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**“Promoting gender balance and inclusion in research,  
innovation and training”**

**PLOTINA**  
**GA No. 666008**

**D4.1 REPORT ON THE DISCUSSION WORKSHOP,  
INCLUDING EXAMPLES OF GUIDE FOR  
AUTHORS INCLUDING GENDER/SEX  
VARIABLES FOR STEM JOURNALS**

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## **INTRODUCTION: THE PLOTINA PROJECT**

PLOTINA is an ongoing Horizon 2020 project. It runs from February 2016 to January 2020. The overall objective of PLOTINA is to enable the development, implementation and assessment of self-tailored Gender Equality Plans (GEPs) with innovative and sustainable strategies for the Research Performing Organizations (RPOs) involved. This objective will be achieved by: i) stimulating a gender-aware culture change; ii) promoting career-development of both female and male researchers to prevent the waste of talent, particularly for women; iii) ensuring diversification of views and methodologies by taking into account the gender/sex dimension and analysis in research and teaching. PLOTINA is a partnership of RPOs, Professional Associations and Partners with specific expertise in monitoring the progress of the project and in the dissemination. The Consortium represents the diversity of European RPOs as well as the diversity of European social and cultural environments. The work plan proceeds in four stages: i) assess the current situation in all Partner RPOs; ii) design GEPs for each RPO; iii) design, implement and evaluate Actions in the Partner RPOs to address the targets of the GEPs; iv) create a platform of resources that can be used by RPOs across Europe to implement their own GEPs suited to their own situations. The GEPs Actions will support systemic and sustainable changes at the institutional and departmental levels of the PLOTINA's RPOs. The end results will be a set of modular and adaptable resources for other RPOs at the starting stage in the setting up of GEPs, in particular: Tools, GEPs Library of Actions, research and teaching Case Studies and Good Practices. Strongly aligned with a European Research Area (ERA) objective on gender equality, PLOTINA will contribute to increase the number of female researcher, promote their careers and integrate of the gender dimension into the design, evaluation and implementation of research, to enhance its quality and relevance fostering excellence and the social value of innovations.

## **OBJECTIVES OF THE DELIVERABLE AND AIMS OF THE WORKSHOP**

The PLOTINA Project has dedicated a full workpackage (WP4) to the development and the spread of a more gender aware-science. The end goal of WP4 (*Implementing GEPs: Gender-aware science*) is to develop a Library of Actions, addressing the whole process of scientific knowledge-making, from teaching to research to innovation, devoted to: 1) spread in the RPOs' ambient a gender/sex aware approaches; 2) enhance commitment of female scientists: i) as evaluators of research (editors, referees) and ii) as producers of knowledge (researchers) in considering gender/sex analysis in scientific research and publications; 3) include gender/sex approaches in the background of the next generation of researchers by targeting different individuals (BA students, MA students, PhD scholars, senior researchers and research groups, publishers, referees and editors; high-level research management in charge for the internal allocation of research funding within RPOs).

A fundamental action of WP4 is to enhance participation and commitment of female scientists as peer-reviewers, editors, publishers and referees in research activities. For this reason, as described in the Grant Agreement, the workshop “The Inclusion of Sex and Gender Analysis in the Guides for Authors and Calls for Paper Issued by Scientific Journals” was developed to discuss the inclusion of sex/gender variables in the guides for authors and in the calls for papers issued by the scientific journals. In addition, the workshop had the objective of collecting suggestions and contributions for the organization of the two Summer Schools planned by the PLOTINA Consortium (2018 and 2019). Since the two Summer Schools focused on the topics “How to be a Peer Reviewer?” and “How to be an Editor/member of Editorial Board?”, the contributions of international experts (as members of several editorial boards and peer-reviewers) informed the RPOs regarding the overall design, content and organisation of the summer schools.

The workshop was organized since May 2017, and – acknowledging the relevance of this topic within scientific communities – all the speakers contacted by the UNIBO PLOTINA Team willingly accepted our invitation.



## AGENDA

<b>AGENDA: 12<sup>th</sup> of September 2017</b>		
9:00 – 9:30	Arrival and registration	
9:30 – 9:45	<b>Introduction of the workshop</b>	<b>Tullia Gallina Toschi</b> Full Professor in Food Sciences and PLOTINA Project Coordinator Alma Mater Studiorum Università di Bologna
	<b>Workshop</b> <i>The Inclusion of Sex and Gender Analysis in the Guides for Authors and Calls for Paper Issued by Scientific Journals</i>	<b>Chair: Judith Crews</b> PhD, Journal of Food Composition and Analysis, an Elsevier journal
9:45 – 10:00	<i>Gender bias and peer-reviewed science publishing: challenges and opportunities</i>	<b>Judith Crews</b> PhD, Journal of Food Composition and Analysis, an Elsevier journal
10:00 – 10:45	<i>Promoting sex/gender analysis in clinical research – a journal editor's view</i>	<b>Astrid James</b> Deputy Editor The Lancet
10:45 – 11:00	<b>Coffee Break</b>	
	<b>Section 1</b>	
11:00 – 11:45	<i>The gendered landscape of journal publication of accounting research</i>	<b>Jane Broadbent</b> Emerita Professor of Accounting School of Management, Royal Holloway University of London  <b>Richard Laughlin</b> Emeritus Professor of Accounting School of Management and Business King's College London, University of London
11:45 – 12:30	<i>Experiences and observations on the inclusion of gender/sex variables in Engineering based editorial actions</i>	<b>Francesca De Crescenzo</b> Associate Professor in Design Methods for Industrial Engineering and In2Sai Project partner Alma Mater Studiorum Università di Bologna
12:30 – 13:00	<b>Q&amp;A session</b>	<b>Chair: Tullia Gallina Toschi</b> Full Professor in Food Sciences and PLOTINA Project Coordinator Alma Mater Studiorum Università di Bologna
13:00 – 14:30	<b>Lunch Break</b>	

	<b>Section 2</b>	
14:30– 15:15	<i>Understanding the structures of domination affecting publication of accounting research</i>	<p><b>Jane Broadbent</b> Emerita Professor of Accounting School of Management, Royal Holloway University of London</p> <p><b>Richard Laughlin</b> Emeritus Professor of Accounting School of Management and Business, King’s College London, University of London</p>
15:15 – 16:00	<i>Presentation of the guide for authors including sex and gender variables for STEM Journals: the SAGER example</i>	<b>Shirin Heidari</b> Chair of the Gender Policy Committee, European Association of Science Editors (EASE)
16:00 – 16:15	<b>Coffee break</b>	
16:15 – 17:10	Brain Storming on the organization of the Summer School “How to be a Peer Reviewer” (Warwick 2018) Perspective	<b>Chair: Warwick University</b> <b>Participants: All attendees</b>
17:10 – 17:30	Preliminary Reflections on the organization of the Summer School “How to be an editor/member of editorial board” (Bologna 2019)	<b>Chair: Benedetta Siboni</b> <b>UNIBO</b> <b>Participants: All attendees</b>

## REPORT ON THE DISCUSSION WORKSHOP

<b>MINUTES OF THE WORKSHOP “THE INCLUSION OF SEX AND GENDER ANALYSIS IN THE GUIDES FOR AUTHORS AND CALLS FOR PAPER ISSUED BY SCIENTIFIC JOURNALS”</b> <b>MONTH 20</b>	
<b>Place</b>	ALMA MATER STUDIORUM - Università di Bologna Sala Ulisse, Accademia delle Scienze, via Zamboni 31, Bologna
<b>Date</b>	12 <sup>th</sup> of September 2017

**09:30 – 09:45**

### **Welcome and Introduction<sup>1</sup>**

**Tullia Gallina Toschi** (Full Professor in Food Sciences and PLOTINA Project Coordinator, Alma Mater Studiorum Università di Bologna) opened the workshop with the overview of the agenda and the time schedule. Moreover, she presented the objectives of the workshop as described in the Grant Agreement.

She also introduced the Chair of the workshop **Dr. Judith Crews** (PhD, Journal of Food Composition and Analysis, an Elsevier journal).

*See the enclosed presentation “Introduction” in the Annex “Speakers Presentations”*

**9:45 – 10.00**

### **Gender bias and peer-reviewed science publishing: challenges and opportunities**

**Dr. Judith Crews** (PhD, Journal of Food Composition and Analysis, an Elsevier journal) started her speech with the question, “Is there a gender bias in science published in peer-reviewed journals?”, explaining that it elicits different responses depending on the scientific field and on the journal considered. While many individuals claim that there is no bias in scientific publishing – either considering the composition of the Editorial Boards, either in choosing Editors-in-Chief or Reviewers, or in accepting papers for publication – she suggested to examine to what extent people just do not see bias (especially their own) and to what extent they are unaware of what gender bias actually is, simply acting unconsciously in their choices of articles and in the selection of authors, editors, reviewers.

<sup>1</sup> The overall number of the workshop attendees was 30 (3 men and 27 women) from both STEM and SSH fields.

She argued that while all large commercial science publishers have gender policies and clear statements of non-discrimination on their websites, and encourage an “equal opportunity” approach to the hiring of Editors (including Editors-in-Chief), selection of Editorial Board members and selection of Reviewers for papers, it may be useful to collect and analyse detailed data on the numbers of women and men chosen, by field and areas of expertise, in the world of scientific peer-reviewed publishing.

She added that the critical examination of underlying paradigms and belief systems may also provide fruitful insights, since *inherent bias* – which is always unconscious – may not only have encouraged a certain *status quo*, but could also have institutionalized practices which undercut conscious policy statements. She raised the following questions: “Can double-blind peer review, or the substitution of authors’ full names with initials, change gender imbalances in terms of accepted papers? Can training workshops help raising consciousness among the groups/people in charge of hiring editors? Are there other, unexplored opportunities, areas of research, or insights into human psychology that will allow a different mentality to emerge?” *For more details, see the enclosed presentation “Gender bias and peer-reviewed” in the Annex “Speakers Presentations”*

## 10:00 – 10:45

### **Promoting sex/gender analysis in clinical research – a journal editor’s view**

**Dr. Astrid James** (Deputy Editor The Lancet) focused on the promotion of sex/gender analyses in clinical research, from the perspective of a journal editor’s view. She started raising the question: “What can editors do to promote sex/gender analyses?”.

She discussed editorial leadership, recruitment of editors, and balancing teams with reference to The Lancet group, in relation to the issues of “global health and gender” and “women’s careers in academic medicine”. She presented the main changes in guidelines for authors on sex/gender analyses in clinical research, and the drivers of those changes, beginning with the International Committee of Medical Journal Editors (ICMJE) and The Lancet journals’ stance in 2011, and the first Gender Summit in Brussels. She also discussed several key issues on gender in publishing at Elsevier, and Elsevier’s editorial policies on sex and gender in research. Then, she presented in details the ICMJE Recommendations and The Lancet journals’ guidelines for authors in 2016 and 2017. Moreover, she analysed the Comment section of The Lancet edited in 2016.

*For more details, see the enclosed presentation “Promoting sex/gender analysis” in the Annex “Speakers Presentations”*

**11:00 – 11:45 Section 1****The gendered landscape of journal publication of accounting research**

**Jane Broadbent** (Emerita Professor of Accounting School of Management, Royal Holloway University of London) and **Richard Laughlin** (Emeritus Professor of Accounting School of Management and Business King's College London, University of London).

Drawing on their own experiences the speakers focused on the patterns of women's involvement in the field of accounting in academia. Their first presentation considered the extent of the involvement of women in academia; the second, turned to the consideration of the factors fuelling the persistence of the patterns described in the first session.

The overall driver for the two presentations was the consideration that the lack of opportunity for women in relation to publications has material effects on their careers, and this in turn has a negative impact on increasing female academics in research careers. The first presentation reported several data to demonstrate the following phenomena: men dominate in more highly ranked journals and the gender imbalance is statistically significant; women are more successful as publishers and editors in interdisciplinary and critical fields compared to the positivist field, the latter considered as more prestigious than the former.

*For more details, see the enclosed presentation "The Gendered Landscape of Journal in Accounting" in the Annex "Speakers Presentations"*

**11:45 – 12:30****Experiences and observations on the inclusion of gender/sex variables in Engineering based editorial actions**

**Francesca De Crescenzo** (Associate Professor in Design Methods for Industrial Engineering and IN2SAI Project partner, Alma Mater Studiorum Università di Bologna) explained how her participation in the IN2SAI (Increasing Young Women Participation in Science Studies and in the Aeronautical Industry) project, increased her interest in i) women's underrepresentation in the research and educational world, and ii) understanding the reasons underpinning this phenomena, especially in the academic field of Engineering. The research project IN2SAI was inspired by the observation of the low percentage of women in a specific educational and industrial sector, that is, the Aerospace Engineering. Moreover, the IN2SAI research team has implemented strategies to understand and address this gap. She stated that thanks to the PLOTINA invitation to give a talk in the Workshop, she realized that there is another consistent gap on the inclusion of women in the editorial teams of engineering research journals, which remain the key dissemination channel of a researcher's work. Since the

beginning of her career, she has been involved in both publishing, and reviewing papers submitted by the scientific community in engineering and computer science journals. She had the opportunity to experience different journals policies and research approaches due to her interests in various topics and research application fields, such as human machine interfaces, aeronautics, rapid prototyping and implementation of design methods in the biomedical field. She noticed that – even though most of the topics were and are involving humans, as designers, as participants to the research or as individuals impacted by the introduction of new approaches or technologies – the sex/gender dimension is not only rarely considered, but it is also rarely and not explicitly recommended by the majority of the journal editors. She finally presented a number of “possible” missed opportunities caused by the lack of consideration of the sex/gender dimensions.

*For more details, see the enclosed presentation “Gender/sex variables in Engineering editorial actions” in the Annex “Speakers Presentations”*

**12:30 – 13:00**

**Q&A session**

**Chair: Professor Tullia Gallina Toschi**

**14:30 – 15:15**

**Section 2**

**Understanding the structures of domination affecting publication of accounting research**

**Jane Broadbent** (Emerita Professor of Accounting School of Management, Royal Holloway University of London) and **Richard Laughlin** (Emeritus Professor of Accounting School of Management and Business King’s College London, University of London).

Professor Broadbent argued that the nature of accounting needs to be examined and opened up to look at wider agendas that are not simply representative of the universal masculine but incorporate the universal feminine. Professor Laughlin raised the question: “Can women get through the review process as easily as men?”. To reach this objective both speakers suggested that the members of Editorial Boards should promote gender related research.

*See the enclosed presentation “Structures of Domination in Accounting Research” in the Annex “Speakers Presentations”*

**15:15 – 16:00**

## **Presentation of the guide for authors including sex and gender variables for STEM Journals: the SAGER example**

**Dr. Shirin Heidari** (Chair of the Gender Policy Committee, European Association of Science Editors EASE) is the director of Reproductive Health Matters and editor of its journal. She is also a member of the Council of European Association of Science Editors and Chair of its Gender Policy Committee, where she has led the development of reporting guidelines (SAGER) that encourage authors to disaggregate data by sex and provide a gender analysis in manuscripts. Between 2007 and 2014, she oversaw the IAS (International AIDS Society) research promotion department and was the executive editor of the Journal of the International AIDS Society (JIAS). As an editor, she introduced the first gender editorial policy for an HIV journal and expanded the Journal's efforts to strengthen scientific writing of authors in the global south.

