



# Support Ontario Youth: Tools in the Trades Bootcamp

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**TOOLS** IN THE **TRADES**  
**BOOT CAMP**





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# Executive Summary

There is a significant labour shortage in the skilled trades throughout Canada, exacerbated by rapidly increasing retirements of baby-boomers. While some of this shortage is addressed through immigration, efforts are also underway to recruit adults looking for a career change and high school graduates.

Ontario, through its Skills Development Fund (SDF), has recently committed \$200 million in support of programs connecting job seekers with the skills and training they require for well-paying jobs. Much of this focuses on the skilled trades, supporting pre-apprenticeship training programs. This report provides an evaluation of one such program, the “Tools in the Trades Bootcamp”, supported by the SDF awarded to Support Ontario Youth (SOY) by the Ontario Ministry of Labour, Training and Skills Development (MLTSD).

Our report provides an overall evaluation of the Tools in the Trades Bootcamp, against hallmarks of an effective evidence-based recruitment and skills development workshop grounded in models and best practices from education, training and development, behavioural economics, and psychology.

Additionally, our evaluation considers several metrics, including the Bootcamp’s outreach, participation and completion rates, make-up of members of under-represented equity-seeking groups, participants’ self-reported experiences of the bootcamp and their intentions to pursue a career in the trades. We also consider apprenticeships obtained and paid employment in the trades.

**SEVERAL STUDIES AND CANADIAN PROVINCIAL AND FEDERAL REPORTS HAVE UNDERScoreD THE PRESSING AND GROWING NEED TO RECRUIT AND TRAIN WORKERS FOR THE SKILLED TRADES. THIS NEED GAINS URGENCY CONSIDERING THE AGING CANADIAN WORKFORCE, AND THE INCREASING RATE AT WHICH BABY BOOMERS, PARTICULARLY IN THE TRADES, RETIRE.**

Fifty-nine intensive one-day Bootcamps were run from September 13, 2021, to March 31, 2022, spanning five Ontario regions and six school boards. Forty-six Bootcamps targeted high school students and the other 13 targeted adults. Bootcamps focused on a variety of trades:

- Construction (electrical, plumbing)
- Industrial (millwright)
- Service (horticulture)
- Motive Power (transportation)

Fifty-nine educational and training providers (e.g., school boards/schools) were directly involved in the Bootcamps, as were 49 employers/industry associations.

Each bootcamp consisted of one-part focused on essential employability and basic business skills (e.g., resume writing, preparing for an employment interview, networking, financial planning), and the second had participants work with tools in a simulated workstation mentored by a skilled trades worker.

Participation rate was 86 per cent of the total registrants. Of 1450 bootcamp participants, 993 completed our demographic survey and of those 278 (28 per cent) self-identified as one, or a combination of, woman, person with disability, and as being from a racialized or indigenous group. Women represented 16.5 per cent of total respondents.

Participants’ self-reported experience in the workshop was uniformly very positive concerning quality of content, tools, instructors, and location, satisfaction with the event, likelihood of recommending the Bootcamp to others, and positively influencing their intention to pursue a job in the skilled trades.

Forty-three percent of the Bootcamp participants were enrolled in an apprenticeship, and three secured full-time employment in the trades. Notable, however, is that it typically takes several months post workshop participation, and post high school graduation, to assess full-time employment uptake. We propose longitudinal tracking of Bootcamp participants to gauge this accurately.

There was also extensive positive media coverage of the Bootcamp, in print, social media, television and radio. Overall, we consider the Tools in the Trades Bootcamp to have been highly successful.





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# Introduction

Several studies and Canadian provincial and federal reports have underscored the pressing and growing need to recruit and train workers for the skilled trades. This need gains urgency considering the aging Canadian workforce, and the increasing rate at which baby boomers, particularly in the trades, retire.

The Organization for Economic Co-operation and Development (OECD, 2021) projects that in the 2030's approximately 20 per cent of the construction field will be entering into retirement age.<sup>i</sup>

In a survey of 445 companies conducted by The Canadian Manufacturers and Exporters (CME) in October 2021, it was found that lack of workers has significantly impeded this sector's recovery from COVID-19. The CME echoes that the retirement of baby-boomers is a key contributing factor.

Forty-two per cent of the survey respondents reported that their companies "lost or turned down contracts or paid late delivery penalties because of a lack of workers" and about 17 per cent said the shortages were causing them to consider moving work outside of Canada. Seventy-seven per cent of respondents noted that attracting and retaining quality workers is their biggest concern.<sup>ii</sup>

Challenges to filling the positions vacated in the skilled trades is exacerbated by Canada's low fertility rate: 1.4 children per woman, well below the replacement rate of 2.1 required to keep a population stable.<sup>iii</sup> So, as skilled trades workers retire in rapidly increasing numbers, there is an inadequate supply of new entrants into the field. Indeed, skilled trades are among the hardest positions to fill in North America. Between July and September 2021, more than 330,000 jobs went unfilled in Ontario, many in the skilled trades, despite attractive levels of compensation and high satisfaction in these occupations.<sup>iv</sup>

