



SHIFTING MINDS

Promoting Gender Sensitive Reporting of Scientific Data

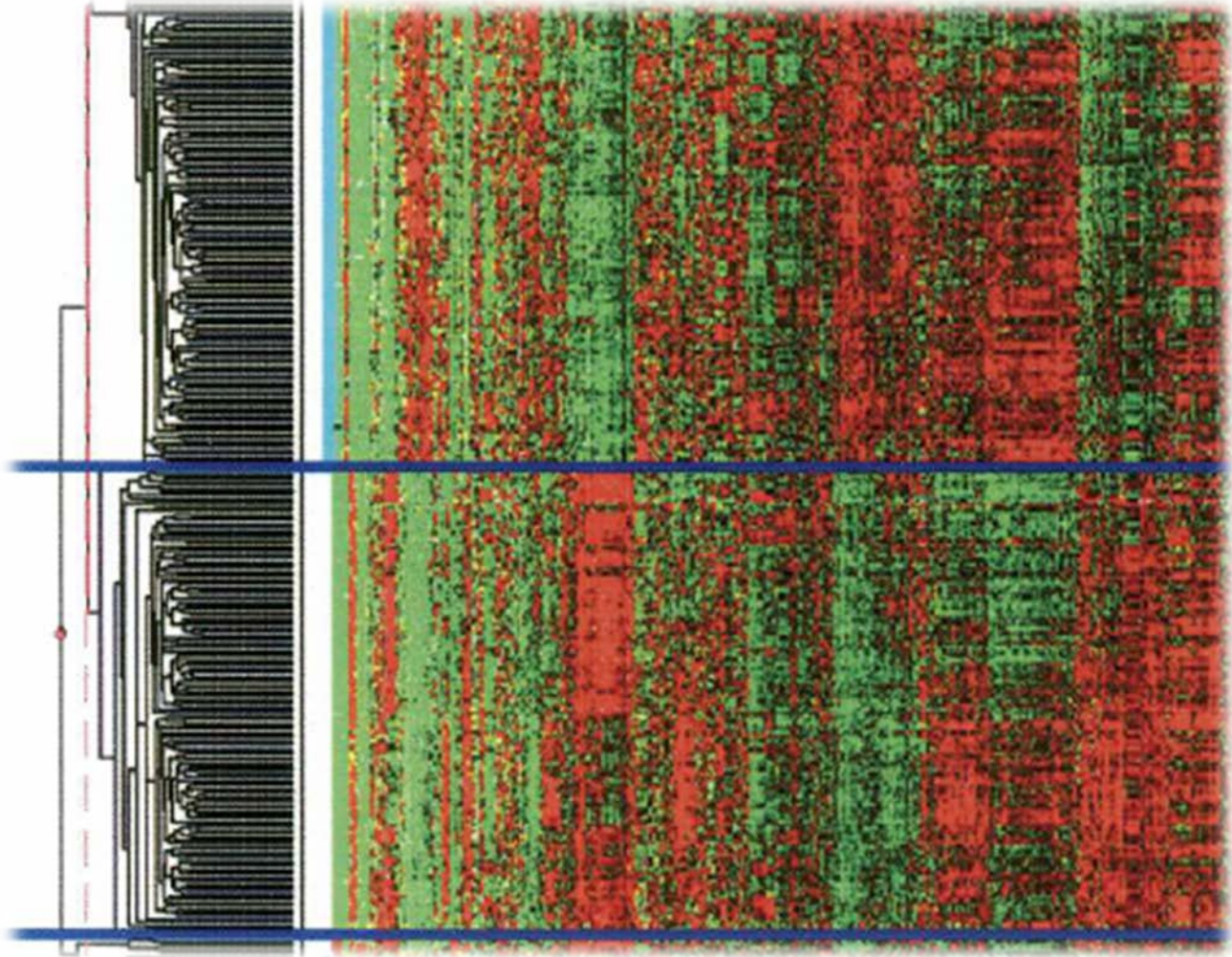
Shirin Heidari, PhD

Chair – EASE Gender Policy Committee

Executive Editor / Sr Manager - International AIDS Society

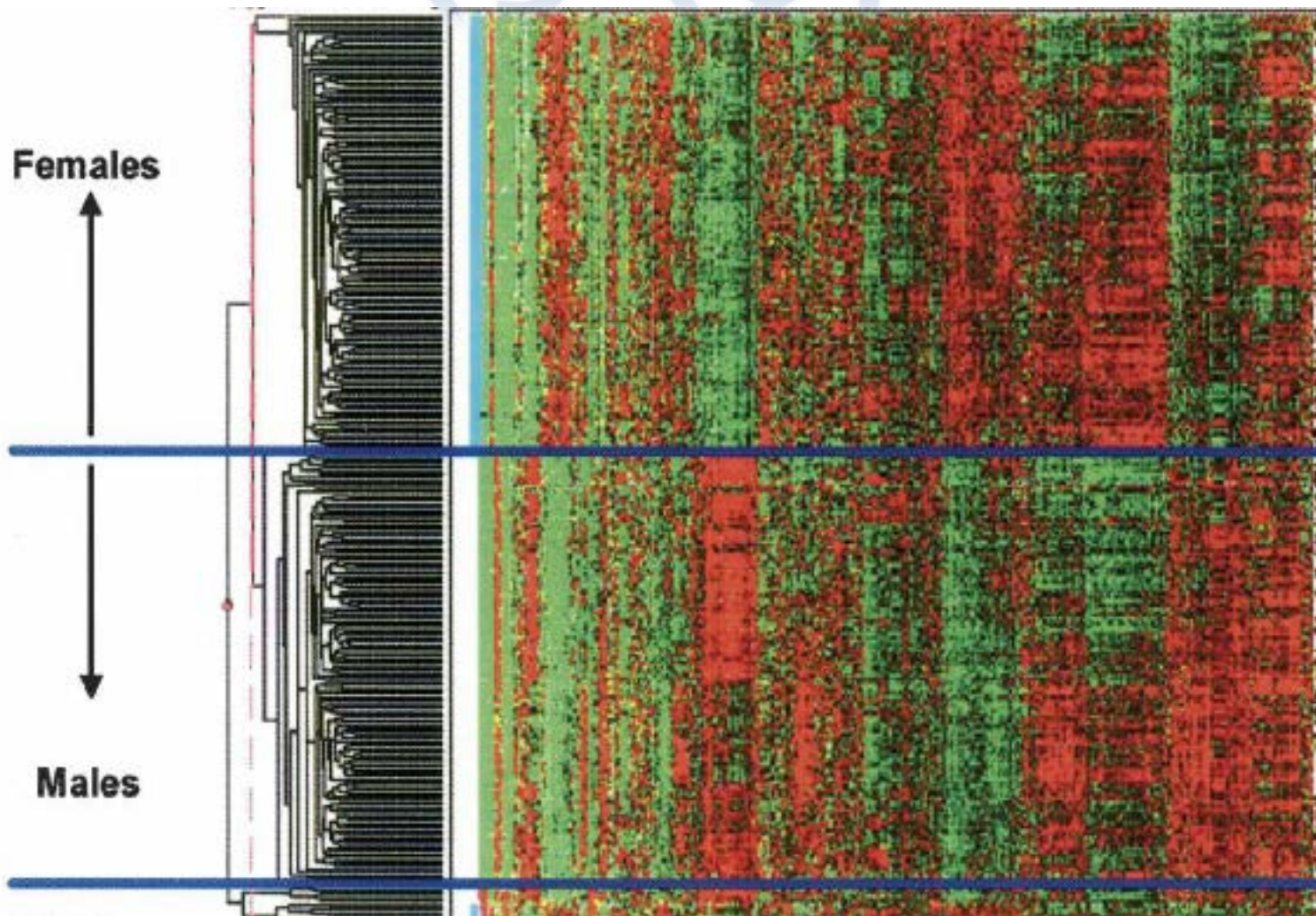
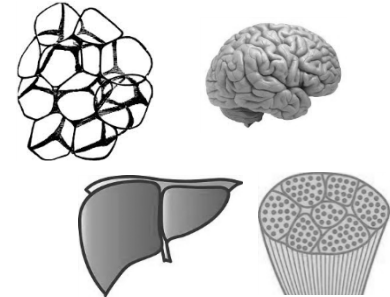
25,281

