Standing Working Group on Gender in Research and Innovation

Policy Brief 3 September 2018

Tackling gender bias in research evaluation: Recommendations for action for EU Member States

"When various informal structures or unstated assessment criteria have an influence on the evaluation process, this has an adverse effect on gender equality." (Ahlqvist et al. 2015)

Studies reveal the persistence of implicit gender bias in research evaluation. This is a serious problem given the increasing importance of competitive funding, particularly in the early career stages. The failure to tackle gender bias jeopardises policy efforts to advance gender equality and retain women in research. National authorities in cooperation with Research Funding Organisations (RFOs) play a crucial role. Several Member States and European RFOs as well as the European Commission have taken important strides to eliminate gender bias in their procedures and policies, and serve as positive examples for action. ERA National Action Plans and Strategies (NAPS) rarely address the topic. Based on an exchange at its second meeting, the Standing Working Group on Gender in Research and Innovation presents recommendations for national authorities and RFOs on gender bias, to move forward on ERA Priority 4 Gender equality and gender mainstreaming.

Key points

- Research reveals persistence of gender bias in research evaluation.
- Gender bias jeopardises the efforts to promote excellent researchers, women and men.
- Gender bias is rarely addressed in the NAPS and major differences exist in the EU.
- National authorities and Research Funding Organization must step up concrete actions to tackle gender bias to achieve ERA Priority 4.

Gender bias compromises meritocracy

Assessing quality has long been a central concern in research and has gained in importance with the recent proliferation of research assessment systems. The received notion is that what matters in research is quality, not sex, gender or other socially ascribed characteristics, that research assessment is value-free, impartial, and untainted by social factors. This meritocratic ideal continues to be a widely accepted truism in much of the research community and among policy makers, and the opinion often prevails that excellence is self-evident.

This standard notion is undermined by a growing body of research across disciplines and countries that show the pervasiveness of various types of gender bias in research assessment. Gender bias is related to the perceived characteristics and competences of women as well as the ascribed gender roles. These studies demonstrate the negative impact on women's careers in research, and provide at least a partial explanation for why women continue to be severely under-represented in high-ranking and managerial positions in research and higher education and why they leave research.

What studies tell us about gender bias in research¹

a) Women and men are valued differently

Research shows that the work of men is consistently judged as superior, by both men and women, even when the only thing that differs is the name. Studies also show that women must have higher performance to be evaluated equally to men with lower performance scores.

b) Women tend not to be perceived as leaders

Research also shows perceived incongruity between the feminine gender role and leadership. What we tend to value in women is likeability. If they display qualities typically expected in leadership positions, they may receive a penalty, being seen as aggressive and bossy. This may negatively affect women in prestigious competitions with personal interviews in final stages.

c) Notions of excellence are gendered

Academics often associate excellence with qualities associated with men: uninterrupted career, full concentration on work, mobility and willingness to move, and temporal availability (working on weekends, long hour's culture).

d) Gender bias demonstrated by women and men

Both men and women display gender bias (against women) when they evaluate others.

e) Perceived differences in cognitive styles between women and men

Despite neuroscience research to the contrary, some studies demonstrate that people continue to have stereotypes about cognitive styles of women and men. Men's cognitive styles are regarded as allegedly synthetic and visionary, whereas women are regarded as analytical, focused on detail and meticulous in nature.

f) Letters of recommendation for women and men differ

Letters of recommendation for women and men differ. Men are more often described as brilliant and as risk-takers and the letter focus on their research. In contrast, women are often praised for their likeability and social skills, and their research is mentioned less frequently.

g) The motherhood penalty

Mothers who are researchers are under-valued are seen as less competent and dedicated to their work. In contrast, researchers who are fathers are rarely faced with such prejudice. Career breaks often remain invisible in the evaluation process. Evaluators are rarely briefed on how to evaluate research performance in the case of career breaks and display bias against applicants who are mothers.

h) Gender-blind rules disadvantage parents

Evaluation and eligibility criteria often disregard parenthood as a potentiality in researchers' lives. RFOs may not address differences in research performance due to family-related breaks. Eligibility rules for junior researchers may set age limits that prevent parents that have taken breaks from participating. For example, having an age limit of 35 without provisions for family-related breaks will tend to bar women from participating. RFOs also may not have rules for the transfer of the PI status after returning from a maternity/parental leave.

i) Impostor syndrome may discourage women from applying

The existing gender bias in perceptions of leadership and competence overall has an impact on how women may perceive their own skills and competences. The impostor syndrome demonstrates itself among women that are under-represented in an area typically associated with the over-represented sex. The impostor syndrome may lead women to opting out of prestigious competitions due to perceived inadequacy, despite proper qualifications.

¹ For references to relevant studies see section References and sources.

