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Paola Paoloni
Rosa Lombardi *Editors*

Advances in Gender and Cultural Research in Business and Economics

4th IPAZIA Workshop on Gender Issues 2018, Rome, Italy

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Preface

The New Challenges of Gender Studies: Some Thrilling Insights

Gender studies are a relevant research field in the international scenario. Thus, scholars are increasing their interest in gender issues adopting a multidisciplinary approach. If we find for "gender studies" and "gender issues" on Scopus (www.scopus.com), results are interesting with respectively over 3400 documents and 7700 documents retrieved in all research fields. Although the first documents appear on Scopus in 1976–1977, the exponential trend in publishing on "gender studies" and "gender issues" is retrieved after 2000s. At least the 30% of documents come from USA and UK. Additionally, results by Google Scholar using the same search words are impressive and promising (respectively, over 190,000 and 500,000 documents).

Our investigation field is mainly in business, management, and accounting perspectives without excluding a multidisciplinary approach. Particularly, the investigation on gender strategies adopted and tested by companies as well as the impact assessment for subsequent dissemination is the aim of IPAZIA as Scientific Observatory for Gender Studies (www.questionidigenere.it). Thus, the aims of IPAZIA are to define an updated framework of researches, services, and projects, and all initiatives related to women and gender relations at the local, national, and international. In order to achieve this objective, the Observatory aims to implement the literature on gender studies, to organize, and promote relevant scientific initiatives (e.g., workshops, seminars, conferences, studies, and scientific laboratory) on these issues at national and international level adopting an interdisciplinary approach.

This book includes the results of researches on gender studies presented at the Annual Workshop of IPAZIA 2018 of Rome in Italy (9th March 2018). Thus, this book will provide innovative and rigorous analysis with the purpose of advancing the understanding of the gender researches in the light of previous contributions. This book is structured in four sections each of which addresses a specific theme on gender studies as follows.

Part I

Women in Academia and in the University Contexts: A Trans-disciplinary Approach

The purpose of this section is to analyze women's role in Academia and in the University contexts and the relationships between women and men referring to governance, scientific, and carrier processes. This topic aims to enhance the research field about gender issues in Academia by promoting the submission of papers both empirically and theoretically based. Conceptual papers, as well as case studies, that embrace diverse methodologies, using diachronic perspectives and different disciplinary sides, and combine two or more disciplinary perspectives, are included in this section. Moreover, proposals from academics and practitioners, as well as comparative analyses of different countries are included too. Additionally, topics included within the track mainly cover the following issues:

- Women in Academia corporate governance;
- Women in Academia in different countries;
- Women scholars career and crystal cliff;
- Women and universities planning;
- Women and sustainability in academia;
- Women and methodology of research;
- Women and scientific visibility.

Part II

Gender Issues, Corporate Social Responsibility and Reporting

Several ideas, concepts, and recommendations for improving corporate reporting have risen over the past two decades. The relevance of companies providing more nonfinancial information (Eccles et al. 2011) has been recognized by all different approaches to communicate a fair picture of current and future business activities. Gender-related information are included into the more general topic of diversity by the European Commission that requires (all European large companies and groups) to disclose nonfinancial and diversity information by the fiscal year 2017 (EU/95/2014). Moreover, stock markets and investors are encouraging listed companies to adopt diversity objectives and policies to support gender equality in workplace recommending the reporting on different diversity metrics (www.SSEinitiative.org). The shift from voluntary to mandatory disclosure on gender information can influence not only corporate financial performance but also social or environmental performance. Thus, gender disclosure can be useful to enhance Corporate Social Responsibility and legitimize business activities to the firm's stakeholders.

This section points the following topics keeping contributions by academics and practitioners empirical and conceptual levels:

- Gender issues and nonfinancial information: voluntary *versus* mandatory disclosure;
- Gender-related information and international regulations or best practices;
- Gender disclosure indicators and information quality;
- Gender issues in sustainability and integrated reports;
- Gender-related information and corporate governance disclosure;
- Gender-related information and financial performance;
- Gender-related information and social/environmental performance;
- Gender and Corporate Social Responsibility practices;
- Gender, sustainability and Sustainable Development Goals (SDGs), in particular SDG 5 Gender Equality.

