Higher Education Quality Council of Ontario

An agency of the Government of Ontario

The Journey of Ontario Apprentices: From High School to the Workforce

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Published by

The Higher Education Quality Council of Ontario

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Cite this publication in the following format:

Chatoor, K. & Kaufman, A. (2020) *The Journey of Ontario Apprentices: From High School to the Workforce.* Toronto: Higher Education Quality Council of Ontario.

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Introduction

The apprenticeship system is an important component of Ontario's postsecondary education landscape, and the labour and skills of tradespeople are an integral part of the province's economy. Over the past several years, Government of Ontario ads on TV and in movie theatres have urged Ontarians to consider the trades as a viable and valued employment pathway. Media reports indicate that the trades workforce is aging and warn of a shortage of skilled workers, the impact of which will be felt far and wide in our economy. As of 2015, an estimated four million workers in Canada are employed in the skilled trades (Statistics Canada, 2015), making important contributions to our economy and society. We know that many moved into this type of work through provincially administered apprenticeship programs, but less is known about the specific individuals who pursue apprenticeship training and how they fare in the labour market after they complete a program.

The Higher Education Quality Council of Ontario (HEQCO) undertook this study to gain a better understanding of the province's apprenticeship system, and to shed light on concerns about apprenticeship completion rates and shortages within the skilled trades. To conduct this study, HEQCO used the 2016 Census, the 2015 National Apprenticeship Survey, and the Longitudinal and International Study of Adults, all of which have been linked to income tax files.

The newly available data linkages allowed the researchers to follow apprentices from their high school years, through their apprenticeships and into the labour force. This allowed for three types of analysis: an inter-generational analysis, an analysis of the experiences and challenges they encountered during their programs and an analysis of income and employment outcomes.

This report also describes the basics of the apprenticeship system, defines its components, explains how it works and considers Ontario within a national context.

Background

Ontario's Apprenticeship System

Apprenticeship involves learning while on the job. With the support of a sponsor, usually an employer or trade union, an apprentice learns a skilled trade through a combination of classroom-based training and paid work alongside experienced workers. Apprentices attend mandatory in-class education — most often delivered on a college campus or in a union training centre — from instructors who know the trade. For most trades in Ontario, an apprentice will spend the better part of a year learning on the job (80%), then switch to in-class study for eight to 12 weeks (20%) — a training method known as "block release." The

process of completing both on the learning and completing in-class study components generally takes two to five years to complete. When an apprentice has completed all elements of the apprenticeship, they receive a Certificate of Apprenticeship. This certificate allows them to pursue a Certificate of Qualification. For many trades, this requires the apprentice to pass a certification exam. Plumbers, tool and die makers, electricians, hairstylists and cooks are just some of the trades requiring a certification exam to earn a Certificate of Qualification (Government of Ontario, 2016).

There are advantages to participating in a formal apprenticeship in Ontario. Apprentices develop a relationship with an employer who is invested in their skills and training development. The apprentice is paid while learning from skilled and experienced workers. There is an understanding on the part of the sponsoring employer that the apprentice will be excused from work to complete the in-class training portion as part of the apprenticeship process. The employer benefits from the apprentice's developing skills, company loyalty and the knowledge that the future quality and reputation of the trade will be maintained. There are also financial incentives in the form of government grants and tax credits for employers who take on apprentices.

Not all workers with careers in the trades have completed an apprenticeship. In this paper we focus on those who have.

How Does Apprenticeship Work?

Finding a position as an apprentice is much like any job search; an interested individual seeks a position either with an employer who is prepared to participate in an apprenticeship agreement or with a union local. Individuals must be at least 16 years of age and legally able to work in Ontario, though most employers require a high school diploma with credits in math and science before they hire an apprentice. Many employers hire individuals first as labourers and enter into an apprenticeship agreement after the worker has proven to be capable and responsible.

The process for registering as an apprentice requires a contract between the apprentice, the provincial apprenticeship authority and a sponsor (often an employer). The contract outlines the length of the program, the skills required and regulatory requirements such as wages. Apprentices log their skill development with the central authority (usually the provincial or territorial government) and are notified when it is time to do the technical, in-class training. In Ontario, the in-class training is provided by public colleges for most trades, and to a lesser degree by union training centres. Once the required training has been completed — both the on-the-job component and the in-class training — the apprentice must pass a certification exam to earn a Certificate of Qualification and become a registered journeyperson.

What Are the Trades?

In Ontario, the trades have traditionally been categorized into four sectors identified below (Government of Ontario, 2019).

- **Construction**: including masons, boilermakers, drywall finishers, general carpenters, ironworkers, painters, roofers and sheet metal workers
- **Industrial**: including draftspersons, cabinet makers, elevating devices mechanics, metal fabricators, tool and die makers, truck drivers and welders
- **Motive-power**: including auto-body workers, heavy-duty equipment mechanics, small-engine technicians, and truck and trailer service workers
- **Service**: including cooks, bakers, child and youth workers, developmental-services workers, hairstylists, horticultural technicians and arborists

In Ontario, a small subset of trades (23 of 144) are compulsory, meaning practitioners must be certified or registered as an apprentice in order to legally work in Ontario. Voluntary trades are those for which certification is not legally required.

Apprenticeship Systems Across Canada

Each province and territory has its own local apprenticeship authority. In Ontario, responsibility for apprenticeship was transferred from the Ministry of Colleges and Universities to the Ministry of Labour, Training and Skills Development in October 2019. Apprenticeship systems across Canada vary in both their administrative methods as well as their size. British Columbia and Ontario, for example, each manage 144 trade programs, which is double that of most other provinces. Most offer some sort of transition to trades training that begins in high school, like the Ontario Youth Apprenticeship Program (OYAP). These programs encourage young people to enter the skilled trades by providing dual credit options (ITABC, 2019; Ontario Youth Apprenticeship Program, 2020). All of the provincial/territorial apprenticeship systems engage with local employers and industry.

Canada's Atlantic provinces — Nova Scotia, Prince Edward Island, New Brunswick and Newfoundland and Labrador — are involved in the Atlantic Apprenticeship Harmonization Project, which is designed to streamline apprenticeship training rules, processes and standards. The goal of the program is to develop a common information-technology system to make it easier for individuals to enter the trades and work toward certification even if they switch employers or relocate during their training. A subset of 10 high-demand trades has been selected, and the provinces have signed a memorandum of understanding to provide mutual recognition for successfully completed training (Government of Canada, 2017).

In all cases, the provinces and territories provide information for aspiring apprentices and potential employers. Some jurisdictions, including BC and Alberta, offer digital tools to support apprentices, such as seat-finder tools and online logbooks. In all cases, it is the responsibility of the apprentice to find employment in order to gain access to the apprenticeship system.

The exception to this approach is Quebec, where apprentices complete the entirety of their in-class training prior to starting their on-the-job learning (Government of Quebec, 2019).

Harmonization Efforts

There are differences between the jurisdictions when it comes to the content and rollout of the training components of each system. The training and skills development schedule of an industrial technician apprentice in Ontario is not necessarily aligned with that of a counterpart who resides in another province or territory.

The Red Seal program sets common standards to assess the skills of tradespeople across Canada. It is a partnership between the federal government and the provinces and territories. Red Seal Canada has launched a harmonization initiative to substantively align apprenticeship systems across the country, making training requirements more consistent in the Red Seal trades. The goal, in large part, is to improve the mobility of apprentices and to increase completion rates. The Red Seal designation is very important for trades workers who complete their training in one province, then wish to work in another. The designation can be a significant advantage during times of particularly strong regional economic growth. Unless they work in a compulsory trade (a trade where certification is required to practice) or wish to achieve Red Seal status, working tradespeople are not required to pursue certification, which in many provinces doubles as the Red Seal exam (Red Seal Canada, 2019).

In-class Training

The block release method — where apprentices attend class for eight to 12 weeks at a time — can be challenging for both apprentices and employers. Apprentices are required to be away from the job during times that are not necessarily convenient for an employer, and the employer may encounter staffing issues. Apprentices are paid by their employer while they are learning on the job, but the employer has no obligation to pay wages during the in-class training period. Apprentices may be eligible for employment insurance benefits from the federal government during in-class training periods, but this benefit is a fraction of their typical wages. Depending on geographic location and trade, apprentices may be required to relocate in order to access in-class training and are responsible for their travel and housing costs. The loss of wages, the inconvenience and the pressure from employers can make this system challenging for apprentices.

To mitigate these impacts and provide apprentices and employers with more options, Ontario has introduced alternative approaches to the provision of in-class training, including day release (attending school one day a week while working), studying part time and alternate delivery modes of training (such as online). The Canadian Apprenticeship Forum, a national non-profit, also continues to explore alternative approaches to delivering the in-class training component of apprenticeship. From 2015 to 2018, Employment and Social Development Canada funded 10 pilot projects across Canada, most of which involved a combination of in-person instruction and online courses; others experimented with upfront training, mobile labs and simulator training. Participants reported that they missed fewer hours of work. The average time spent away from home for training was reduced (as were the costs of relocation), and they received fewer weeks of employment insurance (Canadian Apprenticeship Forum, 2018; p. 5).

Sponsors' Responsibilities

An employer, a group of employers or a trade union can sponsor an apprentice and provide the hands-on training necessary. In addition to the benefits experienced by sponsors — helping grow the workforce, developing highly skilled and loyal employees, qualifying for financial incentives — there are responsibilities as well.

Sponsors must ensure they have adequate capacity to fulfil their commitments to the apprentice. They must provide access to safe and appropriate facilities, people and equipment, and commit to ensuring that the apprentice has time to attend classroom training. The sponsor must meet all regulations applicable to the trade, such as wage rates and training ratios, and is responsible for registering the apprentice and signing a training agreement confirming the terms of the apprenticeship. Finally, the sponsor is responsible for the on-the-job element of the training agreement, ensuring that the apprentice has opportunities to learn and practice the skills and competencies set out in the Apprenticeship Training Standard Log Book (Government of Ontario, 2019).

Data

This study relies on newly available data to provide a better understanding of the apprenticeship landscape in Ontario, using metrics that have traditionally been used to understand the students who attend college and university. It aims to shed light on apprenticeship completion, concerns about shortages in the skilled trades, and a broad range of labour market outcomes and demographic factors across the major trades.

It relies on data available via Statistics Canada's Research Data Centres, and draws on the 2016 Census, the 2015 National Apprenticeship Survey, and the 2016 Longitudinal and International Study of Adults, all of which are linked to income tax files.

We used the National Apprenticeship Survey to determine the completion rates reported in this paper. It is important to note that the NAS is a survey of a specific cohort (2015) of Canadians who were participating in an apprenticeship. It is not longitudinal, but rather provides a snapshot of apprentices at the time of the survey. Completion as discussed in this report is therefore a measure of those within the NAS cohort who completed their apprenticeship as a percentage of all the NAS cohort's apprentices (i.e., those who completed their program and those who discontinued their program). It is possible that some discontinuers from the NAS cohort may have since completed their apprenticeship (or will do so in the future), which would not be captured in this data set.

As noted, there are many people studying and working in the trades who are not involved in an apprenticeship. This is a group with important implications for the trades, but they are not included in this analysis.

The National Apprenticeship Survey

The primary data set used in this report is the National Apprenticeship Survey (NAS), a comprehensive data set that includes apprentices' self-reported experiences and attitudes about apprenticeship programming, as well as administrative data. The NAS is administered at the end of an apprentice's program, either upon completion or discontinuation of an apprenticeship. It asks about their activities before they embarked on apprenticeship training as well as their experiences during the apprenticeship. A description of the structure of the NAS is described below.