In her speech, Dr. Heidari stated that the lack of reporting of sex and gender aspects in research publications can cause harm, in that it reduces reliability and rigour, it is costly and a waste of resources; she also stressed that the exclusion of the sex and gender dimensions from research represents a missed opportunity for innovation as well. She reported several examples in the bio-medicine fields.

She presented the aims of European Association of Science Editors (EASE) which emerged from a shared concern about the gender bias in scientific reporting and the gender imbalance in editorial teams and pool of peer-reviewers. EASE is based on the agreement that science editors, as gatekeepers of science, should play an important role in changing the paradigm. The EASE mission is to advance sex/gender reporting and gender balance in editorial management not only on a global level, but across disciplines as well, and she argued that the SAGER guidelines can be a significant tool to reach this aim.

She presented the results of the International Gender Survey launched in 2013, whose purpose was to map existing editorial gender policies and opinions towards the adoption of such policies. Out of 716 journals involved in the survey, only 7% of the journals adopted gender policies (instruction for authors, composition of editorial boards, pool of peer-reviewers). Then, she presented in details the methodologies of the SAGER guidelines, that apply to all research with humans, animals or any material originating from humans and animals, as well as other disciplines whose results will be applied to humans, such as mechanics and engineering.

*For more details, see the enclosed presentation "SAGER" in the Annex "Speakers Presentations"*

## Q&A session

### Chair: Judith Crews

The Chair pointed out that although publishers have definite policies, looking at single issues of journals, the guide for authors and the journals websites do not mention gender issues. Before leaving the floor to the Q&A session, she stressed how PLOTINA can play an active role in this field, formulating positive proposals to “proper” contacts and stakeholders (e.g. Elsevier, Springer, Blackwell, Wiley).

Responding to a question from Dr. Tzanakou (Warwick University) regarding the application of SAGER guidelines across disciplines, Dr. Heidari stressed that guidelines are as general as possible because authors have very different disciplinary backgrounds. Dr. Tzanakou mentioned that in some disciplines such as Chemistry or Physics the integration of sex and gender is less obvious. Dr. Heidari highlighted that experts in the specific disciplinary fields should be encouraged to provide concrete examples and evidence of the importance of the integration of sex and gender, in order to foster the idea that it is not about “gender equality issues”, but it is a matter of rigorous science and transparency; platforms such as the Gender Summit are very useful in providing examples in which the gender dimension in very different fields is explored.

Professor Broadbent recalled the morning discussion on design to reflect on the fact that when women are doing research, the research questions might themselves be different.

Professor Siboni (UNIBO) recalled the scarce number of guidelines explicitly requiring the integration of sex/gender dimensions to authors and the low number of authors that actually apply this criterion in their papers; she presented as well some UNIBO data from the Gender Report and from the Gender Audit to stress the fact that in many cases these dimensions are still considered as “not relevant”. She also recalled the different kinds of discrimination (direct, indirect and institutional) discussed by Professor Laughlin and Professor Broadbent to ask them whether we should start from one specific kind of discrimination or, rather, if the three abovementioned kinds of discrimination should be considered as interrelated and therefore addressed at the same time. According to Professor Broadbent, the second option should be preferred because focusing one aspect while ignoring the others would jeopardize actual change (for example, changing the law does not necessarily mean changing assumptions and attitudes).



**16:15 – 17:10**

**Brain Storming on the organization of the Summer School “How to be a Peer Reviewer” (Warwick Team) Perspective**

**Chair: Warwick University (Professor Alison Rodger, Dr. Charikleia Tzanakou);**

**Participants: All attendees**

Professor Rodger and Dr. Tzanakou presented Warwick ideas on the Summer School that Warwick will organize in 2018. Since the Summer School will last 5 days, it was considered whether we should design it in two parts: the first part targeting SSH students and a second part targeting STEM students. Junior researchers (PhD students, Fellow Researchers) should be the main target audience. The issue of the evaluation of peer reviewing activities in the different Consortium countries was discussed: for example, in some countries this activity is not considered as relevant in national qualification systems, while in others it is scored. Many of the speakers from Editorial Boards were willing to collaborate.

**17:10 – 17:30**

**Preliminary Reflections on the organization of the Summer School “How to be an editor/member of editorial board” (Università di Bologna 2019, venue to be decided)**

**Chair: Prof. Benedetta Siboni (UNIBO Team); Participants: All attendees**

Both the Summer Schools will last one week (5 days), organized in ten sessions (morning/afternoon). A kit with practical material and tools will be supplied to the students. The Summer School will probably take place in July.

A dedicated webpage on the PLOTINA website (with links to institutional websites of the participants) for each Summer School, with all pertinent information and resources, will be created beforehand (M18-M46).

## REPORT ON THE WORKSHOP EXAMPLES OF GUIDE FOR AUTHORS INCLUDING GENDER/SEX VARIABLES FOR STEM JOURNALS

During the Workshop held at the University of Bologna, *The inclusion of sex and gender analysis in the guides for authors and calls for paper issued by scientific journals* (M20), all speakers explained that there is a wide gender gap on how sex or gender issues are reported in scientific research. Gender/sex issues and the application of gender analysis were presented as rarely included in the Journals' guide for authors across different scientific fields of the speakers. During the discussion that followed the speakers' presentations, participants emphasised the need to implement actions to enhance participation and commitment of female scientists as research peer-reviewers, editors and referees. Both speakers and participants agreed on the fact that an enzyme able of triggering their involvement would be the spread of guide for authors, with clear instructions on how to integrate the sex and gender analysis in scientific papers. For this particular reason, the speech of Dr. Heidari was particularly useful. Her contribution to the workshop was key in many aspects, since she has a longstanding experience in sharing and discussing with participants as Chair of the Gender Policy Committee of the European Association of Science Editors (EASE), Director of Reproductive Health Matters and as an editor of its journal. Her work at EASE is pioneering for academics and researchers looking for guidelines that encourage authors to disaggregate data by sex and to provide a gender analysis in manuscripts. She explained to participants how she has led the development of the SAGER<sup>2</sup> guidelines (Sex and Gender Equity in Research), a comprehensive procedure for reporting sex and gender issues in study design, data analysis, results and interpretation of findings. The guidelines represent a useful tool to standardize sex and gender inclusion in scientific publications, whenever applicable. Furthermore, they can encourage editors in the use of a practical instrument to evaluate a research manuscript and can function as means to raise awareness among authors and reviewers.

The guidelines were written under Dr. Heidari's coordination of a group comprised of Thomas F. Babor, Paola De Castro, Sera Tort and Mirjam Curno. The SAGER guidelines were developed thanks to 13 experts coming from nine different countries. Moreover, the authors conducted an internet survey of 716 journal editors, scientists and other members of the

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<sup>2</sup> Heidari S., Babor T.F., De Castro P., Tort S., Curno M. Sex and gender equity in research: rationale for the SAGER guidelines and recommended use. *Research Integrity and Peer Review* 2016; 1: 1.

international publishing community to elaborate a more systematic approach of the inclusion of sex and gender analysis in different fields of research. The survey results are very interesting: only 7% of the journals answered that they report gender and sex variables. After the survey the authors proceeded in the elaboration of the guidelines, that apply to STEM areas, since they were tailored on «all research with humans, animals or any material originating from humans and animals (e.g. organs, cells, tissues), as well as other disciplines whose results will be applied to humans such as mechanics and engineering»<sup>3</sup>.

Regarding the general principles given in the guidelines to the authors, in her presentation during the workshop Dr. Heidari explained that:

- authors should avoid any confusion in the use of the terms sex and gender;
- when the research subjects include organisms able of differentiating their sex, the research should be planned in a way that can take into account sex-related issues in the findings;
- when subjects present gender differences (informed by the socio-cultural context), the research should be designed accordingly to this variable.

The SAGER guidelines also provide clear instructions on how to organise the different sections of a scientific paper:

- in terms of the title and the abstract, if only one sex is involved in the paper, or if the findings of the research regard only one sex or gender, the title and the abstract should explicitly mention the sex of animals or cells, tissues and other material derived from these and the sex and gender of human participants;
- in terms of the introduction, if relevant, authors should report sex and/or gender differences;
- in terms of the methods, it is recommended to explain how sex and gender analysis has been included in the research design, how the methods guarantee an appropriate representation of males and females, and/or provide explanations for any exclusion of males or females;
- in terms of results, if relevant, data should be disaggregated by sex and gender and the findings of any sex/gender based analysis should be reported irrespective of their positive or negative results.

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<sup>3</sup> Ibid., p. 4.

During the workshop Dr. Heidari also shared with participants and with the PLOTINA Consortium the list of questions provided to the authors with the purpose of helping them in the process of integration of the gender and sex analysis. The key questions that the SAGER guidelines provide to the authors are the following:

- regarding research approaches: a) are the concepts of gender/sex used in your research project?; b) have you defined the concepts of gender and sex?; c) is it clear what aspects of gender and/or sex are being examined in your study?; d) if no, do you consider this to be a significant limitation?
- regarding research hypothesis: does your research hypothesis make reference to gender and/or sex, or relevant groups or phenomena?
- regarding literature review: a) does your literature review cite prior studies that support the existence (or lack) of significant differences between women and men, boys and girls, or males and female?; b) does your literature review point to the extent to which past research has taken gender or sex into account?
- regarding research methods: a) is your sample appropriate to capture gender and/or sex-based factors?; b) is it possible to collect data that are disaggregated by gender and/or sex?; c) are the inclusion and exclusion criteria well justified with respect to sex and gender?; d) is the data collection method proposed in your study appropriate for investigation of sex and/or gender? e) is your analytic approach appropriate and rigorous enough to capture gender and/or sex-based factors?
- regarding research ethics: does your study design account for the relevant ethical issues that might have particular significance with respect to gender and/or sex?

The spread of editorial policies for gender and/or sex-based analysis has been recommended also by Londa Schiebinger in an essay she wrote together with Seth Leopold and Virginia Miller, *Editorial policies for sex and gender analysis*<sup>4</sup>, for The Lancet. The recommendation written by Londa Schiebinger *et al.* was quoted by Astrid James in her presentation during the workshop, because they apply to the STEM area too. Summarising, the guidelines suggest to:

- use in an appropriate way the terms sex and gender;
- report sex, gender or both of the study participants, and the sex of animals or cells. If

<sup>4</sup> Leopold S., Miller V., Schiebinger L. Editorial policies for sex and gender analysis. The Lancet. 2016; 388: 2841–2842.

males and females are not taken equally into account authors should provide an accurate justification in the methods section;

- if appropriate, analyse the data disaggregating by sex, gender or both, or provide the raw data in the main manuscript or in an accessible data repository;
- explain the approach chosen for sex and gender analysis and comment it in the discussion section;
- examine the effect (or connection) of sex, gender or both on the findings of the research or justify in the methods section why such investigation was not accomplished.

Both Professor Schiebinger's recommendation and the SAGER guidelines – that can be considered as essential points of reference for future actions in this field – stress the need to report sex, gender or both of the research subjects not only to produce more methodologically rigorous and scientifically grounded results, but also to foster innovation in research. Moreover, they both share the suggestion to disaggregate data by sex and/or gender. These two issues were acknowledged by the workshop participants too as inescapable premises.

### Examples of guide for authors including gender/sex variables for STEM journals

Journal	Gender Policies in Guide for Authors
<p>The Lancet</p> <p>ISSN: 0140-6736</p> <p>Impact Factor 2016*: 47.831</p> <p><a href="http://www.thelancet.com/pb/assets/raw/Lancet/authors/tlhiv-information-for-authors.pdf">http://www.thelancet.com/pb/assets/raw/Lancet/authors/tlhiv-information-for-authors.pdf</a></p>	<p>For all study types, we encourage correct use of the terms sex (when reporting biological factors) and gender (when reporting identity, psychosocial, or cultural factors). Where possible, report the sex and/or gender of study participants, and describe the methods used to determine sex and gender.</p> <p>Separate reporting of data by demographic variables, such as age and sex, facilitates pooling of data for subgroups across studies and should be routine, unless inappropriate. Discuss the influence or association of variables, such as sex and/or gender, on your findings, where appropriate, and the limitations of the data.</p>
<p>Journal of the International AIDS Society</p> <p>ISSN: 1758-2652</p>	<p>Submitting authors shall include data disaggregated by sex (and, whenever possible, by race) and provide an analysis of gender and racial differences.</p>

<p>Impact Factor 2016*: 6.296</p> <p><a href="http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1758-2652/homepage/ForAuthors.html">http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1758-2652/homepage/ForAuthors.html</a></p>	
<p>Journal of Acquired Immune Deficiency Syndromes (Jais)</p> <p>ISSN: 1525-4135</p> <p>Impact Factor 2016*: 3.935</p> <p><a href="http://edmgr.ovid.com/jais/accounths/ifaauth.htm">http://edmgr.ovid.com/jais/accounths/ifaauth.htm</a></p>	<p>Submitting authors are strongly encouraged to include data disaggregated by sex (and, whenever possible, by race) and provide a comprehensive analysis of gender and racial differences. The authors should include the number and percentage of men, women and, if appropriate, transgender persons who participated in the research study. Anatomical and physiological differences between men and women (height, weight, body fat-to-muscle ratios, cell counts, hormonal cycles, etc.), as well as social and cultural variables (socio-economic, education, access to care, etc.), should be taken into consideration in the presentation of data and/or analysis of the results.</p>
<p>Cell</p> <p>ISSN: 0092-8674</p> <p>Impact Factor 2016*: 30.41</p> <p><a href="http://www.cell.com/cell/authors">http://www.cell.com/cell/authors</a></p>	<p>The sex and gender, or both, must be reported for human subjects, and the sex of animal subjects and cells must be provided. In cases where this is appropriate, the influence (or association) of sex, gender, or both on the results of the study must be reported. We also require reporting of the age or developmental stage of subjects. If there are technical or scientific reasons why sex/gender and age/developmental stage cannot be reported, a statement must be provided to disclose this and the reasons why. The editors reserve the right to seek comments from reviewers or additional information from authors on any cases in which concerns arise.</p>

\*Web of Science - JCR® Category - Data from the 2016 edition of Journal Citation Report

## FOLLOW-UP

The PLOTINA Consortium strongly believe that there is an urge to increase actions to integrate the gender/sex analysis in scientific journals and editorial boards and that the members of editorial boards should promote gender related research. For this reason, the Consortium planned to dedicate a specific section, at the end of the Workshop, to the organization of 2 Summer Schools. Since the two Summer Schools focused on the topics “How to be a Peer Reviewer?” and “How to be an Editor/member of Editorial Board?”, according to the PLOTINA Grant Agreement, the contributions of international experts (members of several editorial boards and peer-reviewers) informed the RPOs regarding the overall design, content and organisation of the summer schools. The Consortium discussion on the two Summer Schools is reported at the end of the section *Report on the discussion workshop*.

The organization of the two Summer Schools will contribute to raise awareness among scholars about the significance of integrating the gender/sex based analysis in their scientific publications. Moreover, the two Summer Schools represent an opportunity for the whole Consortium to enhance and consolidate networking with editors, editorial board members and peer-reviewers.

Furthermore, this deliverable itself and its annex will be inserted in the teaching materials that will be distributed among participants, as well as the experience in the field gained through the workshops will be disseminated as widely as possible in all PLOTINA communication tools (PLOTINA website, newsletters, social networks, RPO’s websites, etc.)