25,281





25,281



Sex and Gender differences in other clinical entities

Table 1 | Publications with sex and gender differences in the most frequent clinical entities

Cardiology	Rheumatology/ Immunology	Pneumology	Nephrology	Gastro- enterology/ Hepatology	Neurology	Endo- crinology	Oncology	Haematology
Hypertension (414)	Lupus erythematosus (68)	Asthma (140)	Renal failure (27)	Hepatitis B (22)	Multiple sclerosis (65)	Diabetes mellitus (447)	Skin carcinoma (45)	Anaemia (44)
Myocardial infarction (275)	Rheumatoid arthritis (41)	Lung cancer (116)	Diabetic nephropathy (11)	Hepatitis C (26)	Stroke (129)	Obesity (349)	Gastric cancer (25)	Leukaemia (49)
Heart failure (153)	Systemic sclerosis (3)	Chronic obstructive pulmonary disease (36)	Glomerulone-nephritis (9)	Hepato-cellular carcinoma (37)	Alzheimer's disease (104)	Osteoporosis (123)	Renal cell carcinoma (17)	Lymphoma (34)
Atrial fibrillation (38)	Fibromyalgia (15)	Pulmonary hypertension (12)	Polycystic kidney disease (12)	Inflammatory bowel disease (13)	Epilepsy (56)	Hypo-thyroidism (33)	Bladder cancer (22)	Thrombocytopenia (6)
Coronary heart disease (207)	Sjögren's syndrome	Pulmonary embolism (110)	Renal artery stenosis (0)	Colorectal cancer (24)	Parkinson's disease (69)	Hyper-thyroidism (16)	Thyroid carcinoma (16)	Purpura (2)
Cardiomyopathy (41)	Ankylosing spondylitis (11)	Sarcoidosis (6)	IgA Nephropathy (2)	Autoimmune Hepatitis (2)	Muscular dystrophy (11)	Morbus Addison/ Cushing disease (5)	Pancreatic carcinoma (10)	Agranulocytosis (0)

Numbers in brackets refer to the number of publications.