Recognizing the severity of this problem, Ontario's Minister of Labour, Training and Skills Development, Monte McNaughton, recently committed an additional \$15.1 million over three years to improve and expand the Ontario Immigrant Nominee Program (OINP), focused on addressing skill gaps.<sup>v</sup>

Also, through the Skills Development Fund (SDF), Ontario has committed over \$200 million in support of "innovative programs that connect job seekers with the skills and training they need to find well-paying careers close to home", with much of this funding focused on the skilled trades. Many of these programs support

the development and administration of pre-apprenticeship training programs, free to participants, that combine classroom training with on-the-job learning.<sup>vi</sup>

"Tools in the Trades Bootcamp" is once such example. It was supported through the SDF awarded by the Ontario Ministry of Labour, Training and Skills Development (MLTSD) to Support Ontario Youth (SOY).

The current report provides an evaluation of this program, considering a variety of metrics. This evaluation can help inform how best to strengthen the efficacy of this, and other such initiatives, to addressing labour shortages in the skilled trades.

While OINP addresses shortage of skilled trade workers through immigration, the "Tools in the Trades Bootcamp" program, as with similar programs, seeks to attract domestic youth and adults to a career in the trades. A key component of this strategy is to recruit individuals from equity-seeking communities that are under-represented in the trades (e.g., women, members of the Black, Indigenous and People of Colour (BIPOC) community, people with disabilities, and people with sexual identities different from their binary sex at birth).

Another approach is to create incentives for skilled trades workers to delay their retirements, though this is a short-term remedy as it typically delays retirements by only a few years.

This report opens with noting the key influencers on decisions to pursue a career in the skilled trades, and the underlying models that explain these influences.

This is followed by a set of widely agreed-upon recommendations for attracting and recruiting individuals into the skilled trades, informed by an extensive review of applied and academic literature.

Next, we describe: (a) the evidence-based approach adopted in designing the content and delivery of the Tools in the Trades Bootcamp and (b) the reach of the bootcamps in terms of number of sessions run, their location, number of registrants, participant rates and demographic makeup.

We then turn to the central objective of this report: an evaluation of the Bootcamp against established objectives and other indicators as suggested by our literature review.

We conclude the report with lessons learned and "next steps".





# Influences on Pursuing a Career in the Skilled Trades

**Mental models.** These capture concepts, narratives, and views we draw from our communities and lived experiences, that underpin our values and actions. Specifically, these models shape our perceptions and thinking, significantly impacting our choices and actions. Hence, an individual's "mental model" concerning holding a skilled trades career, will be a key influence on whether to pursue a job in the field.

To build a mental model favorable to pursuing a skilled trades job entails increasing the perceived value and attractiveness of holding a job in the trades, in terms of working conditions, standard of living, appreciation (i.e., prestige, social standing) and recognition within one's familial and social networks.

Fundamentally, prospective workers in the trades must be aware of the varied opportunities, the pathways to pursuing them, and be provided social and material supports. Indeed, a job in the trades should be seen more as a "first choice" than a fallback option to pursuing a university education.

As noted by James Stewart and Lindsay McCardle, behavioral economics suggests a variety of complementary ways to strengthen mental models.<sup>vii</sup>

Some of their recommendations appear below, mostly adapted, along with recommendations that follow from a broader review of this literature and extend beyond building mental models, to attracting and preparing prospects for a career in the trades. It is shown later in this report that the Tools in the Trades Bootcamp has incorporated most of these recommendations in both design and delivery.

Many of the below recommendations are also addressed through the activities and support structures of Support Ontario Youth, that complement the bootcamp (<https://www.supportontarioyouth.ca/>).

1. Provide earlier and more sustained exposure to skilled trades as an attractive option to professions that require university education. While high-school vocational counsellors have a key role to play here, so do parents and peers. Information on the opportunities and benefits to a job in the trades needs to be readily available and disseminated to the public at large.
2. Provide earlier and more extensive in-person interactions with the skilled trades, including hands-on training and mentoring. Career fairs, workshops, and high school vocational training programs fulfill an important role in this regard. Information on trades as an attractive career path, provided through in-class presentations by tradespersons (including parents) can be targeted to both high-school and primary school students.
3. Encourage parents to attend career fairs/talks with their children to learn of the opportunities and rewards of a job in the trades, and the cognitive (mathematical, spatial, analytical), social and communication skills (i.e., working with clients and peers) demanded by this work. Parents acceptability of jobs in the skilled trades is often highly influential in their children's choices to pursue this career path.<sup>viii</sup>
4. Strengthen online platforms of stakeholders (influencers), and supportive "word of mouth" infrastructures that aim to attract workers to the skilled trades. Stakeholders include educational institutions, employers, labour unions and not-for-profit associations. See, for example, <https://www.supportontarioyouth.ca/tools-in-trade/>
5. Expand the number of work-integrated programs offered during and following high-school and college programs, and the number and variety of trades covered in these programs. Small to medium enterprises also should be targeted, with appropriate incentives and protections.







