

Analysis of Challenges to Ensuring Gender Equality in Science and Research: Recommended Policies for Republic of Moldova

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Abstract

The study was developed within the project “Partnerships for Women’s Leadership and good Governance”, carried out with the financial support of the European Union and the Friedrich Ebert Foundation. Gender equality is a fundamental principle of the European Union, also enshrined in national law, and one of the policy objectives in the field of research and innovation. For three decades, the situation of researchers in the Republic of Moldova has been influenced by several socio-economic and political challenges, as well as by the insufficiency of smart policies and research programs, which increase both the quality and level of research, as well as the degree of use of their results in the development of the national economy. An important aspect of supporting research and science is the involvement of women and girls in research institutions and centres, universities, etc. through various promotion, information, counselling policies to ensure real gender equality and opportunities.

Keywords: gender equality, research, STEM, representation, inclusive society

Introduction.

“For me, a better democracy is a democracy where women do not only have the right to vote and to elect but to be elected”. (Torregrosa, p.45) This statement from Michelle Bachelet, former executive director of United Nations Women and the current President of Chile, shows how active political participation of women is demonstrative for the strength of a country’s democracy.

Since earning the right to vote to being actively involved in political processes, women certainly have made strides to shatter the political glass ceiling in a domain once reserved for men. More women are participating in politics than ever before, through voting, as elected members of parliaments, upper houses, or as heads of governments. Part of this growth in female political participation is attributed to the United Nation’s fourth World Conference on Women in 1995 in Beijing. This conference made a Platform for Action, regarded as “the strongest and most urgent international statement about women’s rights” until that time. At this conference, Hillary Clinton, the first lady of the United States at that time, declared, “women’s rights are human rights”. This conference is said to have sparked a movement for countries to promote female leadership.

Gender and political representation which is has a large body of literature addresses the concept of representation, which was highlighted in the introduction. Literature tends to recognize the types of representation that are outlined in Hannah Pitkin’s (1967) work *The Concept of Representation*. Pitkin distinguishes between descriptive and substantive representation. With descriptive representation, representatives, by virtue of who they are, “stand for” the people they represent, as they share characteristics. (Pitkin, p.61)

As Cinzia Arruzza, Tithi Bhattacharya, and Nancy Fraser argue in *Feminism for the 99%: A Manifesto* (Verso, 2019), “capitalist societies are also by definition wellsprings of gender oppression”. The liberal “lean-in” feminism prevalent today is the “handmaiden of capitalism”. In its “bankruptcy”, liberal feminism offers nothing more than “equal opportunity domination”.

Arruzza, Bhattacharya, and Fraser offer 11 theses that draw the contours of an entirely different vision for gender equality. Put simply, capitalism is the problem, not the solution. Capitalist society inherently undervalues women's work, paid and unpaid—“it propounds a market-centred view of equality that dovetails perfectly with the prevailing corporate enthusiasm for ‘diversity’...liberal feminism steadfastly refuses to address the socioeconomic constraints that make freedom and empowerment impossible for the large majority of women”.

Gender equality was understood as an important global issue since the women's movement of the 1970s. Since those times, strong international efforts have been done to address gender inequality by placing women in positions of influence because of the assumption that women in power would be more likely than men to represent women's interests. Gender equality is a complex concept that implies progress for both women and men. (Ranehill, E., and R. Weber (2017): “Do gender preference gaps impact policy outcomes?” Mimeo) The gender equality framework focuses on women's progress through different aspects of development which are simplified into capabilities, opportunities and empowerment/ agency. Indicators such as health, education attainment and enrolment rates, nutrition, life expectancy, and mortality are commonly measurements of capabilities whereas equal access to resources such as land, credit, property and employment are measurements of opportunities. Measured by the percentage of women in the legislature, empowerment however, refers to the degree of representation in decision making structures. It is not surprising when scholars state that gender equality has many indicators. This principle is a necessary precondition for women and girls to participate fully in the achievement of a sustainable and inclusive society. However, the insufficient use of all human capital reduces the potential benefits for economies and industries connected to research and innovation, with adverse social consequences for development.