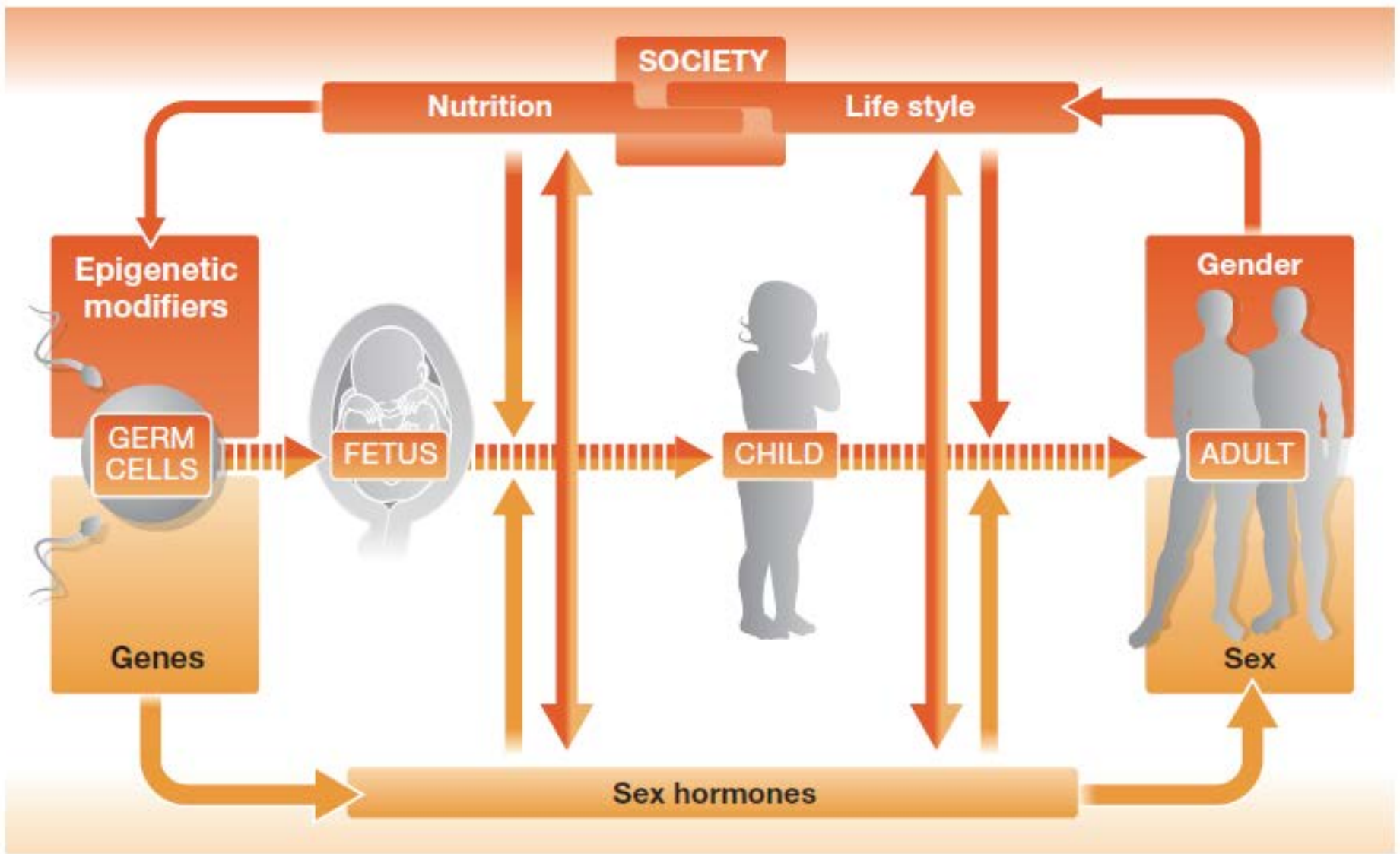
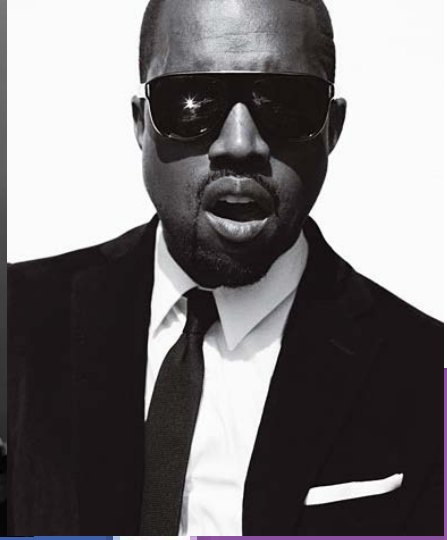
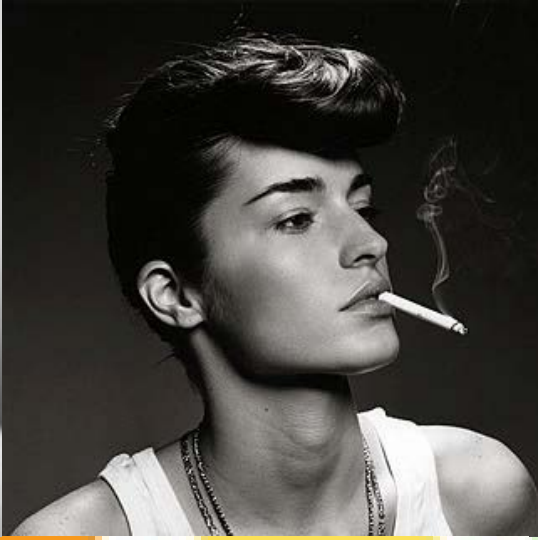


Fig 1 | Complex interdependency of sex and gender in the human.

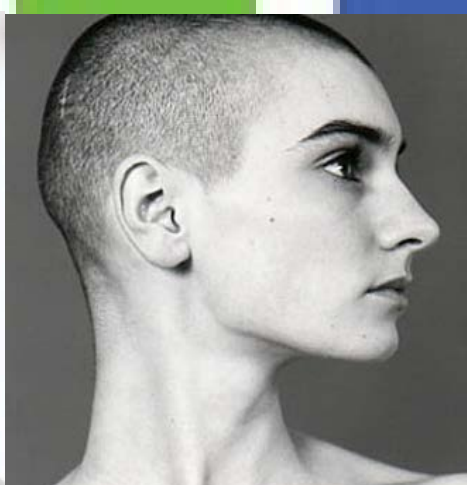
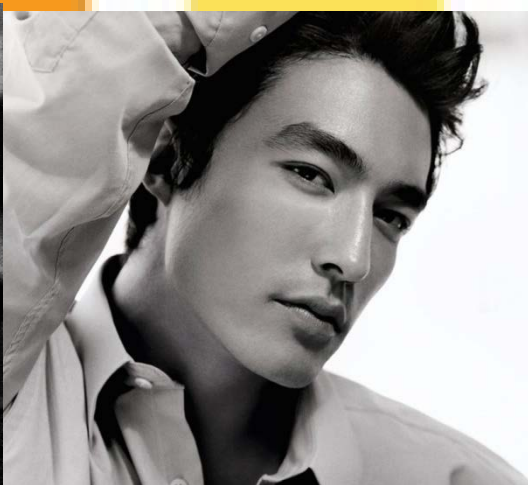


THE LANCET,

FEBRUARY 24, 1973

GENDER DIFFERENCES

GENDER or sex differences are well recognised in almost every area of medicine, but, despite an enormous growth in knowledge of the mechanisms underlying sexual differentiation over the past 25 years,¹ they are still poorly understood. One clinical sphere that



Are we surprised?



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).”

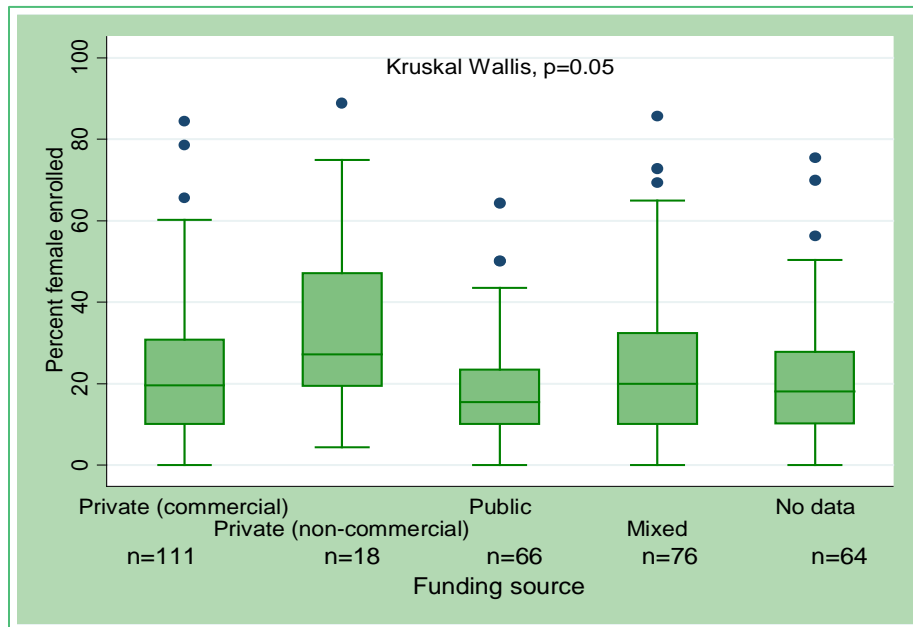
<http://www.fda.gov/downloads/Drugs/DrugSafety/UCM335007.pdf>

Why were these differences observed after approval and marketing?