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## **ANNEX: SPEAKERS' PRESENTATIONS**



PLOTINA

Promoting gender balance and inclusion  
in research, innovation and training



12 September 2017

## Workshop: Integrating sex and gender in scientific journals


Prof. Gallina Toschi, Coordinator, PLOTINA Horizon 2020 Project, University of Bologna, Italy

Project H2020 (2015-2020) GA n° 666008 coordinated by  
Alma Mater Studiorum – Università di Bologna  
Prof. Tullia Gallina Toschi



Funded by the Horizon 2020 programme  
of the European Union

PLOTINA has received funding from the European Union's Horizon 2020 research  
and innovation programme under grant agreement (GA NO 666008).  
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PLOTINA



Promoting gender balance and inclusion  
in research, innovation and training  
[www.plotina.eu](http://www.plotina.eu)

## PLOTINA: the Consortium

PLOTINA is an EU funded H2020 project that started in February 2016 (total duration: 48 months).

PLOTINA Consortium exemplifies the diversity of European RPOs in terms of social and cultural environments as well as the diversity of competences and know-how needed to set up processes enabling a gender-aware cultural change.

PLOTINA Consortium, under the coordination of the **Università di Bologna** (Italy), brings together five Universities (**Università di Bologna**, **University of Warwick**, **Instituto Superior de Economia e Gestao**, **Mondragon Unibertsitatea**, **Özyegin Universitesi**), a research centre (**Kemijski Institut**, Slovenia), two professional associations (**Centro Studi Progetto Donna e Diversity MGMT**, **Elhuyar-Zubize SLU**), a non-profit research organisation (**Zentrum für Soziale Innovation GMBH**), and a social enterprise (**Elhuyar Komunikazioa ELH KOM**).

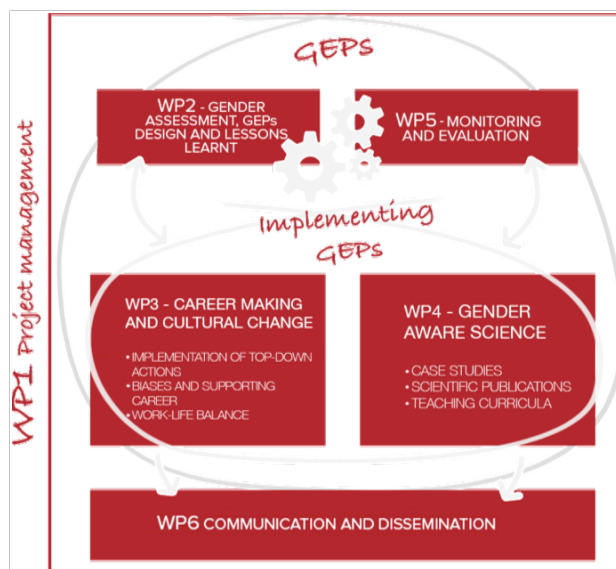



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author and do not necessarily reflect the views of the European Commission.

Overall objective: to enable the development, implementation and assessment of **self-tailored Gender Equality Plans** with innovative strategies for the RPOs involved, by: **stimulating a gender-aware culture change; promoting career-development of researchers to prevent the waste of talent, particularly for women; ensuring diversification of views in research and teaching.**

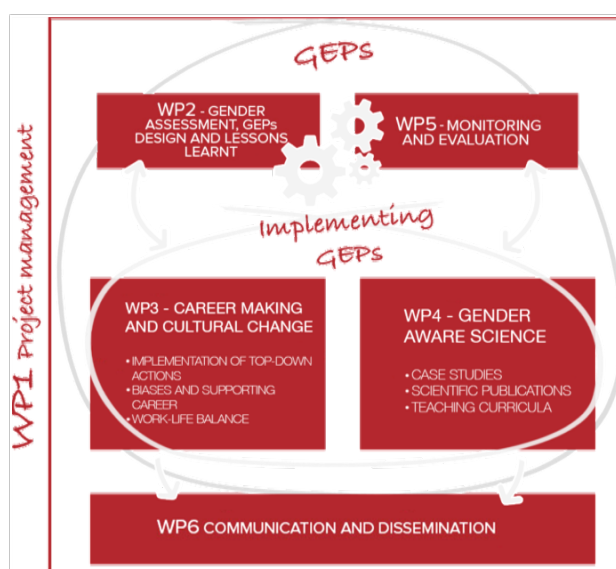
## PLOTINA: the Project



PLOTINA aims at:

- preventing underutilization of qualified female researchers by **removing barriers to recruitment, retention and career progression**, allowing the EU to benefit from the talents of all its researchers;
- improving decision making by **addressing gender imbalances; incorporating the sex/gender dimension in research** especially where not applied.

## PLOTINA: the Project



## PLOTINA first stages and ongoing processes

### Stages of development:

1. ☒ **Assess the current situation in RPOs;**
2. ☒ **Design Gender Equality Plans for each RPO;**

### Plotina work in progress:

3. Design, implement and evaluate Actions in the RPOs;
4. Create a platform of resources that can be used by RPOs across Europe to implement their own GEPs.

### Gender Audit (GA)

*A gender audit assesses the extent to which gender equality is effectively institutionalized in the policies, programs, organisational structures and proceedings (including decision-making processes) and in the corresponding budgets. It is essentially a “social audit”, and belongs to the category of “quality audits”, which distinguishes it from traditional “financial audits” (EIGE - <http://eige.europa.eu>).*

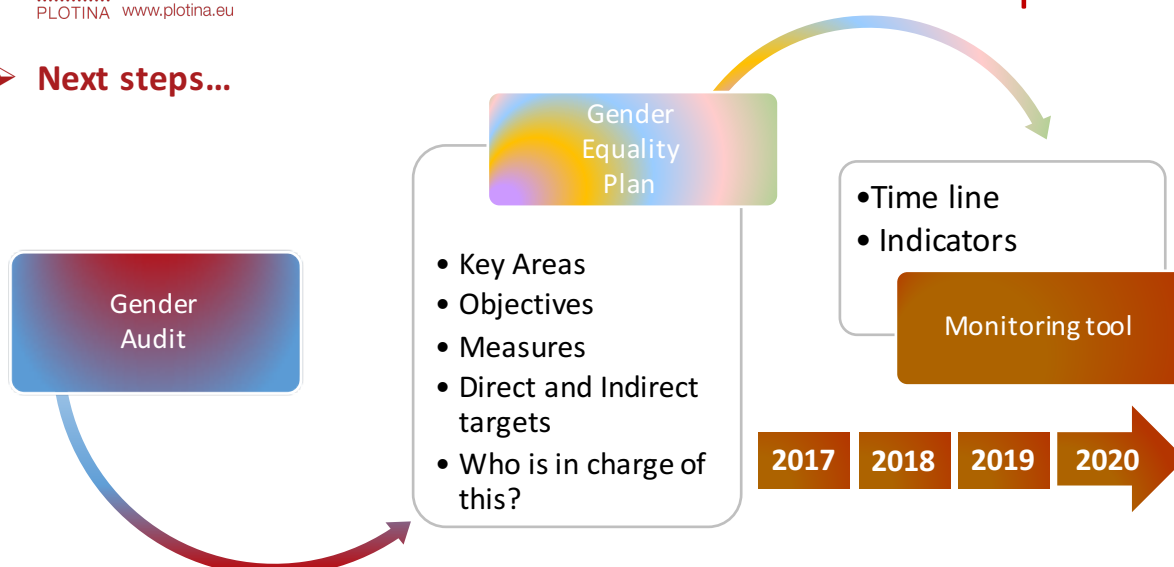


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## Lesson learned and future developments

### ➤ Next steps...



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## WP4: Gender-aware science [M12-48]

Task 4.7 Leader UNIBO, WARWICK

Actions to **enhance participation and commitment of female scientists as research peer-reviewers, editors and referees**. Several Journals have reported a wide gender gap on how sex or gender issues are reported in scientific research. Gender/ sex issues and the application of gender analysis are rarely included in the Journals' guide for authors. PLOTINA will organize a discussion workshop (M20) on the inclusion of sex/gender variables in the guides for authors and in the calls for papers issued by the scientific journals. The output of the workshop will be reported as minutes (D4.1, M22).

Two **Summer Schools** will be organized on the topics "**How to be a Peer Reviewer?**" and "**How to be an Editor?**" at WARWICK and UNIBO, respectively. The Summer Schools will last one week (5 days), organized in ten sessions (morning/afternoon). A kit with practical material and tools will be supplied to the students. A dedicated webpage on the PLOTINA website (with links to institutional websites of the participants) for each Summer School, with all pertinent information and resources, will be created beforehand (M18-M46).

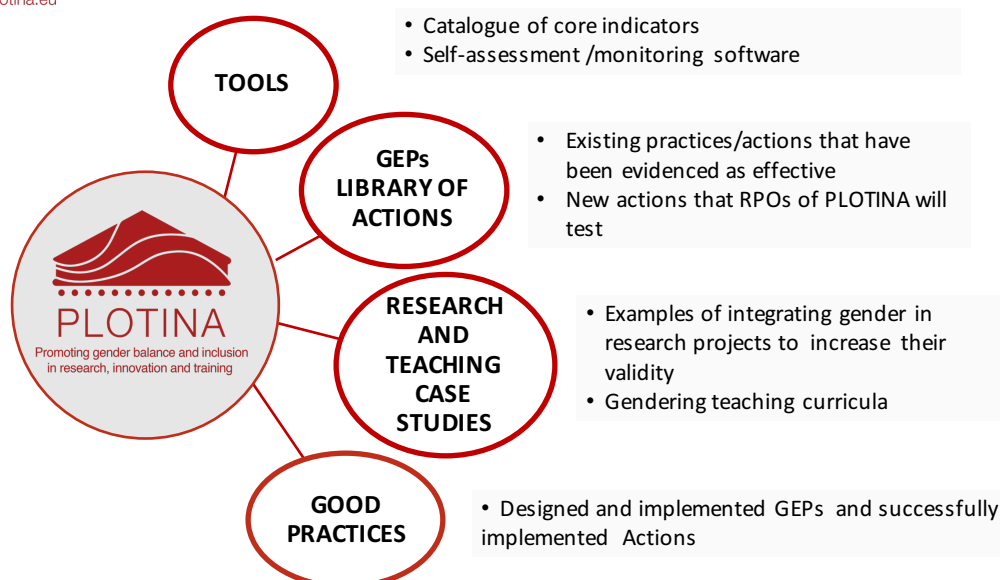
Task 4.7 Leader UNIBO, WARWICK



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## Expected outputs...PLOTINA Challenges



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Thank you  
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# Gender bias and peer-reviewed science publishing: Challenges and opportunities

Judith Crews  
Executive Editor  
*Journal of Food Composition and Analysis*

Dear respected Editor of JFCA,  
Sir,

I contact you about your decision about our manuscript submitted in  
July to JFCA...

What is the status please of this manuscript:  
Journal title: Journal of Food Composition and Analysis

Article title: Characterization of polyphenolic compounds in  
XXXXXXXXXX fruits (*Latin name*) by HPLC-DAD-ESI-MS

Manuscript number: JFCA-D-17-00XXX



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Default Login Role: Reviewer ☐

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Sessions require 10-15 minutes to complete. Each time you begin a session you will be randomly assigned to a topic. Try one or do them all! At the end of the session, you will get some information about the study and a summary of your results. We hope that you will find the experience interesting and informative.

If you haven't already registered, [fill out a brief form to register](#) and then begin! This site is free and there are no advertisements.

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<https://implicit.harvard.edu/implicit/selectatest.html>, or just Google "Implicit Association Test"

## **Promoting sex/gender analyses in clinical research – a journal editor's view**

Alma Mater Studiorum Università di Bologna  
Sept 12 2017

Dr Astrid James  
Deputy Editor  
The Lancet

[Astrid.james@lancet.com](mailto:Astrid.james@lancet.com)

THE LANCET

The best science for better lives



## **The Lancet's leadership team**

The Lancet Strategic Leadership – 3 women, 2 men (RH, AJ, DC, JQ, SK)

The Lancet Journals Editors-in-Chief – 8 women, 6 men (RH, DC, JMc, EBB, EG, ZM, NB, PH, L-LS, Rob B, SL, Raff B, AC, JG)

The Lancet Senior Editorial Team – 3 women, 3 men (RH, AJ, SK, BS, SS, PD)

The Lancet's International Advisory Board – 12 women, 12 men

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## **Mainstreaming gender into global health**

- Disaggregation by gender or sex in health research, interventions, monitoring, and evaluation
- Appreciation that gender norms contribute to disparities in the burden of ill health on men and women
- Acknowledgment that gender in global health is a political issue

## Review



### Why do women choose or reject careers in academic medicine? A narrative review of empirical evidence

Laurel D Edmunds\*, Pavel V Ovselko\*, Sasha Shepperd, Trisha Greenhalgh, Peggy Frith, Nia W Roberts, Linda H Pololi, Alastair M Buchan

Lancet 2016; 388: 2948-58

Published Online

April 15, 2016

[http://dx.doi.org/10.1016/S0140-6736\(15\)01091-0](http://dx.doi.org/10.1016/S0140-6736(15)01091-0)

\*Contributed equally

Radcliffe Department of Medicine, Medical Sciences

Women are under-represented in academic medicine. We reviewed the empirical evidence focusing on the reasons for women's choice or rejection of careers in academic medicine. Using a systematic search, we identified 52 studies published between 1985, and 2015. More than half had methodological limitations and most were from North America. Eight main themes were explored in these studies. There was consistent evidence for four of these themes: women are interested in teaching more than in research; participation in research can encourage women into academic medicine; women lack adequate mentors and role models; and women experience gender discrimination and bias. The evidence was conflicting on four themes: women are less interested in research than men; women lose

## Women in academic medicine

- Equal proportions of men and women in medical school
- Considerable under-representation of women in academic medicine --> *worsens the further up the ladder*
- Waste of intellectual capital, lack of diversity in agenda-setting, constrains women's goals, perpetuates serious discrimination



## The Lancet journals' guidelines on sex/gender analyses in clinical research

- Before Nov 2011, ICMJE "Where scientifically appropriate, analyses of the data by such variables as age and sex should be included"
- 1<sup>st</sup> European Gender Summit Brussels, Nov 8-9, 2011
- The Lancet journals changed its guidelines for authors Nov 26, 2011

THE LANCET

The best science for better lives

# THE LANCET

Volume 378 • Number 9806 • Pages 1825-1894 • November 26-December 2, 2011 [www.thelancet.com](http://www.thelancet.com)

*"The Lancet encourages researchers...to plan to analyse data by sex, not only when known to be scientifically appropriate, but also as a matter of routine."*

See Editorial page 1826

#### Comment

Assessment of syndromic surveillance in Europe  
See page 1833

#### Articles

SCORIO: Cardiac stem cells in patients with ischaemic cardiomyopathy  
See page 1847

#### Articles

Intensified chemotherapy with ACVBP plus rituximab versus standard CHOP plus rituximab for diffuse large B-cell lymphoma  
See page 1858

#### Articles

MARQ: Self-collection of vaginal specimens for human papillomavirus testing in cervical cancer prevention  
See page 1868

#### Seminar

Combining disorders  
See page 1874

## Types of article and manuscript requirements

Please ensure that anything you submit to *The Lancet* follows the guidelines provided for each article type. For instruction on how to format the text of your paper, including tables, figures, panels, and references, please see our [Formatting guidelines](#).