6. Reach out to disadvantaged equity-seeking groups, with information and recruitment campaigns promoting careers in the trades. For many parents, especially for some immigrant groups, there is a stigma associated with their sons or daughters working in the trades. Efforts by government, labour groups, schools, employers, and associations for the skilled trades must address these perceptions, in part, through information campaigns promoting the value, benefits and contributions associated with working in the skilled trades.
7. Expand and strengthen school-industry partnerships to offer students workshops and other applied experiences that bridge to apprenticeships and full-time employment (e.g., Ontario Youth Apprenticeship Program, Support Ontario Youth, Tools in the Trades Bootcamp).<sup>ix x</sup>
8. Build self-confidence and a safe psychological (i.e., supportive, welcoming) environment for individuals from under-represented, equity-seeking groups, some who experience low levels of confidence concerning succeeding in the skilled trades (e.g., women in a men-dominated industry who have few role models). Prospects should be given opportunities to practice the basics of a skilled trade through pre-apprenticeship programs (or apprenticeship introductory courses) that break down stereotypes and build confidence. Of course, such programs must ensure a safe welcoming culture/psychological environment.<sup>xi xii</sup>
9. Evaluate the impact of recruitment and training program initiatives, including participants' self-reports of their overall value, *and the value of their constituent parts*. Such feedback will inform where program improvement efforts are best targeted.
10. Collect longitudinal metrics on the impact of program initiatives following program participation (e.g., apprenticeships and full-time paid employment obtained). Complementing "hard" metrics, such as apprenticeships and full-time paid employment, with "soft" measures, such as self-reports of what most influenced individuals' decision to pursue a job in the trades, and what most aided their obtaining apprenticeships and full-time work in the field, will help identify predictors of these outcomes and inform program improvements.
11. Reduce or remove financial barriers to entering the trades for individuals from lower socio-economic groups. Many immigrants, for example, support their families financially through part-time work while attending school. Paying for tools, personal protective equipment, tuition, and transportation associated with attending workshops or taking-up internships can be prohibitive. Provide grants, loans and scholarships specifically targeted to the skilled trades, perhaps through federal and/or provincial agencies, as well as through industry-government partnerships. Allow funds from registered education savings plans (RESPs) to be used to support expenses incurred in building a career in the trades. Improving financial literacy for people entering the trades can improve their chances of successfully navigating financial hurdles, help develop their independence, and be especially helpful for those aspiring to be independent contractors or business owners.
12. Work placements, summer jobs, youth apprenticeship and pre-apprenticeship programs offer valuable work experience while building skills, confidence and potentially a financial base. Government wage subsidies to businesses can encourage co-op work placements, apprenticeships and hiring. Encourage volunteering in the trades as a pathway to building skills and expanding social networks.
13. Improve geographic accessibility to skill-development training, minimizing transportation hassles, especially for those living in rural areas. Bringing this training closer to the recruitment pool is likely to draw more prospects into the skilled trades.
14. Assist recruits to establish supportive networks comprised of their peers with similar interests in the trades, with current trade workers, and experienced mentors. Youth with limited experience and networking contacts often struggle to find work.
15. Provide part-time and flexible work hours and shifts to accommodate parental and other such needs, such as daycare as well as paid parental leave. Additionally, redesign work protocols and equipment to accommodate employees of varying physical types.<sup>xiii</sup>





# Tools in the Trades Bootcamp

**Origins.** The Tools in the Trades Bootcamp is a program designed and delivered by Support Ontario Youth (SOY), a not-for-profit organization.

Support Ontario Youth was established with the support of the Ontario Electrical League (OEL), an industry association representing small and mid-size electrical contractors and industry members. Support Ontario Youth provides centralized oversight for the administration process for apprentices and contractors as well as support for apprentices when they need a new sponsor.

The aim of the Bootcamp is to attract workers into the skilled trades, and to facilitate the uptake of apprenticeship and full-time jobs in the field, bringing employers and prospective employees together, while delivering an intensive one-day skills development workshop.

Support Ontario Youth contracts Fit First Technologies which uses proprietary software (TalentSorter) that employs online psychometric testing to determine fit between qualities of applicants to the Bootcamp against behavioral compatibility with jobs in the trades as communicated by contractors.

Fit First Technologies product reduces apprenticeship attrition and positively predicts satisfaction with the trade, important to longer-term retention.

This simplifies the complexity of matching contractors with prospective apprentices, while at the same time employing an objective evidence-based approach to the process, with built-in features to remove biases against members of equity-seeking groups who are underrepresented in the trades.

All adults participating in the bootcamp applied through TalentSorter, in response to advertisements put out by SOY and Fit First Technologies (SOY's technological partner on the project). Adult participants were subsequently screened through TalentSorter, and the top 30-35 were registered for the event, whereas high school participants were referred by their teachers prior to completing the screening on TalentSorter and being registered.

## **Determining bootcamp content, structure and delivery.**

The content of the bootcamp was determined through extensive consultation with dozens of experienced workers and trainers in the skilled trades, and employers of skilled trades workers. Specifically, they were asked about the content of a one-day intensive bootcamp that is likely most helpful to engaging, informing, and preparing individuals for jobs in the skilled trades.

