

# Female scientists in figures 2025

## EXECUTIVE SUMMARY



## **FEMALE SCIENTISTS IN FIGURES 2025**

General Catalogue of the Spanish National Government's Publications

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EDIT: Permanent Secretary's Office Ministry of Science, Innovation and Universities Publications

PROPONENT UNIT: Women and Science Unit. State Secretariat of the Ministry for Science, Innovation and Universities

Design: Studio Etérea.  
Layout: FECYT

NIPO (PDF edition): 151-25-014-4

Edition date: March 2025

# Executive summary

## Introduction

*Female Scientists in Figures 2025* marks the eighth edition in an ongoing series of analytical reports examining the position of women within Spain's research and development (R&D) landscape. The report seeks to offer an updated and evidence-based diagnosis of gender equality within the scientific domain, identifying both areas of progress and persistent disparities. In doing so, it aims to formulate recommendations for equity within the Spanish Science, Technology and Innovation System (SECTI, standing for *Sistema Español de Ciencia, Tecnología e Innovación*).

This edition introduces a significant development: the inclusion of a **perception study conducted** through surveys and focus groups. In addition, this report considers the implications of recent legislative developments, most notably the **2022 Science Act** in Spain, on gender equality within the sector. The report is structured across eight chapters, each addressing a distinct dimension of gender equality in R&D:

- > **Chapter 1:** investigates women's participation in higher education, examining their distribution and trajectory over the past decade.
- > **Chapter 2:** explores the employment landscape for women in R&D, disaggregating data across the public, private and educational sectors.
- > **Chapter 3:** analyses women's progression along the research career pathway, with particular attention to their access to leadership roles and decision-making positions in R&D structures.
- > **Chapter 4:** focuses on the patterns of access and success for women in competitive calls for scientific project funding.
- > **Chapter 5:** offers a detailed review of institutional policies aimed at promoting equality, diversity, and inclusion within universities and public research organisations.
- > **Chapters 6 and 7** (new additions in this 2025 edition): present findings from a study on the

perceptions and barriers encountered by R&D personnel in scientific careers, drawing from survey data and focus group discussions.

- > **Chapter 8:** synthesises the key findings and sets out forward-looking recommendations.

## Methodology

The analysis draws on the **integration of a range of quantitative and qualitative data sources**. To this end, official datasets provided by the Spanish National Statistics Institute (INE), the Ministry of Science, Innovation and Universities, and other public agencies monitoring the development of gender equality in science have been used.

In parallel, **survey data were collected from 2465 individuals** working in the research sector, with the aim of capturing their perceptions of gender equality within their respective workplaces. Additionally, **7 focus group discussions** were conducted, involving **41 participants selected** from a range of academic institutions and research organisations. These sessions offered insight into the specific barriers encountered, as well as highlighting examples of effective practice and suggestions for institutional improvement.

As a further layer of analysis, a detailed review of policy frameworks was undertaken to assess the impact of recent legislative developments on the structural configuration of the science sector regarding gender equality. This component places emphasis on the Science Act 2022 and other key legislative measures relating to gender parity and diversity.



## Key messages by chapter

### Chapter 1: scientific vocations

- > Recent years have seen a notable rise in women's participation in higher education. At the undergraduate level, the proportion of female students has increased from 54.2% in the 2014–2015 academic year to 57% in 2023–2024. At the Master's level, participation has grown from 53.3% to 56.4%, and at the Doctoral level, it has surpassed the 50% threshold, moving from 49.6% to 50.2%. However, this upward trajectory is not equally distributed across all disciplinary fields. In subject areas historically dominated by men, such as Engineering and Architecture, women continue to be underrepresented, despite some positive trends. As of 2023–2024, women accounted for 28.1% of undergraduate students, 31.2% of Master's students, and 31.1% of PhD candidates in these fields. Furthermore, a detailed analysis of the data within each educational branch reveals that **not all STEM disciplines exhibit the same patterns, and gender underrepresentation is also evident in fields beyond STEM.**
- > Encouragingly, a shift in trends has been observed in Engineering and Architecture since the 2018–2019 academic year, traditionally the most male-dominated domain. Female participation has increased across all levels of study (from 25.0% in 2017–2018 to 28.1% in 2023–2024 at undergraduate level, from 28.6% to 31.2% in Master's programmes, and from 29.5% to 31.1% at Doctoral level).

### Chapter 2: R&D labour market

- > **In the public administration sector, female representation among researchers has reached**



**parity, with women comprising 50.5% of the workforce, a significant milestone for gender equality in this domain. By contrast, women remain markedly underrepresented in the business sector, where they account for only 31.2% of researchers.** As a result, the overall average of female researchers in Spain stands at 39.6%, reflecting a modest increase of just over one percentage point since 2014. Within the Higher Education sector, women represent 43.7% of the research workforce. However, gender disparities remain across scientific and technological disciplines. Men continue to dominate Engineering and Technology, which has emerged as their most prominent area of engagement, while women are primarily concentrated in Social Sciences.

