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Beyond the water cooler: How online groups foster social capital for women in the skilled trades

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Beyond the water cooler: How online groups foster social capital for women in the skilled trades

Structured Abstract

Purpose: This paper examines the current gap between the labour supply and demand of skilled tradespeople. While it is often touted that women can be a potential source of skilled tradespeople to help bridge this gap, several barriers remain. The authors examined the role of social capital in the form of online support groups to attract and retain women to the skilled trades professions.

Design/methodology/approach: Qualitative interviews were conducted and recorded with 16 women in male-dominated skilled trades (e.g., electrician, plumber) in Canada. Thematic analysis was used to identify social capital, including the role of online support groups.

Findings: Unlike other studies that identified family and friends as crucial to developing social and cultural capital among women in the skilled trades, our participants noted that their friends and family were often not as supportive as they would have liked. Online support groups were mentioned as key to building social capital that helped these women to overcome various challenges such as ostracism, harassment and stigma.

Originality: There is a lack of research identifying the mechanisms involved in how women succeed in male-dominated trades. This research contributes to closing this gap.

Introduction

There is a shortage of skilled tradespeople in many countries, including the United States, Canada, the UK, and Australia (Bigelow *et al.*, 2019; Wulff *et al.*, 2022). Skilled trades primarily involve manual labour in which the practitioner must obtain specific skills, training and certification to practice that trade, such as plumbing, gas fitting and welding (Wulff *et al.*, 2022).

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3 Employment and Social Development Canada (2022) project that approximately 700,000 skilled
4 trades workers in Canada will retire between 2019 and 2028, due to a mass exodus of
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6 experienced older skilled tradespeople retiring and decreased interest in the skilled trades by
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8 Millennials and Generation Z. Exacerbating this shortage is a 28.5% decrease in new apprentices
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10 and a 31.5% decrease in apprentices receiving trade certification from 2019 to 2020
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13 (Employment and Social Development Canada, 2022).
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16
17 One potential solution to this shortage of people in the skilled trades is to recruit more
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19 women into these fields. However, despite the high pay earned by tradespeople, there is still a
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21 low number of women entering the skilled trades and a high rate of turnover of women in these
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23 professions (Bigelow *et al.*, 2019; Byrne *et al.*, 2005). It is well documented that women face
24
25 numerous barriers to entering and staying in the skilled trades, such as hegemonic masculinity,
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27 lack of support networks, as well as harassment and discrimination (Bigelow *et al.*, 2019;
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29 Bridges *et al.*, 2022; Kelly *et al.*, 2015; Wulff *et al.*, 2022).
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33 This paper examines the lived experiences of 16 women in male-dominated skilled
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35 trades. Friends and family were not as supportive as the participants would have liked whereas
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37 online resource groups provided essential support to the participants. The paper is structured as
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39 follows: our literature review will be presented using Bourdieu's Social Capital Theory (2010) to
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41 identify potential barriers and supports for women in the skilled trades. We will then present our
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43 methodology and findings. The implications of these findings will be discussed along with the
44
45 limitations and possible future directions.
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49 **Literature Review**