NAS Survey respondents were selected on the basis of their apprentice status in 2011, 2012 or 2013. In the 2015 NAS, there were two groups of apprentices:

Completers: individuals who were registered apprentices and who completed their apprenticeship programs between 2011 and 2013.

Discontinuers: individuals who were registered apprentices and who discontinued their apprenticeship programs between 2011 and 2013.

Each of the above individuals is linked to administrative tax files from 2011–2014. This linkage allows us to look at the employment and salary outcomes of apprentices for the four years after they completed or discontinued their apprenticeship. The NAS also contains comprehensive demographic information. Although the NAS is national, in this report, we only look at Ontario apprentices.

Longitudinal and International Study of Adults

The Longitudinal and International Study of Adults (LISA) is a longitudinal study conducted by Statistics Canada every two years that includes questions related to education, work, family and skills In addition to being linked to employment and income data by administrative tax files, LISA is also linked to the Intergenerational Family File (IFF). Statistics Canada constructed the IFF for linkage with LISA using 32 years of tax files that link individuals to their families. This allows us to examine factors such as family income and household size at various stages throughout an apprentice's life. In this paper, we used family income at 19, the age commonly associated with the year after high school completion (Frenette, 2019).

All income results in this report use administrative data from T1 Family Files. All results presented in this report using LISA only looked at Ontario. We look at outcomes such as completion, certification, employment and income, and break these down by individual trades or provincially identified trade types.

Census

The 2016 Census is the most recent detailed enumeration of Canadians and includes very large sample sizes. We have used it in this analysis when looking at the broader Ontario population and results presented are for Ontario only.

Results

Pre-apprenticeship Education and Background

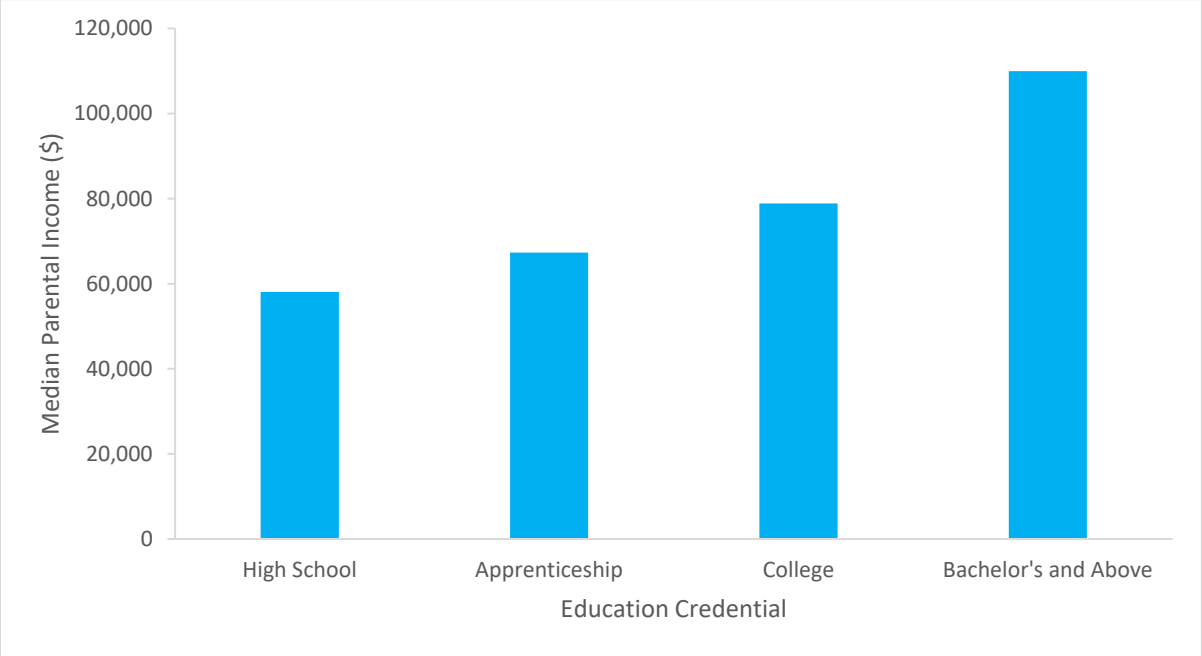
The first section of this report examines the lives of apprentices before they started their program. We examine their socioeconomic backgrounds as well as activities undertaken prior to beginning an apprenticeship, which provide insight into possible challenges they may face and highlight areas where they may require additional support.

For this analysis, LISA was linked to the IFF which allowed us to identify the parental income for individuals included in LISA when they were 19 years old. LISA includes information on parental education, which makes it possible to look at both an individual's parental income and parental education.

Parental Income

LISA includes 1,800 Canadians between the ages of 20 and 50 for whom we can identify parental income at age 19. Figure 1 shows Ontarians at age 19 by their highest credential completed and the mean income of their parents. The median parental income of Ontarians who completed an apprenticeship was approximately $67,000 versus $110, 000 (64% more) for those who completed a bachelor's degree or a higher credential.

Figure 1: Median Household Income at Age 19 by Highest Credential Completed, 2016

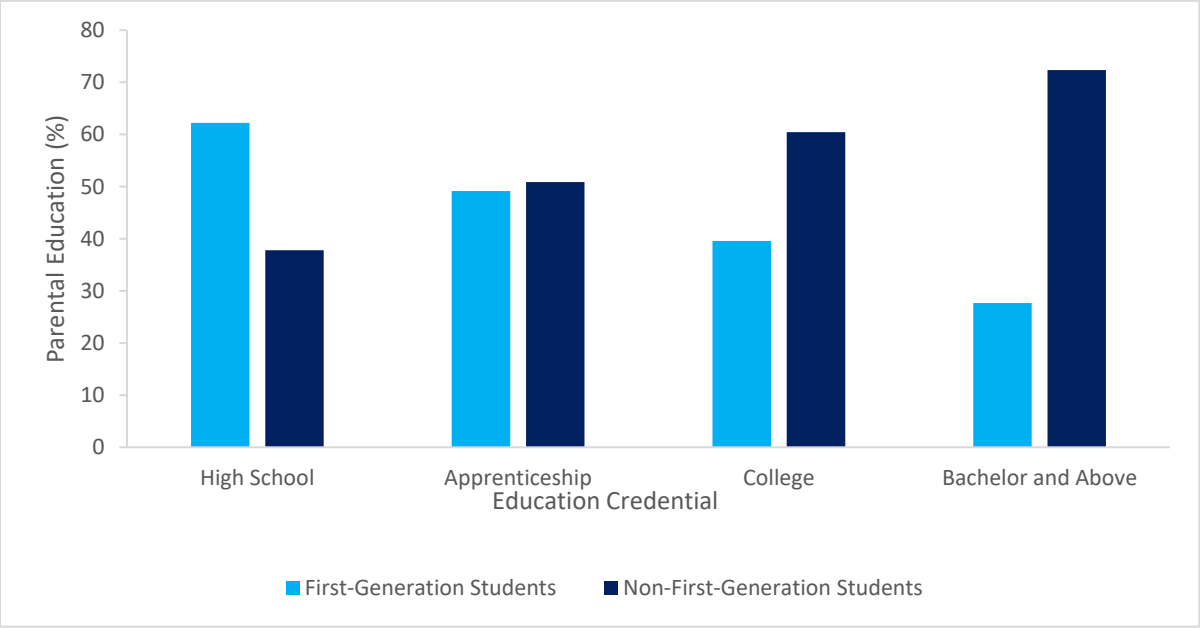


Source: LISA linked to IFF, 2016, n=1,100

Parental Education

Next, we explored the parental education of those who pursued apprenticeships. Figure 2 looks at Ontarians by their highest credential completed and whether they were first-generation students or not. 49% of those who had completed an apprenticeship were first-generation students, compared to 39% of college graduates and 28% of university graduates. First-generation students are those whose parents did not complete any type of postsecondary education.

Figure 2: Ontarians by Highest Credential Completed and their Parental Education, 2016



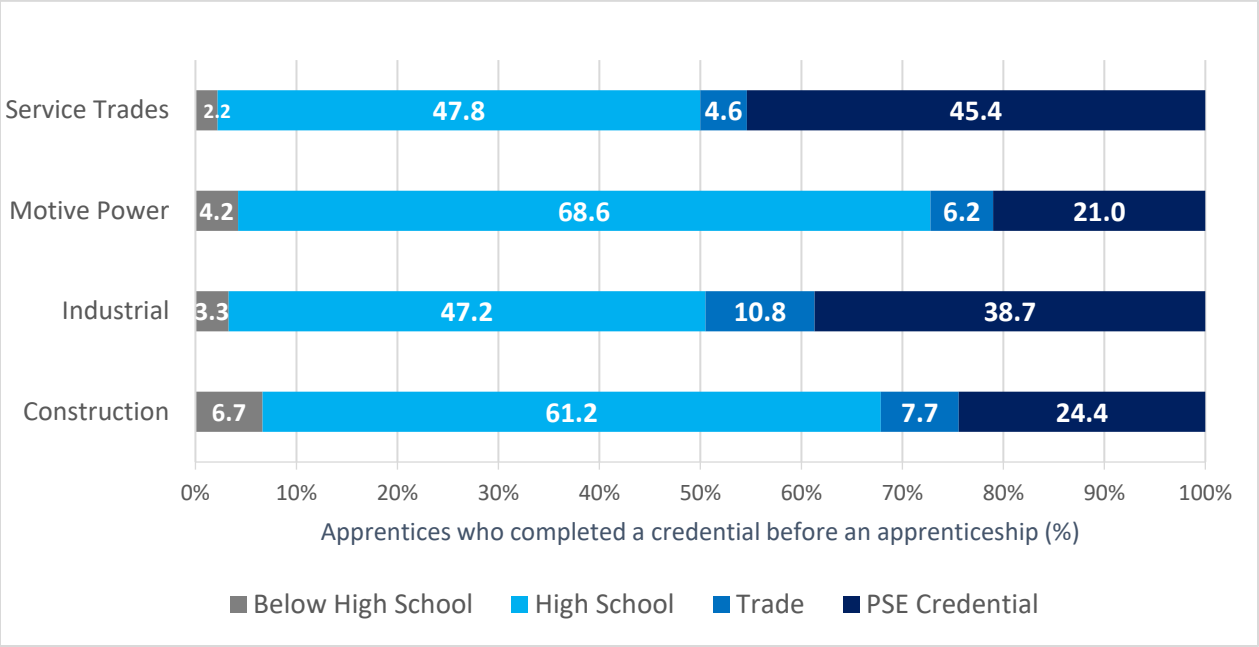
Source: LISA, n=1,800.

Highest Education Completed Before Apprenticeship

We used the NAS to examine the highest level of education completed by apprentices before starting their most recent trade in Ontario.

Figure 3 shows that most individuals who started an apprenticeship had a high school diploma. It was also common to start an apprenticeship after completing a PSE credential. This is especially true for those in the service trades, where 45% of apprentices already had a PSE credential. Motive power trades, at 21%, had the lowest percentage of individuals with a PSE credential at the start of their apprenticeship. We also see that as many as 11% of apprentices in industrial programs already had a trade credential at the start of their apprenticeship.

Figure 3: Highest Level of Education Completed before Apprenticeship, by Trade Type, 2015



Source: NAS, n=5,800.

