

Presence of women on the editorial boards of the language and linguistics journals in Spain

Cristina Rodríguez-Faneca¹ · Alexander Maz-Machado¹ · David Gutiérrez-Rubio¹ · Cristina Pedrosa-Jesús¹

Received: 12 February 2022 / Accepted: 17 May 2022 / Published online: 8 June 2022 © The Author(s) 2022

Abstract

Many international studies have pointed out the under-representation of women on Editorial Boards of both Science and Social Science journals. Their presence as Editorial Board members is relevant as they influence and reflect the policies of the journal itself. This study analyses the participation of women on the Editorial Boards of the Spanish Language and Linguistics journals in SCOPUS. To this end, 54 journals indexed in SCOPUS were analysed, thus discriminating the gender of all members and the role that each member plays on the Editorial Board. The results show no significant differences in the participation of men and women in these Editorial Boards. It was not found any evidence of gender bias in these journals.

Keywords Gender · Editorial Boards · Journals · Spain · Women

Introduction

In the past twenty years, several studies carried out by the European Commission have pointed out that the presence of women in certain scientific fields is low and does not represent their academic background (European Commission,). This situation has resulted in the creation of campaigns and in the development of policies in several European countries to try to reduce this gender gap. Accordingly, many bibliometric studies have been conducted to try to determine the scientific production of women in different scientific fields, as well as to try to detect possible gender biases (Jappelli et al., 2017; Mauleón & Bordons, 2006; Rodríguez-Faneca et al., 2021; Van Arensbergen et al., 2012).

Alexander Maz-Machado ma1mamaa@uco.es

David Gutiérrez-Rubio dgrubio@uco.es

Cristina Pedrosa-Jesús s02pejec@uco.es

Cristina Rodríguez-Faneca cristina.rodriguez@uco.es

¹ University of Cordoba, Cordoba, Spain

Other studies have focused, for instance, on the presence of women on the Editorial Boards (EB) of scientific journals. This interest arises because the participation in such committees provides the opportunity to make relevant decisions that influence both the editorial processes and their policies. In the case of prestigious journals this situation ends up creating an *epistemic lobby* that contributes to the impulse and development of certain disciplines (Fernández-Cano, 1995), thus acting as obvious referees when the articles that have been sent for review are placed on their specific field of research. On the other hand, members of the Editorial Board can promote journals by encouraging their peers to submit articles for publication (Willett, 2013).

This kind of editorial activity indicates achievement, recognition, and leadership within the academic community (Pan & Zhang, 2014) and also allows for the establishment of important scientific and professional collaboration networks. Hence, it is worth to investigate whether women have been equally incorporated into the Editorial Boards of academic journals and, if so, to what extent.

Our research focuses in Spain, a country that has introduced laws to reduce the gender gap in science. For instance, the 14/2011 law on Technology and Innovation (Ministerio de Ciencia e Innovación, 2011) states that gender balance in the composition of selection committees must be met in university appointments for permanent professorship positions (European Parliament, 2016). Also, the above-mentioned ministry has created a *Women in Science Unit* that aims to ensure the gradual establishment of equality policies.

Literature review

The Editorial Boards of medical journals have been reviewed thoroughly. Twelve prestigious medical journals were analysed (Kennedy et al., 2001), finding out that only 25% of them had a woman as its Editor, and that only 17% of these journals had women on their Editorial Boards. Moreover, the Editorial Boards of 16 biomedical high impact journals were analysed during a period of thirty five years (from 1970 to 2005), to determine their number of members, as well as their gender (Jagsi et al., 2008). It was found that during the analysed period there was an increase in the presence of women on Editorial Boards, although this presence did not reach 25%, as there is a shift from an average of 1% in 1970 to an average of 21% in 2005.

In another study on the proportion of women on the Editorial Boards of top-ranked medical journals of WoS-JCR categories, 60 journals were analysed and it was found that out of 4112 members of these Editorial Boards only 15.5% were women (Amrein et al., 2011). These results are very similar to those concerning to the 79 medical and dental journals published from Pakistan where the participation of women on Editorial Boards was 17% (Bakht et al. 2017), although Pakistan has a 143/144 rank in the Gender Equality Index (Schwab et al., 2017).

A study of 10 high-impact surgery journals over 20 years revealed that, although the proportion of women increased from 5 to 19%, men were more likely to retain their positions over time (Harris et al., 2019).