Part III

Woman in Business and Female Entrepreneurship

The purpose of this section is to examine the convergence among entrepreneurship organizations, relationship, creativity, and culture from a gender perspective in woman in business. So far the male perspective has been widely dominant inside organizations; however, the extant literature has identified the existence of some differences between men and women entrepreneurs in terms of propensity to innovation, approach to creativity, decision-making, resilience, creativity, and co-creation. We wonder if these differences may affect women's approach towards information and communication technologies, the new knowledge architecture, and the fundamental features to cope with the increasing complexity and turbulence of today's business landscape.

This topic aims to contribute to research into gender issues in a woman in business and female entrepreneurship. Although we encouraged the submission of empirical or conceptual papers with different research methodologies, theoretical streams, and disciplines by academics and practitioners, the contributions are on the following themes:

- Female entrepreneurship;
- Corporate governance;
- Relational capital;
- Glass ceiling;
- Women in business and social media.

Part IV

Women in Family Business

Family firm is the oldest business model and continues to be a dominant organizational form all over the world. Family businesses are deeply characterized by the interaction of the family and the business, two systems that are highly interconnected and influencing each other. According to Ridgeway (2011), gender effects are especially noticeable in the spheres of work and home, which are the main domains of family businesses. Thus, traditional gender-based family roles and rules are often reproduced in the business affecting the status of women involved in the firm.

Consequently, gender represents a highly topical issue in the family business research, particularly in the age of growing women's involvement in the ownership, management, and leadership of family firms. However, only few scholars have started to deal with this topic and important gaps in the literature persist. Several authors (Hytti and Heinonen 2011; Hytti et al. 2016; Nelson and Constantinidis 2017) pointed out that a male perspective still prevails and call for further research in order to better understand how women's participation in the ownership, management, and leadership of family business may influence its behaviors, goals, resources, strategies, and performance.

This section includes submission from academics and practitioners, which addresses these topics also adopting different theoretical perspective and disciplines. Both empirical and conceptual papers based on diverse research methodologies are included in order to shed light on our latest understanding of women in family business. In this perspective, topics included in this section are the following:

- Female-led family businesses;
- Gender and leadership in family businesses;
- Gender and family business performance, innovation, internationalization and growth;
- Matriarchal succession;
- Gender and succession process in family firms;
- Gender and culture in family firms;
- Gender identity construction within family firms;
- Gender stereotypes in family business context;
- Gendered methodological challenges in researching family firms.

Rome, Italy

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Chapter 4
Women and Science: Models of Participation

Massimiliano Ruzzeddu

Abstract The object of this work are women who have academic jobs. While the number of scientist women have been constantly increasing, in the last years, external factors are still affecting women's choice of scientific careers. Examples of these factors are gender stereotypes that state women are not talented in science, or national cultures that provide hard sciences with different degrees of prestige. The main source of analysis will be official statistics of the main social-political areas about female access to scientific studies, with a particular focus on European Union. Habitually, studies on female participation to science only focus on statistical data and, if any, on the effectiveness on gender politics. This work will match data about women's participation in science and other kinds of information related to academic prestige. The cultural dimension of the work will focus both on the gender stereotypes and the prestige of hard sciences in each cultural context. Through the analysis of these data, I will demonstrate how higher participation of women in science often depends on a little prestige of science, rather than effective inclusion policies. A stronger female participation in science will be a benefit for the whole society, in terms of patents, economic innovation, employment rate etc. A deeper knowledge on this issue, thus, will permit to cope with the hurdles that prevent an adequate number of women from choosing scientific professional paths as well as overcome the problems of the little interest in hard sciences that youth from many countries are showing.

Keywords Gender equality · Women's education · Women's inclusion
Gender stereotypes

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4.1 The Problem

The issue of gender equality in the fields of education, and general labor force participation has been for the last decades a worldwide major scientific and political issue for two main reasons.

The first reason is an ethical one (The World Bank 2011, 3): equality and equity values have been spreading worldwide and they have clashed with local traditions, which have always depicted women as second-class citizens.

As a consequence, there are many national, international and supranational institutions that have started equality and diversity policies, even if often these just end being a formal acknowledgment of the problem, with no actual effect on reality and economic equity.

The second reason is more pragmatic: most of the literature has found a positive correlation between economic growth and women's empowerment.

