to the reference category for each variable. The table shows the extent to which field of study affects earnings relative to the earnings of high school graduates after adjusting for confounders including age, marital status, visible minority status, type of employment worked (full-time vs. part-time worker), number of weeks worked in the year leading up to the Census (27 or more weeks of employment vs. 26 or less weeks of employment), and parental status. The untransformed results are displayed in the [Appendix](#).

The aim of this analysis was to isolate the effects of various fields of study on earnings, and how this varies by level of education.

Table 6: Estimated percentage changes in employment income for females

Variables	College-educated females	Bachelor-educated females
Age group: Reference = 25-34		
15-24	-17.0%***	-28.5%***
	[-19.2%, -14.7%]	[-30.3%, -26.7%]
35+	15.8%***	17.6%***
	[13.2%, 18.5%]	[15.1%, 20.0%]
Marital Status: Reference = Never married/common law		
Married/common law	6.4%***	10.7%***
	[4.1%, 8.8%]	[8.5%, 13.0%]
Formerly married/common law	11.4%***	11.9%***
	[6.5%, 16.4%]	[7.2%, 16.8%]
Field of study: Reference = Female high school graduates		
Education	-11.7%	87.4%***
	[-24.0%, 2.7%]	[80.5%, 94.8%]
Visual and Performing Arts, and Communications Technologies	-8.6%*	2.5%
	[-16.4%, -0.2%]	[-6.8%, 12.7%]
Humanities	10.1%	26%***
	[-43.8%, 115.8%]	[21.2%, 31.0%]
Social and Behavioural Sciences and Law	-4.9%	28.8%***
	[-9.5%, 0.0%]	[25.1%, 32.6%]
Business, Management and Public Administration	14.3%***	65.4%***
	[10.8%, 17.9%]	[60.2%, 70.9%]
Physical and Life Sciences and Technologies	75.1%**	40.6%***
	[22.1%, 150.9%]	[32.3%, 49.5%]
Mathematics, Computer and Information Sciences	6.4%	49.3%***
	[-7.2%, 22.0%]	[29.0%, 72.8%]
Architecture, Engineering, and Related Technologies	11.6%**	108.8%***
	[3.8%, 20.2%]	[84.4%, 136.6%]
Agriculture, Natural Resources and Conservation	34.7%***	60.8%***
	[14.3%, 58.7%]	[26.6%, 104.0%]
Health and Related Fields	33.4%***	121%***
	[29.4%, 37.4%]	[115.5%, 126.8%]
	-10.0%**	N/A

Variables	College-educated females	Bachelor-educated females
Personal, Protective and Transportation Services	[-16.9%, -2.6%]	N/A
Other	-59.7%*	48.9%***
	[-81.9%, -10.3%]	[31.3%, 68.9%]
Visible minority status: Reference = Not a visible minority		
Visible minority	-4.5%*	-4.8%**
	[-8.2%, -0.7%]	[-8.2%, -1.2%]
Type of employment: Reference = Mainly part-time worker		
Mainly full-time worker	94.3%***	121.9%***
	[89.8%, 98.8%]	[117.3%, 126.6%]
Weeks worked in a year: Reference = 27 or more weeks worked		
26 or less weeks worked	-63.9%***	-64.2%***
	[-64.8%, -63.0%]	[-64.9%, -63.4%]
Parental status: Reference = Not a parent		
Parent	-16.3%***	-11.8%***
	[-18.1%, -14.4%]	[-13.6%, -10.1%]
Adjusted R²	0.428	0.533
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$		

The adjusted R-squared values for the regression models of college- and bachelor's-educated females are approximately 43% and 53%, respectively, indicating that a substantial share of variation in earnings is explained by the model, with a stronger fit for bachelor's-educated women.

Our discussion primarily focuses on variations in earnings by field of study. Certain fields of study show statistically significant differences in earnings compared to high school graduates, while others do not.

For female college graduates, fields such as Education; Humanities; Social and Behavioural Sciences and Law; and Mathematics, Computer and Information Sciences show no statistically significant difference in earnings relative to high school graduates. The 95% confidence intervals for these coefficients indicate no strong evidence of a difference in earnings between college-level graduates in these fields and the reference category of females with a high school diploma. In several cases, this outcome might be due to small sample sizes. Specifically, the Education; Humanities; and Mathematics, Computer and Information Sciences fields each contain less than 3% of the entire sample of college-educated females. Even though Social and Behavioural Sciences and Law consists of a larger share (12%), its results remained insignificant.

Female graduates of Visual and Performing Arts, and Communications Technologies

Some fields yielded statistically significant negative outcomes, implying that for these fields of study, college-level education is not tied with increased earnings over high school graduates. For example, females with college diplomas in Visual and Performing Arts, and Communications Technologies are estimated to earn about 9% less than female high school graduates. The multinomial logistic regression discussed above shows that most female college graduates with a diploma in this field are predicted to work in Education/Art occupations. If this outcome is driven specifically by Art-related occupations, the result might reflect the limited and project-based nature of art-related occupations in NB, characterized by intermittent employment, competition, and part-time or freelance work, which can lead to lower earnings (D'Amours & Deshaies, 2021). It might also reflect the low average employment income associated with occupations in Art, Culture, Recreation and Sport in NB (StatCan, 2019).⁷ Meanwhile, there is not enough evidence to indicate a statistically significant difference in earnings for female bachelor's graduates and high school graduates in these fields.

Female graduates of Personal, Protective and Transportation Services

Similarly, females with college diplomas in Personal, Protective and Transportation Services are shown to earn about 10% less than female high school graduates. Female college graduates in this field have the highest predicted probability of working in Sales and Service occupations, which are typically associated with lower pay. It is also possible that graduates accept lower-paying or transitional roles while seeking better employment opportunities. No bachelor's-level graduates were recorded in this field.


Female graduates of "Other" fields of study

Females with a college diploma in the "Other" field earn approximately 60% less than high school graduates – the poorest outcome among all fields. However, this group made up less than 1% of college-educated females. Conversely, bachelor's-educated females in the "Other" category earn about 49% more than female high school graduates. Due to the small sample sizes of graduates from this field at both education levels, these findings should be interpreted with caution.

Female graduates of Physical and Life Sciences and Technologies

In contrast, several fields exhibit strong and statistically significant earnings premiums for college-educated females. The highest relative earnings among college graduates are observed in the Physical and Life Sciences and Technologies field, where they earn about 75% more than high school graduates. In comparison, bachelor's-educated women in this field saw a 41% earnings premium.

⁷ Key results are available in [Table 15](#) the Appendix.



Our analysis of occupational distribution shows that STEM graduates are likely to be employed across a wide range of occupations, without significant concentration in any one category. For college graduates, the highest predicted probability (30%) of employment is in Trades, Manufacturing, Natural Resources and Related occupations; for bachelor's graduates, it is in Natural and Applied Sciences and Related occupations (32%). This pattern may seem unexpected, as bachelor's-level graduates work in fields more commonly associated with higher pay, whereas occupations in lower-paying fields are more common at the college level. However, the occupational outcomes for STEM fields may be influenced by the aggregation of all the fields of study within the STEM category, particularly given the small representation of the Physical and Life Sciences and Technologies field. With less than 1% of college-educated females in Physical and Life Sciences and Technologies, earnings results could be influenced by a few high-income earners, and occupational category results may be affected by outcomes from other fields within the STEM category.

Female graduates of Agriculture, Natural Resources and Conservation

Agriculture, Natural Resources and Conservation ranks second in relative earnings for college graduates, with an earnings premium of 35%. Bachelor's-educated females in this field have an even higher premium of 61%, though sample sizes remain small for both education levels.

Females graduates of Health and Related Fields


In Health and Related Fields, bachelor's-educated females earn 121% more than high school graduates – the largest gain observed across all fields. Meanwhile, college-educated females earn 33% over high school graduates, marking the third highest earnings premium for college graduates.

