

Impact of COVID-19 on Women in Engineering and Technology in India

Survey Report



October 2020

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Researchers have identified concerning negative trends affecting gender equity due to the COVID-19 pandemic.

Global data indicates that women's jobs are more vulnerable than men's jobs during this time of crisis. Conflating this is the fact that unpaid care, including child care and household chores, often falls to women, making work-life balance a challenge for many working women. Since 2005, women's employment rate in India has been falling, and research has shown that both Indian men and women are inclined to believe that when jobs are scarce, they should go to men instead of women.¹

The Society of Women Engineers conducted a survey of its members in India to examine how the pandemic has affected their personal and professional lives. Responses were collected between September 18, 2020 to October 2, 2020. The survey was open to any engineer or engineering student over 18 years of age, regardless of gender.

Of the 335 responses analyzed for this report, 23% were university students when the pandemic began. Almost 4 out of 5 respondents were working either part-time or full-time as of January 31, 2020. The top disciplines represented were mechanical, engineering/engineering technology, and electrical or electronics engineering, representing over half of respondents. Over 70% of responses were from individuals living in either Maharashtra or Tamil Nadu.

¹ "How India Fails Its Women." Economist, vol. 428, no. 9099, July 2018, p. 8.



Somehow the expectations have been increased from everyone but time is still the same.

- Woman Manager,
Electronics Engineer

Most individuals in developed countries believe that men and women have equal claim to employment opportunities, but surveys in developing countries like India indicate that traditional mindsets regarding gender roles prevail.²

Such attitudes can introduce bias into employment decisions, at the organization, family, and individual levels. It is more important than ever that employers continue to set gender equity at the forefront of their strategic efforts as they manage their responses to the COVID-19 pandemic. Recommendations to mitigate bias and better support diverse talent in India include:

- Let employees know that supporting diversity is still a priority. Prior to COVID-19, research indicated that many engineers and technologists in India felt that supporting diversity was not a good career move. Employers can lead by example and be open with their intentions to support diversity and inclusion in their organizations.
- Ensure that hiring practices, project assignments, and promotion decisions are considering gender diversity. Data transparency and accountability can help prevent worsening gender imbalances caused by biases in decision-making.
- Encourage employees to establish clear boundaries between work and home life and to share the burden of unpaid care in their households.
- Provide some childcare support, such as onsite child care for employees who are required to work onsite or family leave options for both men and women.


Our efforts to increase the diversity of the engineering and technology professions rely on our ability to encourage and support future talent.

- Students are concerned about their employment opportunities, including internship and full time positions. Communication during this uncertain time is vital to ensuring that students understand the opportunities that exist and how they can be considered for them.
- Many students are struggling to balance school, work, and home responsibilities. Employers and university personnel should ensure that their efforts to support their employees' physical and mental health extend to interns, part-time staff, and students.

² Mahajan, D., White, O., Madgavkar, A., & Krishnan, M. (2020, September 16). Don't let the pandemic set back gender equality. *Harvard Business Review*. <https://hbr.org/2020/09/dont-let-the-pandemic-set-back-gender-equality>.

During this unprecedented time of COVID -19, the only hope that we have is to be positive and to face the mental balance.

- Woman, Undergraduate Student



Students

Graduation Progress

75% of students are concerned that the pandemic will delay their college graduation date.

Virtual Education

90% of students' university classes are now being taken virtually versus 32% prior to the pandemic.