More specifically, this implies two main policies of inclusion: welfare—especially health and education, and the labor market.

In other words, many models assess that, in certain conditions, where policy-makers support women's education and labor wage equality, the rates of GDP growth improve, at least in the long period (Kabeer and Natali 2013, 34 ff; UN Women 2015, 197; Organisation for Economic Co-operation and Development 2012, 17).

As a matter of fact, as Klasen and Lamanna have stated, (Klasen and Lamanna 2009, 93 ff), gender gap reduction can boost economic performance in three ways:

- Better social capital: reducing gender gap in education, would permit the greater part of the population to express and improve their talents and provide a better contribution towards the progress of society; furthermore, it would increase individual competition, and would reduce the number of non-talented people, who traditionally enter the labor market just because they are male.
- Better demographic trends: a greater number of educated women, would reduce the birth rate, as well and would offer a better environment for children's educational future.
- Better economic trends: if women earn fair salaries, this would boost households' demand for consumer goods, and improve, on a macroeconomic scale, internal demand.

It is important, however, to highlight that the relationship between women's empowerment and economic growth strictly depends on a number of external factors, which are not always present.

Those factors mainly consist of women's work conditions: worldwide, women actually provide an active contribution to economic activities. Nevertheless, this work is often unpaid, for example, caregiving and domestic work (UN Women 2015, 147) or, in the external job market, subject to discrimination. While lower wages are a worldwide phenomenon (UN Women 2015, 96), other subtler kinds of discrimination also occur:

> While 'pure' discrimination is associated with employers who deliberately choose to pay women less than men for the same jobs, other components of the gender pay gap are often attributed to gendered preferences (i.e., women 'preferring' jobs in less remunerative sectors) or life choices (i.e., women acquiring less work experience because they 'choose' to take time off to care for their offspring)'. (UN Women 2015, see also Organisation for Economic Co-operation and Development 2012, 5)

Needless to say, those different choices are the result of stereotyped cultural models and social conditioning, which women themselves have internalized and that shape their individual choices.

Thus, the present challenge, in order to implement gender equality and economic growth, is to support and increase the number of women that obtain qualified jobs.

Within this framework, focusing on the market of qualified jobs might shed light on the actual reduction of the gender gap.

Academic jobs are a good benchmark. As a matter of fact, science related jobs employ a given number of women, who have attained the highest level of education (Ph.D. or Master's) and that have the social support to devote themselves to a kind of career that does not support time off for child care and domestic work, and work-life balance.

Therefore, a high percentage of women in science in a given country, might prove to be a reliable sign of good performance in terms of women's education and women's participation in the labor market, especially the market of qualified jobs.

Thus, the hypothesis of this paper is that, according to what is stated above and independently from any causal relationship between women's empowerment and economic growth, we should find a higher percentage of women working in the scientific sector in countries and geopolitical areas of the world, where income and development are higher.

In order to test this hypothesis, I will try to answer the following RQ's:

(1) Are the richest countries where we find more Women in Science?
(2) Is the number of Women in Science a reliable indicator of economic development?
(3) Is the number of Women in Science a reliable indicator of gender equity?

This paper contributes to shedding light on women's condition in environments that are supposed to be privileged; a job in academia as a matter of fact, is considered the conclusion of a long path of arduous studies and sacrifices, repaid by a prestigious and well-paid position. As noted later in the paper, this is not necessarily true, and in order to find a link between gender equality and social progress, more information is necessary.

Generally speaking, this essay will highlight the correlation between Women in Science and the general development of a country. A reliable representation of this phenomenon will provide useful information, for a given country, on the actual progresses of women's inclusion, as well as on the actual condition of that country in terms of economic and social development.

Namely, this paper will provide an interpretation key for reading statistical data, whose actual meaning risks appearing unclear at a first glance.

4.2 Research Path and Sources

The starting hypothesis is that we should find more Women in Science in the most developed areas. In order to test this hypothesis, it is necessary to measure a correlation index between the two variables. In order to collect the necessary data to construct this index, we will use the Unesco[1] site as the main source, as it includes the countries investigated.