Through this process the following "essential employability skills" were incorporated into the Tools in the Trades Bootcamp:

"Understanding what Employers Want" (list of candidate attributes), "Twenty Traits for Success", "Tips for Preparing a Strong Resume and Cover Letter", "Interview Tips", "Practice Interview Questions", "Networking Skills", and "Managing Finances".

The essential employability skills part of the curriculum is complemented with "hands-on" training, wherein participants use tools to practice basic skills of a trade. The participants perform tasks at one of several workstations under direction of experienced skilled trades workers.

Employers can observe these bootcamp participants performing, taking note of participant attitude, ability to follow instructions, agility working with tools, interacting with peers (interpersonal skills), organization, safety, conscientiousness, and maintaining a clean workstation.

Employers can also, based on their observations, initiate discussions with bootcamp participants concerning employment opportunities with them, or follow-up with bootcamp staff afterwards to connect them with high performing participants.

A luncheon provides an opportunity for informal interpersonal interactions with peers and instructors.

At the end of the day each participant is provided, at no cost, an extensive tool kit specific to the trade that was the focus of that bootcamp.

**Number and location of bootcamps.** Fifty-nine "Tools in the Trades Bootcamps" were delivered from September 13, 2021, to March 31, 2022. They were offered in five Ontario regions: Ottawa, Kitchener, Durham, Hamilton, and Kingston and included both high school students and adults. The former was drawn from six School Board Regions: Central, West, East, North, Northwest, and Toronto.

One of the bootcamps (Oct. 19, 2021) was run for women only, and another on March 8, 2022, was run for only members of the Black, Indigenous and People of Colour (BIPOC) community.

Forty-six bootcamps targeted high-school students and the other 13 targeted adults. The Bootcamps focused on a variety of trades: Construction (electrical) 21, Construction (plumbing) 4, Industrial (millwright) 11, Service (horticulture) 10 and Motive Power (transportation) 13. Of the 1692 bootcamp registrants 1450 (86 per cent) attended. Table 1 provides a complete breakdown of events, registrants, and participants, by trade. Table 2 provides a summary breakdown of participants and registrants by trade.





**Table 1.** Date, location, school board, target audience and attendance of bootcamps.

Date	Location	Trade	Audience	Attended
13-Sep-21	Chatham	Transportation/Motive Power	Adult	13
14-Sep-21	Chatham	Construction/Electrical	Adult	22
17-Sep-21	Ajax	Construction/Electrical	Adult	20
23-Sep-21	Oakville	Construction/Electrical	Adult	26
28-Sep-21	Renfrew District	Service/Horticulture	High School	29
29-Sep-21	Renfrew District	Industrial/Millwright	High School	28
06-Oct-21	Renfrew Catholic DSB	Construction/Electrical	High School	30
07-Oct-21	Renfrew Catholic DSB	Industrial/Millwright	High School	29
12-Oct-21	Trillium Lakelands DSB	Construction/Plumbing	High School	22
13-Oct-21	Trillium Lakelands DSB	Transportation/Motive Power	High School	26
18-Oct-21	Rainbow District SB	Construction/Electrical	High School	29
19-Oct-21	Rainbow District SB	Industrial/Millwright	High School	21
25-Oct-21	Durham Catholic	Industrial/Millwright	High School	29
26-Oct-21	Durham Catholic	Construction/Electrical	High School	29
27-Oct-21	DSB Niagara	Construction/Electrical	High School	27
28-Oct-21	DSB Niagara	Transportation/Motive Power	High School	20
29-Oct-21	Durham College	Industrial/Millwright	Adult	16
08-Nov-21	Kawartha Pine Ridge DSB	Construction/Electrical	High School	25
09-Nov-21	Kawartha Pine Ridge DSB	Construction/Electrical	High School	29
10-Nov-21	Kawartha Pine Ridge DSB	Construction/Electrical	High School	26
11-Nov-21	Trillium Lakes DSB	Industrial/Millwright	High School	29
17-Nov-21	Bruce-Grey Catholic	Industrial/Millwright	High School	28
18-Nov-21	Bruce-Grey Catholic	Transportation/Motive Power	High School	31
25-Nov-21	Avon-Maitland DSB	Construction/Electrical	High School	27
26-Nov-21	Avon-Maitland DSB	Construction/Electrical	High School	27
29-Nov-21	Durham Region DSB	Transportation/Motive Power	High School	26
30-Nov-21	Durham Region DSB	Transportation/Motive Power	High School	29
01-Dec-21	Durham Region DSB	Industrial/Millwright	High School	29
02-Dec-21	Durham Region DSB	Service/Horticulture	High School	19
03-Dec-21	Durham Region DSB	Construction/Electrical	High School	30
07-Dec-21	Grand Erie DSB & BHNCD SB	Transportation/Motive Power	High School	28
08-Dec-21	Grand Erie DSB & BHNCD SB	Construction/Electrical	High School	28
09-Dec-21	Niagara	Industrial/Millwright	Adult	17
09-Dec-21	Niagara	Transportation/Motive Power	Adult	12