Several studies in the field of Medicine investigate gender differences in the composition of the editorial committees of medical journals. In Dermatology, for instance, committees of 25 journals were analysed over a period of 50 years (Gollins et al., 2017), finding that over all those years only 25 women have been appointed Chief Editors, resulting in a ratio of 1:4.9 compared to the number of men. A similar study was carried out in the area of Anesthesiology. The Journal of Cardiothoracic and Vascular Anesthesia was analysed between the years 1987 to 2019 (Pagel et al., 2019). It was found that the presence of women was 13%, with an increase in participation from 2.5 in 1987 to 15.8 in 2019. In the same vein, another study was conducted in the Canadian Journal of Anesthesia (Lorello et al., 2019), finding that only 10% of the Editorial Board members were women. Another prestigious journal of the field of Pharmacology has also been analysed in this sense. Zehetbauer et al. (2022) carried out a gender analysis of the authors and the editorial board of the journal *Naunyn–Schmiedeberg's Archives of Pharmacology* from the year 2000 to 2020. It was found out that there had been a substantial increase in the proportion of women in the Editorial Board since 2016, as the result of appointments by the editor-in-chief.

In the field of Radiology, another work analysed the most cited journals published in Scimago Journal Rank in the USA, identifying 9 journals for the study (Jalilianhasanpour et al., 2019). It was found that the representation of women with respect to men within the Editorial Boards was not representative according to the percentage of authors by gender in those journals, being the participation of women in these committees of 24%. Another study on four prominent Radiology journals over 40 years revealed that the presence of women was 15.9% compared to men and that no woman had been appointed Chief Editor of any of the journals analysed (Piper et al., 2018).

In the field of Orthopaedic, this aspect has also been studied. It was found that the representation of women was of 3.9% in all the Editorial Board members analysed. This percentage, however, increased from 0.8% in 1970 to 6.5% in 2007 (Okike et al., 2012).

In the area of psychiatry, a random sample of 836 journal Editorial Boards showed a women presence of 30.4% (Hafeez et al., 2019). Other scientific fields show similar results to those of Medicine.

Furthermore, several studies also estate the interest that this subject arouses in the field of pure sciences. The percentage of women in the Editorial Boards of Environmental Biology and Natural Resource Management journals was 16% (Cho et al., 2014). In the case of Ecology and Evolution journals these percentages reach 30% (Fox et al., 2019). As a matter of fact, the percentages of presence of women in the committees are even lower in Mathematics journals where they are quite underrepresented. Only 8.9% of the members of their Editorial Boards are women, according to Topaz and Sen (2016), while in another study these percentages turn out to be as low as 5.7% (Mauleón et al., 2013).

In view of this situation, some journals, such as the journal Chemistry, decided to increase the number of women on their Editorial Boards in 2014. The number of women on its Editorial Board raised from three to five (D'Andola, 2016).

In the field of Social Sciences the interest in knowing the participation of women in the Editorial Boards is also evident. For instance, in Marketing journals the participation of 24% of women in the Editorial Boards of was pointed out by Pan and Zhang (2014), while in the Education journals in Spain this figure reaches 33.5% (Vallejo et al., 2002). The 50 top-ranked journals of Political Sciences were analysed in 2011 and it was found that 18% of the Chief Editors were women (Stegmaier et al., 2011). Likewise, an investigation of the Editorial Board members of 57 management journals between 1998 and 2004 revealed that 80% of the journals included in the study have 20% or less women on their Editorial Boards of Social Science journals published in Spain is 19.61 (Mauleón et al., 2013).

In another similar study 33 Physical Education and Sport journals from Spain were analysed. In 13 of them women presence in Editorial Boards did not even reach 15% and in 99.6% of them the Chief Editor was a man (Toro et al., 2015).

In 2003, the Editorial Boards of 19 Latin American Psychology journals indexed in WoS were analysed, showing that women only represent 32.3% of the 1189 board members (González Sala & Osca-Lluch, 2018). In fact, only in 3 journals the number of women on the Editorial Board was higher than that of men.

On another similar study, the Editorial Boards of 36 Economics journals from Italy over a period of 26 years (from 1970 to 1996) were studied (Addis & Vila, 2003). It was found that in 11 of them there were no women and that in 14 they were included only as secretaries of the Editorial Board. Only 5 of them included women (20%), this value being "equal to their representation in the academic profession" (p. 88).

During the literature review no evidence was found of studies carried out on the Editorial Boards in the Arts and Humanities journals in Spain. In the closest study found, 131 journals from Spain that were included in eight Scientific Fields of the Web of Science were analysed. 10 of them were Humanities journals, in which the presence of women was found to be of 23.81% (Mauleón et al., 2013). This scarcity of this type of research in the field in Spain makes it relevant to investigate in some of the areas related to this category.

As Table 1 shows, we have not found any bibliometric studies on the presence of women on the Editorial Boards of journals within the field of Language and Linguistics. Thus, we believe that it is relevant to investigate whether gender patterns observed in other fields of knowledge are reproduced in these group of journals.