1. Gender bias in clinical studies

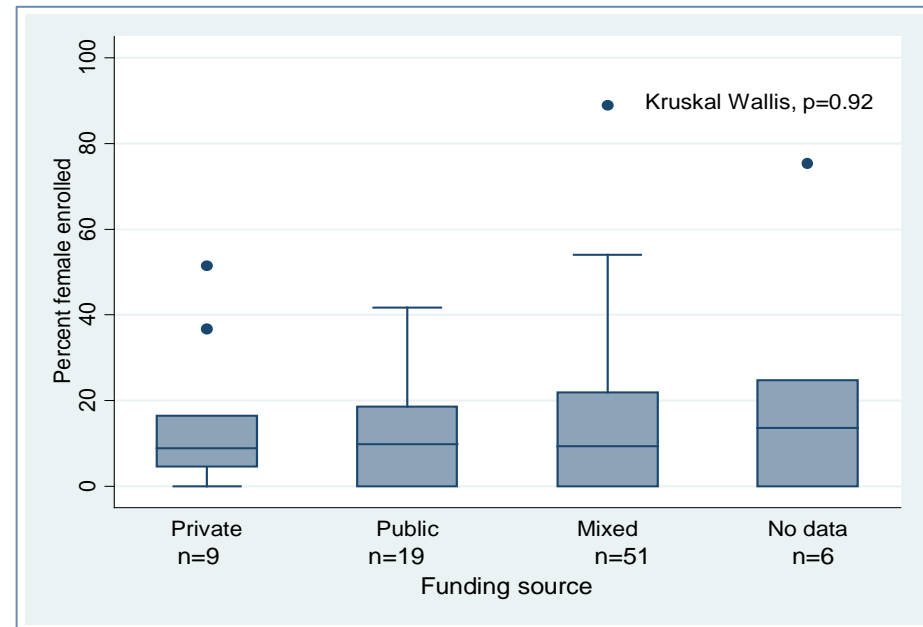
HIV treatment studies (Antiretrovirals)

Median women: 19.2%



HIV Cure Studies

Median women: 9.9%



ARV trials funded, partially or wholly, by NIH, have significantly lower median proportion of female participants than non-NIH funded trials (15.3% vs 22.3% $p=0.001$).

Why were these differences observed after approval and marketing?

2. Gender bias in pre-clinical and basic science

Males still dominate animal studies

Many researchers avoid using female animals. Stringent measures should consign this prejudice to the past, argue **Irving Zucker** and **Annaliese K. Beery**, in the third piece of three on gender bias in biomedicine.

NATURE | Vol 465 | 10 June 2010

3. Gender bias in reporting

“...75% of studies in three highly cited immunology journals did not specify whether the animals used were male or female.”

“If working with only one sex or gender, then specify that, and explain why.”

Male and female cells can behave differently – it is time that research journals and funders took this seriously, says Elizabeth Hollizer.

Cell sex matters



Regulatory agencies

Products Market

Ideas

Research Funding Body

"Research must systematically incorporate attention to sex and gender in design, analysis, and interpretation of findings" WHO 2009