According to the national statistics and studies, women are under-represented in most positions in science, engineering and management at higher hierarchical levels (STEM) (Statistica gender, BNS, 2022), even in women's majority sectors such as education; women are under-represented, as well as

in the STEM sectors, they represent only 20.4% of science and engineering professionals; at the same time, the representation of women varies and depends on the specializations in STEM. (Statistica. 2022)

Although, in the recent years there have been some positive developments for researchers and their participation that has increased rapidly, with regret the number of researchers continues to be lower than that of researchers, especially in the real sciences, such as engineering, ICT, physics and mathematics.

According to the national statistics the women's academic careers are still marked by strong vertical segregation, with only a very small percentage of women occupying the highest academic positions, as well as the women account for only 20% of university rectors. (Gender pulse, 2022)

In 2019 the Government of the Republic of Moldova approved a public policy document entitled "National Program in Research and Innovation for 2020-2023 and the Action Plan on its implementation". (Monitorul Oficial, 2019) Unfortunately, both the National Program and the Action Plan do not provide the full and effective participation of women in science and research for ensuring the concrete measures, as well as equal opportunities to hold leadership positions at all levels of decision-making in the research institutions.

While the Republic of Moldova has provisions on gender equality in the legal framework, however, little attention is paid to the integration of the gender dimension in national research programs. In this regard, it is proposed to continue monitoring and evaluation of policies in the field of ensuring gender equality in research and science, the Republic of Moldova needs a constantly growing number of professionals and professionals capable of innovative research activities, they are indispensable for increasing productivity and competitiveness in the national economy. The latest statistics show a sharp aging of the research sector and researchers in the valuable resource, so it is necessary to promote and facilitate the career development of women with a greater presence of young women, especially students from academia, in the STEM fields.

Therefore, the study aimed to assess the current situation on gender equality in science and research, to identify and present challenges to ensuring gender equality, as well as the formulation of recommendations on the necessary instruments and mechanisms for reducing inequalities in these areas in the Republic of Moldova. This article has aimed to describe and analyze the way in which gender inequality in research and science is manifested, to highlight practices on ensuring gender equality and promoting the scientific and research potential of women and girls in the Republic of Moldova.

The following operational objectives of the topic research on the gender dimension in research and science have been set:

- description of the general context of gender mainstreaming in science and research;
- analysis of statistical data on gender equality in the field of research and science;
- identifying major challenges and impediments to ensuring gender equality in the respective fields;
- formulating policy recommendations on promoting gender equality in science and research in the Republic of Moldova and ensuring continuity of the promoted actions.

In order to achieve the objectives proposed in the study were used both methods specific to the approach of the documentary analysis and methods specific to the quantitative approach, from a systemic and interdisciplinary perspective. At the same time, the note has certain methodological limits, especially with reference to covering the subject under investigation with qualitative methods, which explore more deeply the problems of gender inequalities in research and science. During the writing of the note, the author held a series of discussions to test the hypothesis of the research problem, except, with only a limited number of women in the research and academic fields for reasons of time and resources.

The equal opportunities between women and men were ensured through the adoption of primary legislation, namely Law no. 5 of 09.02.2006 on ensuring equal opportunities between women and men, republished, as subsequently

POLITICAL STUDIES FORUM

amended and supplemented, the legislative harmonization with international and Community rules on equality.

Law No. 121 of 25.05.2012 on ensuring equality introduced a number of important regulations that generally concern the field of equal opportunities between women and men and others, which refers to the organization and institutional functioning of the Council for the Prevention and Elimination of discrimination and ensuring equality, whose mission is to ensure protection against discrimination, ensure equality and the restoration of rights of all persons discriminated against. In this regard, at the end of 2012 was approved Law no. 298 of 21.12.2012 on the activity of the Council for preventing and eliminating discrimination and ensuring equality, through which was strengthened the administrative and institutional capacity of the institution with responsibilities in the field by setting up the national mechanism in the field of gender equality.

Also, at national level, was carried out the transposition of the provisions of the Convention on the Elimination of all forms of discrimination against Women (CEDAW), ratified by the Republic of Moldova on April 28, 1994.

In order to ensure a comprehensive approach to equality between women and men in policy documents in all areas and at all levels of decision-making and enforcement, the Republic of Moldova has committed to progressively bringing its national legislation closer to EU employment law, Social policy and equal opportunities, in the context of the implementation of the Association Agreement Republic of Moldova-European Union and the Association Agenda Republic of Moldova-European Union 2021-2027, as well as the 2030 Agenda for Sustainable Development.