Programs and Activities Before an Apprenticeship

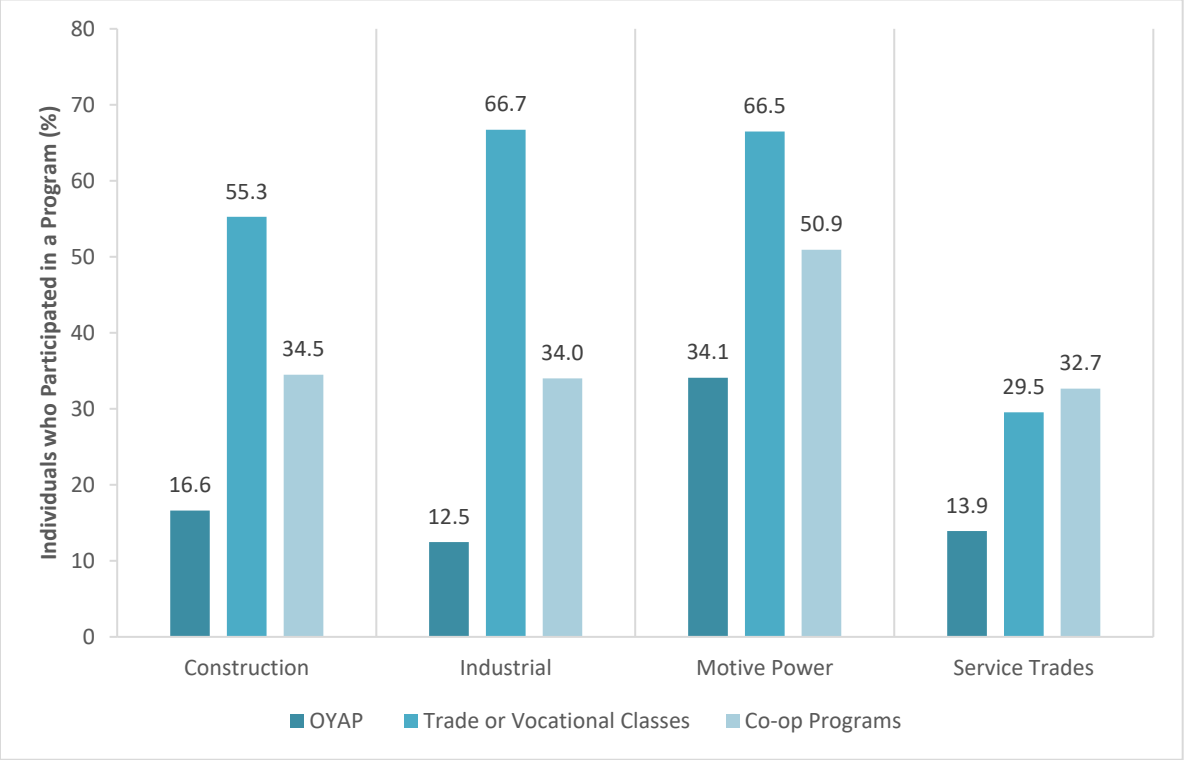
We looked at the programs and activities that apprentices participated in during high school and their pre-apprenticeship participation in the workforce. The NAS asks many questions about activities immediately before starting an apprenticeship as well as during high school and provides the most comprehensive overview of the type of activities tradespeople participated in prior to starting a trade.

High school programs in the trades

Most Canadian provinces and territories offer high school programs that introduce students to and provide early training in careers in the trades. In Ontario, the program is called the Ontario Youth Apprenticeship Program (OYAP). Figure 4 displays the incidence of participation in various high school programs by trade.

For this analysis, we looked at high school co-op programs and apprenticeship preparation programs like OYAP as well as other vocational classes. Participation in these programs can vary considerably by trade type. Those in the motive power trades were most likely to participate in OYAP and co-op programs during secondary school. Those in the service trades were the least likely to take trade or vocational classes, and co-op classes.

Figure 4: Ontario Apprentices who Participated in High School Programs in the Trades, 2015



Source: NAS, n=4,600.

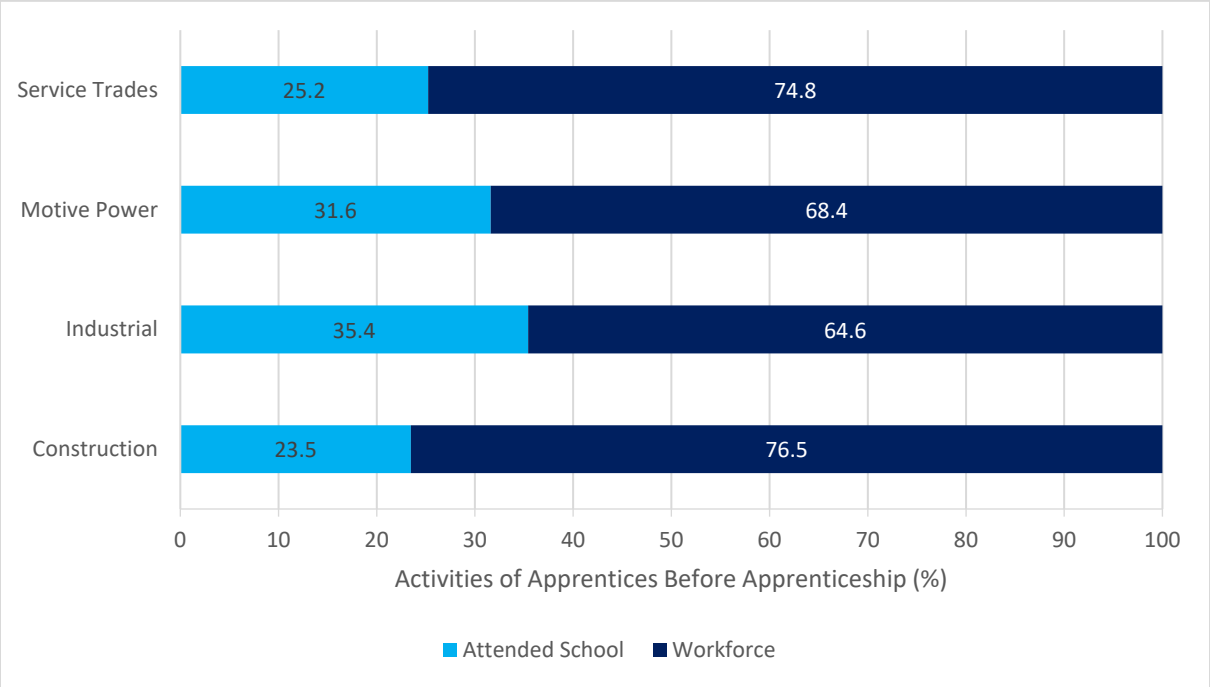
Pre-apprenticeship Workforce Participation:

We looked at whether Ontario apprentices started their program directly from high school or after being in the workforce. We also assessed if people had work experience in the trade they studied during their apprenticeship.

Figure 5a shows that the majority of individuals began an apprenticeship from the workforce (while either looking for work or employed). The industrial trades had the highest percentage of individuals who entered into an apprenticeship directly from high school (35%).

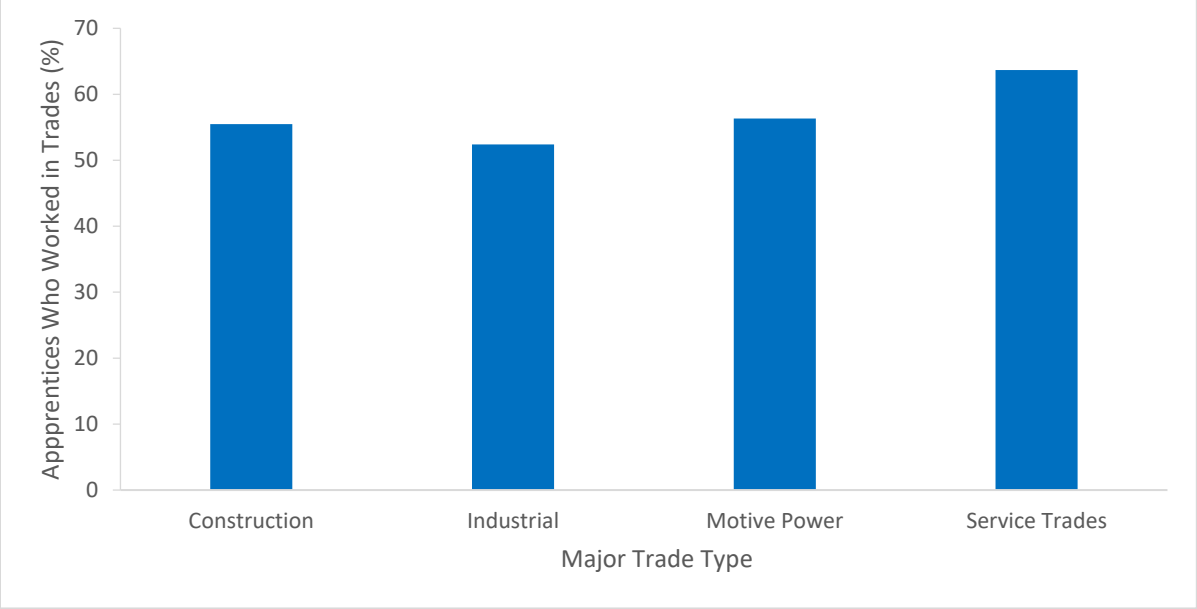
Figure 5b shows that a majority of participants in all trade types undertook formal apprenticeship in a trade in which they were previously working. This was highest for those engaged in the service trades (64%).

Figure 5a: Education and Workforce Participation Prior to Apprenticeship, 2015



Source: NAS, n=5,500.

Figure 5b: Individuals who Worked in Related Trades Prior to Apprenticeship, 2015



Source: NAS, n=5,500.

Challenges Faced by Apprentices

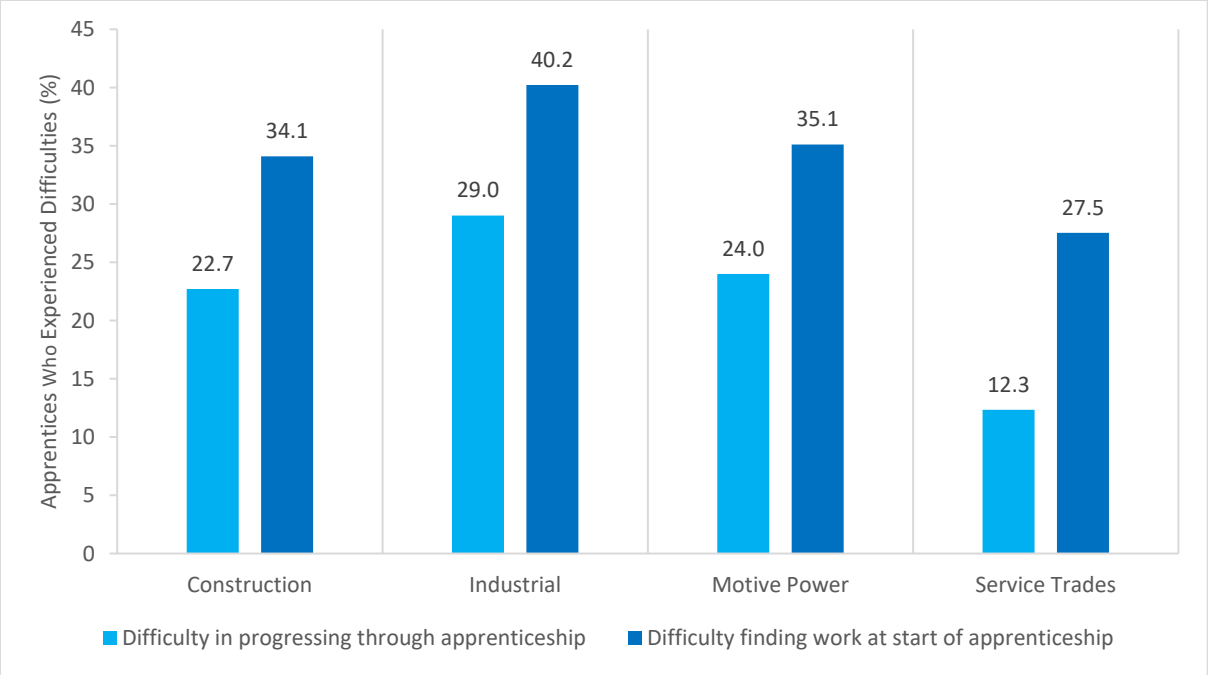
The NAS asks many questions regarding the difficulties and challenges faced by apprentices. In this section, we try to gain an understanding of what those challenges are, and the effects they have on completion.

