

ADVANCING WOMEN IN ENGINEERING & TECHNOLOGY

ADVANCING CAREERS IN ENGINEERING AND APPLIED SCIENCES SURVEY

The Advancing Women In Engineering and Technology project conducted an online survey with members of ASTTBC and Engineers and Geoscientists BC in the Fall of 2019. The aim of this survey was to support the development of diversity and inclusion strategies by collecting data on the views and experiences of career development from those working in the sector.

A total of 3, 414 people responded to the survey. Engineers, Geoscientists and Technologists answered questions about their career and employment, current workplace, job and career satisfaction, career development, awareness of diversity and inclusion initiatives. They also provided information about their education and demographics. The survey results were analyzed using a Gender Based Analysis Plus (GBA+) lens to explore differences in experiences and responses based on gender differences, country of birth and physical, mental or health disability.

FINDINGS FROM THE SURVEY

The engineering and applied sciences fields are diverse but lack representation from certain groups.

In a field dominated by men, a quarter of survey respondents were women. Around 37% of respondents were born outside of Canada, representing more than 95 countries. The percentage of respondents who identified as transgender, two-spirit, non-binary or another gender was less than 1%. A similar proportion of the sample reported identifying as an Indigenous person.

Employment experiences varied by subgroup.

Women's employment experiences in the field differed to those of men; they reported lower average years with employers, less women were employed in senior positions and they reported lower rates of self-employment. Respondents who experienced disabilities were more likely to be self-employed and work part-time which could be due to challenges faced in traditional workplaces. This group was also less likely to have permanent contracts. Meanwhile, foreign-born respondents appeared to face more challenges finding employment in their profession than Canadian-born respondents.

Women, foreign-born and respondents with disabilities face additional challenges in terms of career advancement.

Women and foreign-born respondents were underrepresented in higher level positions such as executive and director positions. Women were also much less likely to occupy manager and senior positions than men. Women, foreign-born, and those with disabilities were more likely to have experienced factors which limited their careers. Women reported being less confident in applying for promotion and were less familiar with the criteria and processes for promotion. Similarly, foreign-born respondents were less likely to report receiving support from their manager to develop their career and skills and to apply for promotions. Ensuring these subgroups receive equal promotion opportunities and support could help reduce their underrepresentation in leadership roles.

Although career satisfaction was generally high, it was lower for women, foreign-born respondents and those with disabilities.

It was also lower for those who had experienced discrimination in the workplace. Women and respondents with disabilities were generally less satisfied with their careers, especially when it came to the progress they had made towards their career goals.

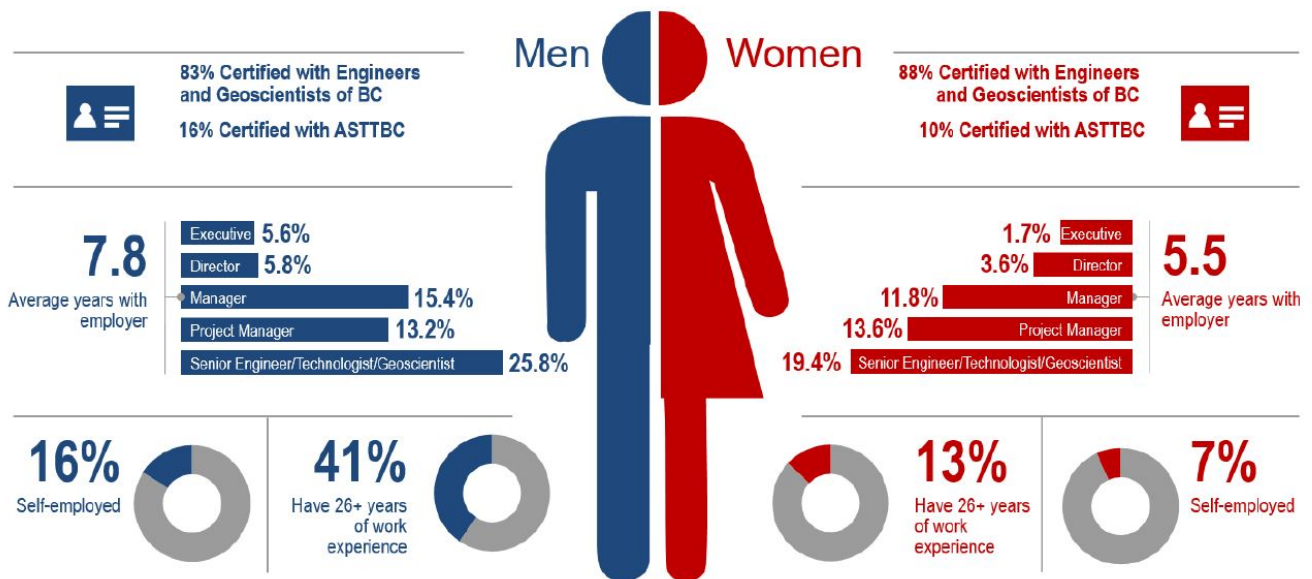
Discrimination in the field exists and impacts career satisfaction.