These objectives are detailed in Articles 31 and 32(f) and Annex III of the EU-Moldova Association Agreement. In particular, The Republic of Moldova has committed to transpose into national law Directive 2006/54/EC of the European Parliament and of the Council of 5 July 2006 on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation.

The conclusions and policy recommendations are elaborated at the end of the study and will also represent an analysis framework for future policies

to ensure gender equality in the Republic of Moldova, which aim to rethink how women and girls can get involved pro-actively in research posts, funding, publishing, national and international academic awards and, at the same time, encouraging young people in research and science to become the active force in the community that identifies opportunities for action and influence in the social-economic life of the country.

The Current Context for Ensuring Gender Equality in Research and Science

According to the Global Gender Equality Index, (EIGE, 2022) launched by the World Economic Forum, in 2022 the level of gender equality in the Republic of Moldova registered a more prominent increase compared to previous years. The average level of equality between women and men, calculated for six strategic areas assessed, was estimated at 62 points, with 3 points in progress compared to 2021. (Indexul egalității de gen, 2022)

Table 1. Gender Equality Index in the Republic of Moldova for 2009-2022

Relevant areas	Index 2009	Index 2016	Index 2017	Index 2018	Index 2019	Index 2020	Index 2021	Index 2021	Trend
Labour market	64	61	61	62	61	60	59	55	- 4
Politics	32	36	36	36	40	47	47	61	+ 14
Education	55	54	54	53	53	52	50	50	0
Access to resources	77	74	75	79	77	76	73	75	+ 2
Perceptions and stereotypes	42	47	51	47	54	61	62	63	+ 1
Health	73	66	65	65	65	63	64	66	+ 2
General Index	57	56	57	57	58	60	59	62	+ 3

Source: National opinion polls commissioned by the Partnership for Development Center; NBS data.

According to the UN 2030 Agenda for Sustainable Development, taking into account the importance and relevance of the results of the research and innovation activities for the achievement of the Sustainable Development goals (SDGs) in the three main areas (economy, society and environment), the fields of research and innovation must be fully involved in achieving the SDGs targets taken over by the Republic of Moldova. Thus, by the Ministry of Labour and Social Protection of the Republic of Moldova was developed the public policy document entitled “Strategy for ensuring equality between women and men in the Republic of Moldova for the years 2017-2021 and its implementation Action Plan“, (Government Decision nr. 259 from 28.04.2017) which aimed to implement effective actions to address gender imbalances in society and decision-making bodies, as well as better gender mainstreaming in policies, institutional programs, unfortunately, the policy document does not address gender inequalities in science and research either.

In the same context, in 2019 the Government of the Republic of Moldova approved another public policy document entitled “National Program in Research and Innovation for 2020-2023 and the Action Plan on its implementation”. (Government Decision nr. 381 from 01.08.2019). Unfortunately, both the National Program and the Action Plan do not provide for concrete measures to ensure the full and effective participation of women in science and research, as well as equal opportunities to hold senior positions at all levels of decision-making and access to research funding resources.

In this regard, in 2018 in the field of research, GD no. 1082 was approved on the approval of the National Roadmap for the integration of the Republic of Moldova into the European Research Area for 2019-2021 and of the Action Plan on its implementation. This roadmap for the integration of the Republic of Moldova into the European Research Area expressly mentions priority no.4 on gender equality in research. Moreover, this commitment to gender equality sets out a number of specific objectives and actions that require strengthening the gender dimension in research.

According to the European Commission Communication on the European Research Area, EU Member States are recommended to: remove legal and other barriers that prevent the recruitment, maintenance and career development of female researchers in full compliance with EU gender equality legislation;

POLITICAL STUDIES FORUM

avoiding gender imbalances in decision-making processes; strengthening the gender dimension in research programs; engaging in partnerships with funding agencies, research organizations and universities to promote gender-based cultural and institutional change, performance agreements, awards; ensuring that at least 40% of women are represented in participation in recruitment/ career advancement, establishment and evaluation commissions.

Gender equality in research and science in Moldova has not been reflected as a major problem so far. Traditionally, in science more women are employed than men, but in leadership positions the situation is reversed. (Government Decision nr. 1081 din 08.11.2018). The analysis of statistical data for 2021 shows that the research-development and science (The research and development activity does not include the training of staff, the production activity, the work of management bodies, scientific and technological services.) activity was carried out in 67 units, including:

- 38 research institutes and centers,
- 19 higher education institutions,
- 10 – other types of units.