### Red section (Articles and Clinical pictures)

#### Articles

- *The Lancet* prioritises reports of original research that are likely to change clinical practice or thinking about a disease ([Lancet 2000; 356: 2–4](#))
- We offer fast-track peer review and publication of randomised controlled trials that we judge of importance to practice or research (see [Fast-track publication](#))
- We invite submission of all clinical trials, whether phase 1, 2, 3, or 4 (see [Lancet 2006; 368: 827–28](#)). For phase 1 trials, we especially encourage those of a novel substance for a novel indication, if there is a strong or unexpected beneficial or adverse response, or a novel mechanism of action
- We encourage researchers to enrol women and ethnic groups into clinical trials of all phases, and to plan to analyse data by sex and by race
- Systematic reviews of randomised trials about diseases that have a major effect on human health also might warrant rapid peer review and publication
- Global public-health and health-policy research are other areas of interest to *The Lancet*
- We require the registration of all interventional trials, whether early or late phase, in a primary register that participates in WHO's [International Clinical Trial Registry Platform](#) (see [Lancet 2007; 369: 1909–11](#)). We also encourage full public disclosure of the minimum 20-item trial registration dataset at the time of registration and before recruitment of the first participant (see [Lancet 2006; 367: 1631–35](#)). The registry must be independent of for-profit interest
- Reports of randomised trials must conform to [CONSORT 2010 guidelines](#), and should be submitted with their protocols
- All reports of randomised trials should include a section entitled Randomisation and masking, within the Methods section. Please refer to *The Lancet's*

## Taking sex into account in medicine



For the European Gender Summit see <http://www.gender-summit.eu>  
For the systematic review on smoking and coronary heart disease see [Articles Lancet 2012; 378: 1297–305](#)  
For more on methods of sex and gender analysis see <http://www.gendersonmedicine.eu>  
For more on prescribing see <http://www.gpharms.com/blue-pill-pink-pill-does-gender-matter.asp>

Throughout Europe, despite women often forming the majority of students at university, fewer women than men are appointed to high-level jobs in medicine and science. Evidence presented at the first European Gender Summit in Brussels (Nov 8–9) illustrates that without targets or quotas, it will take decades, maybe centuries, to reach equality at the top. Female role models, mentors, and family friendly employment policies encourage and allow women to aim high. Moreover, gender-diverse teams have higher team IQs and promote innovation. But the case for equality is not only about who makes it to the top, it is also about medicine itself. What women can do for medicine is one thing; what medicine can do for women is also important.

In medicine too, the common assumption is that men and women experience disease and react to treatment in the same way. Increasingly, though, there is evidence to the contrary. A systematic review published in August online in this journal showed that women who smoke have a higher risk of coronary heart disease than do male smokers. Female smokers also have a higher

risk of lung cancer than do male smokers. Overall, in most types of cancer, women have higher 5-year survival than do men. In stroke, atrial fibrillation is one example of a more important risk factor in women than in men. Overall, in many diseases, women have more side-effects from treatment than do men. When the pharmacokinetic and pharmacodynamic characteristics of drug metabolism in men and women are analysed, in some cases the unexpected finding would be if sex had no effect. Body surface area, body mass, and the amount of adipose tissue can all affect response to treatment. Therapeutic drug monitoring is the ideal, but impractical in many settings.

Being male or female might be a more important determinant of health, illness, and response to treatment than is known. To find out, and to aid meta-analysts, *The Lancet* encourages researchers to enrol more women into clinical trials of all phases, and to plan to analyse data by sex, not only when known to be scientifically appropriate, but also as a matter of routine. ■ *The Lancet*



## Promoting equity through sex-specific medical research



For Sex-Specific Medical Research: Why Women's Health Can't Wait see [http://www.brighamandwomens.org/Departments\\_and\\_Services/womenshealth/ConnorsCenter/Policy/ConnorsReportFINAL.pdf](http://www.brighamandwomens.org/Departments_and_Services/womenshealth/ConnorsCenter/Policy/ConnorsReportFINAL.pdf)

On March 3, the Mary Horrigan Connors Center for Women's Health and Gender Biology at Brigham and Women's Hospital released *Sex-Specific Medical Research: Why Women's Health Can't Wait* at a women's health summit in Boston, MA, USA. The report aims to assess progress on inclusion of women in clinical research as mandated in the National Institutes of Health (NIH) Revitalization Act of 1993, which sought to make greater representation of women and minorities in health research a US national priority. Recognising that women and men have different risks for the onset, course, and treatment response of many diseases, it is important to integrate sex-specific analysis in all aspects of research—from basic science to clinical trials, and in subsequent translation into practice and evaluation of clinical outcomes.

The report acknowledges that notable advances have been made in maternal health, but notes that sex differences are frequently excluded or inadequately addressed, especially in early stage research. Although women are now routinely included in clinical trials, equity

is far from being achieved. To address research disparities, the report recommends that US Federal Agencies, including the NIH, should require design, analysis, and reporting of health research by sex; promote transparency and disclosure regarding the absence of sex-specific health research on new drugs and devices; and adopt clinical practices and training curricula that incorporate gender equity in health research.

Despite advances in women's health, such as reductions in the burdens of cervical cancer and heart disease in women, there is still much to do; for example, the growing burden of Alzheimer's disease will affect women disproportionately. Greater attention to sex differences in clinical research will be needed to achieve equitable health outcomes and to improve quality of care. The report calls for renewed attention to the ideals of the NIH Revitalization Act to ensure that health research at all levels is planned and undertaken with appropriate sex-specific analyses—ideals that should be embraced internationally. ■ [The Lancet](#)

## Key issues on gender in publishing at Elsevier

1. Editorial policies and guidance to authors on reporting sex and gender in research
2. Gender diversity for reviewers, editors, and editorial board staff in journals
3. Gender diversity for speakers/panelists at Elsevier conferences
4. Adapt internal data systems to capture gender metrics
5. Address unconscious bias during peer review
6. Promote research and publishing studies on i) sex & gender in research, ii) diversity in STEM, and iii) women's health research
7. Seek gender balance in internal/external communications & outreach
8. Enhance gender diversity within Elsevier management ranks and gender parity across the organization –EDGE Initiative
9. Apply analytics to gender in research and publishing



## Elsevier editorial policies on sex and gender in research

**Drivers:** Milka Kostic, Astrid James, George Woodward, Holly Falk-Krzesinski, Yann Schemm

**What we did:**

- worked with Londa Schiebinger at Stanford University's Gendered Innovations to develop a policy brief on empirically-derived recommendations.
- Presented these to the industry editorial bodies International Committee of Medical Journal Editors (ICMJE) and Council of Science Editors (CSE) to consider adopting
- The white paper has been published as an editorial in the Lancet.
- Subsequently ICMJE integrated key aspects of the white paper in their "Recommendations for the Conduct, Reporting, Editing and the Publication of Scholarly work in Medical Journals."

**NEXT STEPS for STMJ:**

- consider changes we should make to our own Guidelines for Authors based on the white paper and the European Association of Science Editors (EASE)'s new SAGER guidelines.
- Review internal inventory of (HMS) journals that have already adopted sex/gender reporting in their editorial policies and consider out to engage those who have not.
- Milka to follow up with CSE on their implementation plans for the guidelines.

## Elsevier editorial board gender diversity

**What we did:**

- In 2016 launched a 3 year engagement-driven pilot to track and boost gender balanced editorial recruitment in Energy & Earth sciences journals
- Mid year survey for all level 1 & 2 editors (ca 264, 38% response rate) to understand the differing needs of men/women editors on incentives
- Presented at "Media and meritocracy - #gender #bias?" University of Copenhagen Dec 2016
- Developed tool to enable editors and publishers to accurately map gender parity in every research discipline. (Matches Scopus data with social media and sociolinguistics data to assign a gender to Scopus author profiles)

**NEXT STEPS for STMJ:**

- Present 1 year results/key findings to STMJ to consider & introduce gender mapping tool. **Sneak peak: across 98 titles in 2016, recruited 34 new women editors but best in class 1:4 women:men, some subjects such as maths 1:10 – much work needed**
- Develop the gender mapping tool into an STMJ resource to guide publisher planning for gender diversity on editorial boards
- Consider offering the tool across academia as follow up to Elsevier's gender report

# Gender analytics in research

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**Research Intelligence**

We cordially invite you to [attend the presentation](#) of a new public report from Elsevier:

**Gender in the Global Research Landscape**

A comprehensive new report analyzing research performance through a gender lens – across 20 years, 12 geographies, and 27 subject areas

March 31, 2017  
9:00 AM – 2:30 PM  
Followed by a *Networking Reception*  
The National Press Club, Washington, DC

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Produced by Elsevier in collaboration with experts from around the world, *Gender in the Global Research Landscape* will provide powerful insight through an evidence-based examination of the scholarly output and impact of research through a gender lens to inform governments, funders, and institutions.

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**What we did**

- Worked with the analytics group to apply a new gender methodology across 12 countries and 27 research areas to provide research leaders with bibliometric and qualitative analyses of the outputs, quality, and impact of research through a gender lens.
- Additional analyses on: productivity across a researcher's career; Mobility by gender; Network reach by gender; impact of author position by gender

**NEXT STEPS**

- Launch of report March 31<sup>st</sup> National Press Club
- Presentations at Asian & NA Gender Summits
- Identification of industry conference presentations
- Disseminate report through editor meetings, researcher channels; equip publishers to share at their editorial board meetings



## Gender in the Global Research Landscape

Analysis of research performance through a gender lens across 20 years, 12 geographies, and 27 subject areas

Elsevier 2017

THE LANCET



**There is incremental progress towards gender balance in research**

- Between 1996-2000 and 2011-2015, the proportion of women among researchers increases in all 12 comparator countries and regions.
- The share of women among researchers differs across fields of research: Health and Life Sciences fields are found to have the highest representation of women.
- Women's scholarly output includes a slightly larger proportion of highly interdisciplinary research than men's.
- Women are slightly less likely than men to collaborate across academic and corporate sectors on papers.
- Among researchers, women are generally less internationally mobile than men.

## ICMJE Recommendations on sex/gender analyses in clinical research

ICMJE annual meeting Cologne Nov, 2016 – I presented Londa Schiebinger et al's white paper (later published in The Lancet on Dec 10, 2016)

ICMJE Recommendations updated (**shown here in bold**) Dec, 2016 under Selection and Description of Participants "Because the influence of such variables as age, sex, or ethnicity is not known at the time of study design, researchers should aim for inclusion of representative populations into all study types and at a minimum provide descriptive data for these and other relevant demographic variables. **Ensure correct use of the terms sex (when reporting biological factors) and gender (identity, psychosocial or cultural factors), and, unless inappropriate, report the sex and/or gender of study participants, the sex of animals or cells, and describe the methods used to determine sex and gender**"

and in Results "Separate reporting of data by demographic variables, such as age and sex, facilitate pooling of data for subgroups across studies and should be routine, unless there are compelling reasons not to stratify reporting which should be explained"

and in Discussion "**Discuss the influence or association of variables, such as sex and/or gender, on your findings, where appropriate, and the limitations of the data**"

THE LANCET

The best science for better lives

## The Lancet journals' guidelines for authors on sex/gender analyses in clinical research

Updated January, 2017 to reflect new ICMJE Recommendations:  
"We encourage researchers to enrol women and ethnic groups into clinical trials of all phases, and to plan to analyse data by sex and by race"

**"For all study types, we encourage correct use of the terms sex (when reporting biological factors) and gender (when reporting identity, psychosocial, or cultural factors). Where possible, report the sex and/or gender of study participants, and describe the methods used to determine sex and gender. Separate reporting of data by demographic variables, such as age and sex, facilitates pooling of data for subgroups across studies and should be routine, unless inappropriate. Discuss the influence or association of variables, such as sex and/or gender, on your findings, where appropriate, and the limitations of the data"**

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## **Guidelines on reporting sex and gender in medical journals**

- 1 Require correct use of terms sex and gender
- 2 Require reporting of sex, gender, or both of study participants
- 3 Consider analysing data by sex, gender, or both where appropriate, or providing raw data
- 4 Analyse the influence (or association) of sex, gender, or both on results
- 5 If sex or gender analyses performed post hoc, discuss limitations appropriately

Schiebinger L, Leopold SS, Miller VM. Lancet 2016; 388:2841-42

THE LANCET

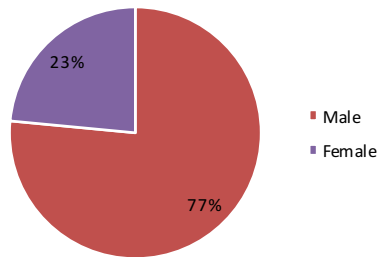
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## **The Lancet's Comment section** (editorial-style commentaries by independent experts)

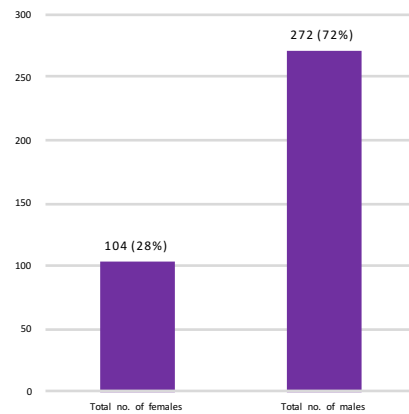
- Put research articles in context for readers including the strengths, limits, importance
- Highlight a burning issue or problem
- Shape clinical opinion
- Contribute to global health and clinical debates
- Very well read

## Comment authorship (2016)

Corresponding authors (n=166)



All authors (n=376)



## Almost half of Comments have a female author

- Number of Comments with female authors = 78 (47.0%)
- Number of Comments with male authors = 145 (87.4%)

## Comments underrepresent women

- Women make up 50-55% of medical students in US and UK
- *US*: women are 60% of paediatricians, 51% of ob/gyn
- *US*: women are 60% of dermatology trainees and 38% of general surgery trainees

## High-impact Comments (2016)

- Yellow fever 'raise the alarm'
  - 8 authors, all men
- Mental health 'out of the shadows'
  - 7 authors, 2 women
- UN high level meeting 'call to action' microbials
  - 11 authors, 1 woman
- Only 2 multi-author Comments with all women:
  - *Human resources for health: time to move out of crisis mode* (4 authors)
  - *England's teenage pregnancy strategy* (2 authors)

## High-profile Comments (2016)

- France series of 2 papers, wide media coverage, huge launch, 6 Comments
  - 8 authors, 1 woman
- Adolescent Health Commission, launch at UN GHA, 3 Comments
  - 4 authors, 2 women
- Call to Action on Transgender Health, first for a medical journal
  - 7 authors, 1 woman

## Women and peer review

- *Some evidence*: Women publish less, present less at conferences, and blog less in science.
- *Some evidence*: Low rates of participation by women as peer reviewers.
- *One recent study* in ecology: women editors choose more female peer reviewers, and that female peer reviewers accept at higher rates.
- *Some evidence*: younger and female peer reviewers provide higher quality reviews



## Where are our biases?



- *More upstream*: Comment audit reflects our peer reviewer choices
- *More reflexive*: Be mindful and explicitly choose (and encourage others to choose) women and LMIC colleagues
- *More creative and expansive*: This is not a pipeline problem!
- *More proactive*: Ask for women or LMIC co-authors

## What works against us?



- Need for speed
    - Women less likely to commit to something they know they won't have time for (don't have support for)
  - "Nothing to say"
    - Women more realistic about (undersell) the contribution they can make
- Don't want to disappoint or let down

## **Next steps at The Lancet journals**

Analyse Comment data on diversity (sex and geography) in The Lancet Psychiatry

Expand analyses to research papers beginning with The Lancet and The Lancet Psychiatry – are our guidelines adhered to?