Figure 6 shows that many apprentices found it difficult to find work at the start of their apprenticeship. This was especially so for apprentices in the industrial trades, where 40% of Ontario respondents reported difficulty finding work. Apprentices in the service trades (27.5%) reported the least difficulty.

Figure 6 also shows that once enrolled in an apprenticeship, many reported that they struggled to complete it. In Ontario, those in the industrial and motive power trades reported encountering this difficulty the most (29% and 24%, respectively).

We note that difficulty progressing through an apprenticeship is a different measure than the completion rate, which we present in Figure 9a.

Figure 6: Apprentices who Experienced Difficulties by Trade Group, 2015

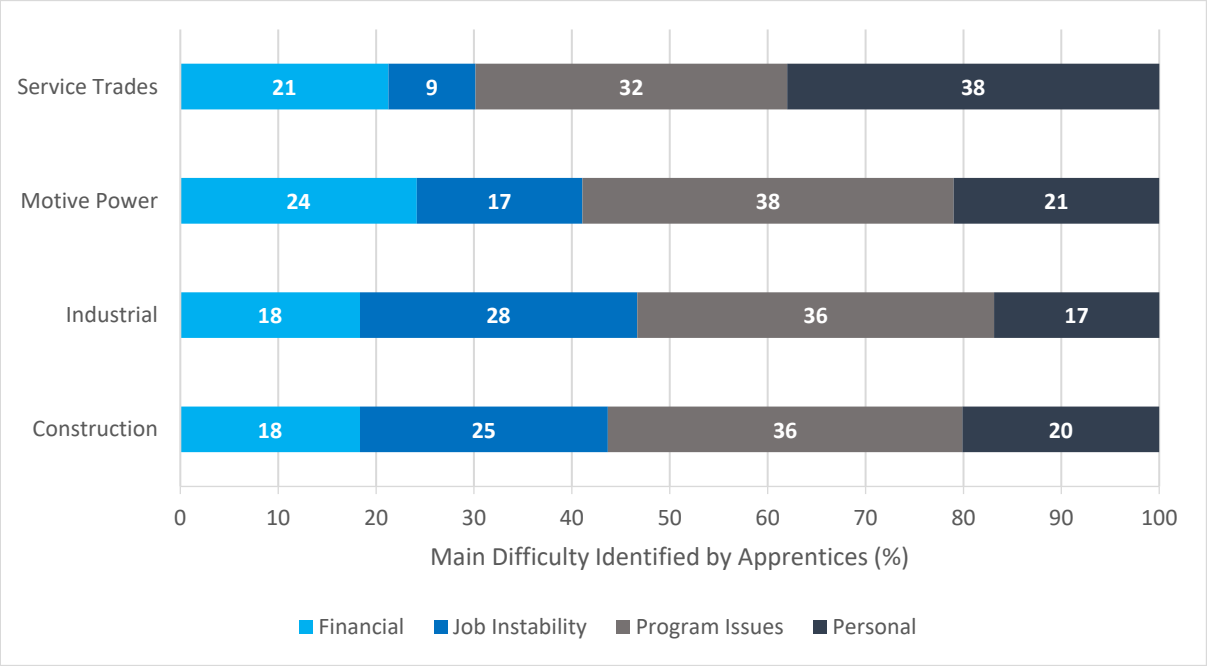


Source: NAS, n=5,800

The NAS identified a subset of respondents who said they faced a difficulty in their apprenticeship. Overall, about 40% of Ontario apprentices said they faced some sort of difficulty during their apprenticeship program. This subset of individuals was then asked about specific difficulties they had experienced, as well as which difficulty they found to be the greatest.

Figures 7 and 8 provide a breakdown of the kinds of difficulties respondents identified. About 30% of service trade apprentices cited either financial issues (21%) or job instability (9%) as the main difficulty. By contrast, 46% of industrial trade apprentices cited either financial issues (18%) or job instability (28%) as their main difficulty, similar to those in the construction trades. About a third of apprentices in all trade types cited program issues, such as administration, courses and exams as the main difficulty (32%–38%). The service trades had the highest percentage of apprentices citing personal issues, such as family issues and harassment, as their greatest challenge.

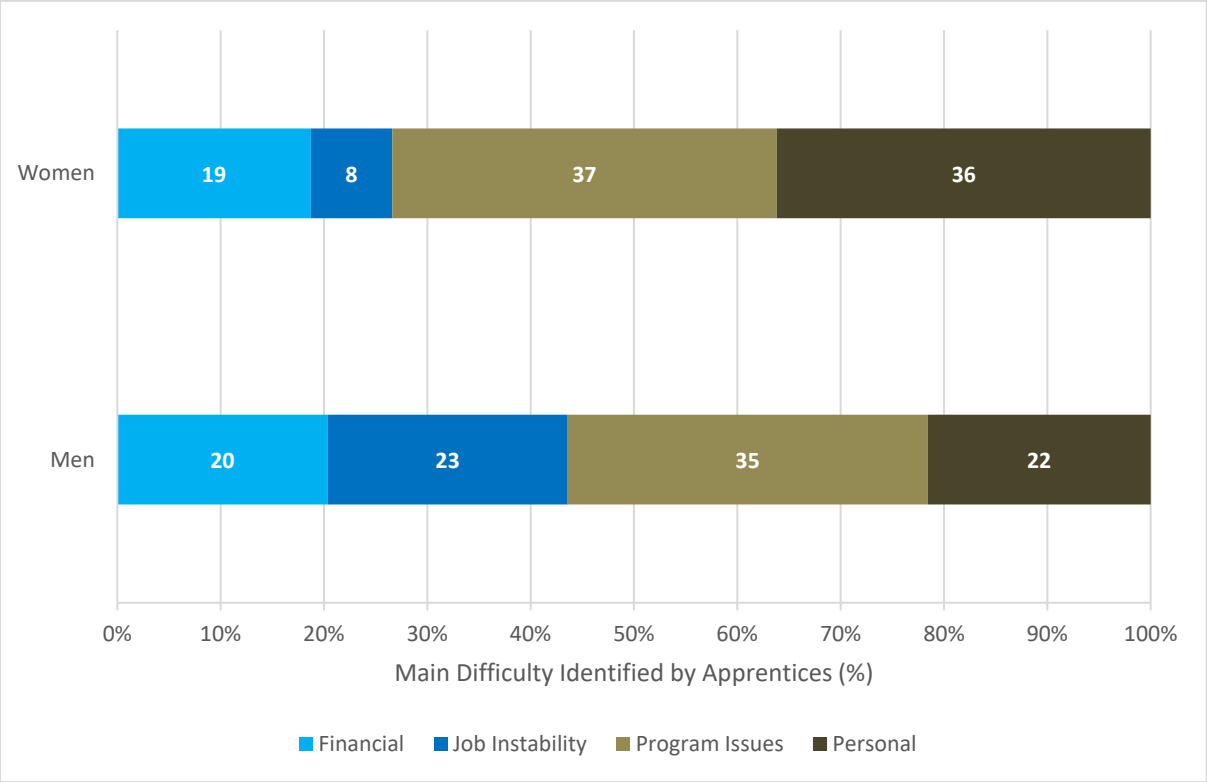
Figure 7: Greatest Difficulty Faced During Apprenticeship by Trade Type, 2015



Source: NAS, n=2,100

Figure 8 reveals differences between women and men. Women make up the majority of apprentices in the service trades and were more likely than men to identify personal issues as their main difficulty. More men than women cited financial issues or job instability as the main difficulty. Also notable is that more than a third of both men and women cited program issues — such as dealing with administration, exams or program delivery — as the main difficulty.

Figure 8: Greatest Difficulty Faced During Apprenticeship by Gender, 2015



Source: NAS, n=2,100

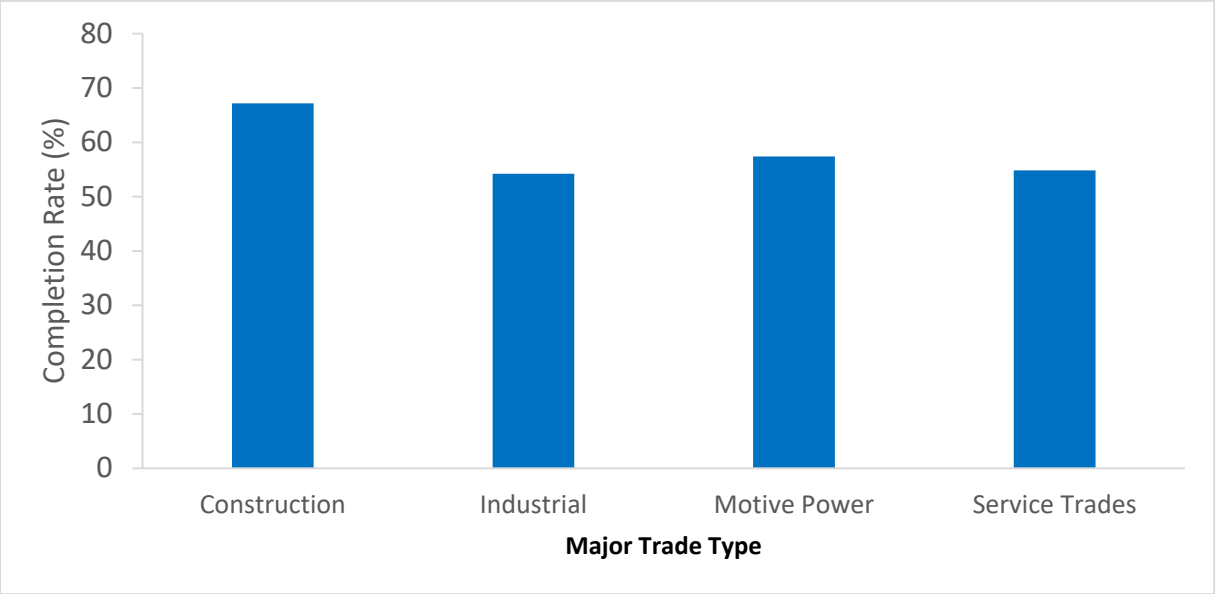
Completion Rates and Fields of Study

Apprenticeship completion is a major policy concern in Ontario. As a reminder, completion rates reported are from the NAS, and reflect a survey cohort of Canadians who participated in an apprenticeship.

Figure 9a shows overall completion rates by trade type using Ontario data from the NAS. Completion rates ranged from about 54% in the industrial trade group to more than 67% in the construction trades.