Knowledge Education

Research design

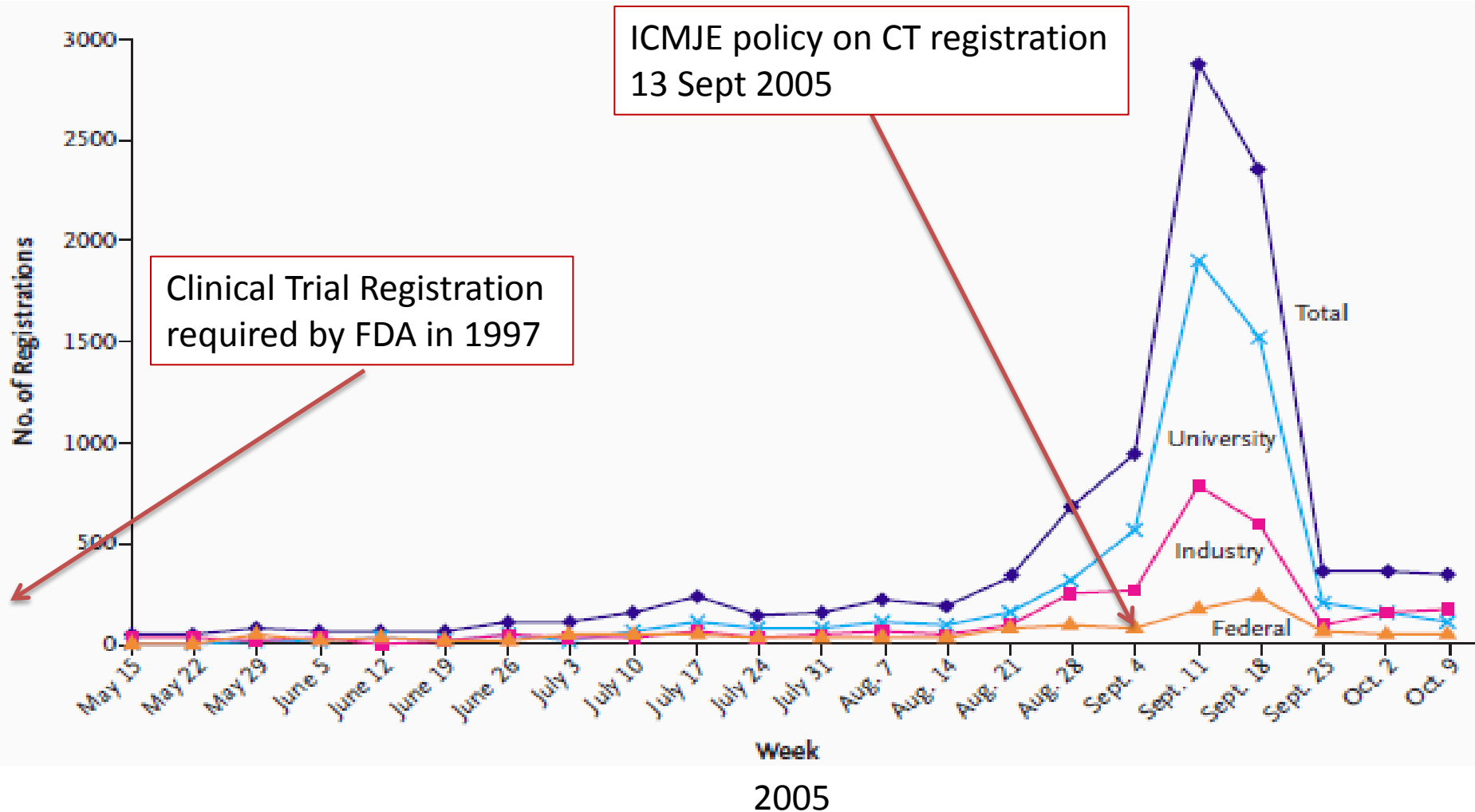
Peer-reviewed Journal

Publication

Research results

Research & Clinical Governance

EXAMPLE: Clinical trials registration



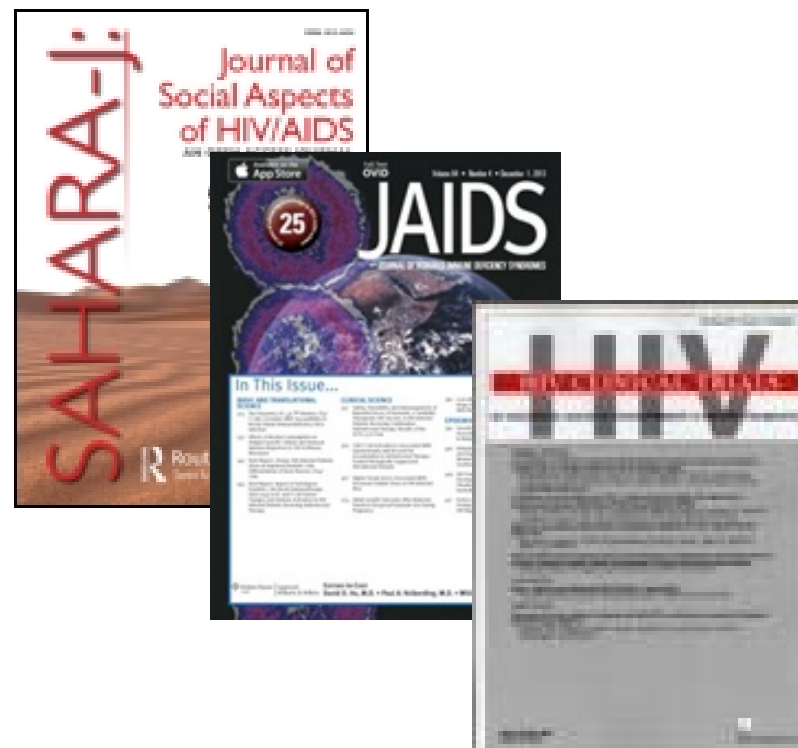
EDITORIAL

Open Access

Time for gender mainstreaming in editorial policies

Shirin Heidari^{1*}, Mirjam J Eckert¹, Susan Kippax², Quarraisha Abdool Karim^{3,4}, Papa Salif Sow⁵, Mark A Wainberg⁶

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.





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The European Association of Science Editors (EASE) is an internationally oriented community of individuals from diverse backgrounds, linguistic traditions and professional experience who share an interest in science communication and editing.

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EASE Gender Policy Committee

Established by EASE Council in June 2012

Chairs: [Shirin Heidari](#) & [Thomas Babor](#)

Members: [Rachel Carol](#), [Paul Cummins](#), [Mirjam Curno](#), [Paola De Castro](#), [Srecko Gajovic](#), [Joy Johnson](#), [Ravi Murugesan](#), [Ana Marusic](#), [Paul Osborne](#), [Petter Oscarson](#), [Ines Steffens](#), [Kerstin Stenius](#), [Chris Sterken](#), [Sera Tort](#)

Supporting members: [Carina Sorensen](#), [Meredith Sones](#)

secretary@ease.org.uk



EASE Gender Policy Committee

- Mission:
 - Advocate for better reporting of gender and sex differences and/or similarities in scientific research
 - Promote gender mainstreaming (and better science) through inclusion of sex/gender considerations in policies and standards for scientific publishing
 - Promote gender mainstreaming and gender balance in editorial boards and editorial offices.
- Activities:
 - International Gender Survey (next presentation)
 - Development of Common Standards



Evaluate gender equality in journals

The European Association of Science Editors established a gender policy committee last year to develop a set of standards for adoption by scientific journals. As co-chairs of the committee, our first step is to invite science editors to contribute to a survey of gender-equality policies in their journals (see go.nature.com/wor7ks; survey closes on 10 April).

In this survey, we ask editors for their views on considering sex and gender in experimental design and data analysis, and on presenting data that are broken down by sex. Information is also requested on gender balance in its promotion among editorial staff, editorial boards and peer reviewers.

Our hope is that all journals will eventually follow *Nature's* example in promoting gender equality in science (see www.nature.com/women).

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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	-
TOTAL	-	716	-