Raise awareness among editors and authors

Commissioning – choice of authors

Peer reviewers

Editorial boards

Recruitment

Templates – reinforcement/reminder

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## **Editorial leadership in promoting diversity**

Internally - raise awareness, reminders, part of everyday thinking, role models, mentorship, present data at strategy sessions

Externally - promote at conferences – EASE, ICMJE, Peer Review Congress Elsevier STMJ Gender Working Group

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**Promoting sex/gender analyses in  
clinical research – a journal editor's view**

Questions?

Follow-up welcome!

[astrid.james@lancet.com](mailto:astrid.james@lancet.com)

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# The Gendered Landscape of Journal Publication in Accounting

Jane Broadbent, Royal Holloway University of London.  
Richard Laughlin, Kings College London University of London.

- There are a number of ways of considering gender and publication. One concerns the aspect of how many women are being published as authors. Another concerns the opportunities to consider aspects of gender in our research. There may be other considerations but these are the two that our presentations will consider.

## **Starting Points in our joint research: some personal context.**

- In the context of our own joint work: the early recognition that JB needed to differentiate her own contribution - early research assessment and probation considerations.
- issues around gender arose in the research we were doing leading to JB focusing on these as sole researcher.
- decisions about author order on publications
- Outcome therefore was that gender became an element that affected our approach to research and publication at a very early stage of JB's career and the joint academic partnership that we had for over 25 years.

## **More personal reflections affecting our joint research careers: additional context**

- Despite the best efforts of Richard it has remained difficult for Jane to be seen as an intellectual equal to him.
- My career (JB) has substantively been one where I have managed to achieve senior positions as number two - to a male number one.
- The one achievement JB has is the editorship of Public Money and Management ... after approx 8 years as Deputy editor handling the majority of the reviewing allocations and decisions.

### Some more contextual and anecdotal thoughts about publication and conference calls and my own situation (Jane's confessions!)

- On one level I have never felt that it was problematic to engage with gender related work, and conferences I have attended have always been open to and mentioned gender as a topic for consideration.
- BUT my least cited work has been the paper that I wrote that addressed issues of gender
- AND I fear when I was editor of PMM I did not take any **proactive** steps to promote women's issues. I published a lot of women and used women reviewers, but was not systematic
- ALTHOUGH as a senior academic I worked hard for women in relation to promotion and appointment decisions. These of course were often affected by publication patterns.

## Structure of our two presentations

- **Overall driver for the two presentations is that lack of opportunity for women in relation to publications has material effects on their careers and this in turn has impact on developing more female academics in research careers**
- We recognise the difference between publication of research into gender issues and the gendered pattern of publication (cf. Broadbent, (2016) A Gender Agenda, *Meditari Accounting Research* 24 (2) pp. 169 – 181
- **First** presentation will look at the gendered patterns of publication and is, in essence, more descriptive of the opportunities women have managed to (or not) achieve in terms of publication. It is about the gendered division of labour in the accounting and finance academy
- Demonstrates that women are often underrepresented in terms of volumes of publication and forms a platform from which to consider different aspects of this situation.
- **Second** presentation will look at the publication of gender research as well as the modes of domination that exclude the publication of women's research and publications relating to gendered aspects of accounting.

- **To repeat:** We are all aware that publications are important for women careers and obviously it is important to know more about women's publication records.
- A priori we also argue that women have and will be more likely to research gendered aspects of accounting. It follows that it is important to consider this gendered aspect of accounting as well because they are interrelated. We have tried to separate them for ease of presentation.

## So what about gendered publication patterns?

- Reviewing promotions and appointment applications over many years convinces us that on average women tend to have fewer publications than men.
- A very unscientific review of 3 issues of two journals in 2017
- The Accounting Review
  - American and positivist in approach
- Accounting Auditing and Accountability Journal
  - Australian and interdisciplinary / critical
- Both well respected in their fields
- Positivist work still perceived more generally as more prestigious and publications in these journals equally seen as very desirable by those adhering to this myth.

	The Accounting Review	Accounting Auditing and Accountability Journal
male authors	79%	58%
female authors	21%	42%
all male authors on papers	15/30	7/28
all female authors on papers	nil/30	7/28

- so men are better represented in the positivist journal and more equally in the interdisciplinary/positivist one
- no paper with only women authors in the positivist journal
- given gender proportions in the academy overall women may well be argued to be over-represented in interdisciplinary and critical work.
- remember the myth of hierarchies of esteem attached to positivist journals...



## Problems of this snapshot

- Basically anecdotal, not rigorous but simply provides a snapshot.
- authorship not in itself reflective of the work that has been done and who has done it... inclusion of supervisors on PhD papers for e.g.
- does not reflect the gender balance of the academic profession which is itself skewed by raw balance of men and women, balance at different levels of seniority, and balance in different sub fields of the discipline.
- BUT we believe this is not dissimilar to general patterns of publication and is the reality that is seen by journal readers...

## Implications of differential publication patterns

- Problematic patterns of publication for appointments and for promotion. Thus women are not yet represented fairly at the senior levels of the profession (and incidentally when they get there they are not as well paid see Broadbent, A Gender Agenda, *Meditari Accounting Research* 24 (2) pp. 169 – 181 (2016) ).
- Women are not as able to influence broader agendas.
- Fewer women role models and mentors
- Vicious circle of subordination

## Editorial Boards

- One might hope that if women were engaged in refereeing and editorial work this would enable women's voices to be more visible
- In relation to female representation on editorial boards more scholarly work exists
- Dhanani and Jones (2017) 'Editorial Boards of Accounting Journals: gender diversity and internationalisation.' *Accounting Auditing and Accountability Journal* 30(5) pp.1008-1040.
- Comparison of boards of 50 journals looking at profiles at start and end point of a 10 year period, 1999-2009.

- Argues that diversity is important as it has been shown that men and women work in different sub-fields (*true but worrying*)
- Looks at board composition of journals segregating those that are seen as highly ranked and less highly ranked (*ranking of journal problematic and arguably spurious but has material effects*)
- Takes into account the gender balance in the academic profession overall.
- Cannot reflect whether workloads of editorial board members is the same i.e. do some work harder than others

## Findings related to gender

- Female editorial board representation rose for the vast majority of journals.
- UK was the only place where some information on gender in the accounting area could be supplied: in 1999 there were relatively more female members of UK based journals' editorial boards than in the academy. By 2009 the proportion of females on editorial boards was nearer to that in the academy more generally but still a little over. so arguably OVERALL there is no proportional gender representation problem.

- **However**, when ranking of journals and board diversity was explored there was lower female representation on the boards of higher status journals and higher representation on lower status journals...
- For avoidance of doubt: men dominated in higher ranked journals and the difference was statistically significant. (lower status individuals have to work harder for equality based on their status not their capability)
- Positivist journals had lower female representation - remember the issues about prestige..
- In summary women were accorded less prestige.
- Overall however over the period the differences between type of journals reduced over the period as female representation rose over the period.
- FEW Journal editors were female

## publication patterns and editorial board patterns

- rather similar despite the anecdotal nature of the former category
- women contribute more (work harder) in areas that are less esteemed in that they are better represented in those areas.

## Other Aspects of Gender related publication

- We could find few positivistic papers in accounting that related to gender at all. Some work on female directors - gendered division of labor
- No positivist focussed journals had used special issues or themed issues to highlight any aspects of gender.
- Accounting, Auditing and Accountability Journal; Critical Perspectives on Accounting; and Accounting and Organizational Change had all had special or themed issues on gender.
- Only Critical Perspectives on Accounting mentions gender explicitly in its scope statement. Two of its 3 editors are women.

## Conferences and calls for papers

- More attention paid to gender here in respect of the conferences associated with the interdisciplinary and critical journals and indeed Meditari (one of the up and coming journals increasing its reputation) had a conference which highlighted gender and the interdisciplinary and critical journals more generally are open to papers relating to gender.
- On the whole (see earlier analysis) this does not seem to attract sufficient papers or to enable papers to progress through to publication.

## In Summary

- In finishing this part of our commentary then a number of issues seem to be clear:
  - women are not finding roles in the editorial process that reflect parity of prestige (highly rated vs lowly rated journals)
  - women are more successful as publishers and editors in the interdisciplinary and critical field vs the positivist field. The former are often not conferred higher prestige whether they deserve it or not
- The impact on women's careers is, we argue, material.



## PLOTINA Workshop

*Experiences and observations on the inclusion of gender/sex variables in Engineering based editorial actions*

*Bologna, 12<sup>th</sup> of September 2017*

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IL PRESENTE MATERIALE È RISERVATO AL PERSONALE DELL'UNIVERSITÀ DI BOLOGNA E NON PUÒ ESSERE UTILIZZATO AI TERMINI DI LEGGE DA ALTRE PERSONE O PER FINI NON ISTITUZIONALI



## Summary



1. Under representation of female students and employers in engineering and aeronautical industry.  
**The IN2SAI Project**
2. Observation on the **guidelines** on reporting sex and gender in performing research and writing papers
3. Examples of editorial boards and missing sex/gender variables in **engineering journals**
4. Identified **challenges** in engineering research studies and research results editing

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# Summary



**The Objectives**

- ✓ To **increase** the participation of female students in higher education studies in scientific fields
- ✓ To **contribute** to their integration into the AI

**The Actions**

- ✓ **Analysis** of current situation
- ✓ **Bridging** women-science and industry
- ✓ **Community Outreach**













Co-funded by the  
Lifelong Learning programme  
of the European Union

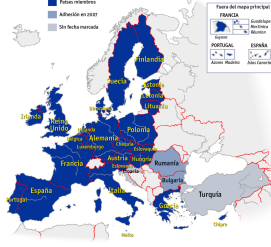
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# Analysis of current situation



103 Universities in Europe offer Aerospace courses

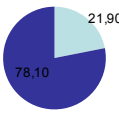


### Students

#### Academic year 2012-13

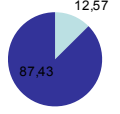
Country	Women (%)	Men (%)
Austria	20.0	80.0
Spain	22.1	77.9
Netherlands	11.5	88.5
Italy	14.6	85.4
Portugal	17.0	83.0

#### Doctors in Aeronautical Engineering



78,10 % men  
21,90 % women

#### Professors of Aeronautical Engineering



87,43 % men  
12,57 % women

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## Bridging women-science and industry

### Mentoring Field Trips



Durante i Mentoring field trips, studentesse universitarie avranno l'opportunità di incontrare reali casi di donne che lavorano nell'industria aeronautica ed imparare dalle loro esperienze.

Mentoring field trip - CESIE

Il 19 dicembre 2014, il CESIE ha organizzato un mentoring field trip, che ha coinvolto circa 20 studentesse universitarie, presso la società ENAV SpA, responsabile dei servizi di controllo del traffico aereo per l'aeroporto di Palermo. La visita-studio ha coinvolto studentesse della facoltà di Ingegneria aeronautica e di altre facoltà di ingegneria, ed è stata per le partecipanti un'occasione per avere una visione d'insieme del settore, parlare con i ricercatori e conoscere le opportunità di carriera future.



### Technological Clinic at University of Bologna in Forlì



18.03.2015

On March 18th the IN2SAI Technological Clinics will take place at the Department of Industrial Engineering of the University of Bologna in Forlì. The secondary school students will visit the labs and the Hangar and will have the opportunity to interact with researchers in aerospace Engineering.

Further information:  
<http://cons.unibo.it/Laurea/IngegneriaAerospaziale/Eventi/2015/03/aerospaziale-un-gioco-da-ragazzo.aspx>



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## Community Outreach



**in2sai**  
INcreasing young women's participation in  
Science Studies and in the Aeronautic Industry

**Raise the awareness** of the community in  
the opportunities for female participation in  
scientific studies and the aeronautic  
industry



"...academia should get rid of prejudice and give girls a chance to be what they want to be, and what profession they want to choose and what path they want to pursue..."



"Sometimes, women themselves have no interest in this area because they do not search for information. When applying to a higher education degree - the subject could be of interest, the name of the subject could be not very appealing or the subject could indicate a professional career completely different to the reality, what might mislead the potential student."



"Why do you think women should choose this field of studies?  
Because it's extremely stimulating in the continuous evolution of the society."



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## Including and reporting sex and gender

- ✓ instructions for authors that require or encourage disaggregation of data by sex or gender
- ✓ gender policies concerning the composition of editorial staff and boards
- ✓ policies that strive for gender balance among peer reviewers
- ✓ guidelines that ask reviewers to assess manuscripts for inclusion of sex-disaggregated data and gender

Heidari, Shirin, et al. "Sex and gender equity in research: rationale for the SAGER guidelines and recommended use." *Research Integrity and Peer Review* 1.1 (2016): 2.

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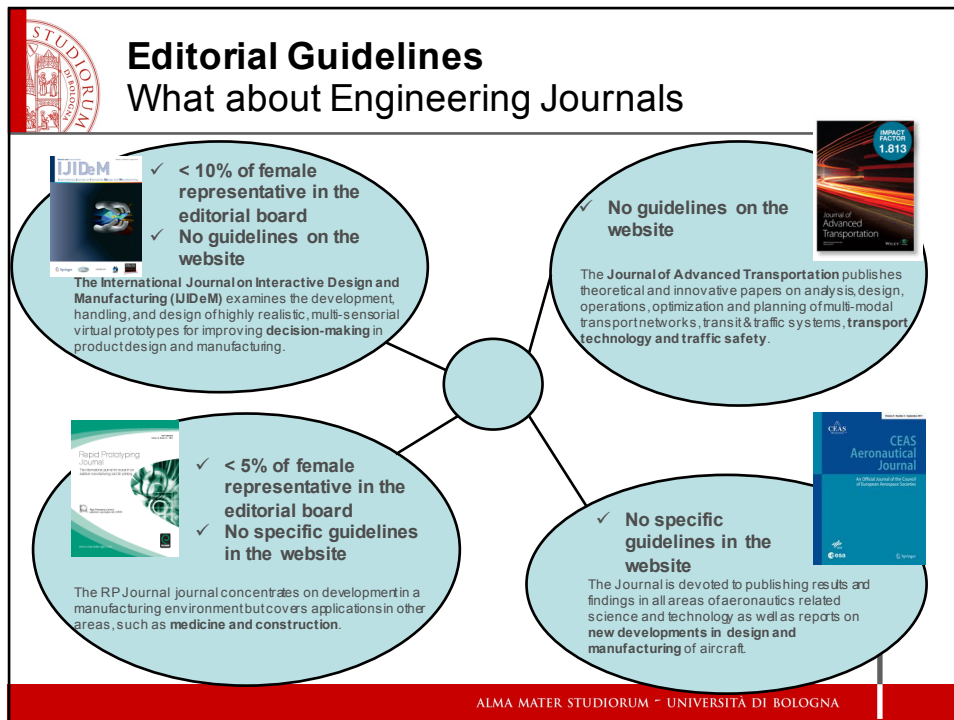



## Editorial Guidelines vs. Research Guidelines



- ✓ **editorial guidelines** on including reporting sex and gender are known in medical journals.
- ✓ What about **Engineering Journals**?