### Chapter 3: research career and leadership

- > **The Glass Ceiling Index (GCI), which indicates the extent to which women face barriers in reaching the highest levels of the research career, has**

seen a notable decline over the past five years (from 1.73 in the 2018–2019 academic year to 1.57 in 2022–2023), **if the current trend continues, gender parity at the uppermost echelons of the research profession could be reached in approximately 15 years**. In fields that are more feminised, the outlook is less encouraging (in Natural Sciences, parity may take nearly 25 years to achieve, and in Medical and Health Sciences, it could be close to 55 years).

- > Despite the progress, **women’s advancement through the research career remains shaped by the enduring “broken pipeline” phenomenon**. While gender parity is observed in the early stages of the research pathway, women’s representation declines significantly as careers progress, with relatively few women reaching senior roles (in the 2022–2023 academic year, women held 27% of professorships, up from 20% in 2012–2013, and accounted for 26.6% of Research Professors in Public Research Institutions, compared to 23.9% a decade earlier). Women’s representation in leadership positions has improved; however, the uppermost roles continue to be male-dominated (the proportion of female University Rectors increased from 22% in 2018 to 27%). Gender parity is more evident at the second tier of decision-making, though a clear pattern of gendered role distribution persists, where women are more likely to hold responsibilities related to teaching, while men are more often positioned in roles related to funding and research.



## Chapter 4: access to finance

- > **Following the implementation of the Science Act 2022, women’s involvement in evaluation committees has increased**, from 42.7% in 2020 to 44.5% in 2023, enhancing fairness in the distribution of research resources. Nevertheless, **a gender gap in access to funding persists**. Although women submitted 46.2% of applications in 2022, their success rate was 4.5 percentage points lower than that of their male counterparts (34.7% versus 39.2%). These figures suggest the persistence of gendered biases within evaluation processes, which continue to constrain women’s ability to secure resources and advance within the research landscape.

## Chapter 5: equality policies in universities and Public Research Institutions

- > **The Spanish regulatory framework concerning gender equality in science has seen marked developments in recent years, particularly with the incorporation of targeted provisions under the Science Act**. Public universities, private universities, and Public Research Institutions have all demonstrated a growing commitment to advancing gender equity; **public universities generally appear to be at the forefront of this shift**. In addition, policies aimed at the prevention of and response to sexual and gender-based harassment, alongside measures supporting the reconciliation of personal, professional, and family life as mechanisms for promoting equality, have been widely embedded across universities and Public Research Institutions.

## Chapters 6 and 7: perceptions of equality in scientific careers

- > Findings from the study of perceptions highlight the **ongoing presence of structural barriers experienced by women throughout their research careers, alongside notable divergences in how women and men perceive and navigate issues of equality**. Women report significantly lower levels of satisfaction with work–life balance measures compared to their male counterparts and express greater concern over inequitable access to opportunities, even when merit is equal. Moreover, experiences of sexual and gender-based harassment are reported predominantly by women, with men appearing less attuned to or aware of the prevalence and impact of such issues.
- > **A broader sense of disillusionment also emerges, pointing to a perceived disconnect between the ideal of science, as ambitious in scope, socially engaged, and intellectually expansive, and the reality of scientific practice, which is often experienced as competitive, fragmented, accelerated, and shaped by productivity pressures.** Together with challenges around reconciliation and precarious working conditions, these dynamics are identified as key contributors to gender inequality, with tangible effects on women's participation, career progression, and eventual disengagement from the Spanish Science, Technology and Innovation System (SECTI).

## Conclusions

The report *Female Scientists in Figures 2025* documents **significant progress toward gender equality in R&D within Spain**. Notable achievements include the reduction of the glass ceiling effect, increased female representation in leadership roles, and the expanding implementation of equality plans across universities and public research institutions.

Nonetheless, **persistent structural challenges continue to hinder full equity**. Disciplinary segregation remains a barrier, alongside entrenched assessment biases that sustain inequalities in access to funding and leadership positions. Additionally, the absence of comprehensive and effective work–life balance policies further exacerbates these disparities. While the Science Act 2022 has introduced important strides toward gender equity, its full impact is still unfolding, and robust implementation is needed to secure lasting structural transformation.

Guaranteeing substantive and sustained equality demands a **strengthened, ongoing commitment from all institutions, coupled with deeper engagement from all actors within the SECTI**. Transparency in evaluation processes and the promotion of a more inclusive scientific culture are also to be ensured. With the continuation and reinforcement of these measures, it is anticipated that these advances will be consolidated in the coming years, fostering greater gender balance in leadership and funding within Spanish science.