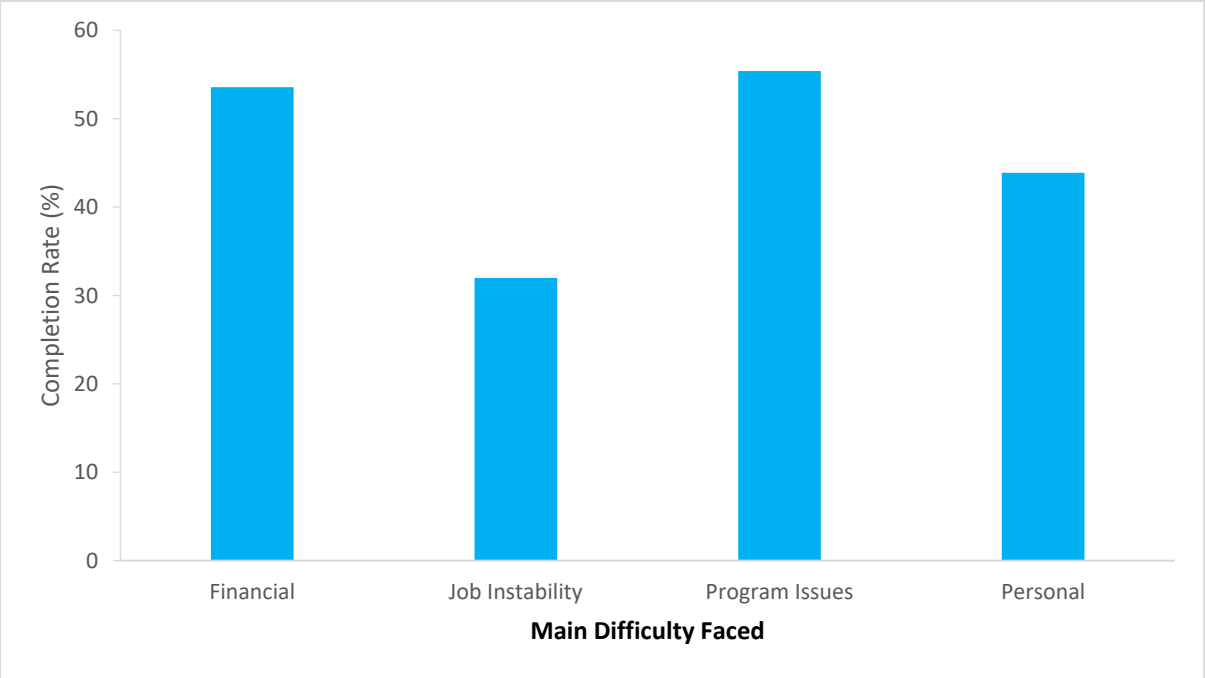
Figure 9b looks at the subset of individuals who said they experienced some sort of difficulty during their apprenticeship. We examined the completion rates of these individuals based on what they said was the greatest difficulty they faced in their apprenticeship. Those who stated that job instability was their main difficulty have by far the lowest completion rates (32%).

Figure 9a: Completion Rates by Trade Type, 2015



Source: NAS, n=5,800

Figure 9b: Completion Rates of Apprentices by Main Difficulty Faced, 2015

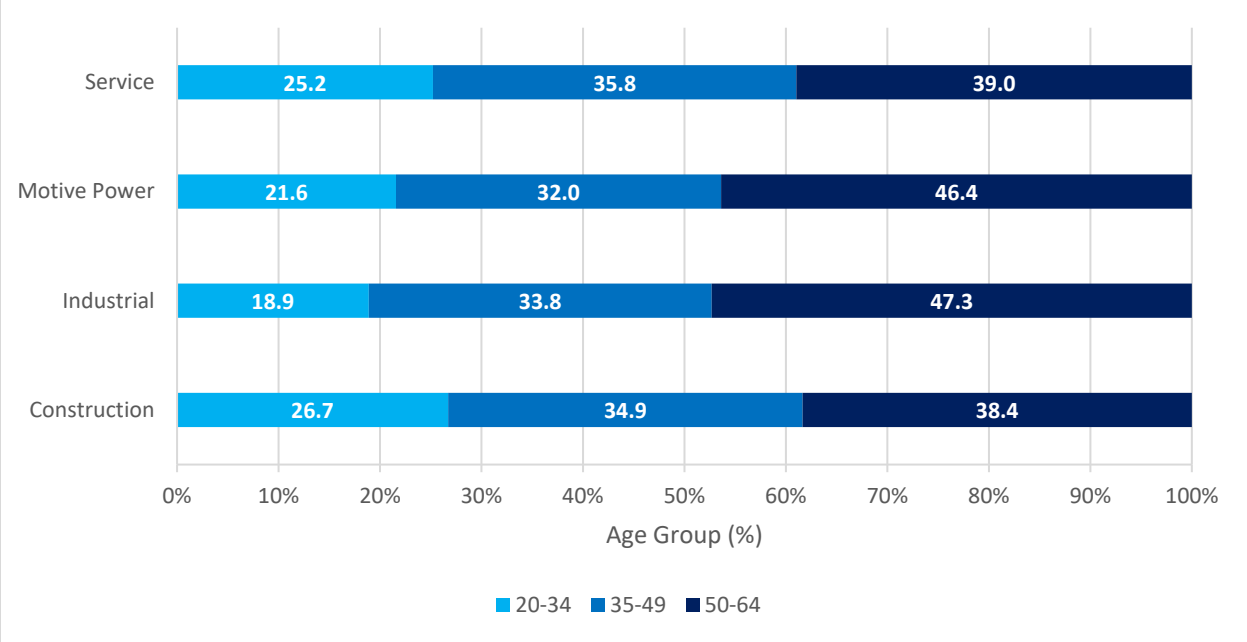


Source: NAS, n=2,100

Demographics

Using data from the 2016 census, Figure 10 displays the percentage of Ontarians with an apprenticeship, by age group. Older tradespeople outnumbered those in younger age brackets across all trade types. In Ontario, younger apprentices were less likely to have pursued an apprenticeship in industrial trades or motive power mechanics; they were much more likely to have completed a construction or service trade apprenticeship.

Figure 10: Age Distribution of Ontarians Who Completed an Apprenticeship, 2016



Source: 2016 Census

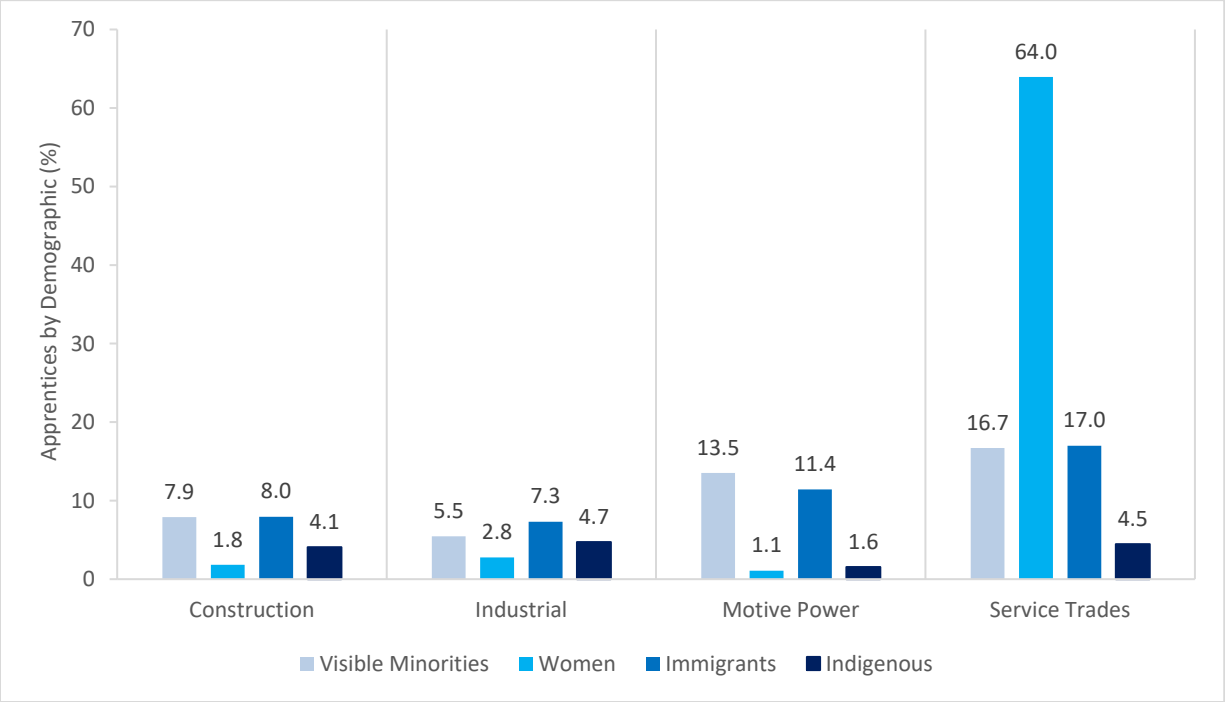
For the next set of analyses, we used the NAS to look at the demographics for all individuals in Ontario between the ages of 20 and 64 who completed an apprenticeship.[1]

Figure 11 shows the participation of visible minorities, women, immigrants and Indigenous individuals in apprenticeship training in each trade type in Ontario. For reference, as of the 2016 Census, 29% of Ontarians are visible minorities, 29% of Ontarians are immigrants, and 3% of Ontarians are Indigenous. Visible minorities and immigrants are most likely to have participated in a motive power or service trade.

1 To check our work, we produced a similar analysis using census data (not shown) for the Ontario population between the ages of 20 and 64 who completed an apprenticeship, and we found very similar trends.

Indigenous individuals are least likely to have participated in a motive power trade. The starkest differences are related to gender. Women have extremely low participation in the construction, industrial and motive power trades, but make up 64% of apprentices in the service trades.

Figure 11: Apprentices by Trade Group and Demographics, 2015



Source: NAS, N=5,800.

Labour Market Outcomes of Apprentices

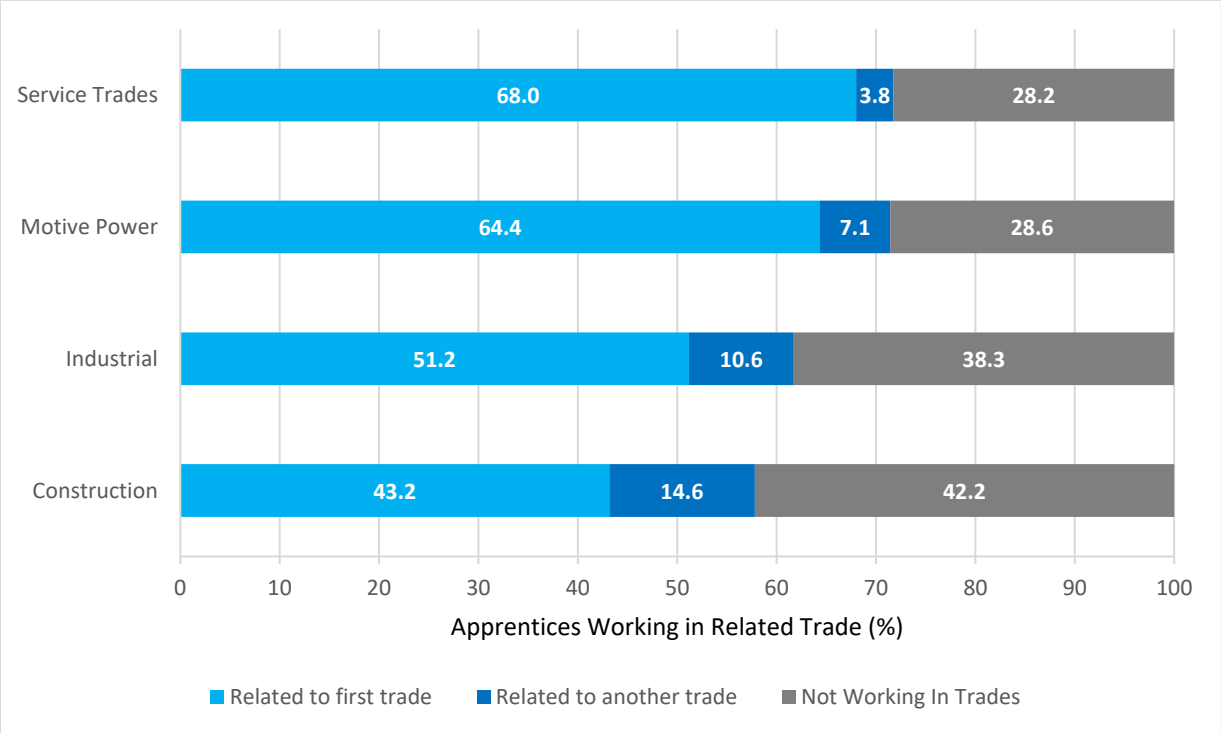
In this section, we provide an overview of labour market outcomes for those who completed an apprenticeship.