Of the total units with research and development activity, 51 units (or 76.1%) have the form of state ownership, with public funding. By the end of 2021, there were 4157 employees in the field of research and development, up by 2.6% compared to the number registered at the end of 2020. The share of women was 51.7%, up by 0.8 percentage points compared to the one recorded in 2020.

**Tabel 2. Employees of research and development activity
after occupations, in 2017-2021**

	2017		2018		2019		2020		2021	
	Total	including women	Total	including women	Total	including women	Total	including women	Total	including women
	4697	2366	4451	2263	4058	2037	4052	2062	4157	2150
<i>researchers</i>	3180	1542	3054	1483	2767	1315	2907	1430	2920	1459
<i>technicians</i>	311	201	257	167	275	187	316	212	245	172
<i>auxiliary staff</i>	582	296	576	319	510	292	460	240	561	291
<i>other categories of employees</i>	624	327	564	294	506	243	369	180	431	228

Source: Research and development activity during 2017-2021. NBS data.

POLITICAL STUDIES FORUM

Regarding the management, scientific-didactic and didactic staff, the reports of the National Bureau of Statistics indicate that, in the study year 2021/22, 4.0 thousand persons (basic staff) are active in higher education institutions, 2.4% less than in the previous study year. Of the total staff, 2.4 thousand persons hold scientific title (or 60%), of which:

- 87.5% of PhD science;
- 2.5% of habilitate PhD.

According to national statistics, women remain under-represented in most science, engineering and management positions at higher hierarchical levels (source: <https://statbank.statistica.md/>), even in sectors where they are majority, such as education; Women in education and careers in STEM, representing only 20.4% of science and engineering professionals; at the same time, women's representation varies and depends on STEM specializations. Although there have been some positive developments for the researchers and their participation has increased modestly in recent years in some areas of research (see Table 3), with regret the number of researchers continues to decrease compared to 2020, and the large gender gap in the number of researchers, it is particularly in the field of real sciences, such as engineering, ICT, physics and mathematics.

Table 3. Scientific researchers in 2017-2021

	2017		2018		2019		2020		2021	
	Total	incl. women	Total	incl. women	Total	incl. women	Total	incl. women	Total	incl. women
Researchers TOTAL	3054	1542	3 054	1 483	2767	1315	2907	1430	2920	1459
natural science	1117	554	1 083	542	1018	516	985	487	941	469
engineering and technological sciences	466	106	445	103	403	83	351	71	336	69
medical science	428	240	369	205	339	192	402	251	396	240
agricultural Sciences	392	199	392	195	352	169	453	217	464	226
social science	459	280	464	285	393	230	477	278	535	323
humanities	318	163	301	153	262	125	239	126	248	132

Source: Research and development activity during 2017-2021. NBS data.

In fact, statistics consistently show that girls are becoming less interested in subjects in STEM fields and there is a modest probability that they will pursue a specialization in technical science in higher education. In this regard, it is not a unique explanation for the low level of women and girls in STEM, among these reasons being: or insufficient information by school teachers of careers in STEM fields, a lack of female models, unconscious prejudices at employment interviews, the fact that women are less inclined to apply for leadership positions compared to men and the tendency to direct women toward education and tutoring, rather than research and academia.

At the same time, unequal treatment and discrimination of women is a serious violation of women's fundamental rights. According to data from the policy documents, it is claimed that the number of researchers per million inhabitants is 4.5 times lower in the Republic of Moldova than the European average. Emigration and the increase of the average age are other negative phenomena that influence the quality of the staff trained in research. (Government Decision nr. 381 from 01.08.2019.)

An alarming concern in given areas, according to the latest statistics is the aging of the research sector. The analysis on the distribution of researchers by age groups attests to this fact of care where the highest share is held by researchers who have exceeded the age of 64 years (21.6%) in 2021 followed by the age between 35-44 years (21.2%), followed by a modest increase in the share of researchers aged 45-54 years (by 1.8 percentage points) compared to 2020.

On the basis of international good practice (Report: She Figures 2021, 2022), it is known that only through the interaction between the various research areas can one achieve the development of an enormous economic, social and cultural potential, and women in research and innovation can contribute to these connections, being a valuable potential, which needs all available resources to respond to crises oriented to various sectors: economic, energy, environmental, health, education, In order to be able to cope with the changes in society as a whole; whereas it is necessary to promote and facilitate the development of women's careers and a greater presence of young people, especially students and academic women, in STEM fields.