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# Virtual Reality lab

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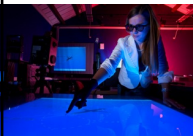
### Virtual Reality

- *Design and development of systems for interactive visualization and interaction*
- *Experimental analysis of Virtual Reality techniques in industrial applications*

### Rapid Prototyping & Reverse Engineering

- *Experimental studies for efficient product development and manufacturing in:*
  - Aerospace
  - Biomedical
  - Cultural Heritage




### Human Machine Interfaces





- *Project cooperations for innovative cockpit infrastructures*
- *Prototyping of concepts of interfaces for future ATM (Air Traffic Management) systems.*

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## Case Studies:

### V-Lab Some of the Research Projects in H 2020

**Project title: CASTLE Cabin Systems design Toward passenger wellbEing**

- ✓ Starting date : JULY 1<sup>ST</sup> 2016
- ✓ Duration 67 MONTHS
- ✓ Fixed EC Keywords: *Human factors, Noise and vibration, PRM, Environmental friendly, Safety-related systems, Equipment, Monuments, Ambient system, Regional Aircraft, Business Jets, Human Centered Interiors, Office Centred.*

**Project title: MINIMA Mitigating Negative Impacts of Monitoring high levels of Automation**

- ✓ Starting date : APRIL1<sup>ST</sup> 2016
- ✓ Duration 24 MONTHS
- ✓ Fixed EC Keywords: *Human Factors*

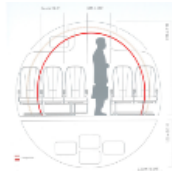
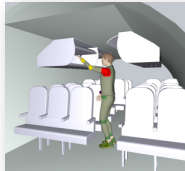
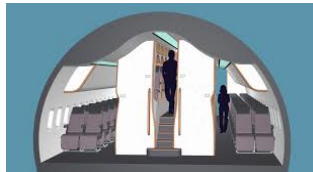
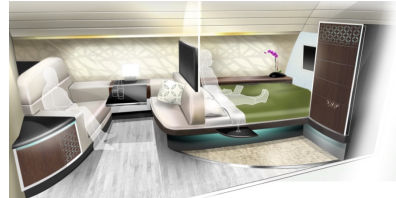
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## Main Objectives of the CASTLE PROJECT

### Human Centered Interiors

- Setting the standard wrt human factors issues
- Design and Manufacturing of major cabin items
- Experimental test campaign
- Validation and assessment w/ “full-scale” mock-up



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## Challenges for the editorial reports in the CASTLE PROJECT

### Encourage disaggregation of data by sex or gender

- ✓ Feasible since humans are involved in the design phase for their **needs** and in the evaluation of their **perceptions**
- ✓ Taking into account and properly analyzing segregated data on the perception of **well being** could lead to a more “**inclusive**” design



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## Main Objectives of the MINIMA PROJECT

Newsletter n° 2 - JUNE 30<sup>th</sup>, 2017 - [www.minima-project.eu](http://www.minima-project.eu)

Mitigating the Negative Impacts of Monitoring High Levels of Automation

**MINIMA**

### Project Status & News

#### Mid Term review

On March 21<sup>st</sup> the Project Partners met the Project Officer and the SIO staff at SESAR JU facilities in Brussels to present the work performed by the team during the first year of the project. The project has been analysed in its progress and all the activities have been assessed as successfully meeting the plan.

#### State of the Art

On January 12<sup>th</sup> the D 1.2 (Concept Description) has been submitted. In this document the consortium has described its strategy on how to detect the OOL phenomena and how to mitigate them. This document has been the guideline for the development of the Task Environment and the Vigilance and Attention Observer during the development phase and will also be an input for the planning of the evaluation phase.

#### Integration at the University of Bologna

On May 30<sup>th</sup> the first Technical Integration Meeting has taken place at the Virtual Reality Lab of the University of Bologna. The preliminary Task Environment Developed by DLR has been successfully integrated with the MINIMA Experimental Working Position.

#### MINIMA Consortium

DLR  
ONERA  
SESAR  
This project has received funding from the SESAR Joint Undertaking under grant agreement No 695282 under European Union's Horizon 2020 research and innovation programme. The newsletter reflects only the author's view and the EU is not responsible for any use that may be made of the information it contains.

### Project Facts

The Horizon 2020 SESAR project MINIMA (Mitigating Negative Impacts of Monitoring High Levels of Automation) is funded by SESAR Joint Undertaking and will help to understand and mitigate OOL phenomena of air traffic controllers in highly automated environments especially Terminal Manoeuvring Areas (TMA). MINIMA covers a 24 months period starting on May 8<sup>th</sup> 2016.

#### Events

**MINIMA in MADRID - WORLD ATM CONGRESS 2017**  
On March 9<sup>th</sup> MINIMA has participated at the Workshop: SESAR 2020 Exploratory Research: Human Factors supporting Automation in ATM. Several SESAR 2020 Exploratory Research dealing with Human factors in automation (AUTOPACE, STRESS, MINIMA, TaCo, AGENT, RETINA, MOTO and PACAS) discussed together on the commonalities and on the challenges on this topic.

**MINIMA at the HCI International 2017**  
A paper has been accepted for presentation and publication at the HCI International 2017 (18th International Conference on Human-Computer Interaction) which will be held in Vancouver on 9-14 July. Bruno Barberio (Onera) is going to represent the consortium and give the talk.

Barberio, B., Olivier, G., De Crouseville, F., Babiloni, F., Di Florio, G., & Hoenesberg, A. (2017, July). MINIMA Project: Detecting and Mitigating the Negative Impact of Automation in International Conference on Engineering Psychology and Cognitive Ergonomics (pp. 87-105). Springer, Cham, Switzerland. International Conference on Engineering Psychology and Cognitive Ergonomics. Springer, Cham, 2017.

**Higher levels of automation will help ATCos to deal with increasingly complex airspace scenarios.**

On the other hand we will have to cope with Negative effects of Monitoring Tasks:

- ✓ Human vigilance decrements
- ✓ Loss of operator situation awareness



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## Challenges for the editorial reports in the MINIMA PROJECT

**Encourage disaggregation of data by sex or gender**

- ✓ Feasible since humans are involved in the evaluation of a "vigilance and attention observer" based on recording EEG and gaze direction data
- ✓ Taking into account and properly analysing segregated data on the vigilance decrement could help in exploiting specific human aptitudes for safety critical jobs.



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## Understanding the structures of domination affecting publication of accounting research

Jane Broadbent, Royal Holloway University of London  
Richard Laughlin, Kings College London University of London

## Gendered Accounting

- Broadbent (1998) The Gendered Nature of Accounting Logic, **Critical Perspectives on Accounting** 9 pp. 267-297.
- Broadbent (2016) A Gender Agenda, **Meditari Accounting Research** 24 (2) pp. 169 – 181

## Publishing and researching gender

- Research in accounting falls into two categories (Broadbent 2016)
  - Gendered division of labour (session 1 looked at the division of labour in the accounting academy)
  - Values embedded in accounting and their implications for accounting research and those researching this area.
- Implication of last session was that women's voices were subordinated through hierarchies of esteem in the context of publication.
- Argument of Broadbent (1998) is that women's voices are subordinated in the public sphere quite generally. This is what we will now turn our attention to.

## The career implications of researching accounting and gender

- Why look at the values embedded in accounting? -Because it impacts on what women research.
- ***The lack of esteem for aspects of the subject area of accounting, and the lack of esteem for those working in lower status fields, added together, compound the problem of lack of esteem, reflexively lowering the status of each even more.***
- This means some individuals have to work harder to achieve the same recognition. Those concerned are often women.
- Hence the consequent material impact on women's careers.
- A true story of one woman's non-promotion.



# Discrimination

- direct - applies to particular groups because of their attributes
- indirect discrimination - applies to all, but impacts differentially
- institutional discrimination - incorporated into structures processes and procedures

## Where do women fit in relation to different types of discrimination in relation to publication

- there is some element of direct discrimination - but this is generally legislated against in the UK so arguably the barriers are usually more indirect or institutional.
- there is greater impact in relation to indirect and institutional discrimination. Key to this type of discrimination is the compilation and use of hierarchies of journals. These are now in Europe and Australasia institutionalised and embedded in journal rankings
  - no outlet dedicated and few themed/special issues concerned with gender, although a few opportunities do exist
  - appointment and promotion criteria -as well as homophily in a male dominated profession -institutionalise aspects that subordinate women.

## Hierarchies of status

- Inextricably linked to hard, rational and impersonal information. Claimed as the basis for 'good' science.
- Thus, the esteem for positivist journals and the consequent narrowing of possibilities for those wishing to ask research questions that cannot be answered using such techniques.
- Accounting is similarly social constructed as hard, rational and impersonal. (Broadbent 1998 following the work of Ruth Hines)

## Women as researchers

- Our first presentation argued that women are better represented in editorial roles in some journals rather than others and that publication patterns seem to follow the same pattern.
- The research in the interdisciplinary and critical journals is evidencing better representation from women researchers
- The topics of these journals and the questions they answer are rarely appropriate for positivistic methodologies
- Hierarchies of status thus provide indirect discrimination for women in publishing

## **So why don't women just publish different types of research?? 'Feminine' Values and socialisation**

- So where do the arguments that women's voices and any values other than hard, linear, rational are subordinated leave us?
- Clearly many women are very good at handling hard, linear, rational, mathematical material. The issue is not about the sex of particular members of society (problematic at best), but around the masculine and feminine values to which we are socialised.
- Processes of socialisation of men and women arguably subordinate women's engagement with some fields of interest and ways of behaving and elevate others.

## **Opening up the Agendas**

- Other issues than those that can be researched using hard linear rational approaches are also important
- Broadbent (2016) argues that the nature of accounting needs to be examined and opened up to look at wider agendas that are not simply representative of the universal masculine but that incorporate the universal feminine.
- These need to be recognised as equally esteemed and not low status. But how do we argue for this?

## The Barriers: Man made Language

- Dale Spender (1980) Nature of communication itself is gendered using particular words
- Women in the public sphere. Rosalind Bologh explored Weber's work and his implicit patriarchy that sees the public sphere as one of rational action..
- Broadbent (1998) the subordination of women's voices in the public sphere and the feminist critiques of Habermas. 'Force of the better argument' impossible if women's voices not heard.

- We again have to work harder to be heard and often have barriers. Note the trolling of women on the web, the accusations that women are not assertive but aggressive, the disparagement of emotion.
- HOW DO WE DO THIS?
- We need convincing research that addresses the problems of contemporary life and interdisciplinary and critical work is crucial in this respect.
- alliances with other disciplines: science engineering, where often their solutions to problems in society cannot be implemented without consideration of social science and also alliances with the arts and humanities to help communicate the gender issues...

- Broadbent (2016) argues that the nature of accounting should change and that might encourage more women to engage in accounting and arguments about this are gaining some traction for eg in the sustainability literature and adopting the suggestions on the previous slide will help
- BUT we have as yet no idea as to how we can ensure that women's voices are heard and taken seriously other than keeping on shouting loud and aiming to enrol more general acceptance from women as well as men.

## Operational issues: other practical barriers

- Peer review: Let us assume that our work is at least taken seriously enough to review. Can women get through the review process as easily as men?
  - Blind Peer review, how blind?
  - Conferencing papers... who looks after the babies?
  - And what about the styles of writing...

## Appointment and Promotion

- Need to address this and address the tyranny of the use of journal rankings as well as the issues about quantity
- Men and Women need to mentor other women in publication and grant getting and career development
- Need to apply for positions of significance..
- Need to work to ensure Universities do gain accreditation through schemes that promote women and are embarrassed if they do not

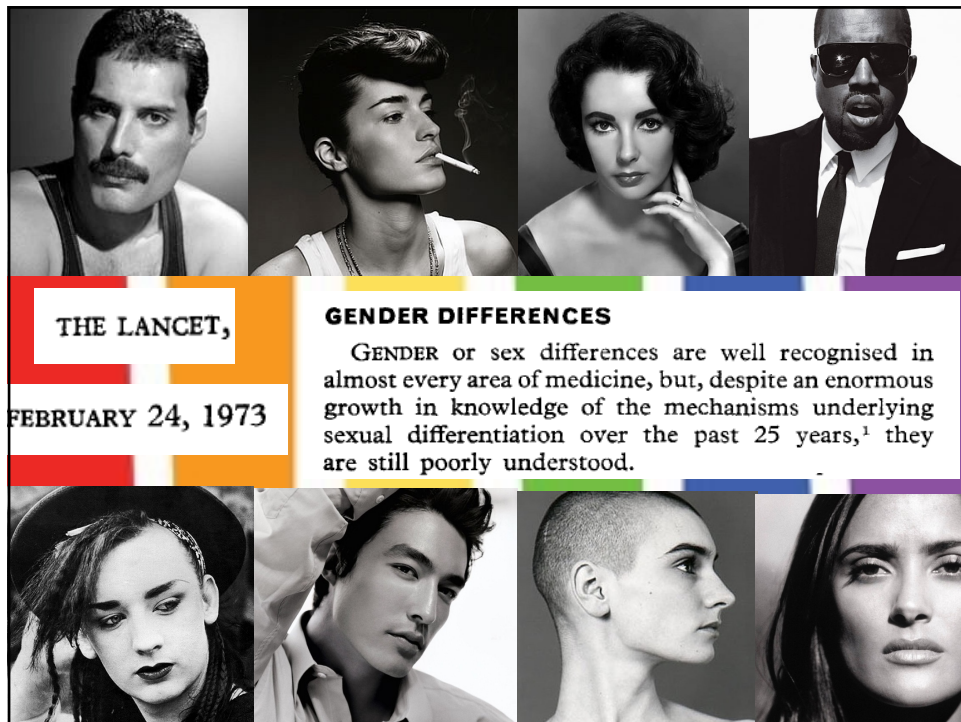
## More general practical issues

- Need to promote gender related research when we are members of editorial boards
- Need to practice what we talk about
- ABOVE ALL WE NEED TO PROVIDE CONVINCING ARGUMENTS AND BE ASSERTIVE IN NOT BEING SILENCED.

- SOME FINAL THOUGHTS: the load is pretty heavy and we are pushing heavy boulders up a big incline. It can be personally hurtful to speak out and it can be damaging at times. It behoves senior women and senior men to recognise the loss to society as well as the academy in ignoring the subordination of women and the ignoring of women's research interests and the broader approaches they bring.
- Ending on a personal note I wish that I had done more... but I also recognise that in surviving a competitive environment some things are not always possible but hope that by speaking out now I am retired I can achieve something.