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51 Bourdieu's theory of social capital (2010) shapes our theoretical perspective through
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53 three key concepts: habitus, social capital and cultural capital. Habitus is comprised of the
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3 attitudes and dispositions of one's sociocultural background that is shaped through family,
4 friends and education (Wulff *et al.*, 2022). In essence, habitus shapes an individual's experience
5 of the world. In the skilled trades, habitus plays a crucial role in gendered occupational
6 trajectories. Boys may be socialized into traditional gender norms that promote manual work,
7 aligning with dominant notions of masculinity, and may be more likely to receive familial
8 encouragement to pursue careers in the skilled trades. Similarly, girls are often discouraged from
9 entering these fields as it is incongruent with femininity (Miller, 2016; Dainty *et al.*, 2001). This
10 demonstrates how habitus shapes perceptions of what constitutes an "appropriate" career path
11 based on gender.
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24 It is within this concept of habitus that we see the role of both social capital and cultural
25 capital. As outlined by Adler and Kwon, social capital is the "goodwill that is engendered by the
26 fabric of social relations and that can be mobilized to facilitate action" (2002, p. 17). Adler and
27 Kwon (2002) note that this goodwill can manifest as advice and trust in a network of friends and
28 family. Thus, people can leverage the information accumulated through their network for
29 personal and professional gain.
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38 It is acknowledged that men often automatically have access to formal and informal
39 support networks in the form of family members or teachers who encourage men to pursue
40 opportunities in the skilled trades (Bridges *et al.*, 2020). While male privilege is often reinforced
41 through these support networks, oppression is perpetuated when women in the skilled trades are
42 excluded. Thus, "workplaces often reinforce a work identity that reproduces rather than
43 challenges social inequalities" (Taylor *et al.*, 2015, p. 94).
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51 If social capital is encapsulated by who you know, cultural capital is developing the skills
52 and knowledge through formal and informal education. In other words, how things get done and
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3 what are the appropriate behaviours (Taylor *et al.*, 2015). Thus, young men may have
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5 opportunities to work with family members at an early age to develop various skills involving
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7 tools and be encouraged to pursue a skilled trade at the post-secondary level. Kelly (2015) notes
8
9 that young women often do not have access to the equivalent role models as men in the skilled
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11 trades. Wright (2016) comments on how women in male-dominated industries, such as
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13 transportation and construction, lack the opportunity to learn from other women, either formally
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15 or informally, and thus lack the opportunity to build their cultural capital.
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19 This lack of access to cultural capital is not only a barrier to skill development but also
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21 contributes to the stigmatization of women within these industries. Goffman (1963) defines
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23 stigma as having attributes that are “discrediting,” resulting in the person feeling “tainted” and
24
25 “discounted” (p. 3). Women in the skilled trades often experience stigma that is manifested as a
26
27 toxic male hegemonic culture, which includes ostracism, harassment, and feelings of isolation
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29 (Bridges *et al.*, 2020; Struthers and Strachan, 2019; Wright, 2013). This stigma is rooted in the
30
31 belief in the skilled trades that “a masculine body is required to perform the work. Women in the
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33 trades work *with* their bodies—in doing so they are challenging and disrupting gender roles”
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35 (Bridges *et al.*, 2020, p. 895). This leads to a fear among many men in the skilled trades that the
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37 presence of women may devalue their work and disrupt the belief that women do not have the
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39 physical characteristics (e.g., biological strength) to perform the tasks (Bridges *et al.*, 2022;
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41 Bridges *et al.*, 2020).
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46 This backlash can manifest itself in many ways including harassment, hazing, and
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48 bullying. Harassment of women in the skilled trades is widespread (Bridges *et al.*, 2022; Byrne *et*
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50 *al.*, 2005; Fielden *et al.*, 2010; Hunte *et al.*, 2016; Kelly *et al.*, 2015; Wulff *et al.*, 2022).
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52 Denissen (2010) notes that the women in their study experienced aggressive forms of sexual
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3 harassment and were penalized (e.g. having their employment terminated and feeling socially
4 isolated) when they confronted these behaviours. Women in the skilled trades are often the only
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6 women on the job site, which can lead to feelings of ostracism (Bridges *et al.*, 2022; Fielden *et*
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8 *al.*, 2010). In the study by Taylor *et al.* (2015), respondents did not exit the skilled trades
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10 because of the difficulty of the work, but because the hostile workplace culture made them feel
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12 alienated.
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17 Wulff *et al.* (2022) used Social Capital Theory (Bourdieu, 2010) to argue that social
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19 capital is essential for women to attain and maintain employment in male-dominated skilled
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21 trades. This capital can manifest itself in the form of networking, formal education, mentorship
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23 and work experience (Wulff *et al.*, 2022). Wulff *et al.* (2022) interviewed 15 tradeswomen and
24
25 found a strong connection between the amount of social capital (e.g., having friends or family in
26
27 the skilled trades) and these women's entry and tenure in a skilled trade. Beyond the crucial role
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29 of friend and family support, the participants used countering strategies, such as focusing on
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31 outperforming their male counterparts, taking pride in their tasks, and focusing on work-related
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33 efforts that adjust for differences in size compared to their male co-workers. "By working in
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35 ways that suit their desires, skills and bodies, they do gender differently" (Wulff *et al.*, 2022, p.
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42 Taylor *et al.* (2015) interviewed 19 young women in Alberta (Canada) and then presented
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44 vignettes of three young women who have successfully completed their apprenticeship training.
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46 Taylor *et al.* (2015) also highlighted the importance of both family support, mentoring and what
47
48 they refer to as "working class habitus" (p. 102); the participants' coping strategies involved
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50 "adapting to the masculine work culture meant developing a thick skin, becoming assertive, and
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52 conforming to working-class male patterns of interaction" (Taylor *et al.*, 2015, p. 104).
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3 When women pursue careers in male-dominated industries, they often change their
4 approaches to how they present themselves and how they communicate with others as being
5 more masculine or feminine, regardless of their gender expressions, to better adjust to an
6 individual situation (Denissen and Saguy, 2014). Some examples from the study include
7 aggressive communication that may be prevalent in some construction workplaces, talking about
8 sports to be perceived as “one of the boys,” and adjusting their makeup routine to be perceived as
9 less feminine. In other situations, Denissen and Saguy (2014) reported that participants would
10 express themselves more “femininely” (e.g. growing their hair out, engaging in mildly flirtatious
11 behavior) to be perceived as not a threat in the workplace. These examples of re-adjusting to be
12 able to cope with stigma and expectations in a workplace are not feasible in a long-term career
13 because of the emotional stress and the renegotiation of one’s identity that a stigmatized
14 individual must face (Smith, 2013). In conclusion, given the aforementioned barriers (i.e.,
15 harassment, ostracism) that lead to women in the skilled trades feeling stigmatized, resource
16 groups and support networks may enhance social capital and contribute to attraction and
17 retention (Byrne *et al.*, 2005; Wulff *et al.*, 2022).

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19 For employees who identify with a stigmatized social identity such as women,
20 Indigenous, and racialized minorities, the role of support in the form of employee resource
21 groups (ERGs) can also play a crucial role in helping employees feel a sense of belonging and
22 aid in retention (e.g., Welbourne *et al.*, 2017). McPhee *et al.* (2017) concluded that an
23 Indigenous ERG was instrumental in helping Indigenous employees overcome feelings of
24 isolation especially when others in the office were non-Indigenous. Participants underscored that
25 this group helped them feel more connected to their cultural traditions and enhanced their desire
26 to continue to work for this employer. Past research has concluded that organizations with ERGs

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3 were better able to retain African American employees (Friedman and Holtom, 2002; McPhee *et*
4 *al.*, 2017). Friedman and Craig (2004), Van Laar *et al.* (2019), and Welbourne *et al.* (2017), have
5
6 also expressed the benefits of ERGs and other forms of organizational support in retaining
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8 marginalized employees and bolstering efforts at creating a stronger organizational culture
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10 rooted in equity, diversity and inclusion (EDI).
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15 While formal organizational instruments like ERGs have been successful, more informal
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17 forms of social capital, such as online resource groups, may also be helpful for marginalized and
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19 stigmatized individuals. There is a research gap about how online resource groups can positively
20
21 impact women in male-dominated skilled trades. Adler and Kwon (2002) note that some
22
23 organizations have leveraged technology to help employees build social capital in the form of
24
25 video chats, learning resource centers, and databases. While it is commendable that organizations
26
27 use formal methods of building social capital via employee resource groups, our paper focuses
28
29 on the role of informal methods, such as online resource groups led by peers in the industry to
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31 build social capital.
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35 **Methodology**