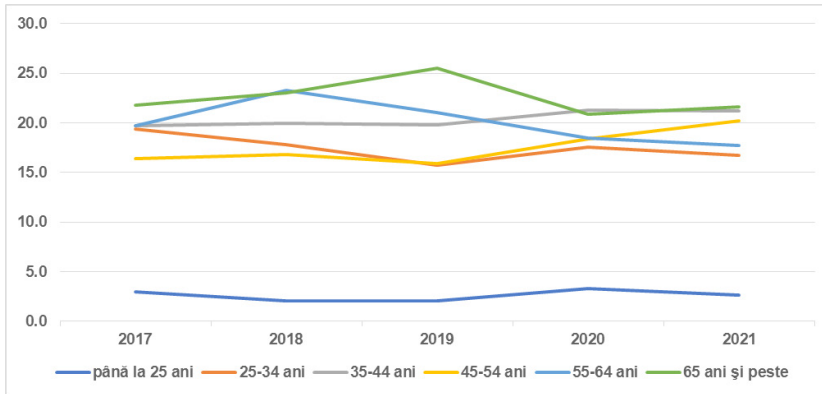


Figure 1. Distribution of researchers by age group in 2017-2021

Source: Developed by the author based on the NBS data Activitatea instituțiilor de învățământ superior în anul de studii 2021/22, Biroului Național de Statistică al RM, https://statistica.gov.md/ro/activitatea-institutiilor-de-invatamant-superior-in-anul-de-studii-202122-9454_3519.html (accesat la 29.10.2022)

In terms of the working hours, 55.9% of the employees who carried out research and development activity in 2021 worked full time, and in 2021, 87.3% of the employees in the research and development activity were employed in state institutions, in the previous year, this percentage was 91.0%. Therefore, there is an increase in the working time of several employees and employed in a single job in the field, yet a fairly high percentage, of about 40%, carries out activities outside the field of research and science, this could affect the quality of work in research and science. The salary in research is a modest and insufficient one, despite the salary increases in recent years, it is not motivating and attractive to keep research and science professionals in both men and women.

Table 4. The average gross monthly salary in research and development in 2015-2021

lei	2015	2016	2017	2018	2019	2020	2021
research and development	5 614,3	6 033,0	6 437,6	7 052,2	8 269,3	8 677,8	9 941,2

Source: Developed by the author based on the NBS data.

According to the data from the policy analysis on *The peer review of the research and innovation system of the Republic of Moldova*, the expenditure for research and innovation per capita amounts to approximately EUR 6.6, 80 times less than the European Union average (13). Under such financing conditions it is quite difficult to rethink a path of accelerated development of the field and of rallying to the European target objectives of funding research and innovation.

Table 5. Research and development expenditure in 2017-2021

milioane lei	2017		2018		2019		2020		2021	
	Total	including in state units	Total	including in state units	Total	including in state units	Total	including in state units	Total	including in state units
Expenditure TOTAL*	453,9	401,3	484,5	433,1	498.0	440.7	469.6	418.6	560.5	455.3
<i>current expenditure **</i>	436,9	385,1	469,5	419,4	484.5	428.7	2907	1430	2920	1459
<i>Capital expenditure ***</i>	17,0	16,2	15,0	13,7	13.5	12.0	316	212	245	172

Source: Developed by the author based on the NBS data

**Internal expenses – expenses for activities performed with own forces*

***Wear and/or cushioning only*

****According to the budget Classification (No. 208 of 24.12.2015) non-financial assets*

In 2021, the expenditures made for research and development activity accounted for only 0.23% of the gross domestic product. In 2021 compared to 2020, the expenditure for research and development activity increased by 90.9 million (by 19.4%). The majority share in the total amount of R&D expenditure is held by current expenditure - 95.9%, capital expenditure returning 4.1%.(www.statistica.gov.md , 2022)

Challenges and Impediments to Ensuring Gender Equality in Research and Science

Despite existing efforts to promote gender equality and equal opportunities, women continue to face unequal access to research, funding, publication

POLITICAL STUDIES FORUM

or academic awards posts. The women and girls are also more affected by intransigent criteria for promotion and recognition and insufficient funding policies, as well as the lack of advice on the prospects of young women scientists who are particularly difficult. All of these factors contribute to the “brain drain” of research and science. Moreover, the women’s often lower positions in science, or even in society, are not justified by any objective criteria, but rather this is due to gender relationships and stereotypes, which often make career prospects difficult for women in research and science. In this regard, even the analysis of the data in the following table highlights a gender gap in the positions of scientific degrees between men and women, especially at the degree of habilitate PhD, in areas such as social, engineering and technological sciences and agricultural sciences. In terms of PhD’s degree, statistical data reveal a better situation with a higher share of women in most scientific fields.