The occupational distribution results above show that most students who studied Health and Related Fields work in Health occupations. Working in a field that values their qualifications might contribute to the significant earnings premium observed, especially considering the increased demand for health professionals in NB (NBjobs.ca, 2026). Health occupations also have the third-highest average employment income for NB females, which might contribute to this outcome (StatCan, 2019).⁸

These findings align with broader evidence that women in health-related occupations tend to have higher earnings. For instance, Richard (2019) found that the health care and social assistance sector was the top industry among women in the top 1% of income earners in Canada, suggesting that occupations in the health category can be a significant source of high income for women.

In our results, both college and bachelor's education levels reflect some alignment between health-related training and occupation, with many graduates working directly in health-related roles. However, pursuing further education is tied with significantly higher earnings premiums. This

⁸ Key results are available in [Table 15](#) in the Appendix.



could be due to variations in the specific occupations within the Health occupational category. Bachelor's-educated females may be more qualified for higher paying roles within the occupation compared to those with college training.

Female graduates of Business, Management and Public Administration

In the Business, Management and Public Administration field of study, both college- and bachelor's-educated females experience positive earnings outcomes at 14% and 65% above the earnings of high school graduates, respectively – illustrating substantial returns to higher education. Both groups show similar probabilities (roughly 50%) of working in Management/Business occupations (occupations on the higher end of the income scale), though bachelor's-level credentials likely lead to higher-paying positions within the same occupational category. However, their second-most-common occupations differs: college graduates in this field are more likely to work in Sales and Service roles, which may help explain why female college graduates earn less, on average, than those with a bachelor's degree in the field.

Female graduates of Social and Behavioural Sciences and Law


For the Social and Behavioural Sciences and Law category, college-level earnings results are not significant despite the large number of graduates in the field. However, bachelor's-educated women in this field earn about 29% more than high school graduates. Although they do see an earnings premium, this remains one of the lowest returns among female graduates with a bachelor's degree. This outcome could reflect the significant proportion of bachelor's-educated females in the field: the high supply of labour could mean increased competition for employment in the field, which can in turn lower the earnings premium. Additionally, this field of study might provide students with transferrable skills that allow them to enter a wide range of occupations, which could contribute to high variation in their earnings.

Analysis of occupational outcomes suggests that graduates from this field are likely to enter Education/Art occupations, the latter of which are typically low paying. However, the combination of Social and Behavioural Sciences and Law with other fields in the analysis limits our ability to isolate results for this category.

Some of the sub-fields in this category might also require further education before graduates are eligible for the high-paying occupations tied to the field. For instance, in Canada, a bachelor's degree in Law is typically followed by a Juris Doctor or an equivalent qualification required to access higher-paying professional opportunities. Graduates who hold only a bachelor's degree might take lower-paying roles related to the legal field, allowing them to apply their academic training without full professional accreditation.

Female graduates of Humanities

Bachelor's-educated females in the Humanities field of study earn 26% more than high school graduates. However, this represents the lowest earnings premium compared to bachelor's degree holders in other fields of study. This finding aligns with the broader literature (Lemieux, 2014; Reid et al., 2020), which often reports lower earnings outcomes for Humanities graduates.



Our occupational category analysis shows some variation in the occupations that students in this field select into. However, our merged field of study measure makes it difficult to isolate the effect of the Humanities field only on selection into certain occupational categories.

Female graduates of Architecture, Engineering, and Related Technologies

Architecture, Engineering, and Related Technologies also yielded positive outcomes for females at both education levels, with college-educated females earning about 12% and bachelor's-educated females earning 109% more than female high school graduates. This notable difference in earning premiums underscores the higher returns associated with bachelor's-level STEM training and access to specialized, higher-paying occupations at the higher education level.

As shown when analysing occupational categories, college-level females who studied in STEM programs (including Architecture, Engineering, and Related Technologies) are likely to select into Trades, Manufacturing, Natural Resources and Related occupations, while bachelor's degree holders who studied in the same field are likely to select into Natural and Applied Sciences and Related occupations. Natural and Applied Sciences occupations typically have high average employment income, which may contribute to the observed earnings premium. However, the occupational analysis above merges multiple sub-categories into the STEM field of study, which makes it difficult to isolate the effect of just one of those fields (e.g., the Architecture, Engineering, and Related Technologies field) on occupational outcome. Additionally, given that only 1% of bachelor's-level graduates studied in this field, the results for this education level should be interpreted cautiously. A larger share of college-educated females studied in this field, and as such, their earnings outcome might be more reflective of their occupational outcomes.

Female graduates of Education


Bachelor's-educated females in the Education field of study earn 87% more than high school graduates, while college-level results are not statistically significant, likely due to the small share (1%) of college graduates in this field.

Female graduates of Mathematics, Computer and Information Sciences

Finally, while Mathematics, Computer and Information Sciences show no significant difference in earnings for college-educated females, bachelor's-educated females in this field earn 49% more than high school graduates, consistent with the broader literature on STEM earnings premiums and occupational findings on STEM graduates (see Lemieux, 2014; Manuel, 2023; Reid et al., 2020).

Female graduates' earnings outcomes: Discussion

Overall, among females with a college diploma, those who studied Physical and Life Sciences and Technologies exhibit the highest earnings premium relative to high school graduates, while those in "Other" and Personal, Protective and Transportation Services fields of study earn less



than high school graduates. However, results for college diploma holders who studied Physical and Life Sciences and Technologies and Other fields are to be interpreted with caution due to the small sample size of those groups.

Excluding groups with small sample sizes, college-educated graduates who studied Health and Related Fields have the highest earnings premium over high school graduates.

At the bachelor's level, earnings premiums are generally higher than those observed for college-level graduates, with the exception of Physical and Life Sciences and Technologies. Females with a bachelor's degree in Health and Related Fields see the highest earnings premium, whereas those in Humanities have the lowest. The positive outcomes in Health align with expectations, as graduates of Health and Related Fields typically work in Health occupations, which are associated with higher average employment income. The lower outcomes in Humanities are also consistent with prior literature on the field (see Boco et al., 2021).

Employment income increases with education level in the fields of Business, Management and Public Administration; Architecture, Engineering, and Related Trades; and Health and Related Fields. College diploma holders have an earnings premium over high school graduates, and bachelor's degree holders have an even larger premium relative to high school graduates, indicating a steeper income gradient with higher education.

Importantly, pursuing a bachelor's degree is associated with higher earnings across all fields of study for women, as even Humanities graduates (who have the lowest earnings premium) earn more than high school graduates.

Earnings also vary across several demographic characteristics beyond field of study, and these patterns generally mirror established findings on earnings in the literature.

We observe, for example, that earnings increase with age – a trend present among both college-educated and bachelor's-educated women. Marital status is also associated with earnings differences: married women earn more than those who had never married, while formerly married women exhibit the highest earnings of all. Parenthood is linked to lower earnings for women at both education levels, with the effect notably stronger among college graduates. As expected, full-time workers earn substantially more than part-time workers, and those employed for more than half the year earn more than individuals who worked half the year or less.

Differences by visible minority status are comparatively small. Female college graduates who identified as visible minorities earn 4.5% less than their non-minority peers, while visible minority women with a bachelor's degree earn 4.8% less than non-visible-minority women.