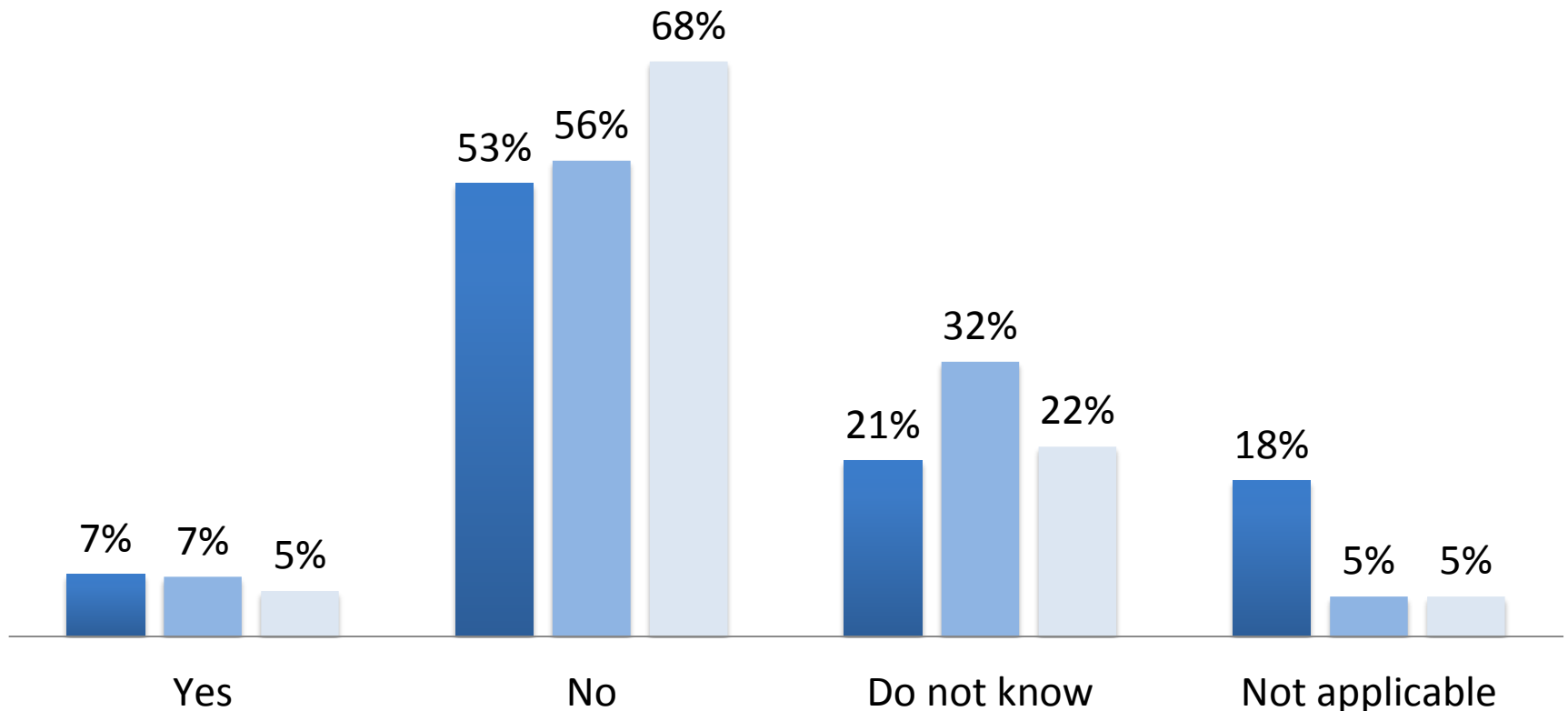
Statistical analysis of results

Statistical analysis performed using SPSS, to assess 2 overarching questions:

1. To what degree have journals adopted policies that integrate sex and gender considerations?
2. What is the readiness to adopt editorial policies related to sex and gender?

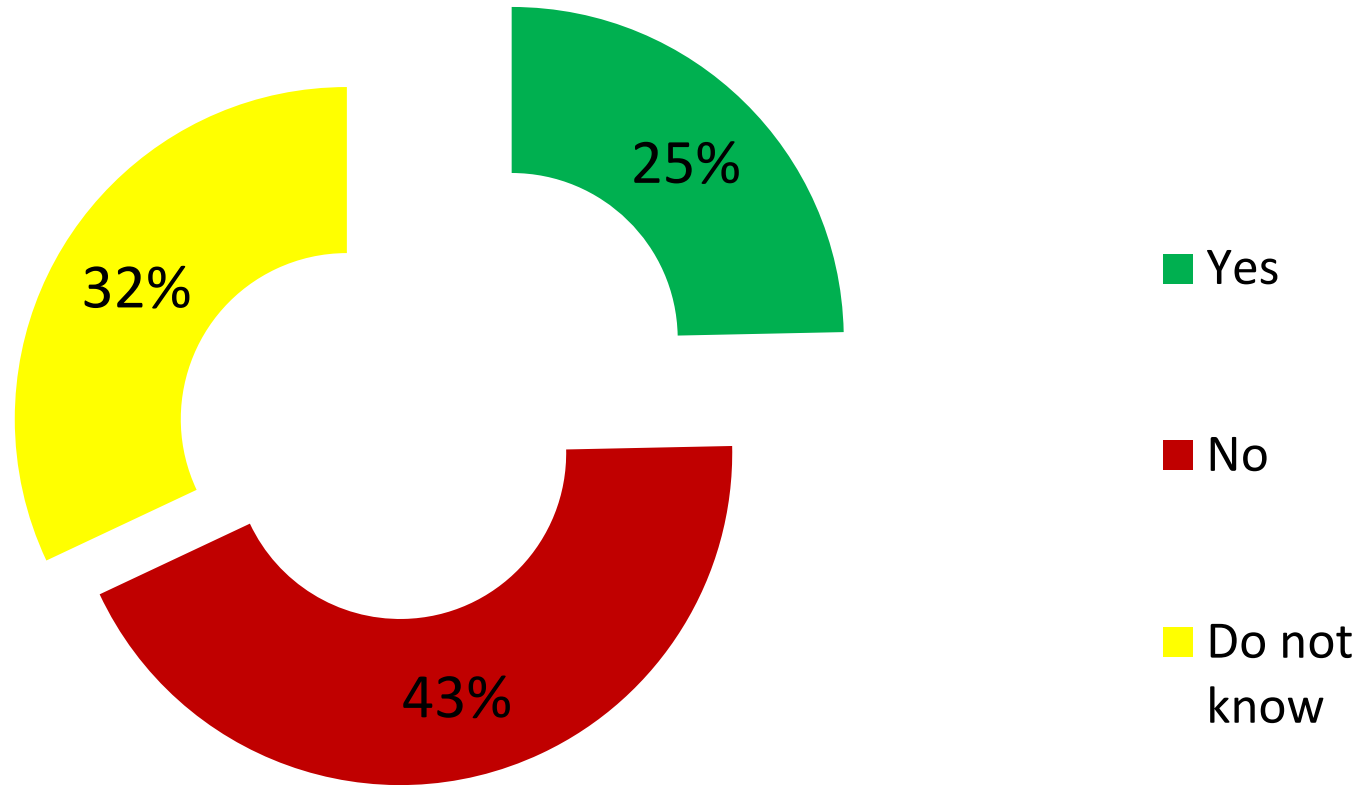
Overview of existing gender policies

- Instructions for Authors
- Composition of editorial staff/boards
- Pool of peer reviewers