Table 6. Researchers with scientific titles in scientific fields, in 2018-2021

	2018				2019				2020				2021			
	Habilitation PhD		PhD		Habilitation PhD		PhD		Habilitation PhD		PhD		Habilitation PhD		PhD	
	Total	inclusiv femei	Total	inclusiv femei	Total	inclusiv femei	Total	inclusiv femei	Total	inclusiv femei	Total	inclusiv femei	Total	inclusiv femei	Total	inclusiv femei
Researchers with scientific titles	363	81	1 286	629	346	77	1 217	579	335	81	1275	651	346	105	1239	630
științe naturale	125	22	488	236	123	23	483	235	100	17	436	230	100	17	422	226
științe inginerești și tehnologice	31	1	121	25	30	1	122	27	21	1	97	14	25	3	94	12
științe medicale	66	20	153	93	61	18	146	82	70	21	157	102	60	22	132	80
științe agricole	34	4	134	40	33	5	127	36	38	5	166	72	35	5	164	75
științe sociale	55	19	234	149	49	16	208	130	59	20	285	163	78	41	287	163
științe umaniste	52	15	156	86	50	14	131	69	47	17	134	70	48	17	140	74
Structure, %	363	81	1 286	629	346	77	1 217	579	100	100	100	100	100	100	100	100
științe naturale	125	22	488	236	123	23	483	235	29.9	21.0	34.2	35.3	28.9	16.2	34.1	35.9
științe inginerești și tehnologice	31	1	121	25	30	1	122	27	6.3	1.2	7.6	2.1	7.2	2.9	7.6	1.9
științe medicale	66	20	153	93	61	18	146	82	20.9	25.9	12.3	15.7	17.3	20.9	10.6	12.7
științe agricole	34	4	134	40	33	5	127	36	11.3	6.2	13.0	11.1	10.1	4.8	13.2	11.9
științe sociale	55	19	234	149	49	16	208	130	17.6	24.7	22.4	25.0	22.6	39.0	23.2	25.9
științe umaniste	52	15	156	86	50	14	131	69	14.0	21.0	10.5	10.8	13.9	16.2	11.3	11.7

Source: Developed by the author based on the NBS data

On the other hand, the general statistical data shows that the share of women is higher than that of men (55% and 45% respectively). (Activity of higher education institutions in the academic year 2021/22, National Bureau of Statistics, <https://statistica.gov.md/>) The same trend with an insignificant predominance of women in research and development activity is also seen at the National Agency for Research and Development (ANCD). The analysis of the Register of researchers under the management of ANCD shows that since 2020 in the field of research there are 3179 people, of whom 1591 are women (50.05%). (Registrul cercetărilor, 2020) Unfortunately, this data is not disaggregated by gender as well as age, which does not allow for a deeper analysis of demographic and gender trends in research areas. However, a gender gap in areas such as technologies, physical sciences and engineering, where the share of men is over 90%, is observed at a close analysis of the researchers Registry held by ANCD on research areas; even in socio-humanistic fields, a similar situation is witnessed, such as, for example, in the historical sciences.

The reasons for this situation are numerous and complex, including negative stereotypes, prejudices and biased attitudes, whether or not aware of professionals in the given field. Similarly, as a result of discussions with the researchers from the former Institute of History of the ASM, this hypothesis was stated that women, who work in research, as well as other women from other sectors, are conditioned to become more responsible for family obligations, like raising children or caring for family members, rather than their male peers, and therefore it influences over time the ability to engage and promote in scientific and academic careers.

Thus, this moment stresses even more that professional and family obligations frequently represent an enormous obstacle, which particularly affects the evolution of women in the scientific or academic career and it is one of the most important causes of giving up in these professional careers.