ERAC SWG GRI mutual learning on implicit gender bias policies and actions in NAPS and beyond

This body of research and the support for cultural and institutional changes has led some countries and institutions to adopt concrete actions to tackle gender bias in research evaluation. Despite the growing awareness of the problem, gender bias is not addressed in policy documents of most of the EU Member States (or is addressed implicitly). Discussion at the second meeting of SWG GRI, held on 19 April 2018, revealed differences among European countries, which can be clustered in the five groups listed below. A total of twenty Member States and Associate Countries contributed to the debate (AT, BE-FR, CZ, DE, DK, EE, FI, IE, IT, LT, MT, NL, PO, PT, SE, SI, SK, UK; CH, NO).

The discussion also benefitted from input from the European Commission (DG RTD). The European Commission has paid increasing attention to this topic. In 2017, upon suggestion from the Horizon 2020 Advisory Group on Gender, DG RTD organised a workshop on implicit gender biases during evaluations² with an aim to better address this issue in Horizon 2020, building on the initiatives recently put in place by the European Research Council (ERC) and Marie Skłodowska-Curie Actions (MSCA), and on practices implemented by RFOs from various Member States. Following this workshop, a reference to implicit gender biases has been included in the standard briefing for Horizon 2020 evaluators, with links to existing videos. Further improvements to the evaluation processes are being considered.

a) Little awareness, no policy or action

In some countries, the topic is not on the policy agenda at all and there is an elementary need to raise awareness about the existence of the problem; in these countries, too, RFOs predominantly do not address the issue.

b) Some awareness, uncertainty as to actions to be taken

In other countries, awareness has increased in recent years (also due to membership in European umbrella organizations such as Science Europe). RFOs have started collecting and publishing statistics disaggregated by sex but uncertainty exists as to what action to take.

c) Awareness growing, measures under preparation

In a few countries, awareness has increased, and new policy developments are under way. These countries are often considering solutions already adopted in other countries.

d) Action taken by RFOs

A number of countries report that quite comprehensive measures are taken directly by their national RFOs and RPOs but this is not coordinated with national authorities.

e) Coordinated action by RFOs and RPOs embedded in national policy

In a few countries, a complex set of measures has been introduced to address the issue where overarching national gender equality policy objectives are translated into concrete measures taken by RFOs and RPOs, with a push from the government.

An overview of selected measures taken by European RFOs is included in Appendix 1.

Conclusion

² European Commission (2017) *Implicit Gender Biases during Evaluations: How to Raise Awareness and Change Attitudes, Workshop report,* 30-31 May 2017, Brussels. Available at: http://ec.europa.eu/research/swafs/pdf/pub_gender_equality/report_on_implicit_gender_biases_during_evaluations.pdf

Gender equality and gender mainstreaming in research constitute Priority 4 of the European Research Area. To achieve its objectives and ensure that European researchers all enjoy the same access to fair, transparent and unbiased evaluation, an agreement on elementary measures should be reached by national authorities, RFOs and the European Commission, with a view to building a solid ground for achieving gender bias-free peer review processes across Europe.

Recommendations for action by national authorities and RFOs

The following recommendations from the SWG GRI are intended to give elementary pointers that should be guaranteed across the EU by national authorities and public RFOs:

- **Statistical data collection and monitoring**: Research Funding Organisations should be required to collect statistical information on an annual basis on the proportion of women and men among applicants and grant recipients by support programme and discipline (if relevant) as well as on the proportion of women and men on evaluation panels and among evaluators by support programme and discipline (if relevant). This information must be made public. Major gender disparities should require an explanation as part of reporting through chains of accountability.
- Gender bias training for staff and evaluators: Research Funding Organisations should be required to train their staff (using support material such as videos and online tutorials), particularly programme managers, as well as evaluators and chairs of evaluation panels especially, to raise awareness about the issue and its impact on the peer review process. Attention is to be paid to building a common understanding around key terms (e.g., leadership, merit) and that evaluators accept the instructions and guidelines underpinning the evaluation process.
- **Gender experts on evaluation panels:** Evaluation panels should include gender experts in the given discipline, with a view to ensuring that the gender dimension of research proposals is adequately evaluated.
- Gender observers on evaluation panels: Research Funding Organisations should put in place periodic gender equality observation to evaluate and report whether and how gender bias manifests in the discussion of proposals in evaluation panels. Recommendations from gender observers should be incorporated in the evaluation process design.
- Formalization and transparency of the evaluation process: Research Funding Organizations must adopt clear and publicly available evaluation guidelines and criteria and have a review system in place. The guidelines must address the issue of career breaks in the evaluation of applicants. The guidelines must equally provide a calibration for evaluation grades.
- Gender balance on evaluation panels: Research Funding Organizations should be required to introduce at least a 40:60 male-female rule as a minimum on evaluation panels, to be achieved by 2020.
- **Double-blind review:** Where possible, the review process should be double blind as such a procedure may, first, counteract gender bias against applicants and, secondly, encourage women's application for grants.
- Gender mainstreaming of funding programmes, particularly eligibility rules and evaluation criteria: All newly developed support programmes should be checked to see whether the eligibility rules may not directly or indirectly disadvantage a particular group of applicants from applying (e.g., a cut-off age of 35 years of age or the requirement of a long-term mobility in grant competitions for early-career researchers). Similarly, evaluation criteria should be checked to eliminate any direct or

indirect rules that may disadvantage a particular group of applicants (e.g. based on family-related career breaks).