36
37 McCracken's (1988) comprehensive qualitative data analysis framework through the
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39 "long interview" method was used. This approach allowed participants to openly share and
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41 reflect on their experiences and facilitated a systematic evaluation by researchers in four distinct
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43 steps. The initial phase involved a literature review to identify the potential factors influencing a
44
45 growing shortage of skilled tradespeople and barriers to women entering and remaining in these
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47 trades. The examination encompasses both seminal and recent academic and media literature.
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49 The second step entailed the researchers' introspection to identify implicit biases related to the
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51 subject matter. The first author who has worked in a construction setting acknowledged the
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3 potential influence of personal experiences involving women in the skilled trades. It was
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5 observed that young men had enhanced social capital via supervisors and male coworkers to
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7 relate to the nuances of entering their trades, and many came from families of tradespersons.
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10 Comparatively, there was limited representation of women in the workplace, with most young
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12 women leaving the trades, being encouraged to develop their careers into more administrative
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14 roles or constantly being questioned if this was their backup career. These situations brought the
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16 first author's attention to the central question: *who supported these skilled tradeswomen, despite*
17
18 *the stigma and lack of social capital?* Open-ended questions and recruitment strategies were
19
20 employed to avoid assumptions and broaden participant perspectives.
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24 The third step involved crafting the interview questions for the comprehensive
25
26 exploration of participant experiences. McCracken's (1988) emphasis on open-ended "grand
27
28 tour" questions allowed participants the freedom to share personal stories without imposed
29
30 structures or biases. The last step involved the analysis of interview responses. A five-step
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32 procedure was applied post-data collection, which delved into categories, relationships, and
33
34 patterns. This analytical framework, discussed in detail in the subsequent data analysis section,
35
36 ensured a thorough examination of the acquired interview data.
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40 Recruitment included sharing the research invitation with local trade schools, colleges,
41
42 trade unions, and personal professional networks on LinkedIn. Some participants were also
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44 recruited by posting the recruitment invitation on provincial and national closed-group
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46 community-run Facebook (i.e., Meta) groups, with an average group membership of 2480
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48 members (ranging from 115 to 7500 members) in the Fall of 2022.
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52 Participants were separated into three categories by their work experience (Group 1:
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54 students, apprentices, and/or less than five years of work experience in the skilled trades; Group
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3 2: five to 10 years of work experience, not a student/apprentice, and/or Red Seal-certified (a
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5 Canadian national standard that demonstrates knowledge and experience in a specific skilled
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7 trade) (red-seal.ca, 2025); Group 3: managers, executives, or educators in the skilled trades. The
8
9 format of a 30-minute to an hour-long interview was conducted virtually on Microsoft (MS)
10
11 Teams or the phone. These interviews were recorded and transcribed using transcribing
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13 technology from MS Teams and MS Word and checked for quality, accuracy, and non-verbal
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15 cues (e.g., physical and voice indicators of participants' emotions in the responses).
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19 Data analysis used thematic analysis (Braun and Clarke, 2006) for multiple rounds of
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21 coding the interview responses, both by question and the comprehensive interview. To analyze
22
23 the interview data, a qualitative integrative coding approach was used. Initially, open coding was
24
25 applied to the initial interviews, generating preliminary categories based on emergent themes. As
26
27 additional interviews were coded, an integrative approach was used to refine and consolidate
28
29 categories, identifying recurring patterns across participants. This iterative process allowed for
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31 the emergence of conceptual linkages while maintaining sensitivity to new and unexpected
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33 findings. Qualitative sampling ensured diversity in participant experiences, prioritizing variation
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35 over statistical representativeness. By integrating early patterns with ongoing data collection, the
36
37 analysis captured both commonalities and the complexity of individual narratives.
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42 Participant groups and basic participant information are provided (see Appendix 1).
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44 Interview questions included asking participants how they first became interested in the skilled
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46 trades, their family's and friends' support and reactions to their career choices, if they have faced
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48 stigma in their trades, and how they see their future in the trades (see Appendix 2).
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Findings

Varying Levels of Support

Family and Friends. A common pattern across sampled trades and career levels was that, in many cases, family and friends initially offered little to no support. Participants whose families also worked in the trades expected their families to be supportive. However, some families strongly encouraged their children to pursue careers outside of the trades. A mason nearing the end of her apprenticeship reflected on when she considered working with her father in masonry during her summer break in high school:

At the company he worked at, you could hire your children if there were job openings for summer jobs, you would get priority, and my dad would never let me do those jobs because he's like "you won't go to school. I don't want you to end up in a factory"(4th-year apprentice, masonry)

Other participants shared that the expectations for their career aspirations were implied and were only explicit after they chose to pursue education in the trades. A carpenter reflected on how her family's immigrant experience impacted their expectations of what was considered a good job growing up:

"My grandfather worked in construction...then my parents went on to get their MBAs [Master of Business Administration] and I think part of that immigrant mentality was a little bit like we're moving over to do better than their generations for you. So, I think my parents had it in their mind what that meant for me. There was like a lot of internalized pressure...it wasn't explicit, but I felt like I needed to go to university...get similar success with what they did (1st year apprentice, carpentry).

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3 Conversely, other participants felt support from their family and friends immediately. A recently
4 graduated electrician shared that her family's support was a major source: "My dad initially
5 wanted to stop me from going because he felt it was like a waste, but I had my mom's support,
6 like 100%, and that's just what pushed me." A first-year carpentry apprentice shared that her
7 grandfather was surprisingly the most supportive: "My grandfather is really proud of me, he
8 asked for updates all the time."
9

10
11 Most participants shared that family and friends were hesitant about their decision to
12 pursue the trades but that they became more comfortable and encouraging once participants had
13 positive outcomes from pursuing their careers, such as completing their qualifications or starting
14 to independently work in their trade. Some participants who had recently received more job
15 growth and independence shared that their family's feelings towards their career had changed
16 and were more accepting, in part because they could see they were doing well in their jobs. After
17 some initial hesitation when she began her pre-apprenticeship program, a participant shared that
18 her whole family is now very supportive of her decision:
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21 I think there was a little bit of internalized stigma on my dad's part and that transferred to
22 my mindset around it. But now they see how fulfilled I am and how happy I am, they're
23 fully on board and super supportive (pre-apprentice, carpentry).
24