**Note.** DSB = District School Board.

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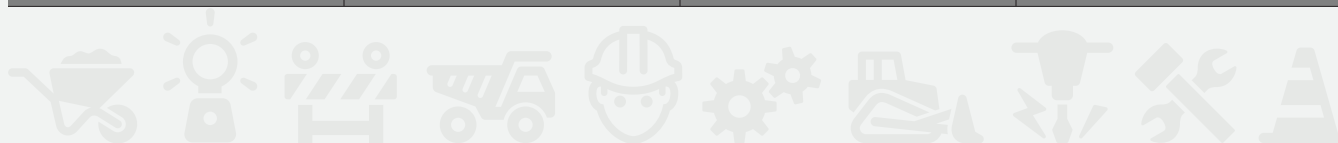


**Note.** DSB = District School Board.

Date	Location	Trade	Audience	Attended
15-Feb-22	Huron-Perth Catholic	Transportation/Motive Power	High School	25
16-Feb-22	Huron-Perth Catholic	Service/Horticulture	High School	25
17-Feb-22	Waterloo Region	Industrial/Millwright	High School	22
22-Feb-22	Niagara Catholic	Service/Horticulture	High School	14
23-Feb-22	Niagara Catholic	Transportation/Motive Power	High School	14
24-Feb-22	Niagara Catholic	Construction/Electrical	High School	29
25-Feb-22	London District Catholic School Board (LDCB)	Construction/Electrical	High School	30
01-Mar-22	Avon-Maitland DSB	Construction/Electrical	High School	30
02-Mar-22	Avon-Maitland DSB	Construction/Plumbing	High School	24
03-Mar-22	Avon-Maitland DSB	Transportation/Motive Power	High School	28
07-Mar-22	Waterloo Region DSB	Service/Horticulture	High School	33
08-Mar-22	Waterloo Region DSB	Construction/Electrical	High School	27
09-Mar-22	Hamilton-Wentworth	Construction/Plumbing	High School	23
10-Mar-22	Hamilton-Wentworth	Service/Horticulture	High School	16
10-Mar-22	Halton District	Industrial/Millwright	High School	28
14-Mar-22	Adult Alternative -Sarnia	Transportation/Motive Power	Adult	16
14-Mar-22	Adult Alternative – Landscape Ontario	Service/Horticulture	Adult	25
15-Mar-22	Adult Alternative – Edward	Construction/Electrical	Adult	17
22-Mar-22	Halton Catholic DSB	Service/Horticulture	High School	25
24-Mar-22	District School Board of Niagara	Transportation/Motive Power	High School	29
25-Mar-22	District School Board of Niagara	Service/Horticulture	High School	27
26-Mar-22	Adult Alternative – Niagara	Construction/Electrical	Adult	23
26-Mar-22	Adult Alternative – Niagara	Construction/Plumbing	Adult	15
30-Mar-22	Adult Alternative – York Region	Construction/Electrical	Adult	26
31-Mar-22	Halton Catholic DSB	Service/Horticulture	High School	23
<b>Total</b>				<b>1450</b>

**Table 2.** The number of participants relative to the number of registrants by trade.

Trade	Number of Workshops	Total Attended	Total Registered
Construction/Electrical	21	557	651
Horticulture	10	236	271
Industrial Millwright	11	276	316
Plumbing	4	84	100
Transportation	13	297	354
<b>Total</b>		<b>1450</b>	<b>1692</b>





# Bootcamp: Evaluation

There are several facets to evaluating the Tools in the Trades Bootcamp. They include development, content, structure, and delivery. This evaluation involves considering the extent to which each of these elements are evidence-based, grounded in published literatures pertinent to best practices in education, training, and behavioural psychology, especially as related to recruitment for the skilled trades.

Other facets of evaluation pertain to the effectiveness of outreach and making the bootcamp accessible to participants throughout various regions of Ontario, participation rates, participant experience, intention to pursue a skilled trade job, experience of school board representatives, knowledge mobilization, and uptake of skilled trades work (part-time, apprenticeships, full-time employment).

**Evidence-based.** As noted earlier, the content, structure and delivery of the Tools in the Trade Bootcamp were founded firmly in a strong systematic analytical approach, drawing on extensive experience of trade workers and informed by peer-reviewed studies, case studies, and reports, spanning the fields of education, training and development, and psychology.

For example, one well-established model widely adopted in the field of work psychology explains performance directed effort as resulting from Motivation, Opportunity, and Ability (MOA).<sup>xiv</sup>

Specifically, performance directed effort will result only when an individual is *motivated* to perform, is given the appropriate *opportunity* to perform (e.g., tools and other supports) and is *able* to perform (i.e., has the requisite knowledge, skills, and abilities).

Bootcamp effectiveness is enhanced when all three components of the MOA model are in place.

Simply stated, The Tools in the Trades Bootcamp provides all three elements of the MOA model.

- It builds *motivation* by bringing together like-minded individuals with interest in the trades, uses successful tradespersons as role-models, builds general self-efficacy for succeeding in a skilled trade, and educates that work in the field can provide a comfortable standard of living.
- It builds *opportunity* for participants through providing a forum for networking and essential resources for succeeding in the skilled trades, as well as accessibility to the continuing support of SOY (through programs such as group sponsorship).
- It builds *ability* through hands-on training and learning of basic and essential employability skills.