On the other hand, the Human Development Index (HDI) has been chosen as an indicator of each country's wealth.[2]

This choice appeared much more reliable than just the GDP, because the HDI is not merely an economic measurement. As a matter of fact, it is well-known that the HDI averages income per capita, life expectancy and level of education. In other words, this index not only measures the economic performance of a country, but also other social dimensions, which are at the same time the cause and the effect of strong economic growth. In fact, high life expectancy and education rates are the result of long-term policies, which mainly aim at a fairer distribution of wealth. However, as we have seen above, healthy and educated people are one of the main factors associated with higher rates of economic growth.

> The more women participate in the labour market, the higher the percentage of women scientists. This seems to be intuitively plausible and puts the spotlight on the importance of wider social and labour market policies which encompass not just work in the field of science but the conditions of the entire female workforce as such. (Müller et al. 2011, 298)

One last index that I took into consideration for establishing a correlation with the number of Women in Science is the Gender Equality Index[3]; just like the HDI, it is multidimensional, for it averages women's reproductive health, empowerment (education and political participation) and labor market participation. The reason

[1] http://uis.unesco.org/apps/visualisations/women-in-science/?t=1527770191147#overview!region=40500.

For Australia, I based upon http://www.professionalsaustralia.org.au/professional-women/wp-content/uploads/sites/48/2014/03/WOMEN_IN_STEM_v2.pdf (data of year 2011).

For Canada, http://www.statcan.gc.ca/pub/75-006-x/2016001/article/14643-eng.htm. Chart 3 (data of year 2011).

For China: https://data.worldbank.org/country/china. Dowlnload the Excel file, page 'Data', Issue 460 (data of year 2011).

For USA: https://www.nsf.gov/statistics/2017/nsf17310/static/data/tab9-5.pdf (data of year 2015. I calculated the percentage from the absolute data on **Total employees** and **Female employees,** for All Occupations).

[2] http://hdr.undp.org/en/content/human-development-index-hdi.

[3] http://hdr.undp.org/en/composite/GII.

why I chose this index as the second choice in establishing the correlation with Women in Science, is that the gender neutrality of the HDI could better reflect the positive consequences of women's empowerment. In other words, the first idea was that a possible correlation between Women in Science and Human development would be a clear demonstration of the positive effects of women's empowerment.

The next step was to draw a sample of countries to be analyzed. It was impossible to consider them all, and a selection was made among a non-probabilistic sample, based upon the main geopolitical areas of the world.

It is important to stress the importance of dividing the macro-areas: each location shows homogeneous cultural characteristics that go beyond specific national or local peculiarities (Huntington 1996; 41–42). The theoretical basis of this paper is that those characteristics affect the phenomenon of Women in Science and, more generally, women's condition. Namely, what might affect the number of Women found working in the field of Science, are not only social and economic factors, or the effectiveness of inclusion policies; but also deep cultural models that affect both academic recruitment policies and women choosing jobs in science.

We will talk more on this issue later; what is important to assess here, is that a sample of each location was necessary.

As stated above, the sampling was not probabilistic: I chose a bunch of countries, in order to take into account local peculiarities within the same macro-areas and take into account, as much as possible, of demographic and economic differences. Here the list of macro-areas and pertaining countries.

Europe: Austria, Check Republic, Denmark, France, Poland, Spain
North-America: Canada, USA
Latino-America: Argentina, Chile, Mexico, Uruguay
Arabic Countries: Egypt, Morocco, Saudi Arabia
Asia: China, Mongolia, Korea
Africa: Kenya, Rwanda
Oceania: Australia, New Zealand

One more source of data needs a mention: on the site http://www.averagesalarysurvey.com/ I found the average salaries for each country and the salaries in academia.

4.3 Reliability Issues

This paper's main problem was to cope with data uniformity and reliability.

This problem first emerged with Unesco's database, where data was missing about a number of countries from different areas of the world. Furthermore, the existing data differed from each other in terms of recency: for most countries, the most recent data available was from 2013—others also had data available from 2014 and 2015. For this reason, I chose the year 2013 as the data point.

Another problem of uniformity affected the data specification: while many countries only illustrated Women in Science, others also made distinctions on the field of employment (higher education, government and business), as well as about the type of employment.

Furthermore, Unesco and World bank does not clarify if these are just research jobs or also teaching positions.[4]

Reliability issues also plagued the site http://www.averagesalarysurvey.com/: data on wages was gathered via interviews administered by the site managers: in some cases, very few interviews were administered to provide information on the various categories of workers, so that it is only possible to obtain very faint idea of the observed economic trends.