In 2012, the scientific production of Spanish authors within the Language and Linguistics field comprised 4.5% of all articles indexed in SCOPUS (Mas-Bleda & Thewaal, 2016). The bibliometric studies carried out in this area have been oriented to the identification of scientific producion by authors, research centers or co-words (Olmeda-Gómez et al., 2017; Rodríguez-Faneca & Cuida, 2021).

In Spain, during the academic triennium 2017/2018 to 2019/2020, the number of students enrolled in the degrees directly related to linguistics (English Studies, Classical Languages and Foreign Languages, Hispanic Studies, Literature, Modern and Applied Languages and other languages) has been 127,801. Out of those, 73.7% were women, compared to 26.82% of men (Ministerio de Universidades, 2022a). In the case of the teaching and research staff, during the 2019/2020 academic year the number of faculty members in these degrees was similar, 60.3% of women, compared to 39.7% of men (Ministerio de Universidades, 2022b).

The above-mentioned background, as well as the situation of the Spanish scientific production in the Language and Linguistics field and the high percentage of women studying degrees related to this field confirm the relevance of this area of knowledge. Hence, it is noteworthy to determine the level of responsability of women in the management processes of scientific journals in Spain.

Objectives of the study

This study aims to analyse the presence of women within the Editorial Boards and Advisory/Scientific Boards in Spanish journals indexed in SCOPUS under the category Language and Linguistics. The objective is to identify possible gender biases present in these boards.

studies
previous
according to
oards a
В
itorial
2
Ξ.
.H
s presence
<u></u>
womer
ef
Summary
5
ble
m

Table 1	Summary of women's presence in Editorial Boards according to previous studie	Se		
Year	Author	Field of journals	No. journals	% women on EB
2001	Kennedy, Lin & Dickstein	Medical Journals	12	17.0
2002	Vallejo, Roja & Fernández-Cano	Education	20	33.5
2003	Addis & Vila	Economics	36	20.0
2008	Jagsi, Tarbell, Henault, Chang & Hylek	Biomedical journals	16	15.0
2009	Metz & Harzing	Management	57	20.0
2011	Amrein, Langmann, Fahrleitner-Pammer, Pieber & Zollner-Schwetz	Medical Journals	60	15.5
2011	Stegmaier, Palmer & Van Assendelft	Political Sciences	50	18.0
2012	Okike, Liu, Lin, Torpey, Kocher, Mehlman & Biermann	Orthopaedic	5	6.5
2013	Mauleón, Hillán, Moreno, Gómez & Bordons	Mathematics	10	5.78
2013	Mauleón, Hillán, Moreno, Gómez & Bordons	Social Sciences	35	19.61
2013	Mauleón, Hillán, Moreno, Gómez & Bordons	Humanities	10	23.81
2014	Pan & Zhang	Marketing	42	24.0
2014	Cho, Johnson, Schuman, Adler, Gonzalez, Graves & Bruna	Environmental Biology	10	16.0
2015	Toro, Valdivia-Moral, González Col & González Col	Physical Education and Sport	33	15.0
2016	Topaz & Sen	Mathematics	435	8.9
2017	Bakht, Arshad & Nafees Zaidi	Medical Journals	62	17.0
2017	Gollins, Shipman & Murrell	Dermatology	25	20.0
2018	Piper, Scheel, Lee & Forman	Radiology	4	15.9
2018	González Sala & Osca-Lluch	Psychology	19	32.3
2019	Harris, Banerjee, Cramer, Manz, Ward, Dimick & Telem	Surgery	10	19.0
2019	Pagel, Freed & Lien	Cardiothoracic and Vascular Anesthesia	1	15.8
2019	Lorello, Parmar & Flexman	Anesthesia	1	10.0
2019	Jalilianhasanpour, Rozita., Charkhchi, Paniz, Mirbolouk, Mohammadhassan & Yousem, David	Radiology	6	24.0
2019	Hafeez, Waqas, Majeed, Naveed, Afzal, Aftab, Zeshan & Khosa	Psychiatry	836	30.4
2019	Fox, Duffy, Fairbairn & Meyer	Ecology and Evolution	9	30.0
2022	Zehetbauer, von Haugwitz & Seifert	Pharmacology	1	20.0

Materials and methods

This work involves an exploratory study based on document analysis over an intentional sample of journals. The unit of analysis used was the gender composition of the members of the Editorial Boards and Advisory/Scientific Boards of the 54 Spanish Language and Linguistics journals, collected in the Scimago Journal Rank which assigns the impact of journals indexed in SCOPUS and pertaining to the 2018 edition.

This unit of analysis provided us with a larger sample, as only seven Art & Humanities Spanish journals were found in the Journal Citation Reports of the Web of Science. However, all seven journals (VIAL, Porta Linguarum, Sintagma, Iberica, Circulo de Lingüística Aplicada a la Comunicación, RILCE and Atlantis) are included in this study, as they are also collected in the Scimago Journal Rank and SCOPUS.