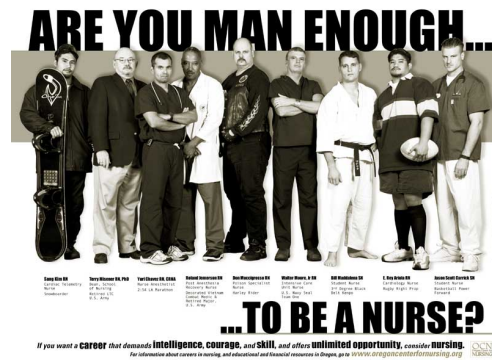
## Gender

Socially constructed notion of femininity and masculinity  
(continuum)

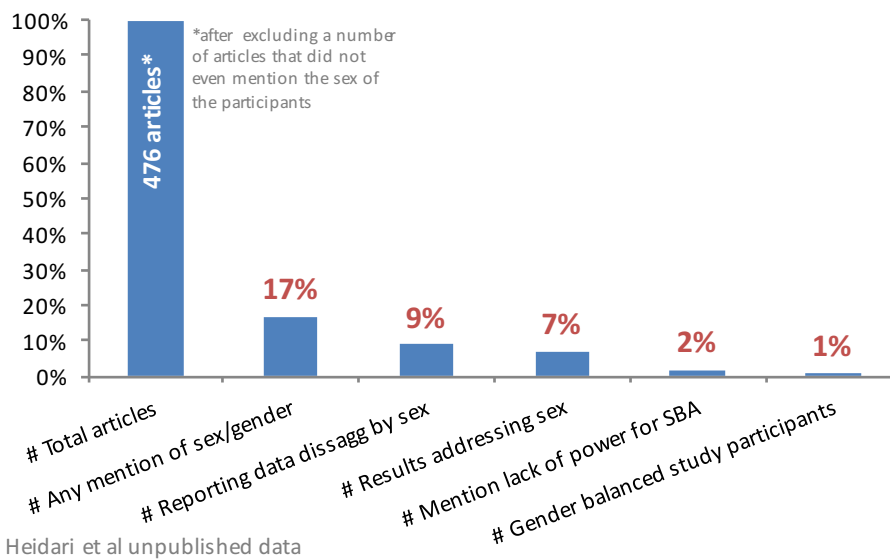
- Risk taking behaviour
- Access to information, services and opportunities
- Health seeking behaviour
- Environmental hazards
- Occupational hazards

# Gender Roles

Dynamic

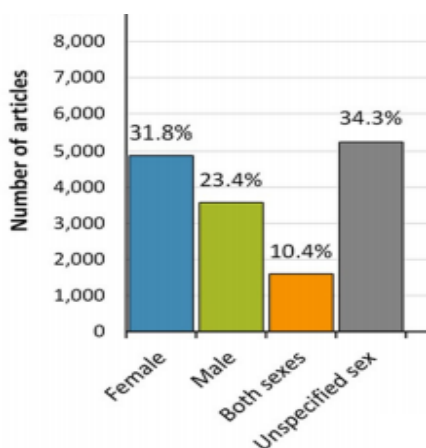


## Sex/Gender bias in reporting in articles of clinical studies with ARVs (1994-2011)



## Gender bias in reporting

### Mouse Models



Flórez-Vargas et al. eLife 2016;5:e13615. DOI: 10.7554/eLife.13615

### Clinical Trials

Of 56 articles published in nine prominent medical journals in 2009 reporting results from RCTs supported by US federal funding, **only 25% provided analysis by sex or included sex in model.**

Source: Geller et al. J Women's health 2011

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## Are we turning a blind eye to gender blind research?

### Gender blind reporting is common

- Sex or gender of subjects are **not reported**
- Sex or gender of subjects are reported but **data are not** presented **dissaggregated by sex**
- **Analysis ignores** any potential sex and gender differences and data are presented as if of general applicability: **Overgeneralization**

\* Based on "Nieuwenhoven and Klinge, Scientific Excellence in Applying Sex- and Gender-Sensitive Methods in Biomedical and Health Research Journal of Women's Health 2010"

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## Reasons for concern

Lack of reporting of sex and gender aspects of research can cause **harm**. It **reduces** **reproducibility** and **rigour**, is **costly** and a **waste** of resources. It is also missed opportunity for **innovation**.

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## Harm!



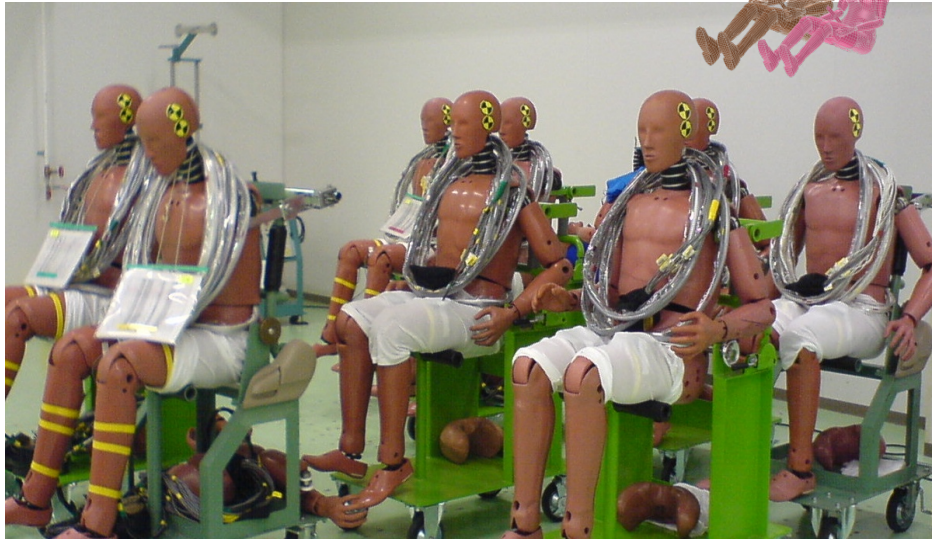
**FDA** U.S. Food and Drug Administration  
Protecting and Promoting Your Health

### Drug Safety Communications

“Women appear to be more susceptible to this risk because they eliminate zolpidem from their bodies more slowly than men. ... FDA has informed the manufacturers that the **recommended dose of zolpidem for women should be lowered** from 10 mg to 5 mg for immediate-release products (Ambien, Edluar, and Zolpimist) and from 12.5 mg to 6.25 mg for extended-release products (Ambien CR).”

<http://www.fda.gov/downloads/Drugs/DrugSafety/UCM335007.pdf>

## Whiplash



Courtesy of Dr Astrid Linder, Research Director, Traffic Safety, The Swedish National Road and Transport Research Institute - presented at SAGERIC 2013

## Gender-based expectations?

### Female hurricanes are deadlier than male hurricanes

Kiju Jung<sup>a,1</sup>, Sharon Shavitt<sup>a,b,1</sup>, Madhu Viswanathan<sup>a,c</sup>, and Joseph M. Hilbe<sup>d</sup>

<sup>a</sup>Department of Business Administration and <sup>b</sup>Department of Psychology, Institute of Communications Research, and Survey Research Laboratory, and <sup>c</sup>Women and Gender in Global Perspectives, University of Illinois at Urbana-Champaign, Champaign, IL 61820; and <sup>d</sup>Department of Statistics, T. Denny Sanford School of Social and Family Dynamics, Arizona State University, Tempe, AZ 85287-3701

Edited\* by Susan T. Fiske, Princeton University, Princeton, NJ, and approved May 14, 2014 (received for review February 13, 2014)

Do people judge hurricane risks in the context of gender-based expectations? We use more than six decades of death rates from US hurricanes to show that feminine-named hurricanes cause significantly more deaths than do masculine-named hurricanes. Laboratory experiments indicate that this is because hurricane names lead to gender-based expectations about severity and this, in turn, guides respondents' preparedness to take protective action. This finding indicates an unfortunate and unintended consequence of the gendered naming of hurricanes, with important implications for policymakers, media practitioners, and the general public concerning hurricane communication and preparedness.

gender stereotypes | implicit bias | risk perception | natural hazard communication | bounded rationality

violence and destruction (23, 24). We extend these findings to hypothesize that the anticipated severity of a hurricane with a masculine name (Victor) will be greater than that of a hurricane with a feminine name (Victoria). This expectation, in turn, will affect the protective actions that people take. As a result, a hurricane with a feminine vs. masculine name will lead to less protective action and more fatalities.

#### Archival Study

To test this hypothesis, we used archival data on actual fatalities caused by hurricanes in the United States (1950–2012). Ninety-four Atlantic hurricanes made landfall in the United States during this period (25). Nine independent coders who were blind to the hypothesis rated the masculinity vs. femininity of historical

***“...individuals systematically underestimate their vulnerability to hurricanes with more feminine names, avoiding or delaying protective measures.”***





# Reproducibility

***“replication is what separates the rigor of science from the squishiness of pseudoscience”\****

*The methods section  
"should aim to be  
sufficiently detailed such  
that others with access to  
the data would be able to  
reproduce the results"  
(ICMJE, 2013)*



\*<http://www.newyorker.com/magazine/2010/12/13/the-truth-wears-off>

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## PERSPECTIVE

### The Economics of Reproducibility in Preclinical Research

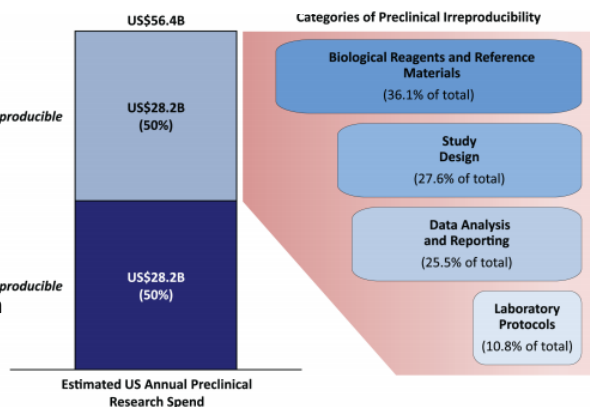
Leonard P. Freedman<sup>1\*</sup>, Iain M. Cockburn<sup>2</sup>, Timothy S. Simcoe<sup>2,3</sup>

<sup>1</sup> Global Biological Standards Institute, Washington, D.C., United States of America, <sup>2</sup> Boston University School of Management, Boston, Massachusetts, United States of America, <sup>3</sup> Council of Economic Advisers, Washington, D.C., United States of America

\* [lfreedman@gbis.org](mailto:lfreedman@gbis.org)



“An analysis of past studies indicates that the cumulative (total) prevalence of irreproducible preclinical research exceeds 50%, resulting in approximately **US\$28,000,000,000 /year** spent on preclinical research that is not reproducible—in the United States alone.”



**Fig 2. Estimated US preclinical research spend and categories of errors that contribute to irreproducibility.** Note that the percentage value of error for each category is the midpoint of the high and low prevalence estimates for that category divided (weighted) by the sum of all midpoint error rates (see [S1 Dataset](#)). Source: Chakma et al. [18] and the American Association for the Advancement of Science (AAAS) [19]. doi:10.1371/journal.pbio.1002165.g002

1/4

**ICMJE** INTERNATIONAL COMMITTEE of MEDICAL JOURNAL EDITORS  
*Uniform requirements for manuscripts submitted to biomedical journals :  
 Independent guidance for the conduct and publishing of biomedical research.*

A set of recommendations for reporting RCTs to facilitate complete and transparent reporting of CT results.

**CONSORT**  
 TRANSPARENT REPORTING of TRIALS

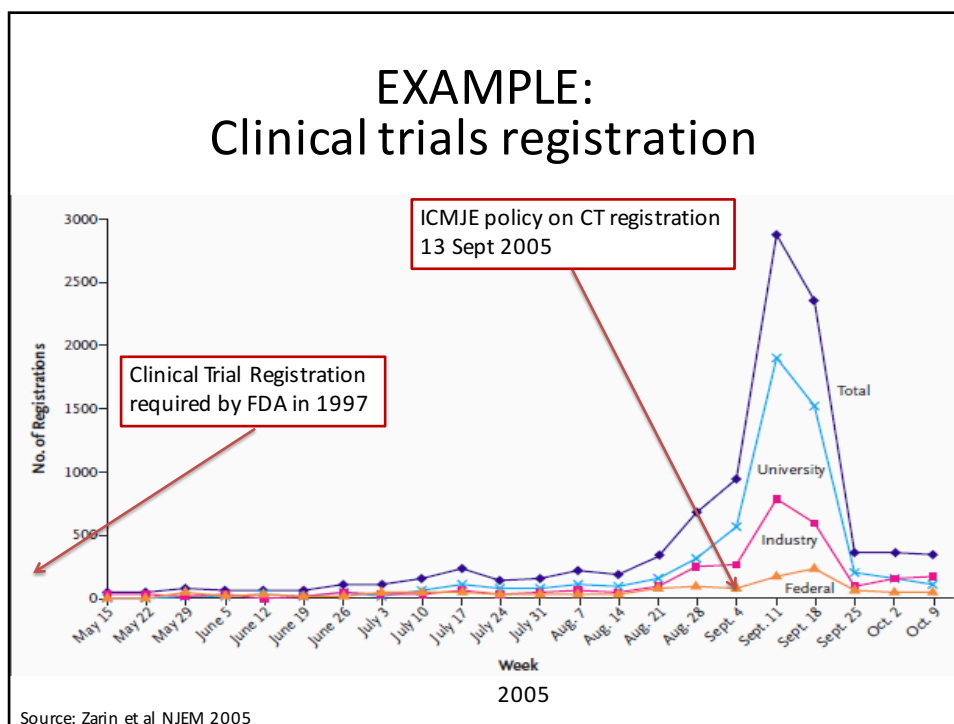
**PRISMA**  
 TRANSPARENT REPORTING of SYSTEMATIC REVIEWS and META-ANALYSES

To ensure transparent and complete reporting of systematic reviews and meta-analyses

STrengthening the Reporting of OBservational studies in Epidemiology

**STROBE Statement**  
 Strengthening the reporting of observational studies in epidemiology

**The ARRIVE guidelines**  
 Animal Research: Reporting *In Vivo* Experiments



Heidari et al. *Journal of the International AIDS Society* 2011, **14**:11  
<http://www.jiasociety.org/content/14/1/11>



## EDITORIAL

## Open Access

# Time for gender mainstreaming in editorial policies

Shirin Heidari<sup>1\*</sup>, Mirjam J Eckert<sup>1</sup>, Susan Kippax<sup>2</sup>, Quarraisha Abdool Karim<sup>3,4</sup>, Papa Salif Sow<sup>5</sup>, Mark A Wainberg<sup>6</sup>

The *Journal of the International AIDS Society* is proud to take a first step in this direction and feature such a policy on its website (<http://www.jiasociety.org/info/about/>) encouraging our authors to consider sex and gender differences in their study designs and requiring that gender analysis is presented in submitted manuscripts where applicable. Inclusion of this section in our journal's instructions for authors is currently under negotiation with the publisher. We welcome peer reviewers in lending their support by ensuring that the aspect of gender is included in their overall assessments of a manuscript and highlighting the absence of it when necessary.



EASE Conference in Tallinn, 2012

*EASE GPC was born out of a shared concern about the gender bias in scientific reporting and the gender imbalance in editorial teams and pool of peer-reviewers, as well as an agreement that science editors, as gatekeepers of science, could play an important role in changing the paradigm.*



## EASE Gender Policy Committee



## EASE Gender Policy Committee

### *Vision*

***Greater gender balance in science and publishing practices for enhanced quality, diversity and transparency for science to remain at the forefront of innovation.***



***Our mission: To advance sex/gender reporting and gender balance in editorial management on a global level, and across disciplines***

***Our tool: SAGER guidelines***

***Baseline: International Gender Survey***

# International Gender Survey

Launched in spring 2013

- **Purpose:** to map existing editorial gender policies and opinions towards the adoption of such policies.