It is important to take into consideration those issues while interpreting the following data.

4.4 Women in Science and National Development

As stated above, the main research question investigated the existence of a correlation between Women in Science and the development of a given country or sociopolitical area.

Table 4.1 ranks the percentage of women in science for each country:

In order to assess if there was a correlation between WSI and the development index, I ranked the values of each country, and also for the Human Development Index.

In order to make the values of the two variables comparable, I also created an international internal HDI rank of the countries in question.

In Table 4.1, the sample countries are ranked according to the percentage of Women in Science; Table 4.2 ranks the countries according to their HDI.

Figure 4.1 and Table 4.1 highlight that the countries with a higher percentage of Women in Science do not belong to the geopolitical areas that are the most developed in the world.

This is confirmed if we set a correlation between the two rankings: the index is in fact −0,083003953. This means that not only is the relationship between the number of women in science and country development very small, but also that it is even negative.

Before exploring alternative scenarios, however, one more attempt was made, by calculating the correlation index between Women in Science and the Gender Equality Index, that I demonstrated above.

Table 4.3 highlights the internal ranking of the sample countries by GEI.

[4]This distinction is provided for USA and Canada.

Table 4.1 Rank of the sample countries by percentage of women in science

Ven	1
Arg	2
NZE	3
Ury	4
Mng	5
USA	6
Cha	7
Egy	8
Spa	9
Pol	10
Den	11
Mex	12
Mor	13
Austria	14
Cze	15
Australia	16
Ken	17
Fra	18
Sau	19
Rwa	20
Can	21
Kor	22

By calculating the correlation between the rank of Women in Science (Table 4.1) and this latter measurement, the emerging value is −0.18. Thus, even in this case, the correlation shows no significant value.

The minus sign that appears in both correlations, apparently seems to demonstrate that Women in Science are more numerous in under-developed countries, or in countries where gender equity is not a big issue.

However, the values of the correlation index are so low in both cases, that the inverse correlation is probably not significant.

The real information that this comparison provides is that the basic hypothesis of this paper is not confirmed, so that the answer to the RQ1 is negative and thus there is no correlation between the level of development of a country and the percentage of Women in Science. The same consideration is valid if we take into consideration the GEI.

This scenario is worthy of some further consideration:

the fact that women are excluded from science even in the so called developed countries is not an unexpected phenomenon, since cases of exclusion against women are more frequent even in those places.

Namely, in the job market, women's average wages are lower than men's, and the career opportunities are always less. So, it is reasonable to assess that this type of discrimination also exists in the national academic system.

Table 4.2 Rank of the sample countries by the HDI

Australia	1
USA	2
NZE	3
Can	4
Kor	5
Den	6
Aus	7
Fra	8
Spa	9
Cze	10
Pol	11
Arg	12
Ury	13
Sau	14
Mex	15
Ven	16
Chi	17
Mon	18
Egy	19
Mor	20
Ken	21
Rwa	22

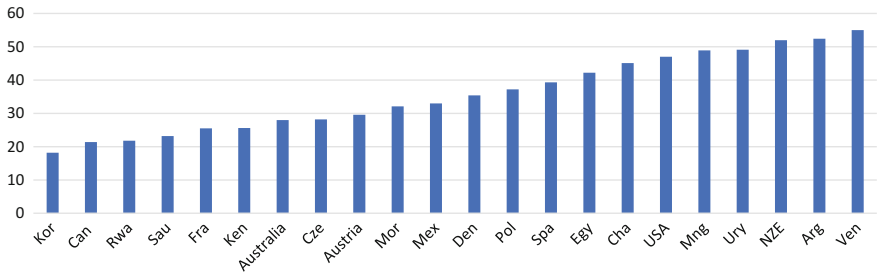

Fig. 4.1 % of women in science

One more explanation could lie in individual choices.

Scholarship on this subject has observed in several occasions that frequently young women do not even plan to go into scientific or academic careers due to low self-esteem: essentially many of them have socialized gender stereotypes, so that they believe that science is only for men. They drop their scientific careers either in their teenage years, or even as young adults, after having achieved Master's Degrees or Ph.D.'s.