Table 7: Estimated percentage changes in employment income for males

Variables	College-educated males	Bachelor-educated males
Age group: Reference = 25-34		
15-24	-21.3%*** [-23.0%, -19.7%]	-23.3%*** [-25.0%, -21.4%]
35+	7.4%*** [5.1%, 9.6%]	11.7%*** [9.4%, 14.0%]
Marital status: Reference = Never married/common law		
Married/common law	20.8%*** [18.2%, 23.6%]	25.1%*** [22.4%, 28.0%]
Formerly married/common law	15.3%*** [9.8%, 20.9%]	23.7%*** [17.8%, 30.0%]
Field of study: Reference = Male high school graduates		
Education	-41.8%*** [-57.4%, -20.7%]	35.1%*** [26.5%, 44.3%]
Visual and Performing Arts, and Communications Technologies	-19.4%*** [-28.3%, -9.6%]	-18.5%** [-29.5%, -5.7%]
Humanities	-77.5%*** [-84.4%, -67.6%]	0.1% [-5.1%, 5.7%]
Social and Behavioural Sciences and Law	-8.4% [-21.8%, 7.2%]	19.8%*** [14.9%, 24.9%]
Business, Management and Public Administration	-1.9% [-6.8%, 3.1%]	31.3%*** [26.6%, 35.9%]
Physical and Life Sciences and Technologies	6.9% [-21.2%, 45.1%]	0.8% [-6.6%, 8.8%]
Mathematics, Computer and Information Sciences	7.8%* [0.8%, 15.3%]	48.3%*** [37.6%, 59.8%]
Architecture, Engineering, and Related Technologies	12.1%*** [9.6%, 14.6%]	73.0%*** [65.4%, 80.9%]
Agriculture, Natural Resources and Conservation	16.7%** [5.3%, 29.3%]	27.0%*** [10.7%, 45.5%]
Health and Related Fields	13.5%** [3.8%, 24.4%]	24.7%*** [17.8%, 32.0%]
Personal, Protective and Transportation Services	16.7%*** [9.9%, 23.7%]	N/A N/A
Other	-45.7%*	20.8%

Variables	College-educated males	Bachelor-educated males
	[-66.6%, -11.6%]	[-5.0%, 53.7%]
Visible minority status: Reference = Not a visible minority		
Visible minority	-11.6%*** [-14.4%, -8.6%]	-5.5%** [-8.8%, -2.1%]
Type of employment: Mainly a part-time worker		
Mainly full-time worker	121.9%*** [116.2%, 127.7%]	125.0%*** [119.0%, 131.2%]
Hours worked in the year: Reference = 27 or more weeks worked		
26 or less weeks worked	-57.8%*** [-58.6%, -56.9%]	-60.1%*** [-60.9%, -59.1%]
Parental status: Reference = Not a parent		
Parent	8.7%*** [6.1%, 11.3%]	9.2%*** [6.6%, 11.7%]
Adjusted R²	0.387	0.439
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$		

Due to the substantial proportion of males with a college diploma who studied Architecture, Engineering, and Related Technologies, the representation of other fields in the sample is relatively small. Fields such as Education; Social and Behavioural Sciences and Law; Humanities; Physical and Life Sciences and Technologies; and Other each account for around 1% or less of college-educated males, warranting cautious interpretation of results for these categories.


Some fields exhibit a lack of statistical significance for college-educated males. These include Social and Behavioural Sciences and Law; Business, Management and Public Administration; and Physical and Life Sciences and Technologies. For bachelor's-educated males, the fields with no statistical significance include the Humanities; Physical and Life Sciences and Technologies; and Other fields of study.

Male graduates of Education

College-educated males in certain fields earn less than high school graduates, indicating minimal returns to college education for those fields. For instance, those in Education earn about 42% less than high school graduates, whereas bachelor's-educated males in the same field earn 35% more.

Male graduates of Visual and Performing Arts, and Communications Technologies

Males with college and bachelor's credentials in Visual and Performing Arts, and Communications Technologies earn about 19% less than high school graduates. This field has the lowest return associated with a bachelor's education compared to bachelor's graduates in



other fields. In fact, it is the only field in which males with a bachelor's degree earn less than high school graduates. While the occupational analysis for Visual and Performing Arts, and Communications Technologies cannot be isolated, the results show that these individuals typically enter a wide range of occupations, without significant concentration in any single category.

Among college- and bachelor's-educated graduates in this field, the highest predicted probability of employment is in Education/Art occupations (36% and 34%, respectively). Earnings results may therefore be influenced by those working in Art occupations. Notably, the Art sector is characterized by project-based or freelance work, limited positions, and variable income. This might contribute to lower average earnings, even for graduates with higher education levels. Graduates may also take other jobs between projects while seeking additional opportunities, adding to income variability. Overall, the combination of diverse occupational pathways and structural characteristics of the arts and culture sector – such as low average employment income and unstable employment – may help explain why graduates from this field exhibit low earnings relative to other fields, despite the attainment of college- or bachelor's-level credentials.

Male graduates of Humanities and Other


College-educated males in the Humanities field experience the poorest returns, earning 78% less than male high school graduates. Although this follows established patterns for this field, the result should be interpreted cautiously due to the small sample (less than 1%). For bachelor's-educated males, results in the Humanities field are not statistically significant despite a larger share holding degrees in this field.

Similarly, college-educated males in the Other category earn 46% less than male high school graduates, though this group represents fewer than 1% of college graduates.

Male graduates of Mathematics, Computer and Information Sciences

Some fields of study reveal earnings premiums associated with increased levels of education. College-educated males in Mathematics, Computer and Information Sciences earn about 8% more than high school graduates, representing a small earnings premium for this group. As a reminder, graduates in this field were grouped in the STEM category when considering occupation outcomes. Moreover, we found a higher concentration of college-level STEM graduates work in Trades, Manufacturing, Natural Resources and Related occupations, which are typically associated with lower average earnings (StatCan, 2019). While both male high school graduates and college-level graduates are highly likely to work in these occupations, having a college education might provide graduates with higher paying roles in the field. In comparison, male high school graduates are likely to work in Sales and Service roles, which are associated with even lower average pay (seen [Table 14](#) in the Appendix).

Bachelor's-educated males in this field earn 48% more than high school graduates, reflecting a larger earnings premium compared with college-educated males (who make about 8% more). This earnings premium might stem from the employment of these bachelor's graduates in



Natural and Applied Sciences roles, as shown in the occupation analysis (see [Table 5](#)). However, because the occupational analysis merged the three STEM fields, the result may reflect outcomes in one field more than the others and therefore may not fully represent the experiences of those in Mathematics, Computer and Information Sciences.

Male graduates of Architecture, Engineering, and Related Technologies

Architecture, Engineering, and Related Technologies – the most common field for college-educated males and the third largest for bachelor's-educated males – is also associated with positive returns. College-educated males in the field earn 12% more and bachelor's-educated males earn 73% more than high school graduates. This field of study is also included in the STEM category used to derive the occupational outcomes discussed above. This finding may therefore be related to the observation that STEM graduates at the college level are more likely to work in Trades, Manufacturing, Natural Resources and Related occupations, while at the bachelor's level they are most likely to work in Natural and Applied Sciences occupations.

Two of the three STEM fields display similar earnings outcomes, suggesting a possible link between their earnings patterns and their occupational distributions. The result for Physical and Life Sciences and Technologies – the third STEM field – is statistically insignificant.


Male graduates of Agriculture, Natural Resources and Conservation

In the Agriculture, Natural Resources and Conservation field, both levels of PSE are associated with positive and significant returns for men (17% at the college level and 27% at the bachelor's level). While both groups earn more than high school graduates, the difference in earnings premiums between the college and bachelor's levels is relatively small. This may suggest that in this field, attaining some PSE is associated with improved earnings, but additional education beyond that yields only modest gains.

Male graduates of Health and Related Fields

Males who graduated from Health and Related Fields earn 14% (college) and 25% (bachelor's) more than male high school graduates. Notably, our occupational analysis shows that men who studied Health and Related Fields are highly likely to work in Health occupations (see [Table 5](#)), which are typically associated with high pay.

Although an earnings premium is observed with higher education, it is smaller than might be expected. This could reflect that some graduates work in lower-paying occupations within the Health occupational category. Female graduates in Health exhibit higher earnings premiums than their male counterparts, which may reflect differences in roles within the same occupational category. Women may be more likely to occupy higher-paying roles, whereas men may be distributed across both higher- and lower-paying positions. Additionally, the smaller number of men who studied Health and Related Fields could contribute to greater variation in their observed earnings.