25
26 Others chose to delay what seemed like the inevitable disapproval from family until they were
27 more established in their new career. One participant who had made the transition from a
28 corporate job of nearly 20 years to beginning a pre-apprenticeship program did not tell her
29 extended family like grandparents and cousins, about her experience in trades school and was not
30 planning on telling them until she had begun work as a full-time employee in her trade:
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3 I have done some crazy things in my life, skydiving, rock climbing, climbing mountains.
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5 I'm that sort of person, I challenge myself as much as I can, with my husband's complete
6
7 total love and support. My best friend is like, "you go girl! If anybody's going to do it,
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9 it's going to be you"...My family, to be honest with you, they don't kind of know that
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11 I'm in the apprenticeship right now, because I'd like to get through it: pass, get a job, and
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13 then say "okay, this is what I'm doing" because they're traditional...women working, it's
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15 just that's non-existent (1st year apprentice, carpentry).
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19 **Work and School.** Participants also shared that they had expected their coworkers and authority
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21 figures (i.e. managers and instructors) to be a source of support but often this support was
22
23 lacking. Numerous female participants shared that they were the only women in their workplace,
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25 which made others question their role at a job site. One participant shared how others on the job
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27 site frequently misnamed her role in the workplace, saying "I have kept a running list of people I
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29 have been mistaken for on-site. I've been called the carpenter's wife, the painter, the cleaning
30
31 lady"(licensed electrician). Even after attaining full licensing, she was frequently referred to
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33 assistant or junior roles. Another participant shared that in an attempt to be cordial with her new
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35 co-workers while starting her apprenticeship (all of whom were men), she suggested that the
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37 team do a team-building activity sport together; after all of her co-workers refused saying they
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39 were not interested in that specific sport, she saw her colleagues at the same gym spending time
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41 together, and that it was clear that they had excluded her.
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47 Participants assumed that their female instructors and managers would be championing
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49 their success, but this did not happen. These instructors and managers felt that incoming students
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51 should face similar struggles on entering the trades as they had when they entered. When
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53 discussing her first apprenticeship classes in trades college, a participant shared how she
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3 immediately felt excited when she realized she had a female instructor in her first semester at
4 college. When she met with them to introduce herself and ask if she had any advice for being a
5 woman in the program, the participant shared that she was surprised by her instructor's response:
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8 When I got into class, I asked her, "What advice do you have for young women entering
9
10 the trades now?" She said "I don't know, don't wear pink. When they bully you, just
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12 ignore it because they're going to bully you, so just keep your mouth shut." That was an
13
14 extremely disheartening thing to hear and very surprising. (licensed electrician).
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19 The participant reflected that their instructor may not have been focusing on gender as an
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21 important part of her experience, or she may still be processing her qualms with the gender
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23 dynamic in the program.
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26 A masonry apprentice shares a similar experience in which she would be missing a few
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28 days of class to attend a provincial conference for women in the trades. Her instructor, whom she
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30 was expecting to be supportive since she was also a woman in the trades, told her it would be a
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32 poor decision for her career to attend something for women in the trades. She reflected that that
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34 attitude could have deterred someone from continuing in the program since the instructor was
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36 one of the only women as role models in the program: "I hate to think how many young women
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38 went through that course with that teacher who weren't as sure of themselves and were met with
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40 her attitude and decided, 'I'm not going to go into the trades anymore' (4th year apprentice,
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42 masonry). Although the participants were disappointed by the lack of support from their female
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44 instructors, this also suggests that these female instructors may cope with stigma in their own
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46 careers by choosing not to acknowledge it rather than actively resisting it or becoming involved
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48 in advocacy.
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3 Other participants shared more positive experiences with workplace managers, mentors
4 and supervisors, especially finding allies when dealing with difficult situations in which they
5 were unwelcome. A carpentry apprentice reflected on a situation when she had to leave the job
6 site because a site supervisor had verbally harassed her for months and her coworkers ignored
7 the comments. She shared that at that moment, she felt like she had to seriously reconsider if she
8 wanted to continue working for the company and had to take time off the site before returning to
9 defend herself:
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19 Our boss immediately called to make sure I was okay, and they immediately switched my
20 site. They let me take the weekend because I didn't want to talk to anybody. And then the
21 next week, they immediately switched my crew. The owner came to meet me on-site that
22 morning. They were awesome, they handled it really well. (1st year apprentice,
23 carpentry).
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30 She shared that it was still frustrating that it took her walking off the site to get her switched to a
31 different crew:
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35 The owners making sure that I'm in an environment that I can like learn in and I got to do
36 this, and they move me to a site where I had incredible mentors and incredible teachers. I
37 thought, "let's give this another shot, they're making a concerted effort."
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42 If her manager had not reacted in a supportive way, she said that she may have left the program.
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45 Similar stories occurred in other workplaces in which the supervisors advocated for the
46 participants. However, some of the participants noted that the deliberate advocacy was after
47 something significantly negative occurred in the workplace. Several participants shared being
48 verbally assaulted in the workplace by male colleagues. For example, a co-worker repeatedly
49 sharing his feelings of romantic interest with the participant after the participant told them that
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3 the feelings were not reciprocal and that she was married. She shared that she expected some
4 people to isolate her based on gender, but did not expect that colleagues would sexualize
5 working in a male-dominated trade. After practicing as a journey person for nearly 20 years, the
6 participant transitioned to a teaching role in trades school to be an advocate for others entering
7 the skilled trades. Reflecting on hiring and helping young women entering the tool and die
8 industry:
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17 [other managers] if a woman comes in here and she's sexually harassed, that's her fault,
18 and they're like, "oh well," and I'm like, "but it's not her fault." So, [they are] denying
19 someone an opportunity based on the behaviour of the men in the plant. That's a really
20 messed-up way to look at [it]. (trades college instructor).
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26 In conversation with the participants from a wide range of experience levels and sectors, it was
27 evident that coworkers, managers, instructors and families play a crucial role in either fostering
28 enhanced social capital or acting as a barrier. In a supportive situation, they shared that it was
29 nice to see others that had similar experiences and backgrounds and were appreciative of the
30 generosity of more senior tradespeople for their support and mentorship. However, many
31 participants were quick to note that even in situations in which they were not supported by their
32 co-workers or others, they felt that their negative experience was motivation for them to succeed
33 rather than causing them to seriously consider leaving the trades.
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44 The need for workplace mentorship was common across participants' experience, with
45 more experienced participants sharing the desire for more workplace support. An instructor in a
46 polytechnic carpentry program shared how she was one of the only women in their workplace for
47 the majority of her career as a Red Seal carpenter; she more regularly interacted with other
48 women in the trades once she became a college instructor in carpentry nearly 10 years after
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3 starting her career in the trades. Similarly, many shops lacked a workplace community because
4 the discussion of career development was limited. Due to past external forces like hiring freezes
5 and lower investment in trades education, there were many years without incoming apprentices
6 in their workplace and they felt they had missed out on being able to mentor new apprentices
7 which would have been fulfilling once they had more experience to share: “It would have been
8 nice [to have had more apprentices], but we get to do it now, even though we should be retiring!”
9 (trades college instructor/journeyperson).
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19 *Online Resource Groups as Social Capital*