Table 4.3 Internal ranking of the sample countries by GEI

Den	1
Fra	2
Can	3
Aus	4
Spa	5
Australia	6
Cze	7
Pol	8
Kor	9
NZE	10
Chi	11
Arg	12
USA	13
Mon	14
Ury	15
Mex	16
Rwa	17
Mor	18
Ven	19
Egy	20
Ken	21
Sau	22

> Although women in our sample succeeded in overcoming mathematics hurdles in high school and entering an undergraduate engineering program, women nonetheless assess their math skills more negatively than men assess their math skills. (…) We argue that women and men develop different levels of professional role confidence in heavily gender-type professions and therefore are differentially likely to persist. (Cech et al. 2011, 642 ff)

More specifically,

> widely shared cultural beliefs include claims that males are more competent than females in mathematics, the belief of male mathematical superiority itself is widely spread in the American culture. Exposure to news reports that claim that males have greater natural mathematical ability has been found to increase mothers' stereotypic perceptions of their daughters' mathematical abilities. (Correl 2001, 1696–7)

In summary, the reasons that explain the lack of a correlation between economic development and the number of Women in Science, or between gender equity and Women in Science, are both macro-sociological—exclusion practices in the academic world and micro-sociological—the socialization of gender stereotypes among highly educated women. Generally speaking, this situation highlights a gap between openly declared values and deep and—often-unconscious cultural models (Schein 2004).

The interaction between social structure and individual agency is not only a useful framework for explaining the lack of a correlation between economic development and women in science, it also offers a different explanation, which also proposes reasons for a larger participation of women in science in areas where social development is lower and women's economic conditions are worse.

As a matter of fact, the small number of women that choose an academic career, is not only due to objective hurdles, or cultural stereotypes, but this phenomenon can also depend on the scant attractiveness of an academic career. In other words, it is possible to hypothesize that the number of women in science depends on the prestige that academia holds in a given cultural context, and/or the level of salaries, either actual or expected.

In order to test this hypothesis, it is necessary to build an appropriate indicator. Now, a prestige indicator is impossible to construct. More specifically, lots of reliable indicators exist to measure the academic prestige of an individual or a group within academia, but no indicator exists to measure the prestige of academia in the larger society. In order to construct such an indicator, we would need data on the number of academics invited to TV shows, for example, or academics who hold elected positions. Needless to say, this type of data collection would be impossible to carry out globally. Consequently, other solutions are necessary.

4.5 Academic Wages

It's more feasible to explore the other side of academic attractiveness: salaries.

The site http://www.averagesalarysurvey.com/ provides this kind of information; so that, for each country sampled, the measurements of academic salaries were noted.[5]

Table 4.4 shows the above-mentioned indicator for each of the sample countries.

While the first and second column show respectively the country and the accompanying currency, the third column, the average net salary, and the fourth column demonstrate the salaries in academia or, more generally in the education field. Calculating a ratio between these two variables enables us to neutralize the differences in purchasing power that the gross salary amount cannot show. Therefore, the most telling data lies in the fifth column, that illustrates the proportion of academic salaries in comparison to the average salary for each country in the sample. I will consider this ratio as a reliable indicator of the attractiveness of academic jobs.

In order to make this measurement comparable with other measurements mentioned, an internal rank was also set for this variable: this provided the base for the comparison with other variables; namely the percentage of Women in Science.

Table 4.5 illustrates the salary indicators and the internal ranking.

[5]Search carried out in February 2018; data might have changed.

Table 4.4 Ratio between Education Salary and Average Salary

	Currency	Education net salary (1)	Average net salary (2)	1/2
Arg	Ars	162,500	321,608	0.5052735
Aus	Eur	34,237	38,593	0.88712979
Australia	AU$	62,717	70,546	0.88902277
Can	CA$	53,426	53,935	0.99056271
Chi	CNY	150,655	231,976	0.65
Cze	Czk	432,940	611,590	0.70789254
Den	Dkk	253,884	330,098	0.76911705
Egy	Egp	82,949	156,475	0.32672008
Fra	Eur	36,200	43,589	0.83048476
Ken	KES	1,638,485	1,825,058	0.89777147
Kor	KRW	47,261,726	52,067,633	0.90769876
Mad	MAD	221,522	276,124	0.80225551
Mex	MXN	244,923	558,385	0.43862747
Mon	MNT	16,020,000	31,863,811	0.50276472
NZE	NZ$	45,200	55,921	0.80828311
Pol	Pln	56,350	102,919	0.54751795
Rwa	RWF	7,636,000	11,620,826	0.65709615
Sau	SAR	205,115	202,439	1.0132188
Spa	Eur	27,852	34,817	0.79995405
Ury	Uyu	1,190,000	865,005	1.37571459

This is the comparison between internal ranking of the indicator Women in Science and salaries (Tables 4.6 and 4.7).