The bootcamp content and delivery also exemplifies nicely the application of the theory of planned behaviour (TPB). TPB maintains that attitude, subjective norms, and perceived behavioral control together shape an individual's behavioral intentions, which are the most proximal determinants of behaviour.<sup>xv</sup> The bootcamps, as captured in post-bootcamp participant surveys, build positive attitudes toward skilled trades work, build social, normative acceptability for trade work, and build self-confidence of being able to acquire a skilled trades job and make a "good living". Together, this suggests that the bootcamp experience will increase participants' intentions to pursue skilled trades careers.

Finally, as noted earlier, the bootcamp draws on principles of behavioral economics in its design and execution and is aligned well with several of the recommendations (1-15 above) for improving the effectiveness of efforts to attract individuals into the skilled trades.

**Outreach.** Another aspect of evaluating the success of the Tools in the Trades Bootcamp (beyond being founded in an evidence-based approach) is its outreach to various communities and school boards throughout Ontario, and to members of equity-seeking groups. The outreach was extensive, drawing large numbers of participants, involving a diverse array of communities, and partnerships with many school boards (as reported in the section titled "Number and location of bootcamps", and Table 1, page 9).

As mentioned in that section, two bootcamps were reserved for equity-seeking groups, one for women and the other for members of the Black, Indigenous and People of Colour (BIPOC) community.

Of the 1450 bootcamp participants, 993 completed our demographic survey, and of those 278 (28 per cent) self-identified as one, or a combination of, woman, person with disability, member of a racialized group, or indigenous.





Women represented 16.5 per cent of the 993 who completed our demographic survey.

Fifty-nine educational and training providers (e.g., school boards) were directly involved in the bootcamps, as were 49 employers/industry associations.

This involvement came in many forms, including providing a site for the bootcamps, recruiting bootcamp participants, and being part of program deliverables (e.g., skilled trades persons for presentations and/or networking, overseeing workstations, offering apprenticeship opportunities).

**Attendance and participation rates.** Of the 1692 bootcamp registrants 1450 (86 per cent) attended, with all 1450 completing the full day of training (100 per cent completion rate). Workshops were held during the COVID-19 pandemic which may have adversely impacted participant attendance rates.

**Experience of participants.** Participants completed a survey of their experience immediately following each bootcamp. This survey had respondents' rate on a 5-point scale (1 = poor, 5 = excellent) their experience with the bootcamp overall and with its component parts, including content, tools, instructors, and location. Additionally, respondents were asked to rate their satisfaction with the event, whether they would recommend the bootcamp to others, and whether their participation enhanced their perceptions of employment in the trades (yes or no). Results are presented in Table 3.

**Table 3.** The mean, median, and mode of participants bootcamp evaluations.

Outcome (1= poor; 5 = Excellent)	Mean (SD in brackets)	Median	Mode
Experience with the Trades Boot Camp	4.53 (0.69)	5.00	5.00
Satisfaction with Event	4.62 (0.58)	5.00	5.00
Experience			
Content	4.56 (0.61)	5.00	5.00
Tools	4.75 (0.58)	5.00	5.00
Instructors	4.84 (0.41)	5.00	5.00
Location	4.37 (0.86)	5.00	5.00
Likelihood of Recommending Event	4.63 (0.61)	5.00	5.00
Outcome (1=yes, 2= no)			
Workshops Influence on Perception of Trade	1.12 (0.32)	1.00	1.00

**Note.** These responses are based on 80.41 per cent of participants that attended the workshops.

The data reported in Table 3 show that the bootcamp participants had a very favorable experience. The mean ratings on a 5-point scale, ranging from poor to excellent, were 4.5 or higher for all aspects of the bootcamp except for "location", which garnered a mean rating of 4.37. Given that several of these workshops took place across winter conditions and occasionally had to be held outside due to the COVID-19 restrictions at the time, this rating on location we believe to be reasonable.

The most frequent rating (as captured by the mode) for all elements of the bootcamp was 5.0 (excellent). The median response for all elements was also 5.0 (excellent).

**Footnotes to Table 3:** **Mean** = sum of ratings divided by total number of ratings. **Median** = the midpoint, half the ratings fall above this value and half fall below this value; **Mode** = The most frequently occurring rating. Standard deviations represent the degree to which ratings are dispersed around the mean. The lower the standard deviation, the more participants' ratings approximate the mean. Standard deviations less than 1 indicate high rating agreement among participants.





Importantly, participants overwhelmingly recommend the bootcamps for others with interests in the trades and indicated that the bootcamp positively influenced their own perceptions towards working in the trades. This is important because favorable impressions of the trades positively influence intentions to pursue a job in the trades, with behavioral intentions most proximal and predictive of behaviour.<sup>xvi xvii</sup>

The surveys also asked participants to provide written comments on their bootcamp experience, including what they enjoyed and what improvements could be made.