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21 Participants enthusiastically expressed their discovery of a sense of community within
22 online resource groups tailored for women in the skilled trades. For those who felt isolated
23 within their workplaces or personal networks, these virtual spaces became a lifeline, fostering
24 connections that transcended geographical boundaries. Within these digital groups (e.g.,
25 Facebook [Meta], LinkedIn), participants not only sought answers to industry-related queries, but
26 also found a platform to share their experiences and concerns freely. These platforms served as a
27 supplement to their existing support systems, providing a broader perspective on their chosen
28 career path. Participants realized that they were not isolated in their workplace, but part of a
29 collective facing similar challenges and triumphs. Beyond the practical aspects of networking
30 and knowledge-sharing, these online groups became a source of emotional strength, reaffirming
31 that they were not alone in their journey. These groups provided a concrete way for these women
32 to build social capital.
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49 Participants were quick to share how the online groups were exceedingly helpful in not
50 only having peer support but also navigating the trades, especially in the early stages of their
51 careers. Although we did not ask about the role of online groups, participants shared that these
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3 online groups were extremely helpful for their development as new tradespeople, especially in
4 times when they were not supported by their colleagues in the workplace. One participant shared
5 that after her instructors discouraged her from attending a conference on women in the trades,
6 she visited the online group to share her experience. Many women shared advice and noted that
7 they had been through similar situations: “The support that I found through [the online group]
8 was basically the only thing that got me through the negative and disinterested attitude of my
9 teacher while I was beginning my apprenticeship.” (licensed electrician). Compared to the
10 attitude she received from her instructor, which she shared may have been that the instructor felt
11 threatened that other women were interested in the trades, the members of the online group were
12 willing to provide support and were confident enough to not feel threatened by new apprentices:
13 “The attitude that I encountered from the women that I met through this program was very much
14 no, we're not going to fight for our seat at the table. We're just going to build a bigger table!”
15 (licensed electrician).

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33 Other participants shared that the groups were not only a good sounding board, but a
34 means for emotional support, and a place for shared resources to help each other succeed. One
35 participant mentioned a moment in which she had confided in the Facebook (i.e., Meta) group
36 with workplace issues regarding her supervisor, asking if anyone had faced a similar issue and
37 how she should respond. After receiving validation and advice for next steps from some of the
38 group members, she shared that she eventually chose to leave her workplace and was in search of
39 a new job in her field; when she shared the progress of her workplace situation with the
40 Facebook group, members immediately started sharing job postings and contact information for
41 tradespeople in her area to help her find a new job. She shared that as a young person trying to
42 navigate the trades:
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3 It's been insanely helpful, knowing that when something feels off, I follow my instinct to
4 reach out to someone else who is also a woman in trades who also understands what we
5 go through. Even if it's not the same trade, being able to say to them “hey, this feels
6 weird. Do you think this is weird?” and them saying “That's weird. That's not okay.”
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8 Rather than me just thinking ‘Oh well, I guess this is just how it is, and I need to change
9 my perspective and change my expectations’(Red seal electrician).
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17 By having access to an online group with women from a variety of experiences, trades, and
18 industries, she was able to differentiate what is not normal for the industry from what is a regular
19 job expectation in the trades.
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24 Additionally, though many participants were enthusiastic to share their work experience
25 and participate in the study, most participants desired to keep their identities private and
26 anonymous because of the limited identities within their industry. Many participants shared that
27 the combination of her trade, experience level, and age would immediately reveal her identity
28 because there are so few people who would match her experience.
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35 The use of online groups as a resource and a buffer against stigma was not limited by
36 geography. Participants from both rural and urban areas across various provinces in Canada
37 discussed seeking community in online resource groups. This suggests that their motivation for
38 joining these groups was not necessarily due to a lack of in-person community, but rather a
39 desire to connect with others beyond their immediate workplaces, where they were often among
40 the only women. It also indicates that even in regions with greater representation of women in
41 the trades, such as major cities like Toronto and Calgary, similar challenges persisted.
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Discussion and Contribution

Our findings were consistent with past literature in two key areas. First, our female participants often lacked social capital in the form of support networks (Kelly *et al.*, 2015; Taylor *et al.*, 2015; Wright, 2016). As previously noted in our findings and the literature, those with support networks in the skilled trades have the advantage of understanding the cultures and behavioural expectations in addition to better comprehending how things get done in that workplace (i.e. cultural capital). While some organizations may make efforts to help women in the skilled trades enhance their social capital via formal mentorships and employee resource groups, our online resource groups provide a less formal yet equally impactful initiative. Our respondents were enthusiastic about the role that these online groups played in providing support, reducing isolation and increasing their understanding of how to navigate a male-dominated workplace. Second, consistent with past literature, harassment and ostracism were unfortunately, very prevalent (Bridges *et al.*, 2022; Byrne *et al.*, 2005). Thus, online groups helped respondents realize the scope of how widespread this problem is and, in some cases, helped them take action to either leave this environment or combat the problem by filing a complaint.