Women, foreign-born, and respondents with disabilities experienced discrimination in their professional careers at much higher rates. Rates of discrimination, especially experienced by women, have essentially remained constant over time suggesting discrimination is a persistent issue. Despite this, respondents who experienced discrimination are less likely to leave their workplace now than they were over a decade ago. Instead, a larger proportion of those who experienced discrimination dealt with it informally, sought advice, or did not take any action. The use of formal complaint processes was the least likely action taken. The impact on the careers faced by people who experienced discrimination included having their skills underutilized, having someone treat them as if they were not competent and receiving less support from their senior managers.

Perceptions of discrimination and efforts to reduce it vary across subgroups.

Women, respondents with disabilities and foreign-born respondents were more likely to consider discrimination as a major problem in their profession. The proportion of women who think there is a genuine commitment in their workplace to promote equity and diversity is lower than that of men. Only three in ten respondents were aware of any diversity and inclusion initiatives in their profession.

DEMOGRAPHIC CHARACTERISTICS OF SURVEY RESPONDENTS



Infographic showing employment profile of respondents

Gender: Approximately three quarters of respondents identified as men (74%, n=2,144) with almost one quarter who identified as women (24%, n=688). Two per cent of respondents preferred not to disclose their gender and less than one per cent identified as transgender, two-spirit, non-binary, or another gender not listed (< 1%).

Age: Over 40 per cent of respondents were aged 36 to 55 years (41%). Approximately 30 per cent were aged below 35 years (29%) and a similar percentage were over 56 years of age (30%).

Education: Over three quarters of respondents had a university degree: 55 per cent had a Bachelor's degree (55%) and almost a third (32%) had obtained a masters or doctorate level degree. Eleven per cent had completed a Technical Specialist Program, technician certificate or technologist diploma.

Disability: Twelve percent of the sample reported having a physical or mental health condition or health problem that reduced the amount or the kind of activity they could do at work. This question was used as a proxy to identify respondents with physical, mental, or other health disabilities.

Region: Most respondents reported living in British Columbia (85%) with more than half of those living in the Lower Mainland/Southwest region (61%). Almost one fifth of respondents (19%) lived on Vancouver Island/Coastal and 10% in Thompson-Okanagan.

Immigrants and Indigenous People: Just over a third (37%) of respondents reported being born outside of Canada. Apart from Canada, the top three countries of birth were United Kingdom (5%), China (4%), and Iran (4%). Ninety per cent of respondents had immigrated to Canada more than six years ago. The sample consisted of respondents from at least 95 different countries of birth. Only one percentage of respondents identified as an Indigenous person, that is, First Nations (North American Indian), Métis or Inuk (Inuit).