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# Women in Science: Current Advances and Challenges in Belarus

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**Abstract.** Women constitute 49% of all natural scientists in Belarus. However, fewer than 18% of Belarusian natural scientists who hold a doctor of science degree are women. The proportion of women decreases with increasing rank at universities and institutes in Belarus. Gender imbalance at the level of full professor is striking at just 17.5% women, and illuminates the vertical segregation of women in the natural sciences. This report reviews the positions of women in science in Belarus to draw out current advances and challenges encountered by female scientists in the former socialist country. New statistical data are broken down by gender and aimed at advancing the general agenda for women in science.

The underrepresentation of women in scientific careers has been a continuing cause for concern in Europe. While Europe maximizes its total research potential, the number of women pursuing careers in scientific disciplines is comparatively small in relation to the number trained in the physics and other natural sciences. One crucial assumption is that the stronger involvement of women in research would contribute to the future development of science in European countries.

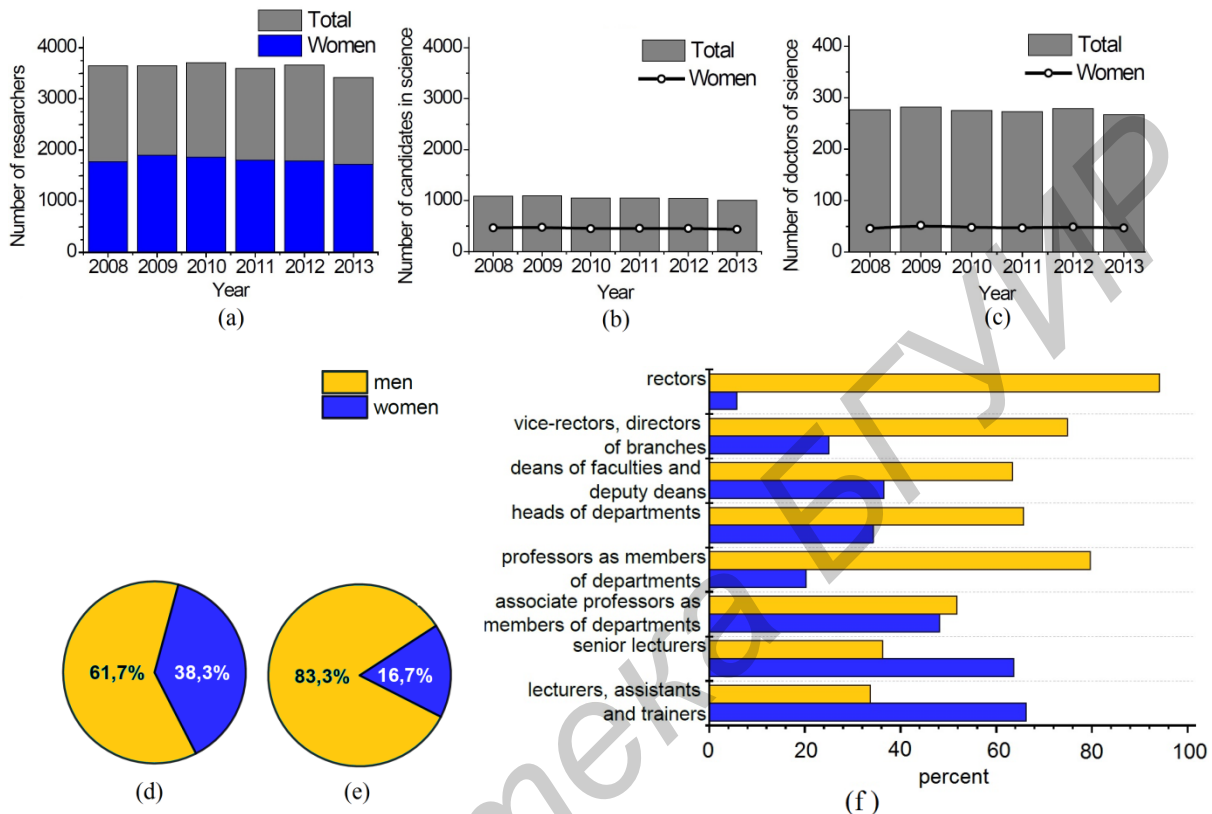
Belarus is a developing Eastern European country where women constitute 53.5% of the population of 9.5 million. Gender policy in Belarus is based on the generally accepted international standards fixed by the United Nations, intended to eliminate all forms of gender inequality and to foster conditions enabling each individual, irrespective of his or her gender, to completely realize his or her potential.

In 2014 women constitute 49% of scientists in the natural sciences in Belarus [1]. Figure 1a demonstrates that there are no significant variations over time in the proportion of female natural scientists in Belarus [1, 2]. It should be noted that most Belarusian researchers with the highest qualifications are engaged in natural science: 34% and 38% of the total number are candidates of science (equivalent to PhD in the qualification system used in the former USSR) and doctors of science, respectively. (The doctoral program is the second stage of postgraduate education in Belarus on the way to acquiring a doctor of science degree.) Although the percentage of candidates in natural science who are women is high and amounts to 43% of the total, the overall percentage who hold a doctor of science degree is less than 18% (Fig. 1b and 1c).

Gender dynamics in science is shown in the gender imbalance among scientists in postgraduate and doctorate education programs in Belarus. Fig. 1d shows that the percentage of female postgraduate students is about 38%. For doctoral students, the number is 17% (Fig. 1e). The proportion of women decreases with increasing rank at universities and institutes in Belarus (Fig. 1f). This gender bias across the Belarusian scientific community indicates the presence of “glass walls” in career paths for women compared to male counterparts and is a critical issue for future generations of female scientists.

The results shown here provide a deeper insight into the current positions of women in science in Belarus. Cultural expectations and childcare systems of support result in some favorable differences between West European countries and Belarus. In Belarus, women scientists generally work full-time throughout their adult lives. Women’s representation at the low and middle levels of scientific careers is excellent. However, gender imbalance at the level of full professor (doctor of science) is striking (17.5% women), and illuminates the vertical segregation of women in the natural sciences. Even worse is the drastic imbalance at the top career grade. This documented underrepresentation of women

in scientific decision-making emphasizes the challenges faced by women who need to reconcile work and family responsibilities. A maternal role is considered to be a primary one for a woman in the society; this reflects both societal norms and “reproductive” government policy. Further investigations are required to clarify other reasons for the imbalance between female and male scientists in natural science in Belarus.



**FIGURE 1.** Distribution of women and men among (a–c) researchers with academic degrees in natural science, (d, e) postgraduates and doctoral candidates in physics and mathematics, and (f) teaching staff of higher education institutions and universities in Belarus.

Considering that human capital is a main resource for innovative development of the economy, its preservation and reproduction is one of the most relevant issues of government policy in science and technology. Women in the natural sciences must have a stronger role in shaping the current scientific agenda in Belarus. Gender balance in the male-dominated research community of Belarus must be improved.

Awareness of issues related to gender equality and knowledge about them could draw the attention of the Belarusian society to gender balance and contribute to the development of science and technology. Female scientists are a vulnerable group with a high potential of talent and training in the scientific community. Increasing the number of women in top positions in academia, higher education, and research institutes is considered one of the key factors in breaking barriers that prevent women from being hired and promoted in natural science. Networks among women in science worldwide facilitate the exchange of experiences and strategies on a regular basis and result in successful gender equality efforts.

## REFERENCES

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