

November 24, 2020

DIVERSITY AND INCLUSION IN THE ENGINEERING PROFESSION: FACT SHEET

International Engineering Graduates

According to OSPE's 2015 [Census Analysis](#)

- Only 18% and 22% of men and women with degrees from Canada, respectively, are underemployed.
- For women with degrees from outside Canada, only 13% work in engineering and just about 50% are underemployed.
- For men with degrees from outside Canada, just over 20% work in engineering but 44% are underemployed. This is discouraging for newcomers and it means that women immigrants, especially, only have a 50/50 chance of finding work in jobs normally requiring a degree.
- According to the [Ontario Fairness Commissioner](#), international engineering graduates come predominantly from India, Iran, China, Pakistan, and Egypt.

Gender differences in employment and income

According to OSPE's 2015 Census Analysis

- The proportion of women who worked in engineering only increased by a dismal 2% between 2005-2015 from; 21% to 23% in Ontario.
- Almost 45% of women with engineering degrees were underemployed (employed in jobs not necessarily requiring a degree) in 2005 compared to 36% of men. By 2015, we saw a slight improvement as the number of underemployed women decreased marginally to almost 40%, while the number of underemployed men decreased to 31%.
- In 2015, the wage gap between men and women working in engineering was 12% or \$11,000.00 annually in Ontario. Over a period of 10 years this is over \$100,000.00 of lost income for women in engineering jobs.

Gender differences in workplace experiences

According to OSPE's Report [Calling All STEM Employers: Why Workplace Cultures Must Shift to Change the Gender Landscape](#)

- One-in-four women experience harassment, discrimination or bullying at work within the engineering industry
- Forty-five percent of women reported feeling undervalued or disrespected in the workplace, compared to 20% of their male counterparts
- Forty-four percent of men, compared to 18% of women, claimed to having never felt barriers to their workplace advancement.

Other underrepresented groups

- Notable gaps in data exist, as the percentage of Black, Indigenous, and Other People (BIPOC), LGBTQ2+ persons, and persons with disabilities, amongst other equity seeking groups who are engineers and working in engineering jobs, is unknown.
- There is also a lack of data regarding the wage gap experienced by other equity seeking groups.
- Lastly, there is no statistical data regarding the experiences of other equity seeking groups in the workplace.

Bias in the licensing process

According to an [independent review](#) conducted of PEO's regulatory performance there are several concerns regarding personal biases and unfair processes for licensure.

Concerns outlined were as follows:

"The current licensing and registration process is lengthy, complex and difficult to follow. It includes many different processes that are dependent on numerous volunteers, each of whom possess varying levels of experience and expertise. Each volunteer assessor or interviewer brings their own personal style and experience to the academic and experience reviews and the Ontario Fairness Commissioner and many whom we spoke with in our interview process raised 37 concerns that personal biases are not adequately managed or addressed currently by PEO."

"As previously noted, we find that the Academic Requirement Committee (ARC) reviews and its determinations of academic equivalency and qualifications are subjective in nature. Notwithstanding evidence of training that has been offered to members of the ARC, we were unable to determine at the time of this review, how potential risks associated with personal biases amongst decision-makers are mitigated or addressed. We were given a copy of a Policy on Eliminating Bias in the Registration Process of the PEO which was approved by Council in February 2019 but the policy has not yet been implemented."

"The Experience Requirements Committee's (ERC) personal interviews with applicants are also subjective in nature and we found no evidence that personal biases or conflicts are avoided. We find no evidence to show that PEO conducts appropriate post interview analysis and then revises ongoing training to assure inter-rater reliability amongst its ERC interviewers/assessors. If an applicant complains the recording of the interview is reviewed and another interview may be offered. The PEO staff told us that the ERC will be working towards a quality assurance framework with a view to addressing concerns that the ERC's decision-making processes are not currently founded on principles that support consistency and fairness."

"Unreasonable requirements for International Engineering Graduates: In four letters throughout 2018, the OFC identified key areas where it considered PEO was not compliant with requirements under the FARPACTA. The expressed concerns were: the current requirement that applicants possess at least one year of Canadian experience is not aligned with requirements across Canada and is deemed unreasonable; ARC assessors who complete an initial review of an applicant's academic requirements were not prohibited from conducting a second internal review but should be; the PPE was not being supported by a psychometrician, nor were the results subject to psychometric analysis and reporting (we understand that this is currently being addressed by PEO); the current process to addressing bias was not viewed as satisfactory or adequate; and finally, there was a need for timelines for response to applicants' inquiries or requests to be developed and articulated."