This time, the result is more interesting: the correlation index between Women in Science and Academic Salaries, is quite significant: −0,53.

Table 4.5 Ranking of the sample countries by the ratio Education Salary/ Average Salary

Ury	1.37571459	1
Sau	1.0132188	2
Can	0.99056271	3
Kor	0.90769876	4
Ken	0.89777147	5
Austria	0.88712979	6
Fra	0.83048476	7
NZE	0.80828311	8
Mor	0.80225551	9
Spa	0.79995405	10
USA	0.79970562	11

(continued)

Table 4.5 (continued)

Den	0.76911705	12
Cze	0.70789254	13
Rwa	0.65709615	14
Cha	0.65	15
Pol	0.54751795	16
Arg	0.5052735	17
Mng	0.50276472	18
Mex	0.439	19
Ven	0.0126873	20

Table 4.6 Ratio by Women in Science

Ven	1
Arg	2
NZE	3
Ury	4
Mng	5
USA	6
Cha	7
Egy	8
Spa	9
Pol	10
Den	11
Mex	12
Mor	13
Austria	14
Cze	15
Australia	16
Ken	17
Fra	18
Sau	19
Rwa	20
Can	21
Kor	22

In order to assess this relationship, it's important to focus on the minus sign of the index: this means that the higher the number of Women in Science, the lower the academic salary, at least in comparison to the average salary of a given country.

Now, academic salaries, generally speaking, have never been the highest, however significant differences exist among various countries. Based on these differences, the academic salaries might be so low, that research and teaching become a sort of volunteer work.

Table 4.7 Ranking by ratio Education Salary/Average Salary

Ury	1
Sau	2
Can	3
Kor	4
Ken	5
Australia	6
Aus	7
Fra	8
NZE	9
Mor	10
Spa	11
USA	12
Den	13
Cze	14
Rwa	15
Chi	16
Pol	17
Arg	18
Mon	19
Mex	20
Egy	21
Ven	22

It is not difficult to imagine that women are more likely than men to occupy such poorly paid positions: it is well known that positions with higher salaries are generally occupied by men more than women (sources); consequently, in social contexts where academic salaries are not attractive for men, women are more likely to occupy teaching or research positions.

This gap might also be reinforced by the fact that poorly paid academic positions, do not require a big commitment in terms of hours: this can leave part of the day free for looking after children and other menial duties (see the essays "Women academics and under representation").

4.6 Conclusions and Discussion

> The participation and position of women in science is the result of a series of compounded factors involving not just direct gender equality policy but also wider social policy frameworks, in addition to the national R&D sector or the socio-historical context at large (Müller et al. 2011, 298).

This quote effectively summarizes the main content of this paper: while it is clear that the underrepresentation of Women in Science is a global phenomenon, there are different reasons for this in each and every social and economic context. Within this framework, the most significant result of this rudimentary research is that it is impossible to find a link between a higher number of Women in Science, actual progress of women's condition and, in general the social development of a country (RQ2).

As a matter of fact, we have seen that an increase of women in science can depend on the low attractiveness of academic jobs, as well as the perpetuation of cultural stereotypes that depict women more as mothers and wives (Cech et al. 2011; Ceci and Williams 2010; Toffoletti and Starr 2016), rather than as employees, let alone scientists.

Of course, the −0.5 index shows that there is a negative correlation between the number of Women in Science and salaries but the value of this negative correlation is not enough for this to be cosnidered the only cause of women discrimination.

This means that other causal models are possible in order to explain the phenomenon of the underrepresentation of women. There is not enough space here to take all factors into account; what really matters in this context, is that while discrimination of women is a frequent phenomenon, there are different causes.

Surely, a simple indicator, no matter how reliable, is not sufficient to assess the equity gender status (RQ3). Future research should strive to yield more complex models.

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