PUSHING THE FRONTIERS OF INNOVATIVE RESEARCH
Gendered research and innovation (GRI)

Integrating sex and gender analysis into the research process

Recommendations from and for universities, to funders and others

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Berlin, STEM Gender conference
8 June 2017
LERU is...

- An association of European research-intensive universities
- Non-profit organisation
- Founded in 2002
- 23 members

Committed to:

- **Encourage education** through an awareness of the frontiers of human understanding;
- **Foster the creation of new knowledge through basic research** as the ultimate source of innovation in society;
- **Promote research across a broad front**, which creates a unique capacity to respond to new opportunities and problems.
LERU members:
University of Amsterdam
Universitat de Barcelona
University of Cambridge
University of Copenhagen
Trinity College Dublin
University of Edinburgh
University of Freiburg
Université de Genève
Universität Heidelberg
University of Helsinki
Universiteit Leiden
KU Leuven
Imperial College London
University College London
Lund University
University of Milan
Ludwig-Maximilians-Universität München
University of Oxford
Pierre & Marie Curie University
Université Paris-Sud
University of Strasbourg
Utrecht University
University of Zurich
LERU aims to...

- **Influence policy at European Union and Member State level**
  - EU: Commission, Parliament, Council, ERC, EIT, JRC,…
  - MS: prime ministers, ministers of research, ministers of finance
- **Develop best practices**
  - Between its members
  - Institutional reflection, exchange of experience, collaborative actions
- **Relevance for all Research-Intensive Universities**
  - Europe
  - Global
EU Policy

Open
Open
Open to the
Innovation
Science
World

An agenda for modernising Europe’s higher education

ERASMUS+

European Research Area

HORIZON 2020

A NEW SKILLS AGENDA for Europe

SKILLS - THE ROLE OF EDUCATION
LERU publications

Policy papers

• Natural sciences in H2020: Note published August 2016
• Citizen science: paper published 12/10/2016, launch event 7/11/2016
• Interim evaluation of H2020: paper published 20/10/2016, launch event 21/10/2016
• Interdisciplinarity: paper published in November 2016, launch event 14/12/2016
• Excellent education at RIUs: paper published in February 2017, launch event 2/2/2017
• Societal impact: paper published and launched 30/3/2017
• FP9: paper to be published 20/6/2017

Press statements, briefings, op-eds, research news
Policy Impact

• General Data Protection Regulation
• Open Access to publications
• Horizon 2020
• FP9
• EU Budget / EFSI
• EU Copyright reform
• Animal Research
• Gender equality

And many other issues …
Eating disorders in young men are underdiagnosed and undertreated (Universities of Oxford and Glasgow)

• Young men with an eating disorder are not getting the help and support they need because of perception as a "women's illness"
• Men are underdiagnosed and undertreated for anorexia and other eating disorders, despite making up about a quarter of cases
• Frontline health workers have a key role in identifying eating disorders in young men

(Raisanen and Hunt, 2015, BMJ Open)
THREE FIXES

1. FIX THE NUMBERS OF WOMEN
2. FIX THE INSTITUTIONS
3. FIX THE KNOWLEDGE
Overview of the paper

- Why GRI matters
- GRI matters in all kinds of research areas
- The role of social sciences and humanities in GRI
- Integrating GRI into different phases of the research process
- The role of research universities – innovative practice and recommendations
- The role of other actors - recommendations for governments, funding agencies and journals
- GRI in EU policies and programmes
- Conclusions
GRI matters because R&I matter

Hefei statement (LERU, 2013):

‘University research drives innovation, helps respond to major national and global problems and helps provide the narratives that make it possible to understand a rapidly changing and increasingly volatile world’

Global challenges require comprehensive, multidisciplinary, evidence-based, (gender) inclusive solutions
Three good reasons

• Power, vitality and quality of research
• Eliminates bias and stimulates inclusivity
• Saves lives (and money)

Between 1997 and 2000, 10 drugs were withdrawn from the U.S. market because of life-threatening health effects—8 of those showed greater severity in women (GAO, 2001).

“Linda” by Volvo, a virtual pregnant crash-test dummy designed in 2002 by engineer Laura Thackray. “Linda” models the effects of high-speed impact on the womb, placenta, and fetus.
Issues

Biological differences:
- Physical, hormonal
- Animal studies
- Preclinical, biomedical

Gender roles differ:
- More care-taking tasks for women
- Less economic and decision-making power
Why change is needed

• Lack of **systematic** consideration and mainstreaming of GRI in the research process

• Lack of **awareness** by researchers, university leaders, policy makers, politicians, research funders and journal editors
Considerations

• Integrate a gender perspective in ALL phases of the research process
• Avoid stereotyping and non-evidence-based assumptions
• Understand the role of social sciences and humanities in GRI
• Make the link with Responsible Research & Innovation (RRI)
Different phases of the research process

Framing the research question:
- Validity
- Be aware, consult, …
- If no GRI dimension: fine, mention it

Analysing results:
- Include sex/gender-disaggregated outcomes
- Potentially combined with other factors (social, economic, environment) >> complex analysis

Reporting results:
- Mention if no interaction exists and why

In addition:
- Gender balance in teams: Related to engagement with GRI?
- Assumptions vs evidence base: e.g. “shrinking and pinking” products
The importance of SSH

“The social sciences and humanities cultivate knowledge about human expression, behaviour, and social life that is essential to understanding the human context of contemporary global challenges and to crafting viable solutions to them.”