Contributions

Our findings differed from the literature with respect to the amount of support from family and friends. While previous research (Bridges *et al.*, 2020; Taylor *et al.*, 2015; Wulff *et al.*, 2022) specified the essential role played by family and friends (i.e. habitus) in fostering networks (i.e. social capital) and the know-how of how to use tools (i.e. cultural capital), our participants often had less support than expected from family and friends. Thus, there was more of a learning curve on the part of these participants. Furthermore, whereas previous literature

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3 (e.g. Bridges *et al.*, 2020; Kelly 2015; Wright 2016) noted the importance for women in the
4 skilled trades of finding female role models and mentors, our findings indicate that these role
5 models such as instructors downplayed the role of gender or were not supportive of their female
6 students.
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12 Our main contribution is identifying online resource groups as very helpful to building
13 social capital for our participants, particularly those with no family or workplace support. In this
14 setting, participants actively create and participate in these online social networks and receive
15 advice on how to handle situations, such as harassment, community building, and social capital
16 growth. Unlike other support groups that are formally organized to meet in person, the
17 participants shared that the group offered a level of anonymity, which allowed members to speak
18 more freely and not feel that their jobs would be jeopardized since their workplace was not
19 involved. Participants identified that the format of a large online group was conducive to larger
20 discussions and accessing more available resources. Research participants noted that it was
21 beneficial and reassuring to have many group members with varying industry experience to share
22 their experiences and advice. Another advantage of online resource groups is the quick response
23 times when questions and problems are raised since group members were able to respond
24 whenever they were available, rather than a more formal networking session in which meetings
25 are confined to space and time. Distinctly, participants shared that the online groups may also be
26 more supportive than female managers or instructors because participants were not seen as in
27 competition with one another.
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49 **Limitations and Future Research**

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51 The intention of the project included interviewing participants who no longer worked in
52 the skilled trades. Recruitment included posting the recruitment invitation on LinkedIn, through
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3 organized professional online groups for people working in the trades (as some may still be part
4 of Facebook unknowingly after switching careers), as well as utilizing the 'snowball' recruitment
5 method (i.e., chain sampling) by asking participants if they knew anyone that left the trades.
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7 Most participants shared that they were not close enough to other female peers to know what
8 happened after these women left the trades or that the participant themselves were the only
9 women they knew in the trades. Some participants reported that they lost contact with women
10 who had left the trades because of the additional layer of stigma surrounding them being
11 unsuccessful. The absence of participants who had left a skilled trades apprenticeship represents
12 a limitation of this study. Additionally, as this research is qualitative, the findings cannot be
13 generalized.
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26 Future research should continue to examine the intersectionality of gender with other
27 social identities, such as sexual orientation, race, and gender identity (Galea and Jardine, 2021;
28 Hunte, 2016; Kelly *et al.*, 2015). In our study, only a limited number of participants voluntarily
29 shared how their sexual orientation may impact on the perceptions of their careers in the trades,
30 as this was not specifically indicated in the interview. The impact of marginalized sexual
31 orientations in the trades was not further explored or addressed in this project. However,
32 previous research found that men that identified in the Lesbian, Gay, Bisexual, Transgender,
33 Queer (LGBTQ) community were disproportionately underrepresented in the skilled trades
34 nearly as much as those with non-conforming gender expression (Colgan and McKearney, 2012).
35 The recruitment methods of this project included gender-neutral language, however even in
36 gender-neutral recruitment settings, such as through local unions and trades colleges, a large
37 majority of interested participants identified as women. Future research recruitment methods
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3 could include purposeful recruitment for groups that are further underrepresented within the
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5 skilled trades, including queer and transgender participants.
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8 **Conclusion**

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10 While there has been a great deal of attention paid to the labour shortage in the skilled
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12 trades, many countries continue to struggle with attracting and retaining workers. Although
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14 women have been suggested as a potential labour pool, it is recognized that they continue to
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16 experience a great deal of harassment and ostracism and often lack the social capital in terms of
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18 networks to provide support and guidance. Our findings indicated that online support groups can
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20 be one tool to help women develop a sense of community, learn from each other, and apply
21
22 destigmatization strategies.
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26 These findings have important policy implications at both the organizational and
27
28 governmental levels. From a workplace policy perspective, employers should recognize the
29
30 systemic barriers women face and take active steps to foster inclusive work environments. This
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32 could include offering mentorship programs, facilitating access to support networks via
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34 employee resource groups, implementing stronger anti-harassment policies and improving
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36 reporting mechanisms. Furthermore, policies promoting workplace culture assessments and
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38 diversity incentives can push organizations to prioritize equitable recruitment and retention
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40 strategies.
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44 Online resource groups were vital for our respondents by helping identify and break
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46 down barriers as well as build social capital, especially those lacking family and/or workplace
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48 support. These findings suggest that social media platforms, schools, and workplaces could
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50 include online resource groups as a reliable networking opportunity for community building.
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3 At a government policy level, policymakers can use these insights to inform workforce
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5 development initiatives. Governments can invest in inclusive training programs that specifically
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7 support women entering the trades, fund industry-wide online networking platforms, and
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9 encourage labour unions and trade organizations to incorporate digital community-building
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11 efforts.
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14 By addressing these barriers through targeted workplace and public policies, the skilled
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16 trades industry can move toward a more diverse and sustainable workforce, ensuring that women
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18 not only enter the field but also thrive in their careers.
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23 This study has been reviewed and received research ethics clearance through the Research Ethics
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25 Board at Brock University [22-017].
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Appendix 1: Interview Questions: Research Interview Questions (separated interview questions by group)

Students/Apprentice Participants (Group 1)

1. Tell me about yourself
2. How/when did you first become interested in your field?
3. What most attracted you to a career in the trades?
4. What are the challenges that you experienced when first starting your career?
5. Share your experience of when you first decided to pursue a career in the trades.
6. What would your ideal workplace in the trades look like?
7. What inspires you to pursue your career?
8. Did you ever reconsider/question pursuing your career field?
 - a. If yes, what made you decide to continue?
 - b. Do you know anyone who chose to leave the profession?
9. What are some of your career goals?
 - a. Do you think these goals changed after you started pursuing your career?
10. Are there any questions that I did not ask today that you wish I had/you would like to elaborate on?