**388 Unique journals - 114 Unique publishing houses**

Number of respondents and response rates by target group

Target group	Nr invited	Nr responded	Response rate (%)
EASE	429	167	40%
ISAJE	32	27	84%
100 journals	334	58	17%
Open	-	464	-
<b>TOTAL</b>	<b>-</b>	<b>716</b>	<b>-</b>

## Existing editorial gender policies and opinions towards them

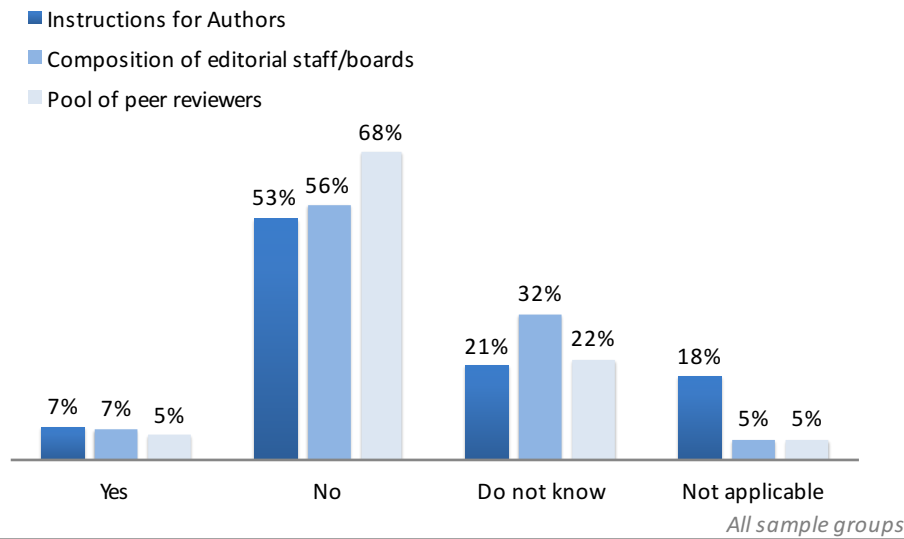
1. Does the journal have:
2. Do you think journals should have:



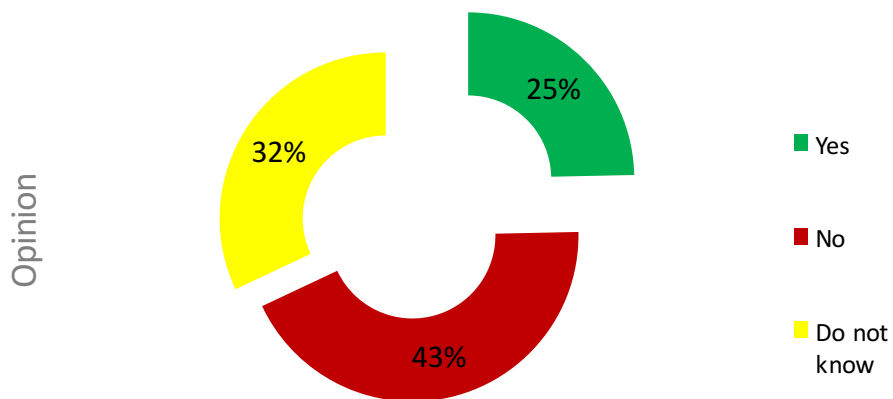
- ☐ instructions for authors, in which authors are required or encouraged to disaggregate data by sex and provide gender analysis when applicable?
- ☐ a gender policy concerning the composition of the editorial staff and boards?
- ☐ a gender policy that strives for gender balance in the pool of peer reviewers?

illustrations of.com #1048745

## Overview of existing gender policies



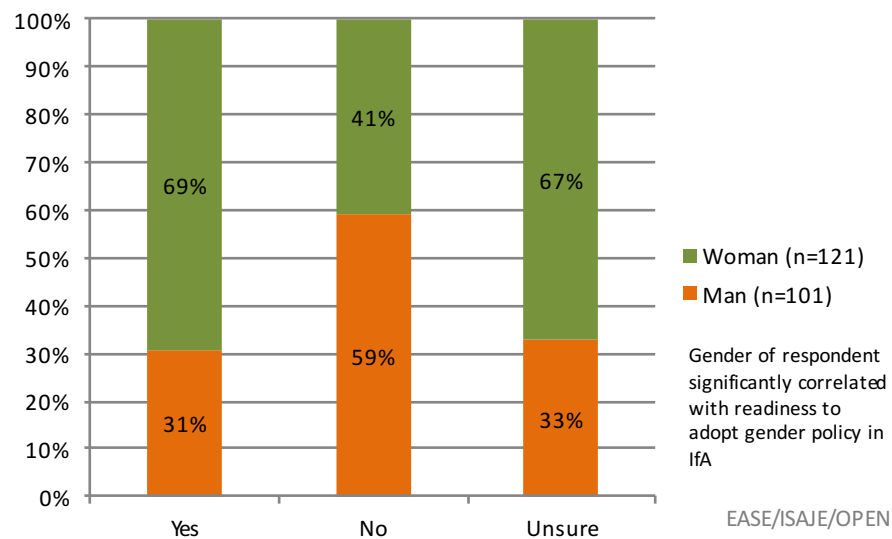
Do you think requirement of data disaggregated by sex should be included in instructions for authors as a matter of routine across all journals/publishers?



A majority (75%) are unwilling or unsure to introduce sex and gender considerations as requirements in Instructions for Authors.

*All sample groups*

Women are more in favour of gender policies in instructions for authors than men, but also more unsure



Why sex disaggregation should **NOT** be included in 'Instructions for Authors'

"It's not applicable to all journals, only ones that publish research about people"

"This policy will - paradoxically and unwillingly - create inequity for all other classes of 'different' humans"

"I cannot see any reason whatsoever for doing it"

"Not applicable to animals"

# Let's be SAGER!

Heidari et al. *Research Integrity and Peer Review* (2016) 1:2  
DOI 10.1186/s41073-016-0007-6

Research Integrity and  
Peer Review

REVIEW

Open Access



## Sex and Gender Equity in Research: rationale for the SAGER guidelines and recommended use

Shirin Heidari<sup>1</sup>, Thomas F. Babor<sup>2\*</sup>, Paola De Castro<sup>3</sup>, Sera Tort<sup>4</sup> and Mirjam Curno<sup>5</sup>



## Process

- International Survey
- Keyword search of policies and editorials
- Public consultation at conferences and meetings (e.g., Gender summit, EASE Congress)
- Expert consultation on the final draft

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## Sex and Gender Equity in Research: rationale for the SAGER guidelines and recommended use



**Table 1** Sex and Gender Equity in Research (SAGER) guidelines

### General principles

- Authors should use the terms *sex* and *gender* carefully in order to avoid confusing both terms.
- Where the subjects of research comprise organisms capable of differentiation by sex, the research should be designed and conducted in a way that can reveal sex-related differences in the results, even if these were not initially expected.
- Where subjects can also be differentiated by gender (shaped by social and cultural circumstances), the research should be conducted similarly at this additional level of distinction.

Heidari et al. *Research Integrity and Peer Review* (2016) 1:2  
DOI 10.1186/s41073-016-0007-6

Research Integrity and  
Peer Review

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## **SAGER Guidelines**

SAGER guidelines apply to all research with humans, animals or any material originating from humans and animals, as well as other disciplines whose results will be applied to humans, such as mechanics and engineering.

### **SAGER Recommendation # 1**

#### **Title and Abstract**

If only one sex is included in the study, the title as well as the abstract should specify the sex of animals or any cells, tissues, and other material derived from these, and the sex/gender of human participants.

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## *SAGER Recommendation # 2*

### **Introduction**

Where appropriate, it should be reported if sex and/or gender differences **are expected**.

## *SAGER Recommendation # 3*

### **Methods**

How sex and gender were taken into account in the **design** of the study should be clearly stated, whether they ensured adequate representation of males and females, and the **reasons for any exclusion** of males or females should be justified.

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## *SAGER Recommendation # 4*

### **Results**

- Data should be routinely presented **disaggregated** by sex.
- Where appropriate, meaningful **sex- and gender-based analyses** should be reported regardless of outcome.
- The **reasons for lack** of such analysis should be justified.
- **Raw data** should be published **disaggregated by sex and gender** for future pooling and meta-analysis.

## *Recommendation # 5*

### **Discussion**

- The **implications** of sex/gender analyses, or lack thereof, should be discussed.
- It should be indicated whether lack of such analyses could have affected the results.

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## Check list for authors



### Research approaches ✓

- ✓ Are the concepts of gender and/or sex used in your research project?
- ✓ If yes, have you explicitly defined the concepts of gender and/or sex? Is it clear what aspects of gender and/or sex are being examined in your study?
- ✓ If no, do you consider this to be a significant limitation? Given existing knowledge in the relevant literature, are there plausible gender and/or sex factors that should have been considered? If you consider sex and/or gender to be highly relevant to your proposed research, the research design should reflect this

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## Check list for authors



### Research questions and hypotheses

- ✓ Does your research question(s) or hypothesis/es make reference to gender and/or sex, or relevant groups or phenomena? (e.g., differences between males and females, differences among women, seeking to understand a gendered phenomenon such as masculinity)

### Literature review

- ✓ Does your literature review cite prior studies that support the existence (or lack) of significant differences between women and men, boys and girls, or males and females?
- ✓ Does your literature review point to the extent to which past research has taken gender or sex into account?

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## Check list for authors



### Research methods

- ✓ Is your sample appropriate to capture gender and/or sex-based factors?
- ✓ Is it possible to collect data that are disaggregated by sex and/or gender?
- ✓ Are the inclusion and exclusion criteria well justified with respect to sex and/or gender? (Note: this pertains to human and animal subjects and biological systems that are not whole organisms)
- ✓ Is the data collection method proposed in your study appropriate for investigation of sex and/or gender?
- ✓ Is your analytic approach appropriate and rigorous enough to capture gender and/or sex-based factors?

### Ethics

- ✓ Does your study design account for the relevant ethical issues that might have particular significance with respect to gender and/or sex? (e.g., inclusion of pregnant women in clinical trials)

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# SAGER

## Guidelines

SEX AND GENDER  
IN RESEARCH

PREPARING  
THE GENDER POLICY  
OF THE  
EUROPEAN ASSOCIATION  
OF SCIENTISTS

### Capacity building and training

In partnership with CIHR, Institute for Gender and Health

Sex and Gender in Primary Data Collection with Humans - Objective 1 Closed Captions

**Objective 1:**  
**Identifying Sex and Gender-Related Variables**

Which of the following is a sex-related variable:

A Adult height and weight

B Muscle strength

C Lean body mass, affecting drug distribution in the body

D Peak bone mineral density

E All of the above

🔊
< PREV

## Recommended Actions for Editors to Implement Reporting Policies

1. Adopt the guidelines as a formal policy in **Instructions to Authors**.
2. Screen **initial submissions** to determine if sex/gender is relevant to the topic; if so, has it been addressed adequately?
3. Ensure **regular training** of editorial staff.
4. Invite **peer reviewers** to consider sex/gender in the evaluation of manuscripts.

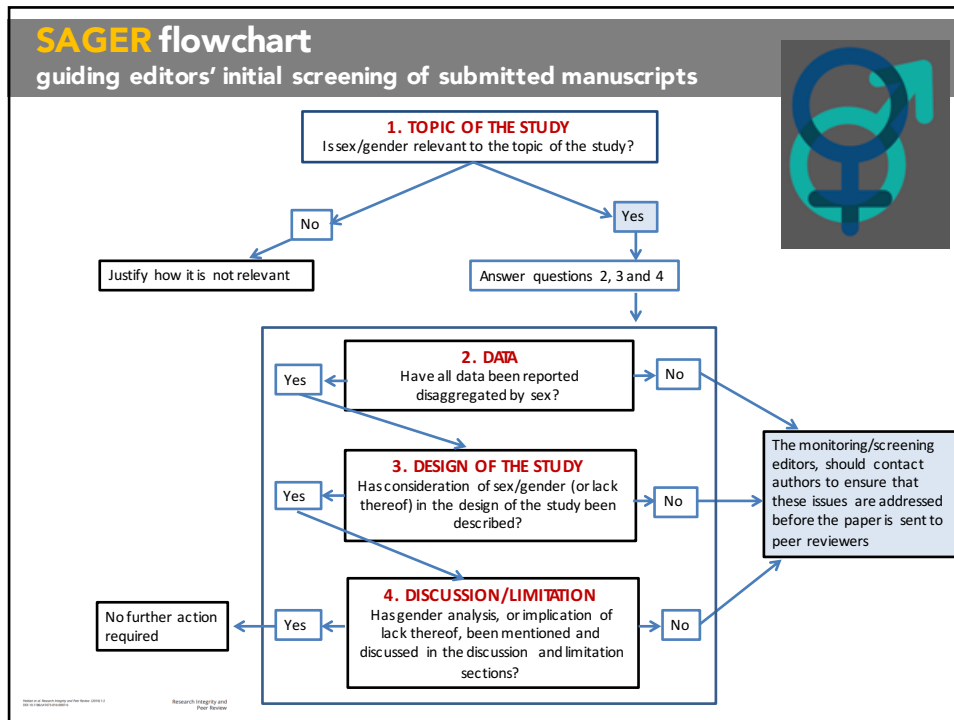


## PEER REVIEW

Ask reviewers:

1. Are sex and gender relevant to the research in question?

2. Have authors adequately addressed sex and gender dimensions or justified absence of such analysis?




# CLOSING THE GENDER DATA GAP

*How Efforts to Collect Data About Women and Girls Drive Global Economic and Social Progress*

**The Bill & Melinda Gates Foundation Announces \$80 Million Commitment To Close Gender Data Gaps and Accelerate Progress for Women and Girls**

New initiative will promote gender equality and support the implementation of the United Nations Sustainable Development Goals

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## Shifting minds

- Changing the “default assumption”: can we hypothesise that there are sex/gender differences until the contrary is proven?
- Innovative methodology: Bayesian statistics? Risk stratification? Likelihood ratio?

*“The absence of evidence is not the evidence of absence”*  
Carl Sagan

### EASE GENDER POLICY COMMITTEE

**Co- Chairs**  
Paola De Castro  
Thomas Babor

**Founding Chair**  
Shirin Heidari

**Members**  
Rachel Carol  
Janine Clayton  
Mirjam Curno  
Jhony A. De La Cruz Vargas  
Jibril Handuleh  
Joan Marsh  
Ana Marusic  
Ravi Murugesan  
Paul Osborn  
Petter Oscarson  
Ines Steffens  
Cara Tannenbaum  
Sera Tort

**SAGER Guidelines**  
SEX AND GENDER EQUITY  
IN RESEARCH  
THE GENDER POLICY COMMITTEE  
EUROPEAN ASSOCIATION  
OF SCIENCE EDITORS

<http://www.ease.org.uk/about-us/gender-policy-committee/>

### ENDORSE the SAGER Guidelines

<http://www.ease.org.uk/about-us/gender-policy-committee/>

## THANK YOU



## Discussion

- What can we do jointly to ensure a wider implementation of the SAGER guidelines in journals and publishers across disciplines?
- What can we do, as researchers, editors, policy makers, funders and consumers to address the gender bias in research?

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