Post-apprenticeship employment

First, we examined whether those who participated in an apprenticeship ended up working in a related occupation. This metric is often assessed using self-reported data. In this report, we have opted to use the NAS, which includes administrative data in the form of National Occupation Classification (NOC) codes to identify someone's apprenticeship program and current occupation. This provides a more accurate measure of how often people who complete an apprenticeship in a trade go on to work in that trade.

Figure 12 illustrates that a plurality of those who participated in the apprenticeship program in all four major trade types went on to work in a related trade. This ranged from 68% for apprentices in the service trades to 43% for those in the construction trades. Those who participated in an apprenticeship in the construction trades were the most likely (15%) to work in another trade type. For all trade types, at least 28% of individuals were working in occupations unrelated to their trade. It is worth noting here that many apprentices go on to work in related fields that are not necessarily related trades. For example, moving into project management or safety roles.

Figure 12: Likelihood of Working in a Trade Related to Apprenticeship Program, 2015



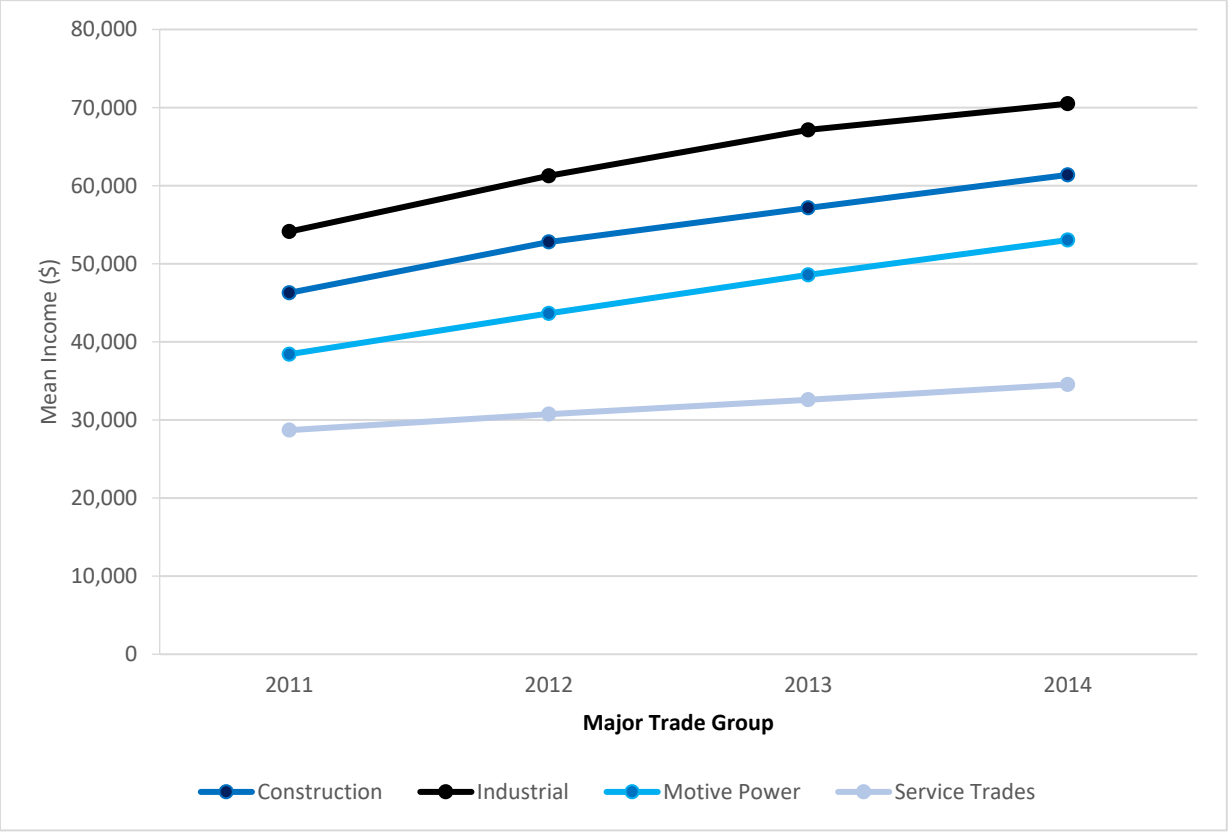
Source: NAS, n=5,800

Post-apprenticeship Incomes

We used the NAS to examine individuals' incomes after participating in an apprenticeship. Figures 13a and 13b show the mean earnings of individuals who participated in an apprenticeship (both those who completed a program and those who did not). The four years of data track a consistent cohort of apprentices surveyed by NAS between 2011 and 2014 and represent the first years of income after completing or discontinuing a program.

Those in the construction and industrial trades earned much more than those in the motive power trades, and nearly twice as much as those who worked in the service trades. Apprentices in the service trades experienced by far the smallest percentage increase in income over the four years after leaving their program (20%), while those from a construction apprenticeship experienced the largest increase (33%). As previously noted, service trades have the greatest percentages of women, minorities and immigrants.

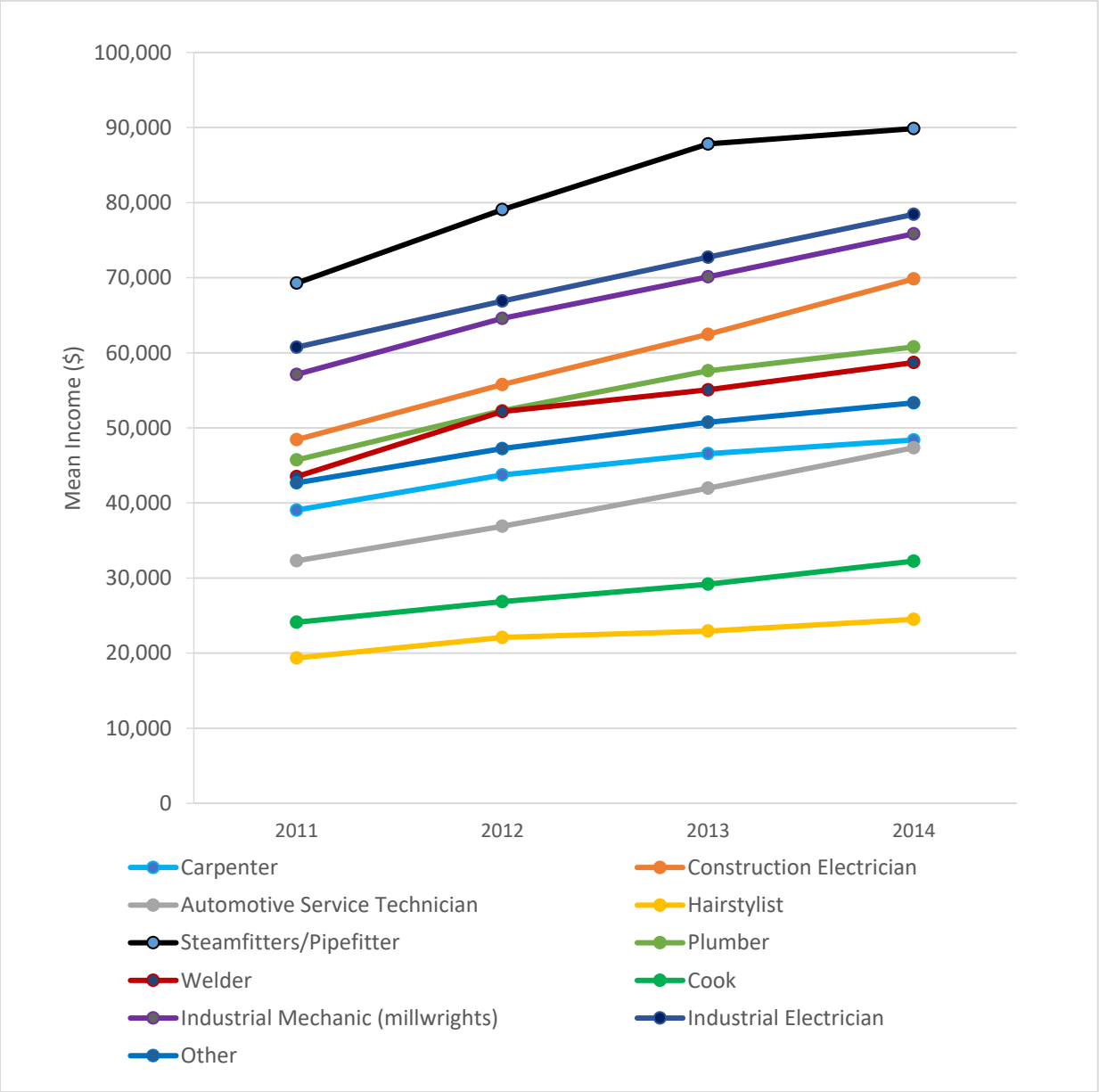
Figure 13a: Mean Income by Trade Type, 2011–2014



Source: NAS, n=4,900

Figure 13b shows a detailed breakdown of income by trade types. These trades represent the 10 most common trades in the NAS. Trades that did not fall into the top 10 for this survey were grouped into the "Other" category. Incomes ranged from $25,000 for hairstylists to $90,000 for steamfitters and pipefitters.

Figure 13b: Mean Income by Trade Type, 2011–2014 (detail)



Source: NAS, n=4,900

Other Labour Market Outcomes

Up to this point, we have relied largely on the NAS to look at the experiences and outcomes of individuals immediately after participating in an apprenticeship in Ontario. Next, we turn our attention to long-term outcomes other than income, such as unemployment rates, self-employment and low-income status.