These comments were uniformly very positive, with key themes of the benefits listed as follows:

- a. a stronger appreciation of the rewards associated with a career in the trades
- b. reinforcement of their desire to pursue a job in the trades
- c. the networking opportunities provided
- d. practical tips gained on how to pursue a job in the trades
- e. a fun skills-building experience, with lots of “hands-on” activities
- f. learning how best to present oneself to an employer
- g. direction on how to prepare a strong resume
- h. tips on how to succeed in an employment interview
- i. gaining a stronger appreciation of the importance of networking
- j. learning what most employers in the trades are looking for in job candidates
- k. opportunity to speak with employers and instructors
- l. learning different career paths in the trades and available supports
- m. appreciation for the high quality of instructors and their enthusiasm

When asked how the workshops could be improved, key themes were:

- a. even more “hands-on” – spending time working with tools
- b. expand the number of trades covered in bootcamp offerings
- c. provide more time to interact with employers
- d. more specific direction on *how* to secure an apprenticeship

**Experience of school boards.** As noted previously, building, and maintaining cooperation between schools with vocational programs in the trades and industry partners is beneficial to developing and recruiting into the trades. Efforts need to be made to especially involve more small-to-medium (SME) sized enterprises in these partnerships, and the cooperation of unions and unionized companies.

Representatives of school boards are important stakeholders. Their experiences of the bootcamp are important to consider in evaluating this program.

The feedback from these representatives was overwhelming favorable, as communicated through unsolicited praise shared with bootcamp administrators.

THE COMMENTS BELOW CAPTURE THE VERY LARGE POOL OF COMPLIMENTARY COMMENTS RECEIVED FROM TEACHERS AND SCHOOL BOARD REPRESENTATIVES WELL.

**“I want to send out a thank you to the Bootcamp organization and instructors. We were very fortunate to have two excellent days here at Huron-Perth Catholic District School Board. The students were exposed to some new skill sets and were given gifts of tools that will help them or start them in a new career path. We all know students like the practical experience. Your theory component engaged our students and had them asking questions afterward. The grade 11 students at both schools are already asking about next year. It was a joy to work with your team. They were so accommodating and easy to work with. It made the event a real pleasure. Thank you for organizing this amazing event. See you next year?”** – Mark Flanagan, SHSM, SCWI, Co-op, Tech, OYAP Leader, Huron-Perth Catholic District High School Board.

**“...your program is unbelievable. I have bragged about Renfrew County Catholic’s participation in the program at several provincial meetings – OYAP LEADS, SHSM Leads and Experiential Learning Leads.”**

– Tina Noel, Experiential Learning Coordinator, Renfrew County Catholic DSB.

**“The Bootcamps were amazing, and our students were so lucky to have the experience”.**

– Paulette Lippert, Bruce Grey Catholic District School Board.

**“We can’t wait to participate next year.”**

– Kelly Neumann, Pathways Consultant. Trillium Lakelands District School Board, Lindsay Education Centre.

**“Once again, thank you for the wonderful week. The team is the best in the business. I could go on about the experience...Most importantly, the students benefitted and together we can turn the tide for skilled trade career development in Ontario!”**

– Jennifer Parrington, Student Success Facilitator, Specials High Skills Major (SHSM), School College Work Initiative (SCWI), and Technological Education.





**Media coverage, knowledge mobilization.** Of considerable help to attracting workers to the skilled trades is favorable publicity and knowledge mobilization to the broader community, concerning opportunities, benefits, and pathways to employment in the field. The Tools in the Trades Bootcamp can be considered effective to the extent that it contributes to these efforts.

There has been abundant positive media coverage of this program. Much of it has underscored the opportunities and benefits of working in the skilled trades, while describing the Tools in the Trades Bootcamp as an exemplar program for recruiting and directing youth and adult workers into the trades.

The media coverage included local and regional outlets such as newspapers, TV, and social media (see Appendix A for a list of media coverage outlets).

#### **Apprenticeships and employment in the trades.**

Of course, most important is the numbers of bootcamp participants involved in an apprenticeship or with employment in the skilled trades. Of the 1450 bootcamp participants, 621 (43 per cent) were registered as apprentices in a trade.

Three participants obtained full-time paid employment in a skilled trade. While this number is low, this report covers only the year in which the bootcamps were offered. This does not provide sufficient time for participants to secure employment, especially for those attending the later bootcamps. Also, most participants were not yet graduated from high school at the time of the survey.

Clearly, a longitudinal follow-up is required to determine which of the bootcamp participants obtained full-time paid employment, in which trade, and with whom (i.e., employer).

## Concluding Comments

The applied and academic literatures concerning recruiting and developing workers for the trades have provided several recommendations on how to do this most effectively.