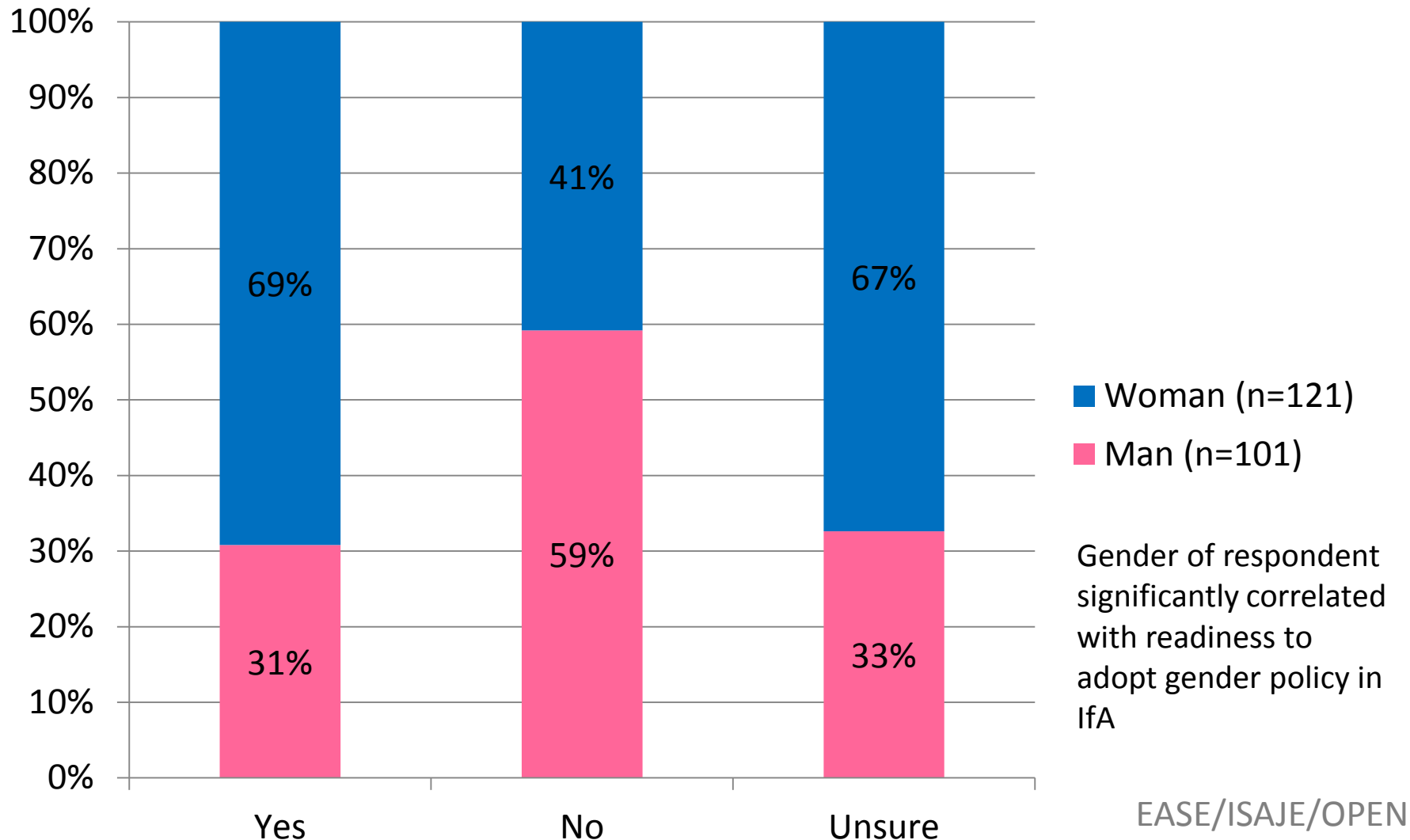
All sample groups

Do you think inclusion 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.