Gap Year

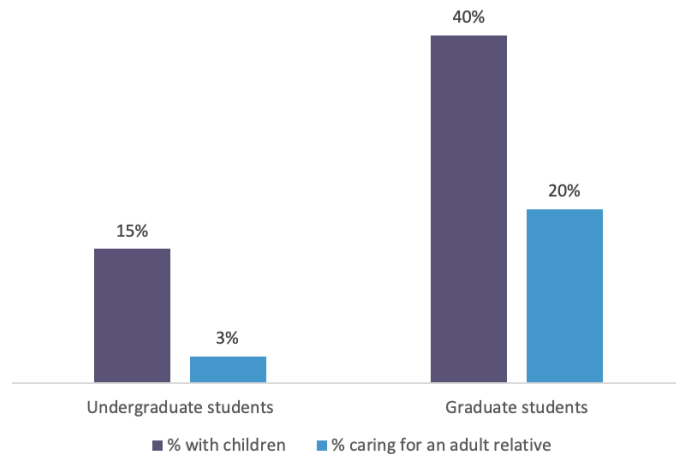
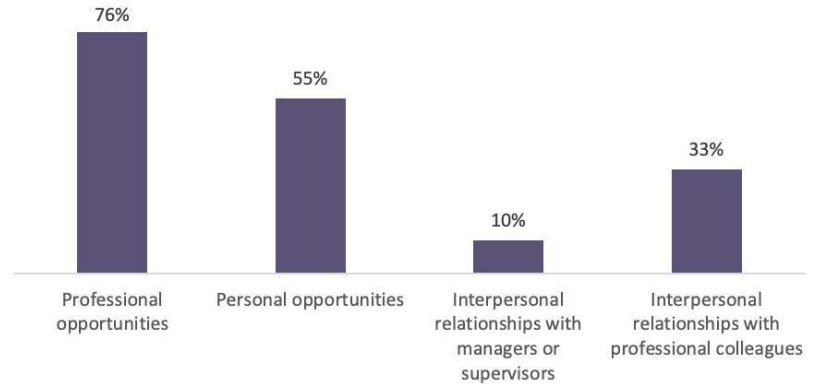
Taking a gap year or gap semester is not a popular option. Only two students in our sample indicated such plans.

The opportunity of getting to apply for an internship in my junior year would be great. Many [current] seniors tried but failed to do so.

- Woman, Undergraduate Student

Impact on Opportunities

Almost 20% of students in our sample were also employed in early 2020. However, 76% of student respondents noted a negative impact on their professional opportunities, with many students anticipating or experiencing difficulties in obtaining an internship or job placement.

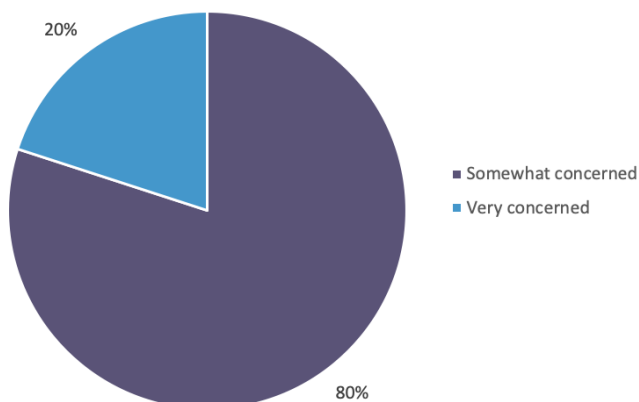


Students with Dependents

86% of student respondents were undergraduate students. Of those students with children, 71% were undergraduate students, but a higher percentage of graduate student respondents had children. In addition to childcare responsibilities, 21% of students with children also served as a primary caregiver for adult relatives.

Employment Concerns of New Graduates

While only a handful of students indicated that they had graduated and obtained employment, all of them were concerned about the possibility of losing their jobs within the next 6 months.





Onsite Workers

15% of respondents have been required to physically go their place of work. 94% indicated that their employer had provided adequate safety precautions in the workplace.

Productivity

56% of women and 42% of men indicated that they were more productive working from home versus in their workplace.

Challenges with Virtual Meetings

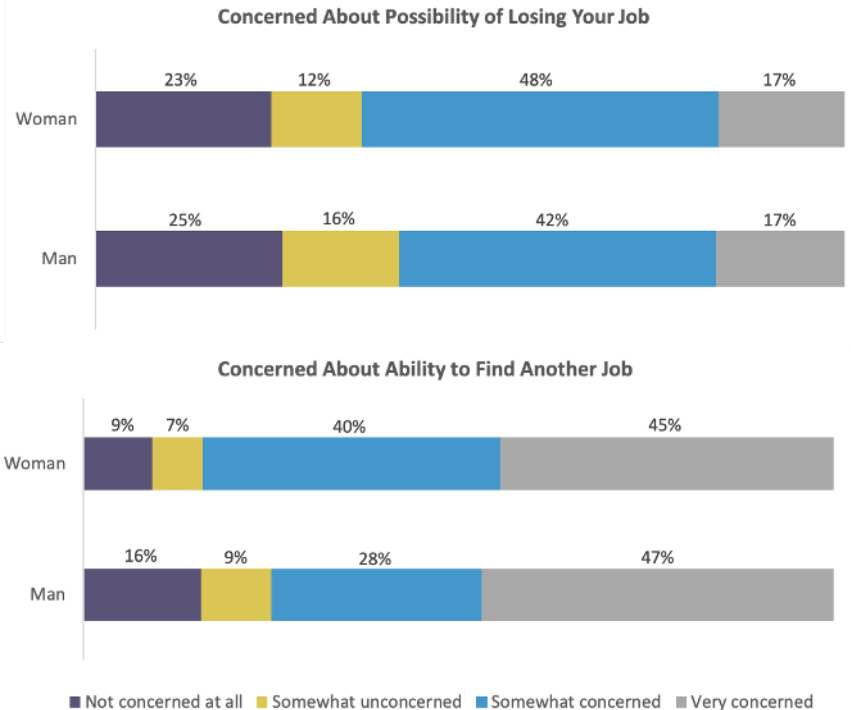
31% of respondents reported getting talked over, interrupted, or ignored more frequently during virtual meetings than those held in person, regardless of gender.