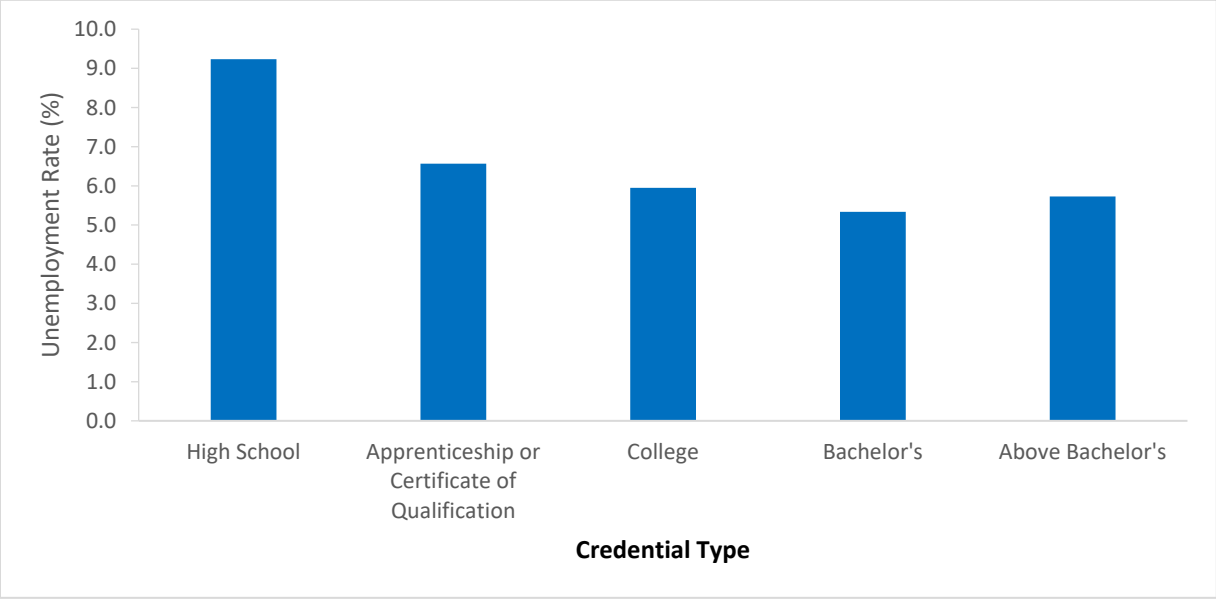
For this analysis, we used the 2016 Census to examine the outcomes of those who completed an apprenticeship with those who completed other credentials, as well as comparing by trade type. Unlike the NAS, which surveyed all individuals who began an apprenticeship (whether they completed it or not), census data can only be used to identify individuals who completed an apprenticeship.

Unemployment

We looked at the unemployment rates by highest education credential of those between the ages of 20 and 64 who were in the labour force and not enrolled in an education program.

Figure 14a shows the unemployment rates of workers with various credentials. Those who completed an apprenticeship experienced lower unemployment rates than those who completed high school as their highest credential, but higher rates than those with a college diploma, bachelor's degree or a higher credential.

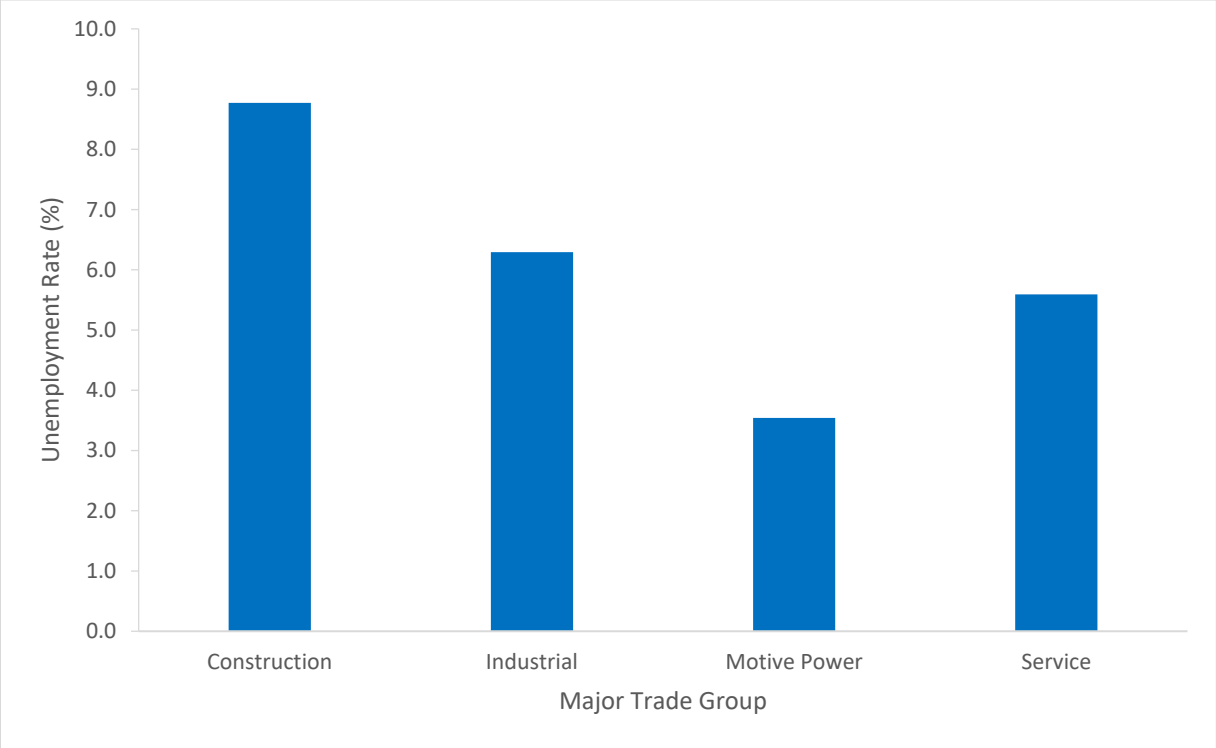
Figure 14a: Unemployment Rate by Highest Credential Completed, 2016



Source: Census 2016

Figure 14b shows unemployment rates by trade group. The unemployment rate for those in construction (9%) was more than twice that of those who studied motive power trades (4%).

Figure 14b: Unemployment Rate by Trade Type, 2016



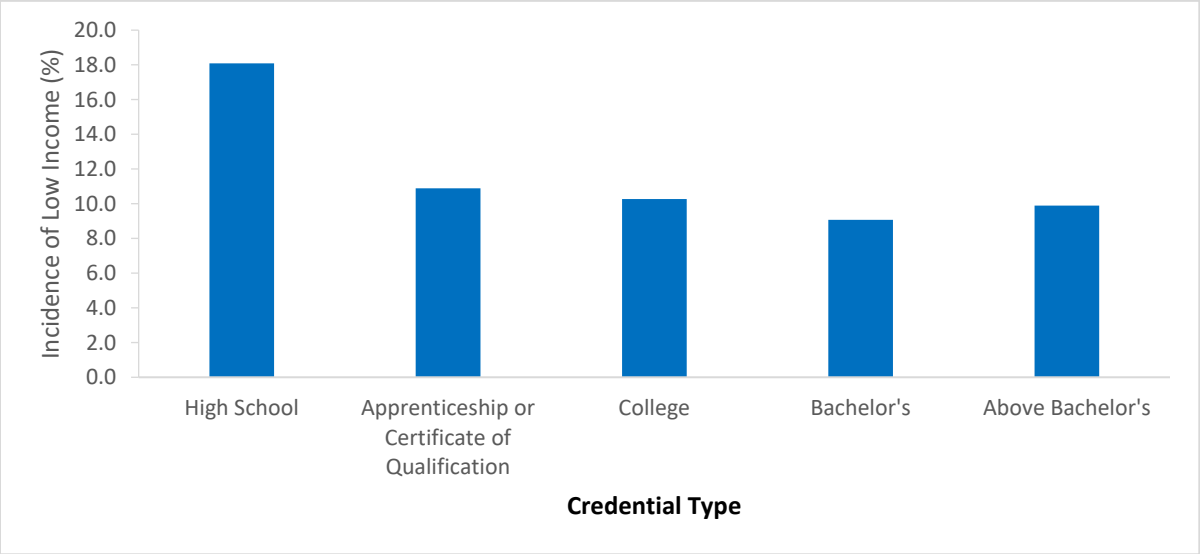
Source: Census 2016

Low-Income Status

We used Statistics Canada's Market Basket Measure (MBM) to determine the incidence of being low income. The MBM is an indicator of low-income status based on the cost of a theoretical basket of food, clothing, shelter, transportation and other items representing a modest standard of living (Heisz, 2019). This analysis looks at an individual's ability to afford basic necessities.

Those with an apprenticeship certificate or a certificate of qualification had a lower incidence of being low income than those who have a high school diploma (18%). In fact, the incidence of being low income among apprentices (11%) is comparable to those who have a college credential (10%) or above a bachelor's degree (10%).

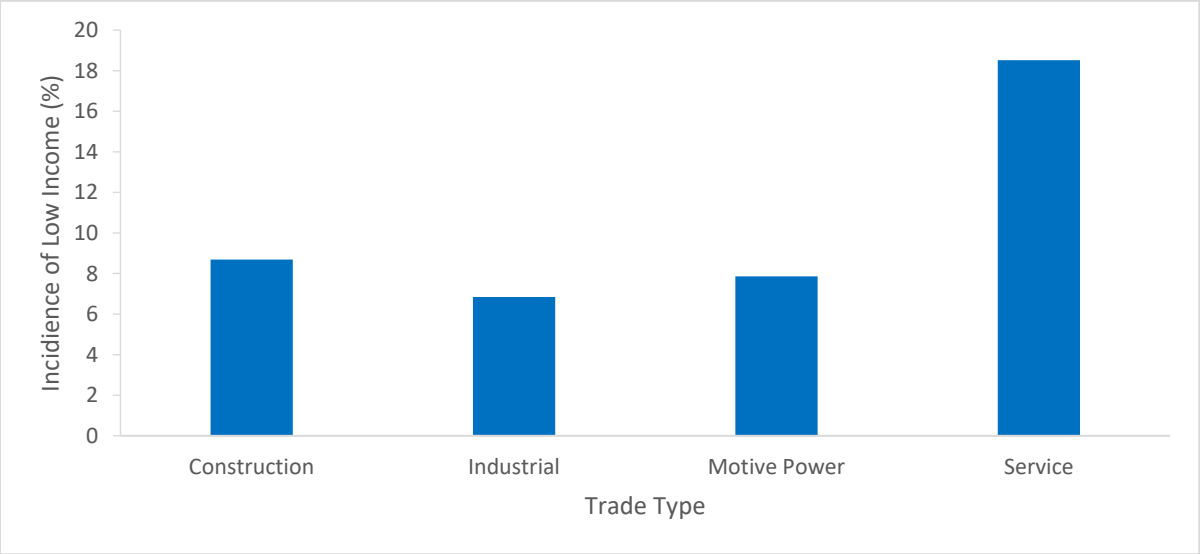
Figure 15a: Low Income Status by Highest Credential Completed, 2016



Source: Census 2016

Figure 16b demonstrates that of those who completed an apprenticeship in a service trade, 19% fall into the low-income category. This is in contrast to the other trade types, where the percentage of those in the low-income category ranges from 7% to 9%.