The variables considered in relation to the Editorial and Advisory/Scientific Boards for each of the journals were the total number of members (being counted regardless of their appearance in more than one committee), as well as the gender of each of the board members, as well as the role played within the board (Director/Editor, Editorial Board member, Scientific Board member).

Firstly, during the month of December 2019, the Scimago Journal Rank website was consulted in order to collect the necessary data; in this case, journals within the Arts and Humanities category (specifically, the Language and Linguistics section) in the country of Spain. 54 journals were retrieved, including 15 corresponding to the second quartile (Q2), as well as 19 Q3 journals, 18 Q4 journals and two journals without assignment.

Subsequently, the web pages of each journal were visited so as to collect information concerning their committees and their members, as well as their gender. This information was inserted in an ad hoc database.

The gender of each member was determined by their given name. The gender was assigned directly in the database in those cases where the gender was clear, as their given names were written in Spanish (names such as Juan, Pedro, etc.).

In other cases, there could ambiguous names (such as Rosario, which can be both a female and a male given name) or incomplete names (in some cases, only the initials of the given name were known). Thus, in order to be able to correctly assign a gender, a second search was conducted within the webpage of the home institution of this person. This search was aimed to check their biographies, as well as to check their pronouns. For instance, in Spanish the abbreviations *Dr*. (masculine) and *Dra*. (feminine) are used to refer to a person holding a Doctoral Degree.

Subsequently, an Excel Visual Basic Application script was coded to assign a gender to each person. This software searched for their first name in a database of names with their corresponding genders, in similar way to Frietsch et al. (2009). This procedure unambiguously identified the gender of each person in 98% of the cases, matching the assignments given manually, except for occasional errors that were corrected afterwards. We have set 0.05 as significance level for all statistical tests conducted.

Results

Table 2 shows the frequencies and percentages of authors who are members of the committees according to their gender for each of the journals analysed. The data presented in Table 2 reveals that most journals (64.8%) show some gender inequality, mostly with male predominance. Women form the majority in only 19 journals, whereas in 5 of them there is absolute parity (50%) between men and women: *Revista de Dialectologia y Tradiciones Populares, Porta Linguarum, Dialectologia, Miscelanea, Sefarad* and TRANS.

It is also noteworthy that the two journals with the lowest number of members on their Editorial Boards (4) have 100% and 75% women, respectively. Both journals are placed in the second quartile (Q2).

The total number of members of the Editorial Boards of the 54 journals analysed is 640, of which 364 (56.9%) are men and 276 (43.1%) are women. Five male editors participate in two different Editorial Boards. The average number of members of the Editorial Boards is 11.8. The average number of men per journal is 6.7, whereas the number of women per journal is 5.1. The Wilcoxon Signed-Rank Test (Wagner-Menghin, 2005) to check whether the median of women proportion was 50% gave a *p*-value of 0.087, so the observed differences were not statistically significant.

As for the distribution of the gender of the Editors/Directors of these journals, there is a higher representation of men (53.7%) as compared to women (46.3%), as shown in Table 3. The Binomial Test (Wagner-Menghin, 2005) to contrast whether the percentage of female editors is statistically lower than that of men, results in a value of p=0.66. Thus, the differences found are not statistically significant.

With respect to the gender of the editors/directors and its relation to the impact of the journals analysed, it is noted that there is also a higher representation of men in all quartiles (Table 4). In journals where a SJR quartile has not yet been assigned, the editors are always male.

As for the Editorial Boards, it can be noted that the journals belonging to the fourth quartile (Q4) are the ones with a higher percentage of women performing this role (65.61%), thus showing a wide gender gap. The journals belonging to the second and third quartile (Q2 and Q3) show small differences in this respect. In the two journals that have not been assigned SJR values yet, men double the number of women in the role of Editor (as shown in Fig. 1). It is observed that, at a purely descriptive level, the higher the quartile, the lower the number of women on their Editorial Boards. The Chi-square Test was used to check if there are significative differences in the proportion of genders according to the journal's quartile results. There is no statistically significant evidence, as the value determined was p = 0.96.

The Advisory/Scientific Boards of the journals analysed are formed by 1179 subjects. Men represent 56.06% of their members, while women represent 43.94% of them. The average number of members on these committees is 21.8. Considering the position of the journals in their quartiles, it can be appreciated that the gender gap decreases in those corresponding to the third quartile and in those journals which have not been assigned SJR values yet, with a difference of 10-12%. In the second and third quartiles this gender gap increases, as shown in Fig. 2. In only 9 journals (16.66%) there are more women than men within the Scientific Board.

