




## RESEARCH NOTE

# Women as editors-in-chief of environmental science journals

## [version 1; referees: 2 approved with reservations]

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### Abstract

This research note describes an analysis regarding the role of women as editors-in-chief of environmental science journals. The list of journals analyzed was obtained from the database of "Web of Science", published in 2015. This database does not include information on the name or gender of the editors-in-chief of journals, so a web search was performed. The results show that gender inequality is present in this important field of science. Causes of this bias merit more and profound research. The bias observed may not apply to journals of others areas of science.

### Open Peer Review

Referee Status:  

	Invited Referees	
	1	2
<b>version 1</b> published 21 Jul 2017	 report	 report
1 <b>Karin Amrein</b> , Medical University of Graz, Austria		
2 <b>Emilio Bruna</b>  , University of Florida, USA University of Florida, USA		

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Comments (0)

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**Author roles:** Yeverino-Gutiérrez ML: Investigation, Writing – Original Draft Preparation; González-González MdR: Supervision, Writing – Original Draft Preparation; Corral-Symes R: Investigation, Writing – Review & Editing; González-Santiago O: Conceptualization, Supervision, Writing – Review & Editing

**Competing interests:** No competing interests were disclosed.

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## Introduction

Gender bias has been observed in several aspects of science, mainly in the authorship of scientific papers, first author position, grants and employment<sup>1,2</sup>. It is possible that this bias is present for other important positions in science, such as the editorial positions in scientific journals. With this in mind, we determined the percentage of women who are editors-in-chief of environmental science journals.

## Methods

The list of journals was obtained from the 2015 Thomson Reuters Web of Science database, which groups journals by impact factor and area of scientific expertise. We chose journals grouped into environmental science. Since the name and gender of the editor-in-chief is not reported in this database, a web search was performed. The name of the editor-in-chief was obtained from the respective web page of the journal. In cases where it was not possible to identify the gender with the name only, a more extensive web search was performed. The criteria used to identify the gender was a headshot on the website of the respective institution, a Researchgate profile, or the journal that he or she directs. Differences between genders and amongst groups of journals were determined with a chi-square test. NCSS version 11 was used for statistical analysis.

## Results and discussion

A total of 103 environmental science journals were analyzed. Of these, 22 journals had an impact factor (IF) < 1; 50 journals had an IF between 1-2; and 31 journals had IF > 2. For 4 journals, it was not possible to identify the gender of the editor-in-chief. The list of journals analyzed is available as a dataset. Overall, the percentage of women that were editors-in-chief was 21.6% (Table 1). This percentage was different according to the IF of the journals. In journals with low IF, the percentage of women as editors-in-chief was 33.3%, in journals with IF between 1-2, this percentage was 21.6%, and in journals with IF > 2, the percentage was 14.9%. The decreasing trend was statistically significant.

Women are underrepresented as editors-in-chief of environmental science journals and suggests a gender bias. Several factors that could contribute to underrepresentation of women in science have

**Table 1. Percentage of women as editors-in-chief of environmental science journals.**

Variable	Total (N=148)	Impact factor			Test for trend
		<1 (N=27)	1-2 (N=74)	>2 (N=47)	
Gender					
Female	21.6	33.3	21.6	14.9	0.03
Male	78.4	66.7	78.4	85.1	
P value	<0.01	0.21	<0.01	<0.01	

been previously suggested by other authors and could explain this observation<sup>3</sup>. Childbearing, forming a family, gender expectations, lifestyle choices and career preferences are among these factors. Other factor could be the scientific area. The percentage of women as editors-in-chiefs probably is major in areas where their participation is more active, so this analysis should be made with other types of journals that specialize on other fields of science. Finally, more studies that corroborate and identify causes of this outcome are needed.

### Dataset 1. List of journals included in the analysis

<http://dx.doi.org/10.5256/f1000research.11661.d169039>

## Data availability

Dataset 1. List of journals included in the analysis. DOI, [10.5256/f1000research.11661.d169039](https://doi.org/10.5256/f1000research.11661.d169039)<sup>4</sup>

## Competing interests

No competing interests were disclosed.

## Grant information

The author(s) declared that no grants were involved in supporting this work.

## References

1. Freund KM, Raj A, Kaplan SE, *et al.*: Inequities in Academic Compensation by Gender: A Follow-up to the National Faculty Survey Cohort Study. *Acad Med*. 2016; **91**(8): 1068–73. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
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3. Ceci SJ, Williams WM: Understanding current causes of women's underrepresentation in science. *Proc Natl Acad Sci U S A*. 2011; **108**(8): 3157–3162. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
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# Open Peer Review

Current Referee Status: ? ?

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Version 1

Referee Report 31 August 2017

doi:10.5256/f1000research.12595.r24413



**Emilio Bruna**  1,2

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This study addresses an important topic - the gender balance at the highest levels of journal editorial leadership. There data collection and analyses are straightforward and technically sound. While there is value in documenting the gender ratio of editors-in-chief, however, the study doesn't place these results in a greater context. This is both surprising and disappointing given the substantial research on the topic (and very little of which is cited). Why focus on environmental biology? How do these results compare with those from other fields? Why is the observed gender imbalance a problem and what can be done to remedy it? Without addressing these questions

I would encourage the authors to move beyond simply presenting the data to interpreting and contextualizing it. This will greatly increase the impact of their substantial effort.

**Is the work clearly and accurately presented and does it cite the current literature?**

Partly

**Is the study design appropriate and is the work technically sound?**

Partly

**Are sufficient details of methods and analysis provided to allow replication by others?**

Yes

**If applicable, is the statistical analysis and its interpretation appropriate?**

Yes

**Are all the source data underlying the results available to ensure full reproducibility?**

Yes

**Are the conclusions drawn adequately supported by the results?**

Yes

**Competing Interests:** I am the co-author of an article on the same topic: doi:10.7717/peerj.542

**I have read this submission. I believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.**

Referee Report 29 August 2017

doi:10.5256/f1000research.12595.r25001



**Karin Amrein**

Division of Endocrinology and Diabetology, Medical University of Graz, Graz, Austria

In a short research note, Yeveerino-Gutierrez and colleagues report interesting data on the representation of women as editors in chief in environmental science journals.

A few major aspects should be clarified:

- In the abstract, the authors should state some specific results of their analysis (no. of journals, no. of editors, % female etc.)
- The manuscript is indeed very short and would benefit from some greater detail for all sections.
- The numbers mentioned in the text are discordant to the numbers in the table (e.g. 103 journals analyzed vs 148). Were data missing and if yes, why?
- I think it would be better to use tertiles in the analysis of impact factor in order to have similar group size as opposed to an arbitrary cutoff for the impact factor.
- Limitations should be added (only one time point, only one category, etc.)
- Add the used test to the table legend.
- A few minor typos/grammar errors are present

PS:

- Were any efforts made to contact the journals and obtain more detailed data from them or have more information about the process of assignment for editor in chief?
- Are the authors aware of data on how the percentage of women in scientists or people working in this field is?
- To date, the category "Environmental Sciences" has well over 200 journals. Were indeed only 148 listed in 2015??

**Is the work clearly and accurately presented and does it cite the current literature?**

Partly

**Is the study design appropriate and is the work technically sound?**

Partly

**Are sufficient details of methods and analysis provided to allow replication by others?**

Partly

**If applicable, is the statistical analysis and its interpretation appropriate?**

Partly

**Are all the source data underlying the results available to ensure full reproducibility?**

Yes

**Are the conclusions drawn adequately supported by the results?**

Partly

**Competing Interests:** No competing interests were disclosed.

**I have read this submission. I believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.**

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