Men also have lower probabilities of working in Health occupations compared to women, which might suggest they are entering other fields, thereby affecting average earnings outcomes. Bachelor's-educated males in other fields such as Architecture, Engineering, and Related Technologies have a higher earnings premium over high school graduates than is observed for those men in Health and Related Fields.

Male graduates of Personal, Protective and Transportation Services

Males with college diplomas in Personal, Protective and Transportation Services earn 17% more than male high school graduates. No bachelor's-educated males were recorded in this field of study.

Male graduates of Social and Behavioural Sciences and Law, and Business, Management and Public Administration


For bachelor's-educated males, those who studied Social and Behavioural Sciences and Law earn about 20% more than male high school graduates, and those who studied Business, Management and Public Administration earn roughly 31% more than high school graduates. Both fields demonstrate modest returns, with Business, Management and Public Administration graduates having a higher earnings premium. The results for college graduates in both these fields are statistically insignificant.

Male graduates' earnings outcomes: Discussion

In general, among males with a college diploma, graduates of Agriculture, Natural Resources and Conservation and Personal, Protective and Transportation Services exhibit the highest earnings premiums relative to high school graduates. In contrast, males who studied Humanities experience the weakest outcomes, with earnings below those of high school graduates. These results indicate that further education does not uniformly translate into higher earnings. Nonetheless, it should be noted that results for college-educated males should be interpreted cautiously for fields other than Architecture, Engineering, and Related Technologies. This is because 68% of college-educated males studied in this field, leaving much smaller proportions in other fields, which may influence the observed outcomes.

The finding that college-educated men who studied Architecture, Engineering, and Related Technologies earn roughly 12% more than high school graduates indicates that a smaller earnings premium is associated with studying the field. This might be because college-educated males who studied in the field are likely to work in Trades, Manufacturing, Natural Resources and Related occupations, based on our occupational distribution analysis (see [Table 5](#)), and these roles are typically associated with lower pay.

Bachelor's-educated males generally exhibit higher earnings premiums than college-educated males, with the exception of graduates of Visual and Performing Arts, and Communications Technologies, whose outcomes are similarly less favourable. Among bachelor's graduates, those in Architecture, Engineering, and Related Technologies see the highest earnings premium, likely reflecting their substantial representation in Natural and Applied Sciences occupations, which



are associated with relatively high average employment income. The poorest outcomes are observed in the Visual and Performing Arts, and Communications Technologies field, where males earn less than high school graduates, potentially reflecting the nature of occupations in the arts and culture sector in NB.

While having a bachelor's degree is associated with higher earnings for females across all fields of study, we see one exception for males.

Males with a bachelor's degree have an earnings premium over high school graduates that is higher than the earnings premium of college graduates – and this is the case in all fields except for the Visual and Performing Arts, and Communications Technologies field.

Outside of field of study differences, males and females show broadly similar earnings patterns across many characteristics. For instance, college and bachelor's graduates' earnings increase with age, full-time workers earn substantially more than part-time workers, and individuals employed for more than half the year earn more than those who worked half the year or less.

However, several differences emerge between male and female outcomes. In contrast to females, parenthood is associated with higher earnings for males at both education levels. This is consistent with established literature showing earnings penalties for mothers and no penalty – and even premiums – for fathers (Moyser, 2019). The results also reveal that men who had ever been married earn more than those who had never married.

Differences by visible minority status are evident for males at both education levels but are more pronounced among college graduates. Visible minority college graduates earn 11.6% less than their non-visible minority counterparts, compared with a 5.5% difference among bachelor's graduates. The observed gap may result from a combination of factors, including differences in occupational patterns as well as early-career and broader labour market integration challenges. College-educated males in the visible minority group may be treated as new entrants to the labour market regardless of age or prior foreign work experience, creating an earnings deficit.

These findings show that factors influencing earnings may affect individuals differently depending on their sex and education level.

Discussion and Conclusion

This study explores how field of study, sex, and education level influence occupational outcomes among post-secondary graduates in New Brunswick (NB). It also considers variations in employment income across different fields of study and levels of education, highlighting the fields in which higher education is associated with an earnings premium.

Which fields of study have the highest concentration of graduates?

As of 2016, college graduates were concentrated in a few fields, whereas bachelor's graduates were more evenly distributed across multiple fields of study.

Specifically, males with a college diploma showed significant concentration in the Architecture, Engineering, and Related Technologies field, which accounted for 68% of male college graduates. Among female college graduates, the largest share (36%) had completed programs in Health and Related Fields, and 35% had completed programs in Business, Management and Public Administration.


Both male and female bachelor's degree holders showed a more even distribution across fields of study. Among females, the largest proportion (30%) had studied Health and Related Fields, and 22% had taken Social and Behavioural Sciences and Law. Meanwhile, among males, the largest share (25%) had degrees in Business, Management and Public Administration, and 18% had studied Social and Behavioural Sciences and Law.

Which occupations attract the highest proportion of graduates?

Among bachelor's degree holders, the largest share of females worked in occupations in Education, Law, Social, Community, and Government Services (30%), followed by Health (28%) and Business, Finance and Administration (16%). For males with a bachelor's degree, the largest share (20%) was similarly employed in Education, Law, Social, Community, and Government Services, followed by Natural and Applied Sciences (19%) and Business, Finance and Administration (16%). Even though substantial proportions of bachelor's graduates were employed in Education, Law, Social, Community, and Government Services and in Business, Finance and Administration, sex differences were still evident: men were more likely to work in Natural and Applied Sciences, while women were more likely to work in Health occupations.

At the college level, similar sex patterns emerged, alongside clear differences. Sales and Service occupations were prominently represented among college graduates, employing 17% of males and 22% of females – the second largest share of both groups. The largest share of college-educated males (41%) worked in Trades, Transport, and Equipment Operator roles, whereas the largest share of college-educated females (27%) worked in Health occupations.

We observed a clear concentration of females in Health occupations across all education levels, and a concentration of bachelor's-level males in Natural and Applied Sciences and college-level males in Trades, Transport and Equipment Operator roles. Beyond these sex-based



patterns, patterns across education levels were also evident. Despite the strong representation of Sales and Service occupations among college graduates compared to bachelor's graduates, this representation was even higher among high school graduates – with 51% of females and 30% of males employed in this occupation category. Individuals with a bachelor's degree were also substantially represented in occupations in Education, Law, Social, Community, and Government Services, with high school graduates being less represented.

As graduates' education levels increased, participation in occupations in Education, Law, Social, Community, and Government Services also increased, while participation in Sales and Service occupations decreased.

Does field of study influence which occupation a graduate works in?


Certain fields of study are strongly associated with specific occupational pathways – suggesting that some educational programs may prepare students more directly for various types of work.

We found that males with college diplomas in STEM fields have the highest likelihood of working in Trades, Manufacturing, Natural Resources and Related occupations, whereas those with a bachelor's degree in the same field are most likely to work in Natural and Applied Sciences. A similar pattern was observed among females, although the associations were weaker. For instance, while 63% of college-educated men in STEM programs are likely to work in Trades, Manufacturing, Natural Resources and Related occupations, the corresponding figure for women is 30%. This 30% is both the largest predicted probability of employment for females in the STEM field and the largest predicted probability for the Trades, Manufacturing, Natural Resources and Related occupations among all females across all fields and levels of study.

Strong associations were also observed between studying Health and Related Fields and working in Health occupations. Among males who studied Health and Related Fields, 58% of college graduates and 50% of bachelor's graduates are predicted to work in Health occupations. Among females in the same field, the predicted probabilities are even higher – 66% for college diploma holders and 81% for bachelor's degree holders.

What impact do field and level of study have on earnings?