The pre-established social role of women affects not only their personal life, but also their experience at work, causing numerous and complex problems. Although research shows that women have exactly the same skills, methods, and general approaches to scientific problems as men, they are

underrepresented at higher hierarchical levels. The factors that generate this situation are complex, as shown by the analysis of literature data and research focused on the field of education.(Mocanu, Rusu,2016)

At the same time, gender equality has not yet been fully achieved in the scientific and academic environment, with the situation varying in terms of research areas and academic degree. Thus, the low presence of women in the highest academic and decision-making positions in scientific institutes and universities in the country is obvious indicating the existence of the phenomenon of the “glass ceiling”, that is, invisible barriers based on prejudice, which limit women to access positions of responsibility.

In terms of career promotion in academia, it is strongly influenced by the participation of men in the highest academic positions, having even greater access to decision-making and redistribution processes of financial resources, related to university institutions. As the data in the table below show, over the past 10 years, women’s participation in senior positions as rectors remains low, with no marked change trends in women’s growth in university leadership.

**Table 7. The number of rectors in the Republic of Moldova
in 2012-2021**

	Number of persons		Share, %	
	Women	Men	Women	Men
2012	8	24	25.0	75.0
2013	7	23	23.3	76.7
2014	7	21	25.0	75.0
2015	10	19	34.5	65.5
2016	7	22	24.1	75.9
2017	6	22	21.4	78.6
2018	7	20	25.9	74.1
2019	6	21	22.2	77.8
2020	5	18	21.7	78.3
2021	5	19	20.8	79.2

Source: Developed by the author based on the NBS data

We can say that the most essential condition of the accentuated predominance of men at the advanced stages of the academic career is the traditional attitude toward the role of women in society and the family, which assumes that the most important positions belong to men. This is demonstrated by the share of women in positions involving selection based on competitions/leadership (the so-called “professional pyramid”). According to a study,(Cuciureanu, 2020) women are:

- 31.1% of scientific researchers elected as members of the science sections of the Academy of Sciences of Moldova (14 of the total of 45 members currently elected for a period of 4 years),
- 31.4% of the directors of research institutes (11 of the 35 directors)
- 20.8% of the rectors of higher education institutions (5 of the total 24 rectors).

The lowest share of women is registered, with regret, among the members of the Academy of Sciences of Moldova, a public institution of national interest that brings together personalities with outstanding achievements in the fields of research and innovation. Thus, the share of women among ASM members is 8.6% (5 of the total 58 members), and among the titular members (academics) of ASM - only 5.3% (2 of the total 38 full members). (Members of the Academy of Sciences of Moldova, www.asm.md/)

As mentioned above, the explanation of this trend lies in the existence of a “glass ceiling”, a phenomenon known and studied in the West for several years, except, in the Republic of Moldova this form of gender discrimination is not addressed. Moreover, it is not analyzed either in the policy documents or discussed by the public opinion. Therefore, this situation cannot be analyzed statistically by policy authors and experts in the field, but only through qualitative research tools (in-depth interviews, focus groups).

It is known that gender diversity in the boards of both research centers and universities can bring innovative ideas, increase competitiveness and performance for better corporate governance in those areas. The existence of more women in leadership positions has not once demonstrated to the outside world that an entity, whether public or private, research or academic, understands the complexity of sectors and can compete globally.

By limiting the presence of women in research and science due to conscious and unconscious stereotypes, an important potential that has been created at our universities is undermined and a skilled human capital is devalued. The unjustified waste of this human capital reduces the potential benefits for research and innovation industries and for general economic development. Science and research constantly need new ideas, and no doubt the best ideas emerge in a diverse community.

Conclusions and Political Recommendations

In the regard of the above analysis, **the following conclusions** can be highlighted:

1. The transposition of national legislation on gender equality into practical action to address gender imbalances in research and academic institutions and decision-making mechanisms in research and science are very precarious and fragmented.
2. Although there have been some positive changes in recent years, gender equality has not yet been fully achieved in the scientific and academic environment, with the situation varying according to the areas of research and academic degree.
3. There is still a low presence of women in the highest academic and decision-making positions in scientific institutes and universities, which allows to argue about the existence of a „glass ceiling“, invisible barriers based on prejudice, which prevents women from taking up high and middle decision-making positions;
4. As a result of the very modest financial allocations, research areas are underfunded, thus it is noted that in the field of research and science women remain to be paid less than men due to lower positions held by women;
5. There is still a lack of disaggregated data and statistical records on the areas of research and science by age, gender, managerial functions, etc. Gender equality data in research and academic programs, which would allow for a more complex analysis of the problem, but also a multidimensional and layered coverage of it, which would allow forecasting trends in this sector;

