American Journal of Interdisciplinary Research and Development
ISSN Online: 2771-8948
Website: www.ajird.journalspark.org
Volume 34, November - 2024

ACTIVITY OF WOMEN IN SCIENCE, ADVANCED FOREIGN EXPERIENCES

Khurshida Tokhirovna Komilova
Doctor of Philosophy (PhD) in Pedagogy, Associate Professor,
"Family and Gender" Research Institute, Republic of Uzbekistan

Abstact:
The article analyzes the activities of women and girls in the fields of science, and highlights the ideas of the advanced research of women scientists around the world. The contribution of women to science, the results of the analysis of the activities of women in various fields of science are highlighted. The role of education and science in the life of women in the field of science, its influence on socialization, and the social image of women in the field of science are highlighted. The activity of women in the fields of science is disclosed.

Keywords: science, women, doctorate, scientist, research, scientific degree, scientific article, project, intellect, award, rating, experience of foreign countries, engineering.

Introduction

Before talking about women in science, we need to find a definition for the question of what is science. Gerald Edelman's speech on the eve of receiving the Nobel Prize defined science as "imagination serving verifiable reality"[1]. After all, in science, it is important that the truth is revealed, not who discovered the innovation. According to the United Nations (UN), "women tend to receive fewer research grants than men, accounting for 33.3 percent of all researchers, but only 12 percent of members of the National Academies of Sciences are women" [2].

"Women scientists are conducting advanced research all over the world. But despite their incredible discoveries, women still make up only 33.3% of researchers worldwide, and their work rarely gets the recognition it deserves. Less than 4% of Nobel Prizes in science are awarded to women, and only 11% of senior research roles in Europe are held by women" [3]. Historically, women's contributions to the development of science have been extremely important. Maria Salomea Sklodovskaya-Curie "since 1897, together with P. Curie, conducted research on the radiation of uranium salts discovered by A.K. Becquerel and called this phenomenon radioactivity. Together with P. Curie, he discovered polonium and radium. He took a metallic sample of radium and studied its properties. He developed methods of measuring radioactivity. Since 1923 S.K. its Director Emeritus. S.K. 2-time laureate of the Nobel Prize"[4]. Maria Salomea Sklodovskaya-Curie was cited as an example, and now many women are being recognized today for their research results in science. "Between 1901 and 2023, the Nobel Prize in science has been awarded to women 65 times" [5].

RESEARCH METHODS

Scientific research on the generalization of the world experience of women and girls in the development of science and social protection is being carried out in the world's leading research centers and higher education institutions. In particular, the United Nations (UN) "UNESCO" [6], "United Nations Sustainable Development Goals (SDG). Gender equality (UN SDG 5)" [7]. "National Center for Science and Engineering Statistics (NCSES)" [15], "GWTeach" [9], "SERB" [10], "European Innovation Scoreboard (EIS)" [11], "Information System for Science and Research in the Slovak Republic SK CRIS (CRIS =Current Research Information System) system"[12], Slovak Republic "VEGA (Scientific Grant Agency)"[13] "APVV Research and Development Support Agency" [14], "Women in Science Organization (OWSD) international organization" [15], Women m German Society (Germany), Office of Global Womens Issues (USA), French-Australian Business Womens Association (France) institute and others can be mentioned.

From Foreign Research on Women in Science, "The Organization for Women in Science (OWSD) is an international organization that provides research training, career development, and networking opportunities for women scientists around the world at various stages of their careers" [15].