Linear regression analysis was conducted to examine earnings outcomes among post-secondary graduates. The results indicate that field of study *and* education level strongly influence employment income. In general, bachelor's degree holders tend to earn higher returns than those with college diplomas. However, the nature of these returns may vary considerably across fields of study. For instance, graduates from fields such as Visual and Performing Arts, and Communications Technologies and Humanities experience lower – or even negative – returns, particularly among males. These findings suggest that not all fields of study yield equal monetary returns to education and that sex interacts with field choice to produce distinct earnings outcomes.



When compared to high school graduates, post-secondary graduates generally earn more, but the magnitude of this advantage depends largely on the field of study. Among college-educated females, those in Health and Related Fields achieve the highest returns, earning approximately 33% more than high school graduates. At the bachelor's level, females in the same field earn an even greater premium – about 121% more than high school graduates – demonstrating clear gains with higher education within this field.

For females with college and bachelor's degrees, we see the highest earnings premiums among those who studied Health and Related Fields. Importantly, our occupation analysis shows that a large share of female Health graduates end up working in the health sector.

In contrast, females who studied Personal, Protective and Transportation Services or Visual and Performing Arts, and Communications Technologies at the college level earn 10% and 8.6% less, respectively, than high school graduates. Notably, these patterns do not extend consistently to the bachelor's level. While Visual and Performing Arts, and Communications Technologies continue to show low returns, this effect is not statistically significant. In contrast, Humanities graduates exhibit a significant but modest earnings premium – only about 26% more than high school graduates – the lowest among all bachelor's fields.


For females, holding a bachelor's degree is associated with higher earnings than high school graduates regardless of field of study.

For males at the college level, those who studied Agriculture, Natural Resources and Conservation or Personal, Protective and Transportation Services have the highest returns compared to other fields. Among fields with a substantial number of graduates, the Visual and Performing Arts, and Communications Technologies field shows the lowest returns, with male college graduates from this field of study earning less than high school graduates.

At the bachelor's level, the lowest returns are in Visual and Performing Arts, and Communications Technologies, consistent with the college-level pattern, while having a degree in Architecture, Engineering, and Related Trades produces the highest returns. The strong returns for this group may reflect their concentration in higher-paying occupations, such as Natural and applied sciences. Notably, at the bachelor's level, males who studied Visual and Performing Arts, and Communications Technologies are the only group earning less than high school graduates.

At the college level, the largest earnings premiums for males are in smaller fields such as Agriculture, Natural Resources and Conservation. However, most male college graduates (68%) studied Architecture, Engineering, and Related Technologies. While this field produces a more modest earnings premium for college graduates, (12%), it produces the highest earnings premium among bachelor's graduates (73%).

Overall, this study contributes to the discussion on the relationship between field of study and labour market outcomes – such as occupation and employment income – among post-secondary graduates in NB. The report provides insights into where graduates from different



fields are likely to work and considers whether occupational patterns may help explain the earnings observed among these groups.

The findings indicate both sex-based and education level-based patterns in occupational and earnings outcomes for PSE graduates in NB. However, the results presented in this report reflect associations and correlations rather than causal relationships. Several factors not controlled for in the analysis – such as regional labour market conditions and student background and ability – also may have influenced the findings.


Graduate outcomes in an evolving labour market: The need for more research

While clear and interpretable trends were observed in this study, we want to conclude with the caveat that these findings represent a snapshot of graduate outcomes in 2016. The decade since has witnessed substantial demographic, economic, and labour market shifts in NB and across Canada. These developments do not diminish the value of the 2016 results; rather, they emphasize the need for continued analysis as more recent data become available.

Ongoing research at DataNB shows that the province has been experiencing yearly population growth since 2016 (Balzer et al., 2021), with net migration accelerating notably from 2020 onward, driven by both interprovincial migration and increased international immigration (Beykzadeh et al., 2025). While earlier studies suggested this marked population increase was likely due to the impacts of the COVID-19 pandemic (Beykzadeh et al., 2023), NB has seen a continued year-over-year increase in immigrant arrivals in the post-pandemic years – likely motivated by nationwide economic pressures, including rising inflation, housing costs, and a shortage of educational and healthcare resources in larger municipalities (Beykzadeh et al., 2024, 2025; Cox, 2024; MacFarlane, 2024). Notably, the number of new arrivals moving to regions outside the province's Census Metropolitan Areas recently doubled (Beykzadeh, 2025). These shifts will have altered the size and composition of the labour force, expanded demand for public services, and reshaped the distribution of workers across regions. As such, analyses capturing these recent population dynamics are essential for interpreting how graduate pathways may be evolving.

Along with periods of inflationary pressure and provincial responses to the shifting trade dynamics experienced in recent years (GNB, n.d.), changes in job quality and wage growth across sectors may affect returns to education, the stability of employment, and the types of occupations that attract new graduates. Recent data on employment and weekly earnings from Statistics Canada suggest the structure of employment in NB has also been shifting (StatCan, 2025). While some sectors – particularly those driven by public sector spending and hiring, including health care, education, and public administration – have continued to expand in terms of weekly earnings and employment numbers, others have seen slower growth or remained relatively stable (StatCan, 2025).

Additionally, increases in wages and in employment do not always align, contributing to the complexity of NB's current labour market conditions. For example, between October 2024 and October 2025, the health care, education, and public administration sectors in NB, combined, saw notable increases in both weekly earnings (+3.4%) and in employment numbers (+5,648).



However, the goods-producing sector saw a decline in employment (-587) despite an increase in earnings (+4.7%), while the service-producing sector saw a decline in earnings (-1%) alongside an increase in employees (+798) (StatCan, 2025). These sectoral dynamics influence the types of opportunities available to new graduates and are likely to shape the alignment between educational pathways and labour market demand. Taken together, these demographic, economic, and sectoral shifts underscore the importance of revisiting graduate outcomes as more recent linked data become available.

Looking Forward

Future analysis using more recent data would provide an updated picture of labour market outcomes in NB, particularly in light of recent increases in interprovincial in-migration. Because the current analysis ends in 2016, it does not capture these new or returning entrants. Examining field of study and labour market outcomes with more recent data would help determine whether the patterns observed here have remained stable or shifted as NB's population has grown.

Additional research could also compare outcomes of graduates who remained in NB with those who left the province, offering insights specifically into differences in the labour market outcomes of NB-trained post-secondary graduates living in the province compared to those in other provinces.

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Appendix A: Supplementary Tables of Results

Table 8: Odds ratio of the multinomial regression on occupational outcome for females with a college diploma

	Reference = Sales and Service occupation				
	Mngt/Bus	Natural and Applied Sciences	Health	Edu/Art	Trades, Manufacturing, Natural Resources and Related
Variables					
Age group: Reference = 25-34					
15-24	0.526** (0.470 - 0.589)	0.557** (0.421 - 0.737)	0.961 (0.825 - 1.118)	0.870* (0.769 - 0.984)	0.875 (0.753 - 1.017)
35+	1.564** (1.434 - 1.705)	1.241 (0.980 - 1.573)	1.000 (0.873 - 1.146)	1.252** (1.122 - 1.398)	1.470** (1.291 - 1.673)
Marital Status: Reference = Never married/common law					
Married / common law	1.643** (1.507 - 1.791)	1.308* (1.043 - 1.638)	1.681** (1.480 - 1.909)	1.185** (1.068 - 1.315)	1.038 (0.917 - 1.176)
Formerly married / common law	1.532** (1.295 - 1.812)	1.286 (0.795 - 2.081)	1.303* (1.001 - 1.697)	1.404** (1.148 - 1.718)	0.939 (0.720 - 1.223)
Visible minority status: Reference = Not a visible minority					
Visible minority	0.825* (0.702 - 0.970)	0.528* (0.320 - 0.871)	0.967 (0.776 - 1.205)	1.286** (1.085 - 1.523)	1.138 (0.930 - 1.393)
Field of Study: Reference = Female high school graduates					
Education	0.000 (0 - 0)	0.000 (0 - 0)	0.000 (0 - 0)	16.17** (9.750 - 26.82)	0.000 (0 - 0)
Arts/Humanities/Soc sci	1.028 (0.802 - 1.318)	0.840 (0.392 - 1.801)	1.678** (1.181 - 2.382)	14.80** (12.58 - 17.41)	0.693 (0.465 - 1.033)
Business/Mngt/Admin	4.248** (3.808 - 4.740)	0.898 (0.583 - 1.382)	1.136 (0.888 - 1.452)	2.422** (2.100 - 2.794)	0.852 (0.686 - 1.060)
STEM	2.217** (1.647 - 2.984)	26.10** (19.03 - 35.79)	1.438 (0.831 - 2.488)	1.354 (0.886 - 2.068)	8.959** (6.887 - 11.65)
Agric/PPT/Other	0.343** (0.222 - 0.531)	3.086** (1.947 - 4.892)	0.250** (0.099 - 0.636)	2.695** (2.105 - 3.451)	0.846 (0.580 - 1.235)