Spouse being a medical professional, she is out of home for two weeks once every five weeks to carry out duty in the hospital. This really makes life difficult to manage young kids.

- Man, Chemical Engineer

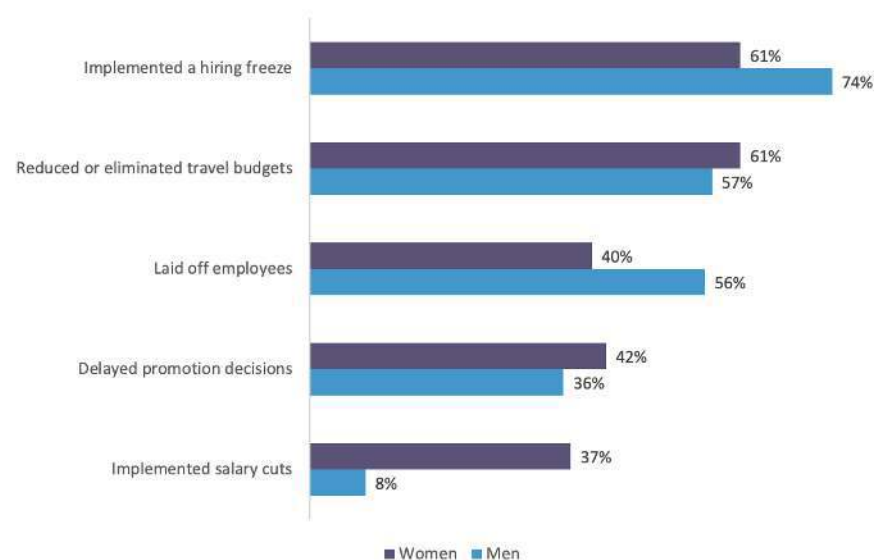
Impact on Employment Status

Among those employed in early 2020, over 95% are still employed. While only a slightly higher percentage of women than men indicated concern about the possibility of losing their job within the next six months (65% versus 59%, respectively), a larger gender difference was seen from respondents concerned about finding another job if their current one was lost: 85% of women versus 75% of men indicated that they were concerned or very concerned about their ability to find another job if they lost their current employment.



Employer Response to COVID-19

Few respondents indicated that their employers had reduced or cancelled job offers or eliminated professional development to address the budgetary impacts of COVID-19. Rather, respondents noted that employers were more inclined to implement hiring freezes, reduce travel budgets, and lay off employees. Men made up 27% of working professionals in our survey. While 37% of women indicated that their employer had implemented salary cuts, only 8% of men reported this occurrence. Alternatively, 74% of men reported that employer had implemented a hiring freeze compared to 61% of women, and 56% of men reported that layoffs had occurred compared to 40% of women.



NOTE: Multiple responses permitted.



Notable Gender Differences



Only 4% of employed respondents indicated that they were considering leaving the workforce because of issues related to COVID-19, but 80% of those considering leaving were women, primarily due to work-life balance challenges.



Almost 60% of women compared to 40% of men report feeling more pressure to agree to work-related meetings outside of normal work hours during COVID-19 than prior to the pandemic.



While survey respondents reported working an average of 5.25 hours more per week compared to before the pandemic, women averaged about a 6-hour increase compared to about a 3-hour increase for men.