RESULTS AND DISCUSSIONS

The increase or decrease of the share of female doctoral students in different fields of science is not always followed by the overall growth of the same fields. For example, from 2012 to 2022, the number of doctoral students in all fields increased by 13 percent, and the percentage of women increased by 0.8 percentage points. From 2012 to 2022, between 4 and 12 percent in seven high-growth fields (that's 10 percent over 30 years): civil engineering, bioengineering and biomedical engineering, materials science engineering, mechanical engineering, chemical engineering, computer and information sciences, and industrial and production engineering. The share of female doctoral students increased between 3 and 9 percentage points in teacher education, educational administration, anthropology, and history, where the total number of doctoral students awarded declined between 30% and 10% over this 25-year period. Despite a 10 percent increase in the number of doctoral students in health sciences over the past 7 years, the number of female doctoral students has decreased by approximately 1 percentage point. Foreign languages and literature, political science and government, and sociology—in the fields where the total number of doctorates also decreased, the share of female doctoral students decreased"[8]. "According to data published by the National Center for Science and Engineering Statistics (NCSES), the fields of science are the fastest-changing fields for female PhDs and the overall growth of these fields is observed" [8]. "Times Higher Education World University Rankings 2024 analysis shows that 50 of the top 200 educational institutions are currently headed by women. This is more than the 48 universities led by women last year, and now accounts for a quarter of the top 200 universities in the world" [16].

Sociological perspectives on women and science reveal the complex interplay of historical, cultural, and gender-based factors that contribute to the underrepresentation and unique challenges of women in science. Although progress has been made in increasing the participation of women, persistent barriers and prejudices continue to affect their careers and identities in science. Addressing these issues requires a multifaceted approach that includes challenging prevailing norms, creating an inclusive environment, and reassessing the cultural and social factors that influence women's participation in science [17].
Sociological, philosophical, historical, psychological, legal, economic, political, cultural studies, ecological and institutional views on the role of women in science.

№	Approaches	Features
1	Sociological point of view	Social constructivism, «Actor-Network Theory»
2	Philosophical perspective	Philosophy of science, ethics and gender concept
3	Historical Perspective	Theory of Women's Contribution to Science and Gender Historiography
4	Psychological perspective	Stereotype threat, Imposter syndrome, Motivation and efficiency concepts (Stereotype Threat, Imposter Syndrome, Motivation and Selfefficacy)
5	Legal perspective	Anti-discrimination laws and policies, gender mainstreaming concept (Gender Mainstreaming)
6	Economic Perspective	The concept of economic barriers, incentives and labor market dynamics
7	Policy perspective	Gender equality policy and the concept of organizational change
8	Cultural perspective	Science as a cultural construction and the role of women in science
9	Ethnographic perspective	Fieldwork, gender dynamics, narratives and the concept of women's life histories
10	Digital perspective	Concept of digital gender and innovation
11	A modern research perspective	The concept of inclusive science

By informing women and girls about the fields of science, they are engaged in scientific activities, strive to show their potential and find their place in the life of society. Naturally, it increases self-confidence if women are engaged in activities in the fields of science and have a scientific worldview.
Research in the field of science shows that women are more interested in science, researchers aspire to become scientists. In science, women are distinguished by the fact that they act wisely, understanding social problems with determination. Doctor of Philosophy (PhD) system of post-higher education in foreign countries was studied.
The system of post-higher education in the People's Republic of **China -** during the admission process, a written exam is given in the subject of specialization, mother tongue and foreign language (English). The duration of study is 3+1 years, and for the defense of the dissertation, it is necessary to publish 2 scientific articles in scientific journals with an

impact factor in the CSSCI (Chinese Social Sciences Citation Index) system and to fulfill the requirements for mastering the subjects specified by the scientific supervisor.

The system of post-higher education in **Germany** - during the admission process, a written exam in a foreign language (English), an interview on the topic of specialization and a research proposal (Research Proposal) is given, the duration of study is 3+4 years , it is necessary to fulfill the requirements of publishing a minimum of 2 articles (the authority of a scientific journal is not specified) for the dissertation defense.

The system of post-higher education in **Japan** - during the admission process, a written and oral exam is submitted for a master's degree, a specialty and a foreign language, the duration of study is 3 years, and for the defense of a dissertation, a special specialty in the doctoral program courses are held; participates in seminars under the supervision of a scientific supervisor; scientific-research works are carried out; publication of 2-4 scientific articles in scientific journals with a high impact factor; the dissertation is formalized and defended orally on the basis of published scientific articles.