The Median Test was used to check whether there are differences in the number of members of the Editorial Board according to the gender of the Editor. This test resulted in

Journal	Quartile	Men	Women	% women	Total
Circulo de Lingüística Aplicada a la Comunicación	Q2	9	3	25.0	12
Estudios de Fonética Experimental	Q2	2	3	60.0	5
Estudios de Lingüística Inglesa Aplicada (ELIA)	Q2	4	2	33.3	6
Iberica	Q2	4	11	73.3	15
International Journal of English Studies	Q2	0	4	100.0	4
Monografías de Traducción e Interpretación	Q2	5	6	54.5	11
Panacea	Q2	1	3	75.0	4
Porta Linguarum	Q2	8	8	50.0	16
Procesamiento de Lenguaje Natural	02	4	1	20.0	5
Revista de Filología Española	02	4	8	66.7	12
Revista de Llengua i Dret	02	10	3	23.1	13
RILCE. Revista de Filología Hispánica	02	7	0	0.0	7
Sendebar	02	3	5	62.5	8
Signa	02	9	4	30.8	13
VIAL—Vigo International Journal of Applied Linguistics	02	19	16	45.7	35
Anales Cervantinos	03	10	3	23.1	13
Anuario Lone de Vega	03	9	5	35.7	14
Atlantis	03	5	6	54 5	11
Aula Orientalis	03	7	0	0.0	7
Catalan Journal of Linguistics	03	3	2	40.0	5
Cedille	03	5	3	37.5	8
Estudios de Lingüística del Español	03	2	3	60.0	5
Estudios de Enignistica del Españor Estudis Romanics	03	11	3	21.4	14
Estudos de Linguística Galega	Q3 03	6	1	40.0	10
Hermeneus	03	1	12	92.3	13
Journal of English Studies	03	7	12	36.4	11
DADEMIA	Q3 03	1	+ 5	83.3	6
Praemalinaiiistiaa	Q3 03	14	11	44.0	25
Pavista de Dialectología y Tradiciones Populares	03	5	5	50.0	10
Revista de Lingüísting y Tradiciones Fopulares	Q3 02	5	10	50.0	10
Revista de Lingüística y Lenguas Aplicadas	Q3 02	12	10	62.5	15
Sintaama	Q3 03	12	20	02.5	52 11
Siniagma	Q3 02	0	5	43.3	11
Sociedad Espanoia de Estudios Renacentistas ingleses	Q3	14	0 5	26.2	0
Ionos Digital	Q3	14	5	20.3	19
Anuario ae Estuatos Filologicos	Q4	9	1	10.0	10
Atalanta	Q4	/	3	30.0	10
Boletin de la Real Academia Española	Q4	22	4	15.4	26
Bolotin de Literatura Oral	Q4	9	4	30.8	13
Collectanea Christiana Orientalia	Q4	7	4	36.4	11
Cuadernos de Filología Clásica	Q4	7	2	22.2	9
Dialectología	Q4	4	4	50.0	8
Emerita	Q4	7	3	30.0	10
Estudios Románicos	Q4	3	7	70.0	10
Hikma	Q4	6	4	40.0	10

 Table 2
 Composition by gender of the Editorial Boards of the Spanish journals of Language and Linguistics in Scimago Journal Rank 2018

Table 2 (continued)

Journal	Quartile	Men	Women	% women	Total
Minos	Q4	5	1	16.7	6
Miscelánea	Q4	3	3	50.0	6
Quaderns	Q4	5	6	54.5	11
Revista de Filología Alemana	Q4	4	6	60.0	10
Revista de Filología Románica	Q4	6	7	53.8	13
Sefarad	Q4	5	5	50.0	10
Sylloge Epigraphica Barcinonensis	Q4	25	9	26.5	34
TRANS. Revista de Traductología	Q4	6	6	50.0	12
Caplletra	_	11	2	15.4	13
Discurso y Sociedad	-	1	6	85.7	7

Journal names are written in italics

Table 3 Distribution of gender ad	cording to the role within the Editorial Board
-----------------------------------	--

Gender of Editors/Directors	Men	% of 694	Women	% of 694	Total
Editor/Director	29	4.2	25	3.6	54
Editorial Board	364	52.4	276	39.8	640
Total	393	56.6	301	43.4	694

Gender tors/Di	of Edi- rectors	Men	% of 54	Women	% of 54	Total
SJR	_	2	3.7	0	0.00	2
	Q2	7	13.0	8	14.81	15
	Q3	8	14.8	11	20.37	19
	Q4	8	14.8	10	18.52	18
Total		25	46.30	29	53.70	54

Table 4Gender of the journalEditor/Director by quartile

a value of p = 0.4129. Therefore, there is no statistically significant evidence of the abovementioned trend.