Over 70% of non-parents reported concerns about losing their job in the next six months compared to 56% of parents. This difference was primarily due to women without children, with 74% reporting concern versus 53% of women with children. Men with children reported higher concerns about losing their job compared to men without children, 61% versus 51%, respectively.

Employer Communications



86% approve or highly approve of how their employer has responded to the COVID-19 pandemic.



95% feel that their employer has provided adequate communications regarding how the organization is addressing COVID-19 concerns for its employees.



67% reported that their employer has re-assessed its policies regarding remote work because of COVID-19, but 20% were unsure whether any re-assessments have been conducted.



Dissatisfaction Among Young Workers

Most workers over the age of 25 reported feeling satisfied with work-family balance, but 55% of young workers reported feeling dissatisfied.

Increase in Household Responsibilities

Compared to before the pandemic, women reported a slightly greater average increase in hours spent doing household chores compared to men. In addition, women shoulder most of the care responsibilities.

School-Life Balance

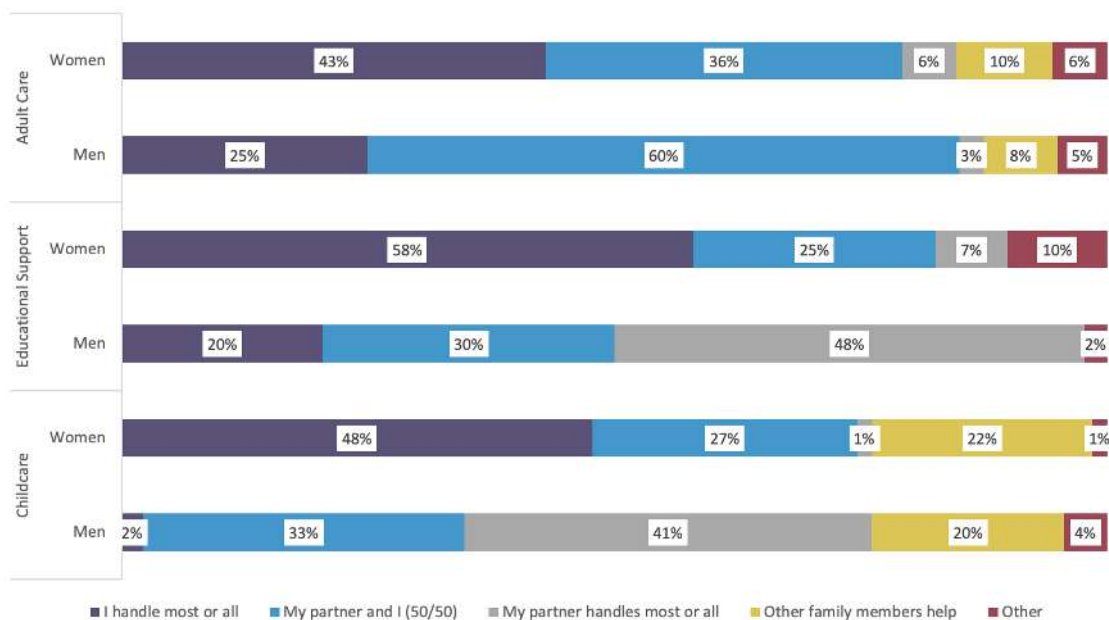
37% of students who are concerned about COVID-19 delaying their graduation date are having difficulty with school-life balance.

The impact was more for people who are away from family.... [I] had to manage family and commitments on my own during the pandemic.

- Woman, Chemical Engineer

Women Have Taken on a Heavy Care Burden

Women reported significantly higher levels of care responsibilities than men, particularly involving childcare and educational support for their children. Men respondents seemed to agree that their partners handle more of these responsibilities, though about a third of respondents indicated that they share these responsibilities evenly with their partner. Men also reported higher levels of satisfaction with work-family balance than women, 77% versus 69%, respectively.



Impact on Opportunities for Working Engineers

More women than men reported experiencing negative impacts to their personal and professional opportunities, while more men than women reported experiencing negative impacts to their interpersonal relationships with professional colleagues and managers..