Established Careers/Red Seal Participants (Group 2) and Executives/Managers/Educators (Group 3)

1. Tell me about yourself
2. How/when did you first become interested in your field?
3. What most attracted you to a career in the trades?
4. What was your experience like getting to your current position?
5. What challenges did you experience? Were they what you expected?
6. What helped you overcome challenges and achieve your current position?
7. Did you ever reconsider/question pursuing your career field?
 - a. If yes, what made you decide to continue?
 - b. Do you know anyone who chose to leave the profession?
8. Are there any questions that I did not ask today that you wish I had/you would like to elaborate on?

Appendix 2: Basic Participant Description

Participant Group	Trade/Industry	Occupation	Tenure in the Trades	Gender
1	Carpentry	Apprentice	1	Female
1	Textiles	Trade school student	2	Female
1	Electrical	Electrician	2	Female
1	Textiles	Trade school student	2	Female
1	Electrical	Apprentice	2	Female
1	Masonry	Masonry Apprentice	6	Female
1	Textiles/Carpentry	Pre-Apprentice	1	Female
1	Carpentry	Apprentice	1	Female
1	Refrigeration and Air Conditioning Mechanics	Apprentice	2	Female
2	Electrical	Red seal electrician	9	Female
2	Electrical	Journey person Electrician	12	Female
2	Technology Management	Manager of company's DEI program	2	Female
3	Plumbing	Red seal plumber	15	Female
3	Cabinet making	Cabinet maker/college instructor	19	Female
3	Carpentry	Carpenter/college instructor	30	Female
3	Construction	Construction Project Management	25	Female

Reference List

- Adler, P.S. and Kwon, S.-W. (2002), "Social capital: prospects for a new concept", *Academy of Management Review*, Vol. 27 No. 1, pp. 17-40, doi: 10.5465/amr.2002.5922314.
- Bigelow, B.F., Zarate, V., Soto, J., Arenas, J. and Perrenoud, A. (2019), "Attracting and retaining tradespeople, an evaluation of influencers on construction workers in two different trades in Texas", *International Journal of Construction Education and Research*, Vol. 15 No. 3, pp. 163-178, doi: 10.1080/15578771.2017.1280103.
- Bourdieu, P. (2010), *Distinction: a social critique of the judgement of taste*, Routledge.
- Braun, V. and Clarke, V. (2006), "Using thematic analysis in psychology", *Qualitative Research in Psychology*, Vol. 3 No. 2, pp. 77-101, doi: 10.1191/1478088706qp063oa.
- Bridges, D., Bamberry, L., Wulff, E. and Krivokapic-Skoko, B. (2022), "A trade of one's own: the role of social and cultural capital of women in male-dominated occupations", *Gender Work and Organization*, Vol. 29 No. 2, pp. 371-387, doi: 10.1111/gwao.12764.
- Bridges, D., Wulff, E., Bamberry, L., Krivokapic-Skoko, B. and Jenkins, S. (2020), "Negotiating gender in the male-dominated skilled trades: a systematic literature review", *Construction Management and Economics*, Vol. 38 No. 10, pp. 894-916, doi: 10.1080/01446193.2020.1762906.
- Byrne, J., Clarke, L. and Van Dermeer, M. (2005), "Gender and ethnic minority exclusion from skilled occupations in construction: a Western European comparison", *Construction Management and Economics*, Vol. 23 No. 10, pp. 1025-1034, doi: [10.1080/01446190500310759](https://doi.org/10.1080/01446190500310759).

- 1
2
3 Colgan, F. and Mckearney, A. (2012), "Visibility and voice in organisations: lesbian, gay,
4
5 bisexual and transgendered employee networks. *Equality Diversity and Inclusion: An*
6
7 *International Journal*. Vol. 31 No. 4, pp. 359-378, doi: 10.1108/02610151211223049.
8
9
- 10 Dainty, A. R., Bagilhole, B. M., & Neale, R. H. (2001). "Male and female perspectives on
11
12 equality measures for the UK construction sector". *Women in Management Review*. Vol.
13
14 16 No. 6, pp. 297-304.
15
16
- 17 Denissen, A. and Saguy, A. (2014), "Gendered homophobia and the contradictions of workplace
18
19 discrimination for women in the building trades". *Gender & Society*. Vol. 28 No. 3, pp.
20
21 381-403, doi: 10.1177/0891243213510781.
22
23
- 24 Denissen, A. (2010), "Crossing the line: how women in the building trades interpret and respond
25
26 to sexual conduct at work", *Journal of Contemporary Ethnography*, Vol. 39 No. 3, pp.
27
28 297-327, doi: 10.1177/0891241609341827.
29
30
- 31 Employment and Social Development Canada (2022), "Government of Canada Investments in
32
33 the Skilled Trades", available at: [https://www.canada.ca/en/employment-social-](https://www.canada.ca/en/employment-social-development/news/2022/01/government-of-canada-investments-in-the-skilled-trades.html)
34
35 [development/news/2022/01/government-of-canada-investments-in-the-skilled-trades.html](https://www.canada.ca/en/employment-social-development/news/2022/01/government-of-canada-investments-in-the-skilled-trades.html)
36
37 (accessed 16 January 2025).
38
39
- 40 Fielden, S., Davidson, M.J., Gale, A. and Davey, C.L. (2010), "Women in construction: the
41
42 untapped resource", *Construction Management and Economics*, Vol. 18 No. 1, pp. 113-
43
44 121, doi: 10.1080/014461900371004.
45
46
- 47 Friedman, R.A. and Craig, K.M. (2004), "Predicting joining and participating in minority
48
49 employee network groups", *Industrial Relations: A Journal of Economy and Society*, Vol.
50
51 43 No. 4, pp. 793-816, doi: 10.1111/j.0019-8676.2004.00362.x.
52
53
54
55
56
57
58
59
60