If the values obtained in the present research are compared with those of different studies where this topic has been addressed, it can be observed that in this field the value determined were higher (43.1%), unlike the value obtained for Education Journals (33.5%) (Vallejo et al., 2002), which are, in turn, the highest in the whole area of knowledge of Social Sciences. In addition, the value obtained in this study (43.1%) is much higher than those obtained in the studies carried out on journals in the field of Medicine, where the highest percentage was found within Radiology journals (21%) (Jalilianhasanpour et al., 2019).



Fig. 1 Editorial Boards by gender and quartile (SQ=journals without SJR values)



Fig. 2 Advisory/Scientific Boards according to their gender (SQ=journals without SJR values)

Conclusions

One of the main findings of this study has been the disparity found in the size of the Editorial Boards of the journals analysed, as the number of members varies from only 4 members to 35.

Within the area analysed in this research, the Spanish Language and Linguistics journals, it is noted that number of men and women present in their Editorial Boards is practically identical. In view of the above, it can be stated that these Editorial Boards do not show a gender bias, which also means that they make a substantial difference with respect to the Editorial Boards in other fields of knowledge. This has also become evident when analysing the figure of the Editor/Director of these journals, as all the differences observed are not statistically significant and may be due to chance.

Compared with other fields from Social Sciences, the area object of study shows higher gender equality in terms of participation of women on EB. The second place is held by the field of Education, where the percentage of women was 33.5% in 2002 (Vallejo et al.,

2002). and Psychology, with 32.3% of women in 2018 (González Sala & Osca-Lluch, 2018).

It can be clearly observed that within this area of knowledge women have been offered the same opportunities to participate in the Editorial Board. As Cho et al. (2005) state, this may imply, in a sense, a benefit for all women, as the occupation of prominent positions in committees and academic bodies can make them become models and references for young women who are starting their academic careers.

We consider that this study could be extended to journals of the same category (Language and Linguistics Journals) at an international level. Thus, it will be possible to prove if the results obtained form an identifiable pattern of the journals belonging to this area, or if they follow a local pattern that could be motivated, in turn, by the policies on gender equality promoted in Spain.

Limitations

Our study has certain limitations, which are outlined in this section. As some Editorial Board members belonged to more than one journal they were quantified for each journal. This may have had a minor or non-significant impact on the results. Moreover, we did not consider the particularities of each journal, such as the characteristics of their subfield of knowledge or the proportion of men and women working in it. Nor it was taken into account if the journal grants any kind of financial reward for being a member of the editorial team. Also, as some researchers claim (Alonso-Arroyo et al., 2021), it is not possible to know how many men and women the journals have invited to participate in their committees or how many have declined the invitation and what their gender is.

Funding Open Access funding provided thanks to the CRUE-CSIC agreement with Springer Nature. Universidad de Cordoba / CBUA.

Declarations

Conflict of interest The authors have no relevant financial or non-financial interests to disclose.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

References

Addis, E., & Vila, P. (2003). The Editorial Boards of Italian economics journals: Women, gender, and social networking. *Feminist Economics*, 9(1), 75–91. https://doi.org/10.1080/1354570032000057062