These recommendations, 1-15, listed earlier in this report, have been incorporated into the design and delivery of the Tools in the Trades Bootcamp. Specifically, the bootcamps:

- provide early and sustained exposure to skilled trades as an attractive alternative to professions requiring a university education
- leverage the influence of high school vocational counsellors and other course instructors
- engage participants in extensive in-person interactions with the skilled trades, including hands-on training and mentoring
- offer skilled trades people as role models in having them present and mentor
- dispel misinformation and directly address stigma concerning working in the skilled trades among students, parents, and the broader community through positive media coverage
- attract and involve members from equity-seeking groups, those underrepresented in the trades
- expand school-industry partnerships
- provide a “psychologically safe” pre-apprenticeship forum where students with similar interests come together to learn of opportunities in the trades, how best to pursue them, and engage in hands-on experience working with tools
- reduce financial barriers to individuals interested in learning of the trades, as participation is free, as is the tool kit students receive on completing the bootcamp
- create networking opportunities with skilled trades people, and apprenticeship or other employment opportunities
- connect prospective trade workers to organizations with the mandate to provide support, direction, and sponsorship for securing a job in the trades (e.g., Support Ontario Youth)
- minimize geographic accessibility to training, as the bootcamps were offered in a variety of regions throughout the province

Additionally, participant experience of the bootcamp was uniformly positive, as reflected in self-report surveys. Moreover, 43 per cent of the participants were enrolled in apprenticeship programs (including Ontario Youth Apprenticeship Program - OYAP).

Finally, we intend to track participants over several months to determine success rates in acquiring full-time employment in the skilled trades, as it takes this time for employment to be secured.

**BY ALL THESE AVAILABLE INDICATORS THE TOOLS IN THE TRADES BOOTCAMP HAS BEEN HIGHLY SUCCESSFUL.**







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- <sup>iii</sup> Data show us our society isn't aging – it's aged. Here are six ways we can adapt. John Ibbitson, Globe and Mail, April 28, 2022, p. A10 <https://www.theglobeandmail.com/politics/article-canada-2021-census-statscanada-aging-society/>
- <sup>iv</sup> A Behavioural Economics Approach to Recruitment in Skilled Construction Trades: Overview and Key Findings, James Stewart and Lindsay McCardle, [https://rescon.com/reports/files/BE\\_Report\\_Overview.pdf](https://rescon.com/reports/files/BE_Report_Overview.pdf)
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# Appendix A: Table 1. List of Media Coverage.

Title and Link	Date	Media Source	Media Type
<a href="#">Introducing Tools in the Trade Boot Camp</a>	May 10, 2021	Horticultural Trade Association Landscape Ontario	Online Publication
<a href="#">Ontario Helping Youth Explore Careers in the Skilled Trades</a>	June 15, 2021	Government of Ontario	Online News Publication
<a href="#">Ontario hopes “Boot Camp” for skilled trades will help youth and economy</a>	June 15, 2021	Windsor News Today	Online News Publication
<a href="#">‘Tools in the Trades Boot Camps’ offers free introduction to skilled trades</a>	June 17, 2021	Chatham Daily News	Online News Publication
<a href="#">New Ontario Boot Camp program encourages trades participation</a>	June 18, 2021	Daily Commercial News by Construct Connect	Online News
<a href="#">Trades boot camp seeks employer participation in Ontario</a>	August 19, 2021	Greenhouse Canada	Online News Publication
<a href="#">Skilled trades bootcamp coming to Chatham</a>	August 26, 2021	Blackburn News Chatham-Kent News Today	Online News Publication
<a href="#">Boot camp for youth is “Ideal” for learning about Electrical</a>	September 20, 2021	Electrical Business	Online News Publication
<a href="#">IDEAL Industries Hosts Support Ontario Youth’s Tools in the Trades Boot Camps</a>	October 15, 2021	Electrical Industry News Week	Online News Publication
<a href="#">“Tools in the Trades Boot Camp” is helping to break the skilled trades stigma</a>	October 22, 2021	City News Ottawa	Online News Publication
<a href="#">Looking for a job in the trades? Support Ontario Youth can help</a>	October 26, 2021	CHCH News	TV Interview
<a href="#">Tools in the Trades Boot Camp</a>	October 31, 2021	YourTV Niagara	TV Interview
<a href="#">Trades “Boot Camp” at Crossley</a>	November 5, 2021	The Voice of Pelham	Online News Publication
<a href="#">More high school students looking at trades as career choice</a>	February 15, 2022	City News Ottawa	Online News Publication
<a href="#">Mobile boot camp promotes skilled trades to Stratford students</a>	February 16, 2022	The Stratford Beacon Herald	Online News Publication
<a href="#">Support Ontario Youth bootcamp at Seaway Mall showing potential of an automotive trade</a>	February 26, 2022	St. Catharines Standard	Online News Publication
<a href="#">Electrical ‘boot camp’ aims to fill skilled trades void</a>	March 1, 2022	CTV News - London	Online News Publication
<a href="#">Boot camps providing boost for Ontario trades</a>	March 25, 2022	Blackburn News - Sarnia News Today	Online News Publication
<a href="#">Boot camp brings youth, employers seeking apprentices together for mutual benefit</a>	March 26, 2022	St. Catharines Standard	Online News Publication
<a href="#">Trades bootcamp highlights opportunities</a>	April 4, 2022	Blackburn News	Online News Publication
@supportONYouth		Instagram, Twitter, Facebook	Social Media
@toolsinthetrades		Instagram, Twitter, Facebook	Social Media