Figure 15b: Likelihood of Being Low Income by Trade Type During Apprenticeship, 2016

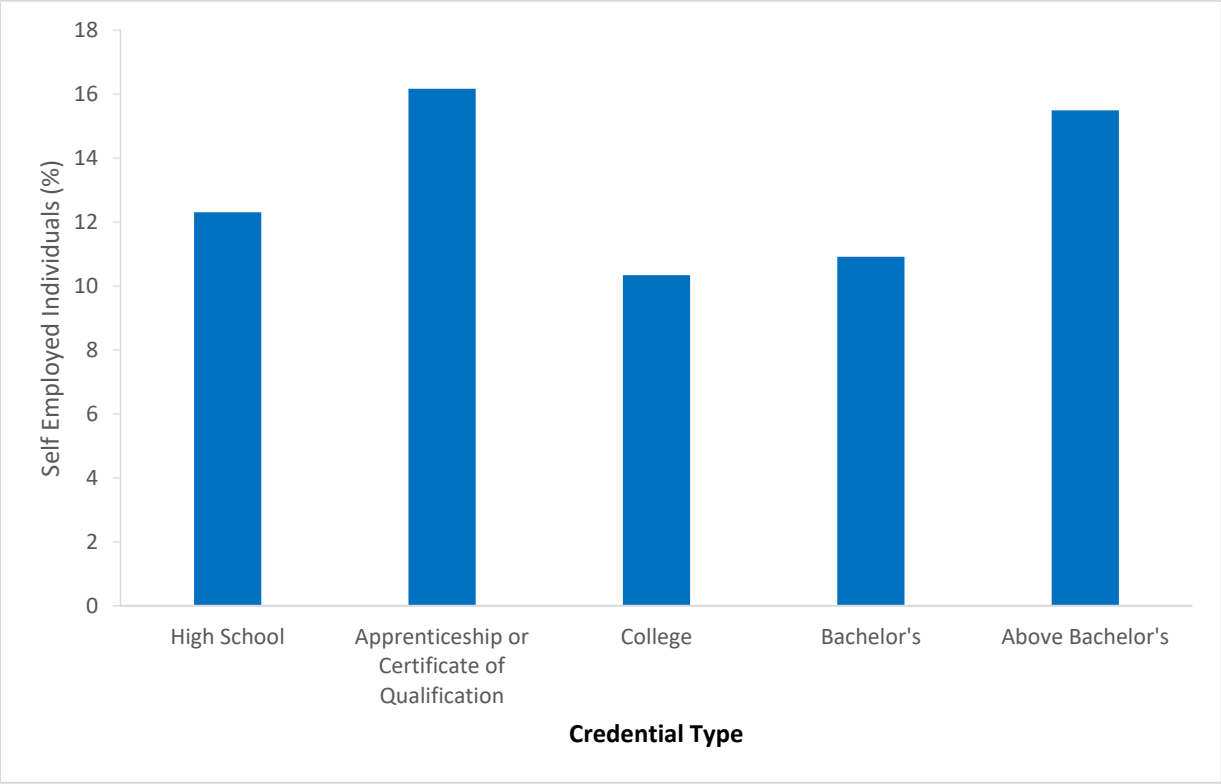


Source: Census 2016

Self-employment:

Of those who completed an apprenticeship certificate, or a certificate of qualification, 16% were self-employed (Figure 17a). This is higher than 10% of individuals with a college credential and 11% of individuals with a bachelor's degree who were self-employed.

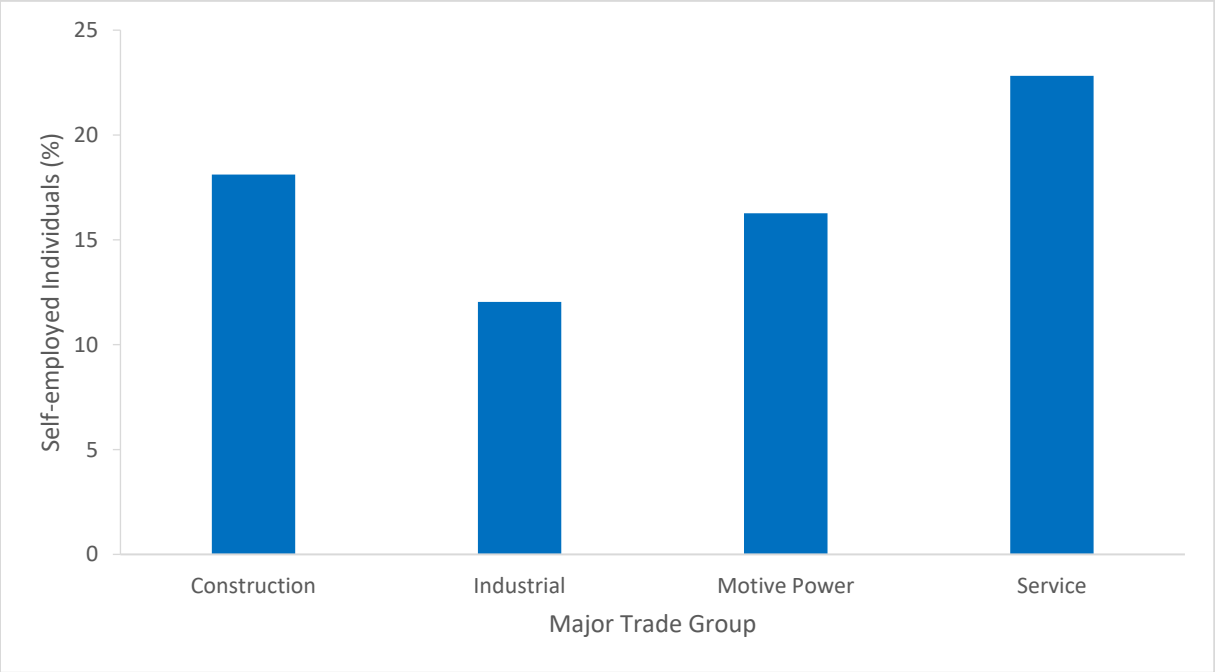
Figure 16a: Self-employment by Highest Credential Completed, 2016



Source: Census 2016

Figure 17b shows that those in construction (18%) and service trades (23%) were the most likely to be self-employed. Meanwhile, those in industrial trades (12%) were the least likely to be self-employed.

Figure 16b: Self-employment by Type of Trade, 2016

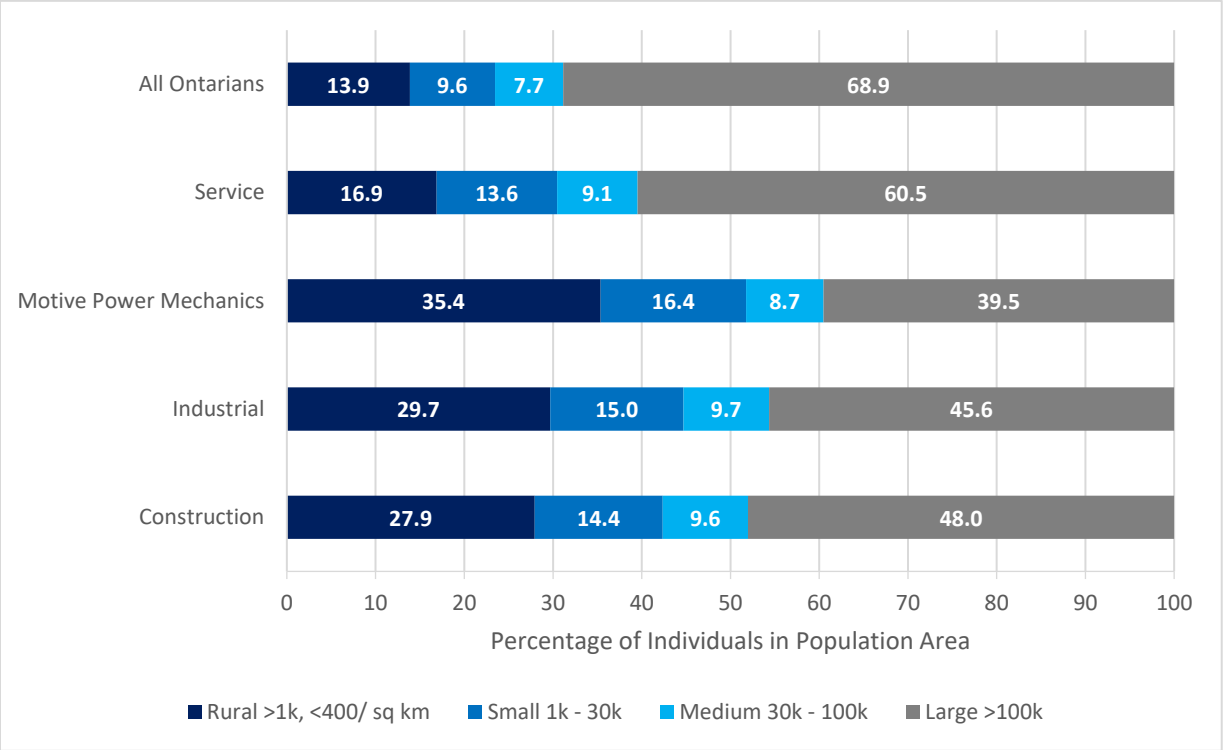


Source: Census 2016

Place of Residence

Finally, we looked at where people who completed an apprenticeship live. Figure 18 shows that, with the exception of the service trades, individuals who completed an apprenticeship were more likely to live in rural areas and small and medium-sized population centres in Ontario. Those who completed an apprenticeship in the motive power, construction and industrial trades were more than twice as likely to live in rural areas as the Ontario population as a whole.

Figure 17: Place of Residence by Trade Type, 2016



Source: Census 2016

Conclusion and Discussion

Our findings support the notion that apprenticeships are an important engine of social and economic mobility for Ontarians, particularly those from low-income families and those who are the first in their family to study beyond high school. Our findings demonstrated that parental income for those who completed an apprenticeship was lower than for those who completed college or university. Nearly half of those who completed an apprenticeship were first-generation students compared to 39% of college graduates and 28% of university graduates.

Our findings also revealed that minorities and women were underrepresented in the Ontario apprenticeship system. While women made up 64% of those enrolled in the service trades, they accounted for less than 3% of those enrolled in the other major trade types.

Older apprentices outnumbered those in younger cohorts, underscoring concerns about the declining number of young people entering the trades and pending shortages as older workers begin to retire. Those who had completed an apprenticeship credential were more likely to live in rural areas of the province and small and medium-sized population centres. Individuals who completed an apprenticeship credential in motive power, construction and industrial trades were more than twice as likely to live in rural areas as the Ontario population as a whole. This may be a factor contributing to the perceived shortage in the skilled trades.

Among the most compelling of our findings are those related to apprenticeship completion rates. The rates are low, ranging from 54% to 67% among the major trade types. These findings raise questions about why some apprentices do not to complete their training. Do some apprentices leave a program because they find a related job or because the challenges are too great?

Many apprentices reported experiencing difficulty progressing through the system. One of the earliest challenges was difficulty finding a job. One-third of apprentices reported having struggles with finding employment at the outset. This is a significant obstacle given that finding employment is essential in order to progress in an apprenticeship. Moreover, there are likely to be others who are interested in pursuing an apprenticeship but were not able to find a job in order to gain entry into a program. We have no way of knowing who these individuals are or how many there might be.

However, those who overcame the challenges and completed a trade apprenticeship had positive labour market outcomes. A majority of those who completed an apprenticeship ended up working in a related trade. The study found a wide disparity in the incomes earned by apprentices, ranging from about $30,000 a year for those in the service trades to more than $70,000 for those in the industrial trades.
Those who completed an apprenticeship had lower unemployment rates than those who completed high school as their highest credential. Their likelihood of being low income was lower than those who had completed high school as their highest credential and similar to those who had completed a college or university credential.

This report uses newly available data sets and linkages to provide an analysis of apprentices as they move from high school, through their training and into the workforce. We highlight their experiences and the challenges they encounter, and provide an analysis of income and employment outcomes. Our next report will provide a more detailed look at individual trades and will include profiles of key trades.

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