- Alonso-Arroyo, A., Gonzalez-de-Dios, J., Aleixandre-Agulló, J., & Aleixandre-Benavent, R. (2021). Gender inequalities on editorial boards of indexed pediatrics journals. *Pediatric Research*, 90(2), 300–314. https://doi.org/10.1038/s41390-020-01286-5
- Amrein, K., Langmann, A., Fahrleitner-Pammer, A., Pieber, T. R., & Zollner-Schwetz, I. (2011). Women underrepresented on Editorial Boards of 60 major medical journals. *Gender Medicine*, 8(6), 378–387. https://doi.org/10.1016/j.genm.2011.10.007
- Bakht, N., Arshad, S., & Nafees-Zaidi, S. S. (2017). Under-representation of women in the Editorial Boards of medical and dental journals of Pakistan. *The Journal of the Pakistan Medical Association*, 67(5), 722–724.
- Cho, A. H., Johnson, S. A., Schuman, C. E., Adler, J. M., González, O., Graves, S. J., & Bruna, E. M. (2014). Women are underrepresented on the Editorial Boards of journals in environmental biology and natural resource management. *PeerJ*, 2, e542. https://doi.org/10.7717/peeri.542
- Commission, E. (2003). Women in industrial research. Office for Official Publications of the European Communities.
- D'Andola, C. (2016). Women in chemistry—where we are today. Chemistry A European Journal, 22(11), 3523–3528. https://doi.org/10.1002/chem.201600474
- de Ciencia, M., & e Innovación. (2011). Ley 14/2011, de 1 de junio, de la Ciencia, la Tecnología y la Innovación. Boletín Oficial Del Estado, 13, 1–69.
- European Commission. (2000). Science policies in the European Union: Promoting excellence through mainstreaming gender equality: A report from the ETAN expert working group on women and science. Publications Office.
- European Commission. (2004). She figures 2003: women and science: statistics and indicators. Publications Office
- European Commission. (2005). Women in industrial research: speeding up changes in Europe: International Conference. Publications Office
- European Commission. (2008). Mapping the maze : getting more women to the top in research. Publications Office
- Fernández-Cano, A. (1995) Methods to evaluate Psychopedagogy Research. Síntesis
- Fox, C. W., Duffy, M. A., Fairbairn, D. J., & Meyer, J. A. (2019). Gender diversity of Editorial Boards and gender differences in the peer review process at six journals of ecology and evolution. *Ecology Evolution*, 9, 13636–13649. https://doi.org/10.1002/ece3.5794
- Frietsch, R., Haller, I., Funken-Vrohlings, M., & Grupp, H. (2009). Gender-specific patterns in patenting and publishing. *Research Policy*, 38(4), 590–599.
- Gollins, C. E., Shipman, A. R., & Murrell, D. F. (2017). A study of the number of female editors-inchief of dermatology journals. *International Journal of Women's Dermatology*, 3(4), 185–188. https://doi.org/10.1016/j.ijwd.2017.03.001
- González Sala, F., & Osca-Lluch, J. (2018). Desigualdad de género en órganos directivos y producción científica de las revistas iberoamericanas de psicología de mayor visibilidad internacional. *Revista Española De Documentación Científica*, 41(3), 211. https://doi.org/10.3989/redc.2018.3.1506
- Hafeez, D., Waqas, A., Majeed, S., Naveed, S., Afzal, K., Aftab, Z., Zeshan, M., & Khosa, F. (2019). Gender distribution in psychiatry journals' Editorial Boards worldwide. *Comprehensive Psychiatry*, 94, 119–152. https://doi.org/10.1016/j.comppsych.2019.152119
- Harris, C., Banerjee, T., Cramer, M., Manz, S., Ward, S., Dimick, J., & Telem, D. (2019). Editorial (Spring) Board? Gender composition in high-impact general surgery journals over 20 years. *Annals* of Surgery, 269, 582–588. https://doi.org/10.1097/SLA.00000000002667
- Jagsi, R., Tarbell, N. J., Henault, L. E., Chang, Y., & Hylek, E. M. (2008). The representation of women on the Editorial Boards of major medical journals: A 35-year perspective. Archives of Internal Medicine, 168(5), 544–548. https://doi.org/10.1001/archinte.168.5.544
- Jalilianhasanpour, R., Charkhchi, P., Mirbolouk, M., & Yousem, D. M. (2019). Underrepresentation of women on radiology editorial boards. *Journal of the American College of Radiology*, 16(1), 115– 120. https://doi.org/10.1016/j.jacr.2018.08.017
- Jappelli, T., Nappi, C. A., & Torrini, R. (2017). Gender effects in research evaluation. *Research Policy*, 46(5), 911–924. https://doi.org/10.1016/j.respol.2017.03.002
- Kennedy, B. L., Lin, Y., & Dickstein, L. J. (2001). Women on the Editorial Boards of major journals. Academic Medicine, 76(8), 849–851. https://doi.org/10.1097/00001888-200108000-00021
- Lorello, G. R., Parmar, A., & Flexman, A. M. (2019). Representation of women on the editorial board of the Canadian Journal of Anesthesia: A retrospective analysis from 1954 to 2018. *Canadian Journal of Anesthesia/journal Canadien D'anesthésie*, 66(8), 989–990. https://doi.org/10.1007/ s12630-019-01378-9