- 1
2
3 Friedman, R.A. and Holtom, B. (2002). “The effects of resource groups on minority turnover
4 intentions”, *Human Resource Management*, Vol. 41 No. 4, pp. 405-421. doi:
5
6 <https://doi.org/10.1002/hrm.10051>.
7
8
9
10 Galea, N. and Jardine, M. (2021). “Building an LGBTQ+ inclusive workplace: A blueprint for
11 Australia’s construction industry”, Australian Human Rights Institute, UNSW: Sydney,
12 available at: [https://www.humanrights.unsw.edu.au/research/current-research/lgbtq-
13 workers-australian-construction-section](https://www.humanrights.unsw.edu.au/research/current-research/lgbtq-workers-australian-construction-section). (accessed May 9, 2025).
14
15
16
17
18
19 Goffman, E. (1963), *Stigma: notes on the management of spoiled identity*, Prentice Hall,
20 Englewood Cliffs, NJ.
21
22
23
24 Hunte, R. (2016), “Black women and race and gender tensions in the trades”, *Peace Review: A
25 Journal of Social Justice*, Vol. 28 No. 4, pp. 436-443, doi:
26
27 10.1080/10402659.2016.1237087.
28
29
30
31 Kelly, M., Wilkinson, L., Pisciotta, M. and Williams, L.S. (2015), “When working hard is not
32 enough for female and racial/ethnic minority apprentices in the highway trades”,
33
34 *Sociological Forum*, Vol. 30 No. 2, pp. 415-438, doi: 10.1111/socf.12169.
35
36
37
38 McCracken, G.D. (1988), *The Long Interview* (Sage University Paper Series on Qualitative
39 Research Methods, Vol. 13), SAGE Publications, Newbury Park, CA.
40
41
42 McPhee, D., Julien, M., Miller, D. and Wright, B. (2017), “Smudging, connecting, and dual
43 identities: case study of an aboriginal ERG”, *Personnel Review*, Vol. 46 No. 6, pp. 1104-
44
45 1119, doi: 10.1108/PR-10-2015-0270.
46
47
48
49 Miller, D. L. (2016). “Gender, field, and habitus: How gendered dispositions reproduce fields of
50 cultural production”, *Sociological Forum*, Vol. 31, No. 2, pp. 330-353.
51
52
53
54
55
56
57
58
59
60

- 1
2
3 Red-seal (2025). “What is an occupational standard”, available at: [https://www.red-](https://www.red-seal.ca/eng/resources/wh.1t.3sn.4.1.shtml)
4 [seal.ca/eng/resources/wh.1t.3sn.4.1.shtml](https://www.red-seal.ca/eng/resources/wh.1t.3sn.4.1.shtml). (accessed February 24, 2025).
5
6
7
8 Smith, L. (2013), “Trading in gender for women in trades: embodying hegemonic masculinity,
9 femininity and being a gender hotrod”, *Construction Management and Economics*, Vol.
10 31 No. 8, pp. 861-873, doi: 10.1080/01446193.2013.833339.
11
12
13
14 Struthers, K. and Strachan, G. (2019), “Attracting women into male-dominated trades: views of
15 young women in Australia”, *International Journal for Research in Vocational Education*
16 *and Training*, Vol. 6 No. 1, pp. 1-19, doi: 10.13152/IJRVET.6.1.1.
17
18
19
20
21 Taylor, A., Hamm, Z. and Raykov, M. (2015), “The experiences of female youth apprentices in
22 Canada: just passing through?”, *Journal of Vocational Education & Training*, Vol. 67
23 No. 1, pp. 93-108, doi: 10.1080/13636820.2014.896404.
24
25
26
27
28 Van Laar, C., Meeussen, L., Veldman, J., Van Grootel, S., Sterk, N. and Jacobs, C. (2019),
29 “Coping With Stigma in the Workplace: understanding the Role of Threat Regulation,
30 Supportive Factors, and Potential Hidden Costs”, *Frontiers in Psychology*, Vol. 10 No.
31 10, pp. 18-79, doi: 10.3389/fpsyg.2019.01879.
32
33
34
35
36
37
38 Welbourne, T., Rolf, S. and Schlachter, S. (2017). “The case for employee resource groups: a
39 review and social identity theory-based research agenda”, *Personnel Review*, Vol. 46 No.
40 2, pp. 1816-1834, doi: 10.1108/PR-01-2016-0004.
41
42
43
44
45 Wright, T. (2016), “Women’s experience of workplace interactions in male-dominated work: the
46 intersections of gender, sexuality and occupational group”, *Gender, Work and*
47 *Organization*, Vol. 23 No. 3, pp. 348-362, doi: 10.1111/gwao.12074.
48
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 Wright, T. (2013), “Uncovering sexuality and gender: an intersectional examination of women’s
4 experience in UK construction”, *Construction Management and Economics*, Vol. 31 No.
5 8, pp. 832-844, doi: 10.1080/01446193.2013.794297.
6
7
8

9
10 Wulff, E., Bridges, D., Bamerry, L. and Krivokapic-Skoko, B. (2022), “Women who ‘talk the
11 tools’ and ‘walk the work’: using capital to do gender differently and re-gender the
12 skilled trades”, *Journal of Sociology*, Vol. 58 No. 1, pp. 26-44, doi:
13 10.1177/1440783321995878.
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
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