Post-secondary education system in **Great Britain** - master's degree in the admission process; IELTS/TOEFL certificate; An additional exam and interview depending on the type of university and educational programs, a research proposal will be submitted, the duration of study is 3-4 years, and a doctoral thesis must be completed for the defense of the dissertation. there are requirements; The dissertation is defended orally (viva voce) in front of 2 or more examiners (behind closed doors; in Oxford and some other universities, university representatives may participate in the defense process.

The system of post-secondary education in **Australia** - the score in the application of the master's diploma is taken into account in the admission process; IELTS/TOEFL certificate, research plan is submitted in writing, interview (Research Proposal) is submitted, study duration is 3 years, doctoral studies in Australia for dissertation defense are divided into 2 categories: 1st category: standard PhD; Category 2: Professional doctorate - the results of scientific research are directed to practical application. Usually, the dissertation work is not defended, the dissertation work is reviewed by experts consisting of 4-10 experts in the field and gives a conclusion.

Post-secondary education system in **Finland** - the score in the application of the master's degree is taken into account, IELTS/TOEFL certificate, 2 years of work experience, motivation letter, recommendation letter, research plan is submitted in writing, interview (Research Proposal), published Copies of academic papers and a short resume are provided. In Finland, doctoral studies are divided into 2 categories: 1st category: doctoral studies within the framework of the national program determine the implementation of scientific researches within the framework of current topics at the national level; Category 2: the researcher independently chooses the topic of scientific research; Doctoral study is organized in the form of theoretical lectures, seminars, classes, conferences; at the end of the study period, an exam will be given, the dissertation will be discussed.

The post-higher education system in **Uzbekistan** is a master's degree, an article in 1 scientific journal, a thesis in 2 scientific conferences, a national or internationally

recognized certificate indicating the level of knowledge of foreign languages and general subjects, a written and oral examination in the specialty subject. next exam will be given. The duration of study is 3 years, dissertation and thesis abstract for the defense of the dissertation, certificate of qualification examination in specialized subjects, certificate on the implementation of the results of the dissertation in practice, positive conclusion of 2 official reviewers, at the scientific seminar under the scientific council the dissertation is discussed, the positive conclusion of 2 official opponents, the dissertation is discussed in the scientific council.

CONCLUSION

To study the experience of foreign countries in science, to support women who encourage deep study of science, who fulfill their responsibilities such as research and family and motherhood at the same time, who are role models with their work and scientific potential. support is required. In the mass media, we should show not only the role of housewives and women who are facing difficulties, but also women around us who are achieving success in various fields of science and are busy with science. Because recognizing and promoting the achievements of women and scientists in the fields of science is important for the future of the global world. Elite female scientists should be role models as ideals and mentors for young people. Increasing the intellectual potential of women and increasing their scientific potential - not only the stability of families, but also their selfless work for the development of our society, will inevitably contribute to the increase of women's participation in the development of a democratic society.

References

1.Edelman, G. M. (1972). Banquet speech at the Nobel banquet in Stockholm The Nobel Prize Available at: https://www.nobelprize.org/prizes
2.https://www.un.org/ru/observances/women-and-girls-in-science-day
3.https://www.forwomeninscience.com
4.https://ru.wikipedia.org
5.https://www.nobelprize.org/prizes/facts/nobel-prize-facts
6.UNESCO Institute for Statistics (2019). Women in Science (n◦55), UIS/FS/2019/SCI/55, UIS Publ., Montreal, QC, Canada. Available online at: https://unesdoc.unesco.org/ark:/48223/pf0000370742
7.www.sdgs.un.or
8. National Center for Science and Engineering Statistics (NCES). National Scientific Foundation of Social, Behavioral and Economic Sciences. Alexandria, USA VA | NSF 24-300 | 28 September, 2023. https://ncses.nsf.gov.
9.https://gwteach.gwu.edu
10.http://pubs.acs.org/journal/acsodf
11.https://ec.europa.eu/commission/presscorner/detail/en/ip_24_3666
12.https://www.skcris.sk/portal

13.http://www.umms.sav.sk
14.https://www.apvv.sk/agentura
15.https://owsd.net
16.https://www.timeshighereducation.com\
17. Liu, X. (2023). Introduction: Towards a gender perspective of science. Cultures of Science, 6, 3 - 5.