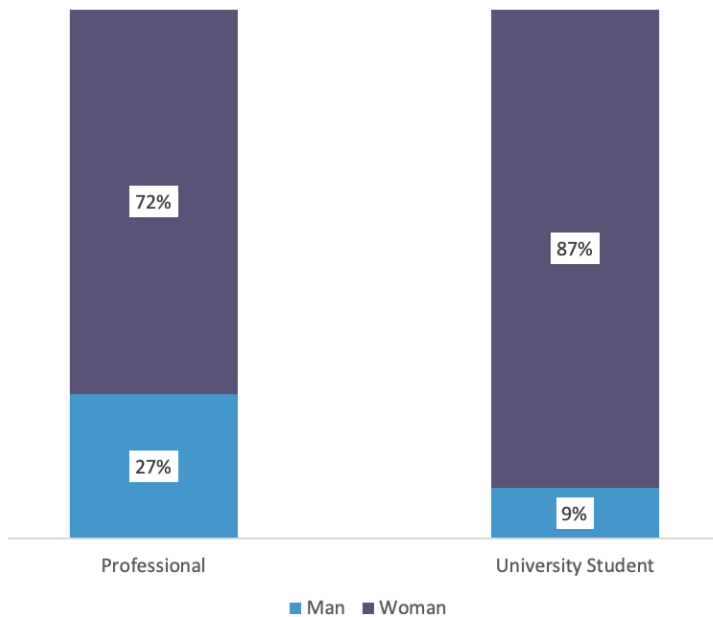


Sample Demographics

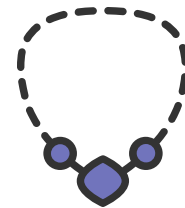
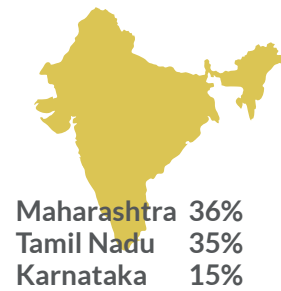
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We received 335 usable responses. Approximately 23% of respondents were college students when the pandemic began. Almost 4 out of 5 respondents were working either part-time or full-time as of January 31, 2020.

Responses by Gender and Level



States with Most Responses:



57% Married or Living with Partner

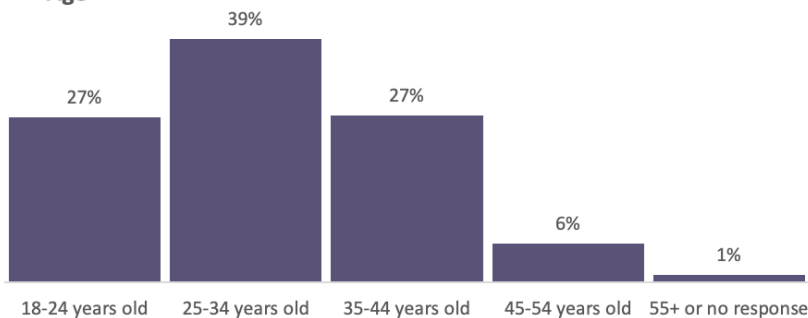


47% Have Children

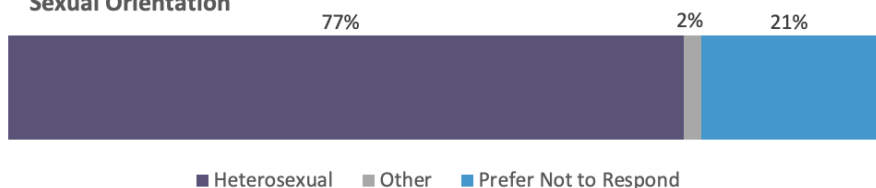


41% Have Adult Dependents

Age



Sexual Orientation



The Society of Women Engineers surveyed its membership in India to gain an understanding of the impact of COVID-19 on their professional and personal lives. SWE developed a survey in Qualtrics for online data collection. The survey link was shared with SWE members in India through an email invitation to participate. Engineers and students over the age of 18 were eligible for inclusion in the study. We received 355 eligible responses from engineers and students over 18 years of age. Approximately 23% of responses received were from men, mostly employed, allowing for gendered comparisons of the impact of the pandemic on working professionals.

Chi-square tests were conducted to better understand whether there was a relationship between certain variables. Results of these tests are included with the descriptive statistics, as appropriate.

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About swe

The Society of Women Engineers (SWE) is the world's largest advocate and catalyst for change for women in engineering and technology. The not-for-profit educational and service organization is the driving force that establishes engineering as a highly desirable career aspiration for women. As a champion of diversity, SWE empowers women to succeed and advance in their personal and professional lives. For more information about SWE, please visit www.swe.org.