- Mas-Bleda, A., & Thelwall, M. (2016). Can alternative indicators overcome language biases in citation counts? A comparison of Spanish and UK research. *Scientometrics*, 109(3), 2007–2030.
- Mauleón, E., & Bordons, M. (2006). Productivity, impact, and publication habits by gender in the area of Materials Science. Scientometrics, 66(1), 199–218. https://doi.org/10.1007/s11192-006-0014-3
- Mauleón, E., Hillán, L., Moreno, L., Gómez, I., & Bordons, M. (2013). Assessing gender balance among journal authors and Editorial Board members. *Scientometrics*, 95(1), 87–114. https://doi.org/10. 1007/s11192-012-0824-4
- Metz, I., & Harzing, A. W. (2009). Gender diversity in editorial boards of management journals. Academy of Management Learning & Education, 8(4), 540–545.
- Okike, K., Liu, B., Lin, Y. B., Torpey, J. L., Kocher, M. S., Mehlman, C. T., & Biermann, J. S. (2012). The orthopedic gender gap: Trends in authorship and editorial board representation over the past 4 decades. *American Journal of Orthopedics (belle Mead, N.J.)*, 41(7), 304–310.
- Olmeda-Gómez, C., Ovalle-Perandones, M. A., & Perianes-Rodríguez, A. (2017). Co-word analysis and thematic landscapes in Spanish information science literature, 1985–2014. *Scientometrics*, 113(1), 195–217.
- Pagel, P. S., Freed, J. K., & Lien, C. A. (2019). Gender composition and trends of journal of cardiothoracic and vascular anesthesia editorial board membership: A 33-year analysis, 1987–2019. Journal of Cardiothoracic and Vascular Anesthesia, 33(12), 3229–3234. https://doi.org/10.1053/j.jvca. 2019.07.139
- Pan, Y., & Zhang, J. Q. (2014). The composition of the Editorial Boards of general marketing journals. Journal of Marketing Education, 36(1), 33–44. https://doi.org/10.1177/0273475313504298
- European Parliament. (2016). Gender equality policies in Spain. Study for the Femm Committee. Policy Department for Citizen's Rights and Constitutional Affairs
- Piper, C. L., Scheel, J. R., Lee, C. I., & Forman, H. P. (2018). Representation of women on radiology journal editorial boards: A 40-year analysis. *Academic Radiology*, 25(12), 1640–1645. https://doi.org/10. 1016/j.acra.2018.03.031
- Rodríguez-Faneca, C., & Cuida, A. (2021). Bibliometric Analysis of the Journal Sendebar (2005–2020): Authorship Patterns, Collaboration and Publishing Trends. Open Access Library Journal, 8(6), 1–10.
- Rodríguez-Faneca, C., Pedrosa-Jesús, C., & Cuida, A. (2021). Educación matemática en Iberoamérica: Un estudio bibliométrico en SSCI. *Matemáticas, Educación y Sociedad, 4*(2), 40–53.
- Schwab, K., Samans, R., Zahidi, S., Leopold, T. A., Ratcheva, V., Hausmann, R. & Tyson, L. D. (2017). The global gender gap report 2017. World Economic Forum.
- Stegmaier, M., Palmer, B., & Van Assendelft, L. (2011). Getting on the board: The presence of women in political science journal editorial positions. *Political Science & Politics*, 44(4), 799–804.
- Topaz, C. M. & Sen, S. (2016). Gender representation on journal Editorial Boards in the mathematical sciences. PLOS ONE, 11(8). DOI: https://doi.org/10.1371/journal.pone.0161357
- Toro, E. O., Valdivia-Moral, P., González Col, R., & González Col, J. L. (2015). Género en los comités editoriales y científicos de las revistas españolas de ciencias del deporte. Apunts Educación Física y Deportes, 120, 67–72.
- Ministerio de Universidades. (2022a). Estadística de Personal de las Universidades: Educabase. http://estad isticas.mecd.gob.es/EducaJaxiPx/Tabla.htm?path=/Universitaria/Personal/EPU20//10/&file=PDI0107. px
- Ministerio de Universidades. (2022b). Estudiantes matriculados en Grado y Ciclo: Educabase. http://estad isticas.mecd.gob.es/EducaDynPx/educabase/index.htm?type=pcaxis&path=/Universitaria/Alumnado/ EEU_2021/GradoCiclo/Matriculados/&file=pcaxis
- Vallejo, M., Roja, C., & Fernández-Cano, A. (2002). Gender biases in the editorial policies of Spanish scientific journals in the field of Education. *RELIEVE*, 8(2), 166–174.
- Van Arensbergen, P., van der Weijden, I., & Van den Besselaar, P. (2012). Gender differences in scientific productivity: A persisting phenomenon? *Scientometrics*, 93(3), 857–868. https://doi.org/10.1007/ s11192-012-0712-y
- Wagner-Menghin, M. M. (2005) Binomial Test. In B. S. Everitt, & D. C. Howell (Eds), Encyclopedia of Statistics in Behavioral Science (1st. ed., pp. 158–163). John Wiley & Sons
- Willett, P. (2013). The characteristics of journal Editorial Boards in library and information science. International Journal of Knowledge Content Development & Technology, 3(1), 5–17. https://doi.org/10. 5865/IJKCT.2013.3.1.005
- Zehetbauer, R., von Haugwitz, F., & Seifert, R. (2022). Gender-specific analysis of the authors and the editorial board of Naunyn-Schmiedeberg's Archives of Pharmacology from 2000 to 2020. *Naunyn-Schmiedeberg's Archives of Pharmacology*, 395(1), 39–50. https://doi.org/10.1007/ s00210-021-02166-3