	Reference = Sales and Service occupation				
	Mngt/Bus	Natural and Applied Sciences	Health	Edu/Art	Trades, Manufacturing, Natural Resources and Related
Health	3.456** (2.899 - 4.121)	2.105** (1.272 - 3.484)	72.88** (62.22 - 85.36)	3.749** (3.068 - 4.581)	1.679** (1.267 - 2.225)
Type of employment: Reference = Mainly part-time worker					
Mainly full-time worker	3.036** (2.746 - 3.356)	4.160** (3.038 - 5.695)	1.540** (1.350 - 1.755)	1.375** (1.240 - 1.525)	3.194** (2.762 - 3.694)
Weeks worked in a year: Reference = 27 or more weeks worked					
26 or less weeks worked	0.865** (0.784 - 0.955)	1.692** (1.341 - 2.136)	0.716** (0.618 - 0.831)	1.065 (0.955 - 1.188)	2.702** (2.399 - 3.043)
Parental status: Reference = Not a parent					
Parent	0.917* (0.842 - 0.999)	0.620** (0.492 - 0.780)	0.996 (0.877 - 1.131)	1.124* (1.012 - 1.248)	1.074 (0.947 - 1.219)
Constant	0.143** (0.126 - 0.161)	0.012** (0.009 - 0.018)	0.061** (0.051 - 0.072)	0.132** (0.115 - 0.151)	0.0459** (0.038 - 0.055)
** $p < 0.01$, * $p < 0.05$					

Table 9: Odds ratio of the multinomial regression on occupational outcome for females with a bachelor's degree

	Reference: Sales and Service occupations				
	Mngt/Bus	Natural and Applied Sciences	Health	Edu/Art	Trades, Manufacturing, Natural Resources and Related
Variables					
Age group: Reference = 25-34					
15-24	0.552** (0.495 - 0.617)	0.641** (0.501 - 0.820)	0.313** (0.264 - 0.370)	0.686** (0.614 - 0.767)	0.775** (0.657 - 0.915)
35+	1.558** (1.430 - 1.697)	1.115 (0.893 - 1.393)	1.039 (0.913 - 1.182)	1.167** (1.056 - 1.290)	1.440** (1.255 - 1.652)
Marital Status: Reference = Never married/common law					
Married / common law	1.558** (1.433 - 1.695)	1.090 (0.896 - 1.326)	1.667** (1.471 - 1.889)	1.445** (1.317 - 1.585)	1.238** (1.083 - 1.417)
Formerly married / common law	1.417** (1.195 - 1.681)	0.974 (0.623 - 1.522)	1.167 (0.890 - 1.529)	1.215 (0.991 - 1.489)	1.010 (0.759 - 1.344)
Visible minority status: Reference = Not a visible minority					
Visible minority	0.992 (0.851 - 1.157)	0.911 (0.635 - 1.308)	1.048 (0.837 - 1.314)	1.064 (0.902 - 1.255)	1.114 (0.891 - 1.393)
Field of Study: Reference = Female high school graduates					
Education	1.830** (1.289 - 2.599)	0.876 (0.244 - 3.142)	4.258** (2.810 - 6.452)	79.64** (61.54 - 103.0)	0.000 (0 -)
Arts/Humanities/ Soc sci	3.857** (3.474 - 4.282)	2.075** (1.537 - 2.801)	3.663** (3.117 - 4.305)	11.56** (10.42 - 12.82)	0.318** (0.232 - 0.436)
Business/Mngt/ Admin	8.114** (7.044 - 9.346)	5.867** (4.376 - 7.867)	0.941 (0.642 - 1.378)	8.355** (7.139 - 9.778)	0.246** (0.141 - 0.430)
STEM	4.096** (3.012 - 5.571)	104.8** (77.36 - 142.1)	24.42** (18.09 - 32.95)	10.02** (7.501 - 13.39)	1.677* (1.030 - 2.732)
Agric/PPT/Other	2.981** (1.747 - 5.086)	27.80** (15.72 - 49.15)	3.628** (1.681 - 7.827)	9.556** (5.911 - 15.45)	0.800 (0.284 - 2.256)
Health	2.183** (1.777 - 2.682)	2.401** (1.445 - 3.991)	162.6** (137.5 - 192.2)	5.684** (4.692 - 6.887)	0.704 (0.473 - 1.049)

	Reference: Sales and Service occupations				
	Mngt/Bus	Natural and Applied Sciences	Health	Edu/Art	Trades, Manufacturing, Natural Resources and Related
Type of employment: Reference = Mainly part-time worker					
Mainly full-time worker	3.373** (3.058 - 3.719)	5.168** (3.870 - 6.903)	1.893** (1.663 - 2.155)	1.504** (1.372 - 1.649)	2.888** (2.480 - 3.362)
Weeks worked in a year: Reference = 27 or more weeks worked					
26 or less weeks worked	0.910 (0.828 - 1.000)	0.871 (0.697 - 1.089)	0.633** (0.550 - 0.730)	1.152** (1.045 - 1.269)	2.668** (2.348 - 3.032)
Parental status: Reference = Not a parent					
Parent	1.003 (0.921 - 1.092)	1.112 (0.905 - 1.367)	1.118 (0.986 - 1.267)	1.048 (0.952 - 1.153)	0.941 (0.821 - 1.078)
Constant	0.128** (0.113 - 0.144)	0.010** (0.007 - 0.014)	0.057** (0.048 - 0.068)	0.125** (0.111 - 0.141)	0.051** (0.043 - 0.062)
** $p < 0.01$, * $p < 0.05$					

Table 10: Odds ratio of the multinomial regression on occupational outcome for males with a college diploma