The commitments made by the Government of the Republic of Moldova that research and science are national priorities must be reflected in the actions adopted by the policies and the financial resources they allocate. The most important is to ensure that gender equality remains one of the key priorities for strengthening the research and academic space by encouraging the involvement of both men and women from the perspective of merit and excellence in the given fields. Against the background of the above mentioned and stated, we will make the **following recommendations**:

1. In the framework of current national gender mainstreaming policies, it is recommended to the governmental authorities with research and science responsibilities according to Chapter 1. IV (Article 57-62) of the Code on Science and Innovation of the Republic of Moldova no. 259-XV of 2004, with subsequent amendments from 2018, to effectively transpose national legislation on gender equality into research and innovation policies and programs.
2. In order to address gender imbalances in decision-making, financing, publication and dissemination processes, as well as strengthening the gender dimension in research and development policies, programs and projects, it is necessary to amend the methodology for funding projects in the fields of research and innovation, GD no. 583/2020 of 31.07.2020 for the implementation of Law no. 226/2018 on scientific-technological parks and innovation incubators and Annex no. 1 GD no. 382/2019 on the approval of the methodology for financing projects in the fields of research and innovation, including the principle of ensuring gender equality by introducing the minimum gender quota (40% for example, as in international projects of type H2020);
3. The authorities with direct competence in the field of research, science and innovation (MEC; ANACEC; ANCD, etc.) that organize calls for national/international projects to ensure the size of gender in the call announcement and by applying equal and non-discriminatory treatment to underrepresented subjects (women, young people, ethnic minorities, etc.) in the fields of research and innovation at all stages of project competitions;

4. Mandatory in project calls to include the observance of the retirement age, because unfortunately in research, the retirement age is not respected at all and in this way artificial and favorable research conditions are created for people over the retirement age. In this way, women and young people in research are artificially and intentionally limited by some actors in the scientific community to access the funding of national research projects. This moment has a decisive role in the exodus from the country of researchers / researchers, especially young people / women trained in research that have remarkable results, but which subsequently contribute to the development of scientific communities from other European countries and not the Republic of Moldova;
5. Considering the practices in the European community related to the arrangement of children's spaces at work, provided by the employer, in order to facilitate and ensure the participation of women in the scientific process. This measure is absolutely indispensable for research organizations, because if women have children in their care who for some reason cannot attend kindergarten or school, they are unable to participate in various activities related to scientific activity, or even job contests, project calls, work meetings, etc.;
6. Ensuring the health and safety of work in scientific laboratories (chemistry, physics, biology, or other fields) especially for women during pregnancy, the labor legislation related to the field of research does not provide for a safe space for the health of women/girls during pregnancy, they have to stop their research activity, which leads to a decrease in the years of professional experience and participation among men in the scientific activity;
7. Conducting various trainings, trainings, provided by MEC, ANACEC, ANCD or employers regarding the discrimination of women / girls in research and their discrimination in academia / research, as well as the prevention of various forms of harassment. Such activities should be organized with the participation of both men and women;

8. The realization by the MEC, ANACEC, ANCD of various meetings, anonymous questionnaires during /or at the end of doctoral studies, research projects involving women in order to monitor and/or highlight different discrimination, inequalities in relation to women in research.
9. NBS and ANCD to develop more complex the existing methodology for gender-differentiated statistics for the entire academic and scientific activity, in addition to human resources statistics, as well as to develop credible indicators for measuring institutional change processes at national level on ensuring gender equality in research and academia;
10. Developing and promoting awareness-raising campaigns that must target both men and women, because they (consciously or unconsciously) reproduce gender stereotypes that can lead to the internalization of cultural and institutional barriers in the evolution of women's careers in science and academia, in particular, encouraging them to apply for academic and research-related careers in all scientific fields, with a particular focus on engineering and the technology sector, where women's participation remains below average;
11. The creation of online/offline mutual support networks and platforms, as well as the sharing of best practices to support gender equality in science and research at both national and European level;

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