Women are more in favour of gender policies than men



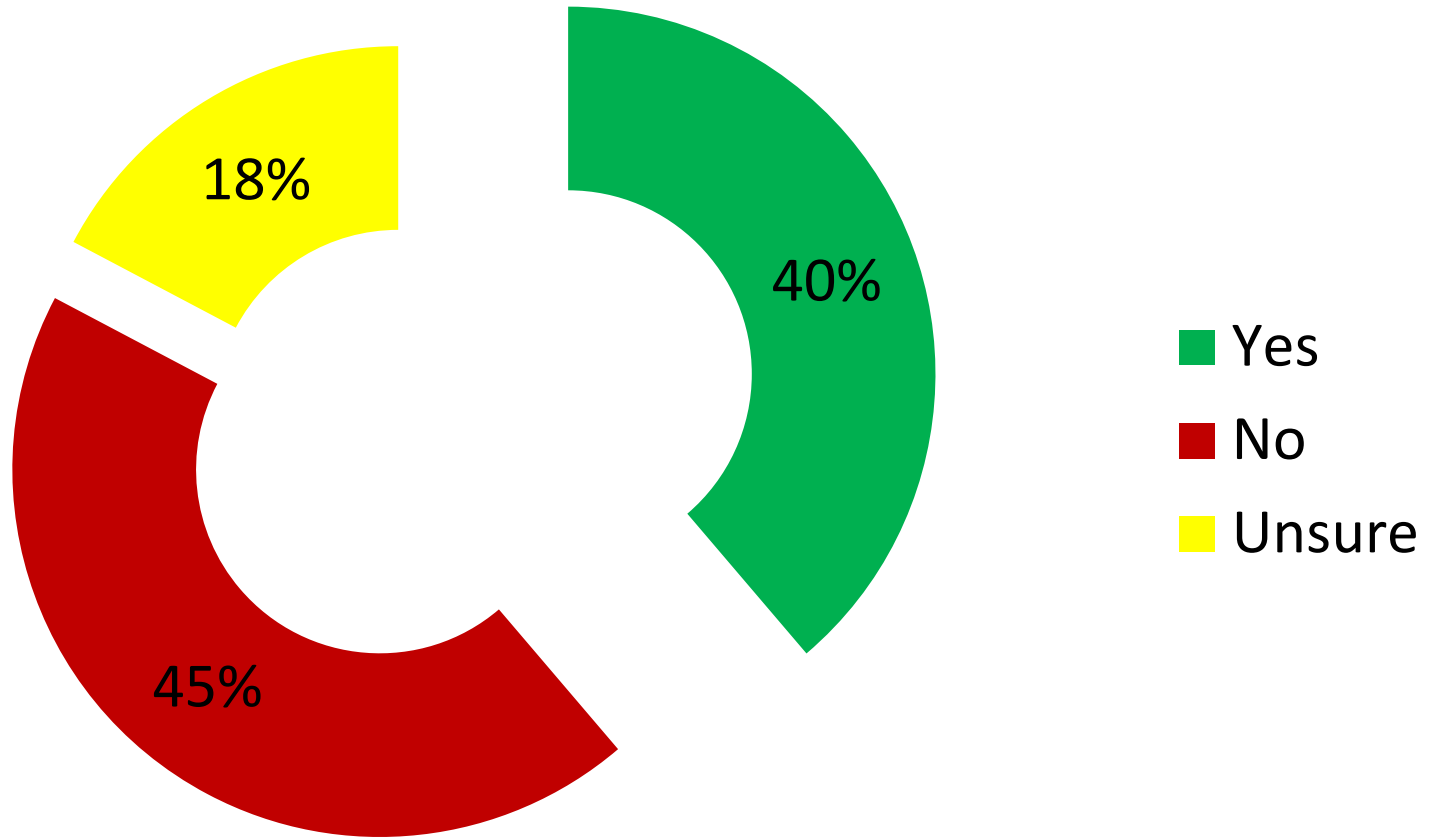


Reasons why sex disaggregation should **NOT** be included in 'Instructions for Authors'

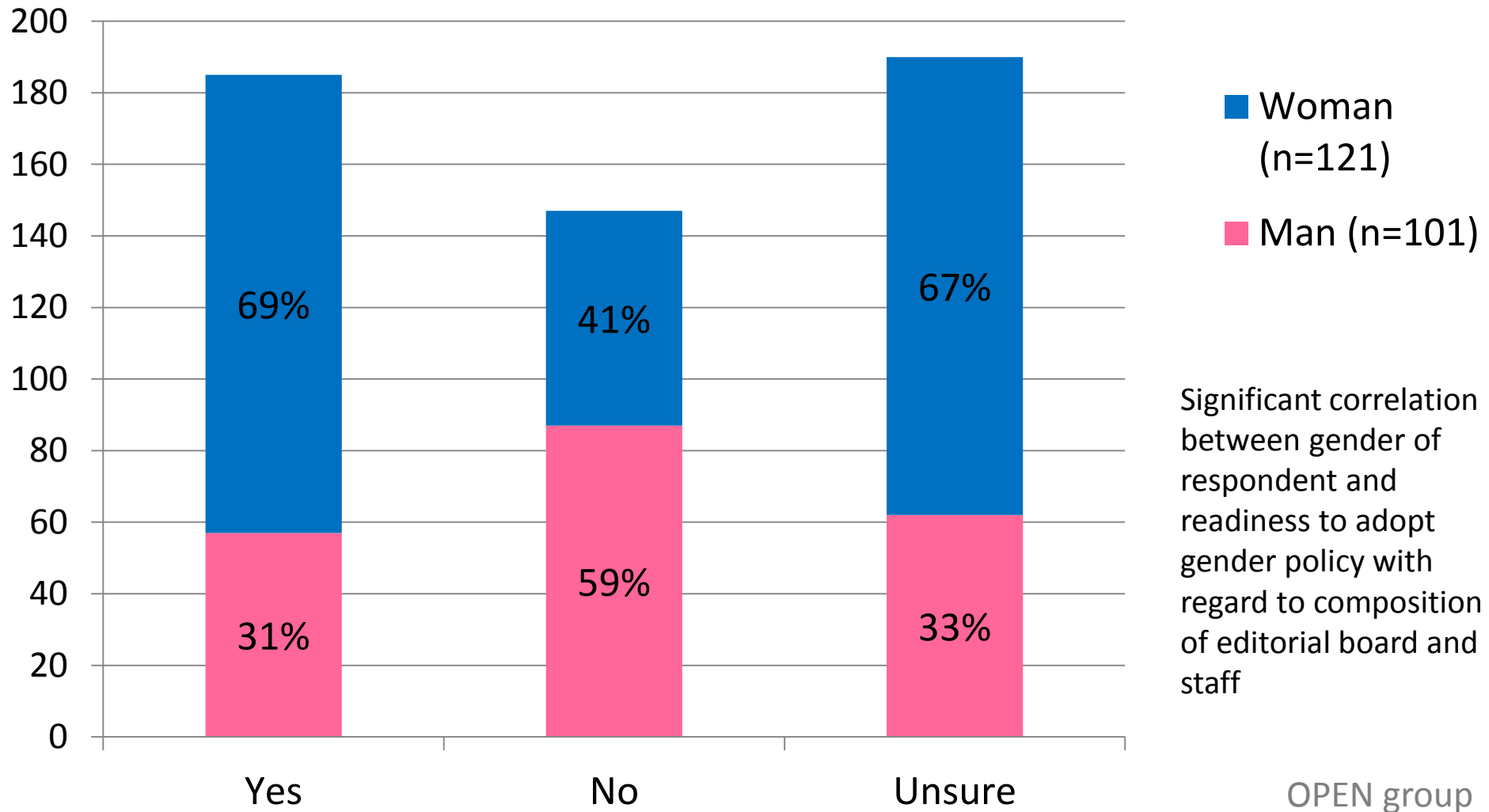
- “It's not applicable to all journals, only ones that publish research about people”
- “This policy will - paradoxically and unwillingly - create inequity for all other classes of 'different' humans”
- “I cannot see any reason whatsoever for doing it”
- “Not applicable to animals”

Do you think journals should have a gender policy concerning the composition of the editorial staff and boards?

Opinion



Women are more in favour of gender policies than men



So what next?

- Provide evidence and rationale for the implications of sex and gender bias in research reporting
- Provide guidance and recommendations for:
 - policies promoting reporting of sex and gender information in scientific publishing
 - policies and procedures to promote gender balance in editorial offices, editorial boards and pool of rev
- disseminate the Common Standard internationally and to monitor its implementation

SHIFTING MIND

Changing the “default assumption”:

There is a sex/gender differences until the contrary is proven.

“The absence of evidence is not the evidence of absence”

Carl Sagan



Thanks to members of the EASE Gender Policy Committee for their dedication and support, and in particular thanks to:

Carina Sorensen

Meredith Sones

Joy Johnson

Thomas Babor

Paul Osborne

Chris Sterken

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Vive la Différence