	Reference = Sales and Service occupations				
	Mngt/Bus	Natural and Applied Sciences	Health	Edu/Art	Trades, Manufacturing, Natural Resources and Related
Variables					
Age group: Reference = 25-34					
15-24	0.772** (0.686 - 0.870)	0.417** (0.359 - 0.484)	0.868 (0.605 - 1.245)	0.856* (0.752 - 0.973)	0.927* (0.860 - 0.999)
35+	1.809** (1.639 - 1.996)	0.879 (0.762 - 1.014)	2.205** (1.633 - 2.978)	0.901 (0.800 - 1.015)	1.211** (1.120 - 1.309)
Marital Status: Reference = Never married/common law					
Married/common law	1.322** (1.183 - 1.477)	1.381** (1.201 - 1.587)	1.213 (0.875 - 1.683)	1.638** (1.445 - 1.857)	1.018 (0.940 - 1.103)
Formerly married / common law	1.339* (1.049 - 1.708)	2.058** (1.524 - 2.779)	2.146* (1.170 - 3.939)	2.158** (1.658 - 2.808)	1.314** (1.091 - 1.581)
Visible minority status: Reference = Not a visible minority					
Visible minority	1.030 (0.877 - 1.211)	0.893 (0.713 - 1.119)	0.800 (0.493 - 1.297)	1.182 (0.992 - 1.410)	0.806** (0.716 - 0.907)
Field of study: Reference = Male high school graduates					
Arts/Humanities/Soc sci	0.736 (0.423 - 1.281)	8.183** (5.491 - 12.19)	5.983** (2.876 - 12.45)	5.480** (3.916 - 7.668)	0.262** (0.157 - 0.437)
Business/Mngt/Admin	2.027** (1.672 - 2.458)	1.943** (1.431 - 2.638)	3.007** (1.807 - 5.007)	0.867 (0.654 - 1.150)	0.475** (0.389 - 0.580)
STEM	1.051 (0.908 - 1.217)	11.26** (9.876 - 12.83)	0.952 (0.560 - 1.619)	0.585** (0.477 - 0.716)	3.550** (3.252 - 3.874)
Agric/PPT/Other	0.734 (0.532 - 1.013)	4.964** (3.780 - 6.521)	0.844 (0.292 - 2.440)	3.492** (2.799 - 4.356)	1.070 (0.879 - 1.302)
Health	1.860* (1.054 - 3.284)	0 (0 -)	221.6** (139.9 - 350.9)	2.556** (1.406 - 4.647)	0.684 (0.389 - 1.201)
Type of employment: Reference = Mainly part-time worker					
Mainly full-time worker	1.926** (1.690 - 2.197)	5.353** (4.242 - 6.755)	1.260 (0.907 - 1.751)	1.616** (1.399 - 1.867)	3.847** (3.517 - 4.208)

	Reference = Sales and Service occupations				
	Mngt/Bus	Natural and Applied Sciences	Health	Edu/Art	Trades, Manufacturing, Natural Resources and Related
Weeks worked in a year: Reference = 27 or more weeks worked					
26 or less weeks worked	0.731** (0.645 - 0.828)	1.078 (0.928 - 1.254)	1.407* (1.022 - 1.937)	0.632** (0.545 - 0.733)	1.971** (1.826 - 2.127)
Parental status: Reference = Not a parent					
Parent	1.576** (1.403 - 1.770)	1.282** (1.101 - 1.492)	0.863 (0.605 - 1.229)	1.612** (1.415 - 1.837)	1.760** (1.610 - 1.925)
Constant	0.180** (0.156 - 0.207)	0.025** (0.020 - 0.032)	0.014** (0.010 - 0.0212)	0.151** (0.129 - 0.176)	0.330** (0.299 - 0.363)
** $p < 0.01$, * $p < 0.05$					

Table 11: Odds ratio of the multinomial regression on occupational outcome for males with a bachelor's degree

	References: Sales and Service occupations				
	Mngt/Bus	Natural and Applied Sciences	Health	Edu/Art	Trades, Manufacturing, Natural Resources and Related
Variables					
Age group: Reference = 25-34					
15-24	0.743** (0.662 - 0.833)	0.575** (0.479 - 0.690)	0.593** (0.441 - 0.798)	0.869* (0.769 - 0.982)	0.935 (0.861 - 1.015)
35+	1.508** (1.371 - 1.659)	1.145 (0.987 - 1.329)	1.626** (1.268 - 2.084)	0.956 (0.855 - 1.068)	1.183** (1.092 - 1.281)
Marital Status: Reference = Never married/common law					
Married / common law	1.370** (1.236 - 1.519)	1.565** (1.342 - 1.826)	1.319* (1.033 - 1.683)	1.432** (1.275 - 1.608)	0.936 (0.859 - 1.020)
Formerly married / common law	1.126 (0.892 - 1.421)	1.685** (1.191 - 2.384)	1.540 (0.859 - 2.762)	1.507** (1.167 - 1.945)	1.083 (0.901 - 1.303)
Visible minority status: Reference = Not a visible minority					
Visible minority	0.847* (0.718 - 0.999)	0.947 (0.741 - 1.209)	1.079 (0.712 - 1.637)	1.033 (0.867 - 1.231)	0.706** (0.622 - 0.802)
Field of Study: Reference = Female high school graduates					
Education	4.224** (2.371 - 7.527)	1.490 (0.479 - 4.641)	7.941** (2.662 - 23.69)	60.29** (36.50 - 99.60)	1.136 (0.619 - 2.084)
Arts/Humanities/Soc sci	3.198** (2.771 - 3.691)	1.994** (1.554 - 2.560)	10.79** (8.138 - 14.31)	5.997** (5.228 - 6.879)	0.351** (0.294 - 0.419)
Business/Mngt/Admin	7.262** (6.299 - 8.373)	1.851** (1.407 - 2.436)	1.221 (0.606 - 2.462)	2.109** (1.740 - 2.556)	0.273** (0.221 - 0.337)
STEM	4.879** (3.836 - 6.206)	90.51** (72.82 - 112.5)	22.16** (15.21 - 32.29)	5.270** (4.100 - 6.773)	0.717* (0.548 - 0.937)
Agric/PPT/Other	6.217** (3.544 - 10.91)	10.27** (5.410 - 19.49)	0.000 (0 -)	4.198** (2.199 - 8.015)	0.880 (0.465 - 1.666)
Health	3.048** (2.191 - 4.241)	0.515 (0.183 - 1.444)	207.6** (151.0 - 285.5)	5.629** (4.128 - 7.674)	0.421** (0.288 - 0.615)
Type of employment: Reference = Mainly part-time worker					
Mainly full-time worker	2.071** (1.820 - 2.356)	3.825** (3.039 - 4.814)	1.720** (1.285 - 2.304)	1.319** (1.163 - 1.497)	3.355** (3.041 - 3.702)

	References: Sales and Service occupations				
	Mngt/Bus	Natural and Applied Sciences	Health	Edu/Art	Trades, Manufacturing, Natural Resources and Related
Weeks worked in a year: Reference = 27 or more weeks worked					
26 or less weeks worked	0.611** (0.540 - 0.690)	1.149 (0.970 - 1.360)	0.953 (0.722 - 1.257)	0.721** (0.634 - 0.819)	2.056** (1.895 - 2.231)
Parental status: Reference = Not a parent					
Parent	1.573** (1.410 - 1.755)	1.323** (1.126 - 1.554)	1.153 (0.880 - 1.511)	1.813** (1.604 - 2.049)	1.906** (1.736 - 2.094)
Constant	0.183** (0.159 - 0.210)	0.028** (0.022 - 0.036)	0.0122** (0.009 - 0.017)	0.183** (0.159 - 0.209)	0.379** (0.342 - 0.421)
** $p < 0.01$, * $p < 0.05$					

Table 12: Income regression result for females

Variables	College diploma	Bachelor's degree
Age group: Reference = 25-34		
15-24	-0.186***	-0.336***
	[-0.213, -0.159]	[-0.361, -0.311]
35+	0.147***	0.162***
	[0.124, 0.170]	[0.141, 0.182]
Marital Status: Reference = Never married/common law		
Married / common law	0.062***	0.102***
	[0.040, 0.085]	[0.082, 0.122]
Formerly married / common law	0.108***	0.112***
	[0.063, 0.152]	[0.069, 0.155]
Field of Study: Reference = Female high school graduates		
Education	-0.124	0.628***
	[-0.275, 0.027]	[0.590, 0.667]
Visual and Performing Arts, and Communications Technologies	-0.0902*	0.0249
	[-0.179, -0.002]	[-0.070, 0.120]
Humanities	0.096	0.231***
	[-0.577, 0.769]	[0.192, 0.270]
Social and Behavioural Sciences and Law	-0.05	0.253***
	[-0.100, 0.000]	[0.224, 0.282]
Business, Management and Public Administration	0.134***	0.503***
	[0.103, 0.165]	[0.471, 0.536]
Physical and Life Sciences and Technologies	0.560**	0.341***
	[0.200, 0.920]	[0.280, 0.402]
Mathematics, Computer and Information Sciences	0.0624	0.401***
	[-0.0742, 0.199]	[0.255, 0.547]
Architecture, Engineering, and Related Trades	0.110**	0.736***
	[0.037, 0.184]	[0.612, 0.861]
Agriculture, Natural Resources and Conservation	0.298***	0.475***
	[0.134, 0.462]	[0.236, 0.713]
Health and Related Fields	0.288***	0.794***
	[0.258, 0.318]	[0.768, 0.819]
Personal, Protective and Transportation Services	-0.105**	N/A
	[-0.185, -0.026]	