Leiden Statement, 2014
Climate change (Gendered Innovations Project)

- Social factors also predict climate footprint
- Factors that intersect with gender: income, age, travel patterns, geographical location
- Avoid stereotypes: M-F as undifferentiated groups
- Efficiency and equality by
  - achieving mitigation at the lowest possible SE cost
  - ensuring that costs are shared equitably

![Energy Use, Single Women and Men by Income Categories](chart)

Consumption increases with income, and is typically higher for men than women.

Adapted from Batty et al., 2009
Heart failure and cardiovascular disease (Utrecht University)

• Sex-specific biomarkers for heart failure
• Risk prediction in cardiovascular disease
• Atherosclerosis special issue ‘Sex Matters to the Heart’, July 2015
• “Women Inc” a national initiative for public dissemination
Female birds sing, too (Leiden University)

- Traditionally, song production has almost exclusively been studied in male birds
- With a different research design and a more inclusive, international database it was found that female bird song is more common than previously thought

(Nature Communications, 2014)
Sports activities: linking research and education (Université Paris-Sud)

- Raise awareness and educate future sport professionals about gender discrimination, diversity and equality issues in sport
- 27-hour teaching module entitled “Activités physiques et sportives et différences des sexes” for all second-year students of STAPS (Sciences and Techniques of Physical and Sports Activities) - informed by gendered sports research
- 30 hours of tutorial classes for third-year students on gender and diversity in sports education, taking into consideration socio-historical, psychological and pedagogical approaches
Textbooks – the use of visual representation to illustrate physics (Lund University)

• Textbook analysis: visual representation can be very powerful – and very biased
• For example: 1/ Suggestive pictures of women to illustrate the effect of parallel mirrors 2/ Pictures of men and women are very different, both in content and in numbers
• Context: university-wide “Gender Certification” project
  ✓ Using methods very similar to the ones outlined in the “Gendered Innovations” project
  ✓ For example, workshops to understand gender assumptions in physics professors’ teaching and research
Role of RIUs

Some examples from LERU universities

✓ Lectures, symposia, courses

✓ H2020 guidance booklet for researchers: GRI included (Barcelona)

✓ Awareness raising, workshops, encourage interdisciplinarity (Freiburg)

✓ Include GRI training in diversity policy (Leiden)

✓ Include graduate research students: e.g. publication process workshop (Milan)

✓ Include in recruitment situations, job vacancies
Recommendations

To universities:

✓ Advocate widely
✓ Create awareness and provide tools for researchers
✓ Allocate internal funds
✓ Identify experts
✓ Integrate GRI into the teaching curriculum
✓ Dialogue with governments
Recommendations

To journals:

✓ Set standards for inclusion of GRI in publications
✓ Develop clear guidelines for authors

“Please provide sex-specific and/or racial/ethnic-specific data when appropriate, in describing outcomes of epidemiologic analyses or clinical trials; or specifically state that no sex-based or racial/ethnic-based differences were present” (JACC—Journal of the American College of Cardiology Instructions for Authors).
Recommendations

To governments:

- Include GRI in research priorities
- Raise awareness, train
- Include gender considerations into new policies
- Allocate funding
Recommendations

To research funders:

- Adopt GRI policies, incentivise researchers
- Model after EC/H2020 approach
- Spread good practice

In June 2015 the NIH rolled out new guidelines for sex inclusion in research.


The Canadian CIHR has implemented a requirement that all grant applicants respond to mandatory questions about whether their research designs include gender and sex [...] The purpose of this tool is to give health researchers a framework for thinking through how gender and/or sex might be integrated into their research designs" (CIHR, 2012).

August 2015 released online training for Sex and Gender in Biomedical Research.
What can funders do?

A variety of international, national, and private granting organizations require sex and gender analysis. Grantees may be required to address how their projects will promote:

- Equal representation of men and women in employment, decision-making, and as clinical research subjects (fixing the numbers)
- Removing institutional barriers to gender equality (fixing the institutions)
- Employing sex and gender analysis as a resource to create new knowledge and technologies.

- The European Commission has made this an important part of Horizon 2020.
- The Canadian Institutes of Health Research requires all applicants to consider the sex and gender in their research.
- The Gates Foundation requires applicants to consider gender in agricultural research.

European Research Area (ERA)

2015 ERA Roadmap:
- EC calling for better integration of GRI in MS policies and actions
- MS: National Action Plans

Council Conclusions (1/12/2015):
- Reinforcing the message
- LERU Press release (10/2015) “We are definitely not there yet”

ERA Progress report 2016:
- Low % of papers including GRI
- High number of planned measures (MS NAPs)

Open Science, Open Innovation, Open to the World…
GRI and Horizon 2020

- Monitoring report 2015 includes GRI
  - In many WPs some progress: more systematic approach to including GRI
  - 36.2% of signed grants took into account GRI
- EC H2020 Advisory Group on Gender
  - Suggestions for GRI topics in the 2016-17 work programme (2015)
- EC Vademecum on gender equality in H2020 (2014)
- EC Gendered innovations report
  - expert group chaired by Londa Schiebinger (2013)
Conclusions

• GRI issues are not well-known nor practiced
• More awareness raising and training needed
• Some areas more obvious than others, but attention needed across the board
• GRI is not necessarily an issue – investigate at the outset and consider throughout if applicable
• LERU aims to lead in advocacy and by example
• In partnership with other actors: governments, funders, journals
Women hold up half the sky, they deserve half the research

Thank you, Mao Zhedong and Simone Buitendijk
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