

# Peruvian women in scientific careers and the stereotypes of what they ‘should’ study



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**What is the performance of women as teachers and researchers in scientific and engineering careers? In this research table, the results and policy recommendations of two studies that analyze barriers and opportunities for women members of PUCP engineering research groups in their training as professionals and researchers were presented. In addition, the academic trajectories of men and women in the area**

**of science and engineering were analyzed, making visible gender differences in five universities of the country.**

To have a diagnosis of the situation of women in the scientific field, Julián Mezarina Chávez and Selene Cueva Madrid, graduates of the Pontificia Universidad Católica del Perú (PUCP), presented the study *La ciencia avanza, ¿advance their scientists, barriers and opportuni-*

*ties for the participation of scientific research in women of the research groups in Mechanical, Mechatronic and Computer Engineering of the PUCP. The specialists analyzed the barriers and opportunities of women members of four research groups of that house of studies in their training as professionals and engineering researchers. To carry out their work, they applied in-depth interviews to various actors that make up the selected research groups.*

1/ The research desk “Women in Science” was co-organized with the PUCP. The economist Selene Cueva Madrid and the sociologists Julián Mezarina Chávez and Patricia Ruiz-Bravo, from the PUCP, were the speakers. The comments were in charge of the sociologist Carmela Chávez, of the Sunedu, and Pepi Patrón, vice-rector of Research of the PUCP.

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## FAMILY AND WORK CONCILIATION

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Based on the information obtained, the researchers identified permanent tensions that affect women in their training process as scientists and researchers in three spaces of socialization: family, school and university. In the first one, it was evident that girls with an inclination toward science subjects are influenced by their relatives when they think about the professional careers that correspond to women. This stereotype continues in school and does not disappear in the university. The stereotype about what a woman should study arises again when students choose engineering careers. There is the idea that women are orderly but less intelligent, while men are less orderly but intelligent, the speakers said.

Regarding the research groups, the study found that although they also reproduce gender stereotypes with respect to engineering, the interviewees affirmed that belonging to these spaces was very important for their careers, because they promote "the training in certain hard or soft skills and offer different resources for those who want to apply for postgraduate studies". Their experience also allows them to request more support from both the PUCP and the Concytec. In fact, the scarce support and lack of feminine references represents another barrier for them in the field of engineering.

Patricia Ruiz-Bravo, researcher and main professor of the PUCP, presented the study Women in the sciences in five universities of the Peruvian Network of Universities. This research was carried out together with Magally Alegre, Marisol Fernández, Alizon Rodríguez, Verónica Montoya, Lourdes García, Aranxa Pizarro and Julián Mezarina.

The main objective was to analyze the academic trajectory of teachers and researchers in science and engineering in five public universities of the Peruvian Network of Universities: Universidad Nacional de Trujillo (La Libertad), Universidad Nacional de San Agustín (Arequipa), Universidad Nacional del Centro del Perú (Junín), Universidad Nacional de San Antonio Abad del Cusco (Cusco) and Universidad Nacional de la Amazonía Peruana (Loreto).

For this work, an online survey was applied to 713 teachers from the areas of science, health sciences and engineering. The composition was as follows: 515 men and 198 women. Additionally, 31 in-depth interviews were conducted with women academics from the indicated areas and from the institutions under study.

There were three areas analyzed: (i) discrimination, both subtle and explicit, which prevents the progress and progress of the teachers' career path (promotions, promotions, among others); (ii) the impact of the sexual division of work in the home and the carrying out of care activities in the academic trajectory; and (iii) the self-perception and self-assessment of the research faculty.

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From the quantitative information there were no major differences in the academic degrees obtained. "On average, academic women have the same degree as their male counterparts," said Ruiz-Bravo. Males with a doctor's degree represent 32.49% and women 37.24%. However, a different picture is seen in the issues related to care activities, the sexual division of work in the home and its impact on work-family reconciliation.

Indeed, according to the study, there is an overload of work in the home for women, which substantially affects their academic career. 58.08% of them said they were responsible for ("usually me") the household chores. A high figure compared to that of men (6.32%). However, it was found that this division is assumed as natural by teachers and academics because it is part of their role as women. This situation generates an over-demand on women, at the same time as fear for not fulfilling what a science career demands, and with this reinforcing the thought that women are not for science.

One third of teachers report having felt discriminated against because of their status as women; while, in the case of men, only 3% report having felt discriminated against because they are men.

## COMMENTS

Carmela Chávez Irigoyen, specialist in Higher Education University of the Direction of Licensing of the National Superintendence of Higher Education University (Sunedu), stressed the importance of both studies, because they allow to know the problems faced by women in the professional field. He added that it is necessary that they have the support of their male peers (mentors or coworkers) to “work towards the goal of achieving a more just society for them”.

Pepi Patrón, Vice Chancellor of Research of the PUCP, pointed out that one of the factors that would explain the scarce presence of researchers in different areas of personal development is the lack of inspiring models. “Having female models is fundamental. There are no mentoring of women for women,” he said. He added that one of the challenges of Peruvian society is the incorporation of the gender approach in the school curriculum, which has generated resistance in the most conservative sectors.