Variables	College diploma	Bachelor's degree
Other	-0.909*	0.398***
	[-1.708, -0.109]	[0.272, 0.524]
Visible minority status: Reference = Not a visible minority		
Visible minority	-0.0462*	-0.049**
	[-0.085, -0.007]	[-0.085, -0.012]
Type of employment: Reference = Mainly part-time worker		
Mainly full-time worker	0.664***	0.797***
	[0.641, 0.687]	[0.776, 0.818]
Weeks worked in a year: Reference = 27 or more weeks worked		
26 or less weeks worked	-1.019***	-1.026***
	[-1.043, -0.995]	[-1.048, -1.004]
Parental status: Reference = Not a parent		
Parent	-0.178***	-0.126***
	[-0.200, -0.155]	[-0.146, -0.106]
Constant	9.473***	9.351***
	[9.444, 9.502]	[9.325, 9.378]
R²	0.428	0.533
Adjusted R²	0.428	0.533
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$		

Table 13: Income regression result for males

Variables	College Diploma	Bachelor's degree
Age group: Reference = 25-34		
15-24	-0.240***	-0.265***
	[-0.262, -0.219]	[-0.288, -0.241]
35+	0.071***	0.111***
	[0.050,0.092]	[0.010,0.131]
Marital Status: Reference = Never married/common law		
Married / common law	0.189***	0.224***
	[0.167,0.212]	[0.202,0.247]
Formerly married / common law	0.142***	0.213***
	[0.094,0.190]	[0.164,0.262]
Field of Study: Reference = Male high school graduates		
Education	-0.542***	0.301***
	[-0.853, -0.232]	[0.235,0.367]
Visual and Performing Arts, and Communications Technologies	-0.216***	-0.204**
	[-0.332, -0.101]	[-0.350, -0.058]
Humanities	-1.491***	0.00125
	[-1.855, -1.126]	[-0.053,0.055]
Social and Behavioural Sciences and Law	-0.0882	0.181***
	[-0.246, 0.070]	[0.139,0.222]
Business, Management and Public Administration	-0.0120	0.272***
	[-0.070,0.031]	[0.236,0.307]
Physical and Life Sciences and Technologies	0.067	0.008
	[-0.238,0.372]	[-0.068,0.085]
Mathematics, Computer and Information Sciences	0.075*	0.394***
	[0.008,0.142]	[0.319,0.469]
Architecture, Engineering, and Related Trades	0.114***	0.548***
	[0.0919,0.136]	[0.503,0.593]
Agriculture, Natural Resources and Conservation	0.154**	0.239***
	[0.051,0.257]	[0.102,0.375]
Health and Related Fields	0.127**	0.221***
	[0.037,0.218]	[0.164,0.278]
Personal, Protective and Transportation Services	0.154***	N/A
	[0.095,0.213]	

Variables	College Diploma	Bachelor's degree
Other	-0.610*	0.189
	[-1.098, -0.123]	[-0.051, 0.430]
Visible minority status: Reference = Not a visible minority		
Visible minority	-0.123***	-0.0568**
	[-0.156, -0.089]	[-0.092, -0.022]
Type of employment: Reference = Mainly part-time worker		
Mainly full-time worker	0.797***	0.811***
	[0.771, 0.823]	[0.784, 0.838]
Weeks worked in a year: Reference = 27 or more weeks worked		
26 or less weeks worked	-0.862***	-0.918***
	[-0.883, -0.841]	[-0.940, -0.895]
Parental status: Reference = Not a parent		
Parent	0.083***	0.088***
	[0.059, 0.107]	[0.064, 0.111]
Constant	9.513***	9.480***
	[9.485, 9.541]	[9.451, 9.508]
R²	0.387	0.439
Adjusted R²	0.387	0.439
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$		

Table 14: Employment income statistics of males aged 15 and over in New Brunswick, by occupation

Occupation - National Occupational Classification (NOC) 2016	Median employment income	Average employment income
Legislative and senior management occupations	\$58,993	\$71,060
Business, finance and administration occupations	\$43,221	\$51,529
Natural and applied sciences and related occupations	\$59,454	\$64,416
Health occupations	\$59,475	\$75,962
Occupations in education, law and social, community and government services	\$61,461	\$60,884
Occupations in art, culture, recreation and sport	\$15,943	\$25,845
Sales and service occupations	\$21,115	\$26,828
Trades, transport and equipment operators and related occupations	\$36,587	\$41,885
Natural resources, agriculture and related production occupations	\$21,597	\$35,289
Occupations in manufacturing and utilities	\$32,778	\$41,236

Source: [StatCan, 2019](#)

Table 15: Employment income statistics of females aged 15 and over in New Brunswick, by occupation

Occupation - National Occupational Classification (NOC) 2016	Median employment income	Average employment income
Legislative and senior management occupations	\$44,082	\$50,946
Business, finance and administration occupations	\$36,415	\$36,728
Natural and applied sciences and related occupations	\$48,777	\$50,007
Health occupations	\$41,387	\$46,638
Occupations in education, law and social, community and government services	\$27,156	\$37,643
Occupations in art, culture, recreation and sport	\$10,775	\$20,024
Sales and service occupations	\$15,525	\$19,267
Trades, transport and equipment operators and related occupations	\$23,914	\$26,071
Natural resources, agriculture and related production occupations	\$11,655	\$16,533
Occupations in manufacturing and utilities	\$16,271	\$20,387

Source: [StatCan, 2019](#)

Appendix B: Regression Models

Multinomial Logistic Regression

Equation 1: Multinomial logistic regression estimating the association between each covariate and the likelihood of selecting into certain occupations.

Let y represent the dependent variable (occupational category) with six possible outcomes ($y =$ categories 1 to 6). Without loss of generality, we set $y =$ category 1 (Sales and Service occupations) as the reference category. The model is specified as follows:

$$\log\left(\frac{P(y=j)}{P(y=6)}\right) = \beta_{0j} + \beta_{1j}Age + \beta_{2j}MaritalStatusin2016 + \beta_{3j}Fieldofstudy + \beta_{4j}Language + \beta_{5j}VisibleMinority$$

for $j = 1, 2, 3, \dots, 11$

Where:

- $P(y_i = j|x_i)$ is the probability of observing category j given the predictors.
- β_{0j} is the intercept for category j .
- $\beta_{1j}, \beta_{2j}, \dots, \beta_{11j}$ are the coefficients for the independent variables as defined above for category j .

Ordinary Least Squares Estimation

Equation 2: Ordinary Least Squares regression estimating the impact of different predictors on employment income

$$\text{Log}(Y) = \beta_0 + \beta_1Age + \beta_2MaritalStatus + \beta_3Fieldofstudy + \beta_4VisibleMinority + \beta_5WorkerStatus + \beta_6Weeksworked + \beta_7ParentStatus + \varepsilon$$

Where:

- **Log(Y)** is the natural log of employment income in 2016.
- β_0 is the intercept.
- $\beta_1, \beta_2, \dots, \beta_7$ are the coefficients, representing the effect of each category relative to the reference group.
- ε is the error term, capturing the variability in Y not explained by the model.