- **Open Science:** Given the increasing adoption of open science practices, RPOs and RFOs are encouraged to examine how these are taken up by men and women and how these practices can contribute in mitigating gender bias in research assessment/ evaluation procedures.
- Gender proofing of language of call texts: Language is important and in more competitive, highly prestigious competitions women may be reluctant to apply. Before launching a call for proposals RFO staff should gender-proof the language.
- Accountability matters: Research Funding Organisations must be accountable to the responsible state administration body for reporting on actions and measures developed and implemented, including statistical information and explanation of disparities between women and men in application and success rates.

References and sources

a) Women and men are valued differently

- Handley I. M., Brown E. R., Moss-Racusin C. A., Smith J. L. 2015. 'Quality of evidence revealing subtle gender biases in science is in the eye of the beholder.' *PNAS* 112 (43):13201-13206.
- Helmer M., Schottdorf M., Neef A., Battaglia D. 2017. 'Gender bias in scholarly peer review.' *eLife* 6:e21718.
- Jappelli T., Nappi C. A. & Torrini R. 2017. Gender effects in research evaluation. *Research Policy* 46(5): 911–924.
- Kaatz, A., Gutierrez, B., Carnes, M. 2014. 'Threats to objectivity in peer review: the case of gender.' *Trends in Pharmacological Sciences 2014*, 35(8). DOI: <u>http://dx.doi.org/10.1016/j.tips.2014.06.005</u>
- Moss-Racusin, C. A., Dovidio, J. F., Brescoll, V. L., Graham, M. J., Handelsman, J. 2012. 'Science Faculty's Subtle Gender Biases Favor Male Students.' *Proceedings of the National Academy of Sciences of the United States of America*, 109 (41): 16474–9. DOI: http://doi.org/10.1073/pnas.1211286109
- Nosek, B. A., Smyth, F. L., Sriram, N., Lindner, N., M., Devos, T., Ayala, A. et al. 2009. 'National differences in gender-science stereotypes predict national sex differences in science and math achievement.' *PNAS*, 106(26): 10593–10597. DOI: 10.1073/pnas.0809921106
- Larivière, V., Ni, C., Gingras, Y., Cronin, B., Sugimoto, C. R. 2013. 'Global gender disparities in science.' *Nature*, 504(7479): 211–213. DOI: 10.1038/504211a
- Leslie, S.-J., Cimpian, A., Meyer, M., Freeland, E. 2015. 'Expectations of brilliance underlie gender distributions across academic disciplines.' *Science*, 347(6219): 262–265. DOI: 10.1126/science.1261375. DOI: <u>http://www.sciencemag.org/content/347/6219/262</u>
- Reuben, E., Sapienza, P., Zingales, L. 2014. 'How Stereotypes Impair Women's Careers in Science.' Proceedings of the National Academy of Sciences of the United States of America, 111(12): 4403–8, DOI: <u>http://doi.org/10.1073/pnas.1314788111</u>.
- Rossiter, M. W. 1993. 'The Matthew Matilda Effect in Science.' *Social Studies of Science*, Vol. 23, No. 2: 325–341, http://doi.org/10.1177/030631293023002004.
- Steinpreis, R. E., Anders, K. A., Ritzke, D. 1999. 'The Impact of Gender on the Review of the Curricula Vitae of Job Applicants and Tenure Candidates: A National Empirical Study.'

Sex Roles, 41(7–8): 509–528, <u>http://doi.org/10.1023/A:1018839203698</u>.Tricco A.C. et al. 2017. Strategies to Prevent or Reduce Gender Bias in Peer Review of Research Grants: A Rapid Scoping Review. *PLoS One* e0169718.

- Valian, V. 1999. *Why So Slow? The Advancement of Women*. Cambridge and London: MIT Press.
- Van der Lee R., Ellemers N. 2015. Gender contributes to personal research funding success in The Netherlands. *PNAS* 112:12349-12353.
- Wenneras, C., Wold, A. 1997. 'Nepotism and Sexism in Peer-review.' *Nature*, 387(6631): 341–343. DOI: http://doi.org/10.1038/387341a0.
- Williams, J. C., Dempsey, R. 2014. *What Works for Women at Work: Four Patterns Working Women Need to Know*. New York: NYU Press.

b) Women are not perceived as leaders

- Ahlqvist, V., J. Andersson, L. Söderqvist, J. Tumpane. 2015. *A gender-neutral process? A qualitative study of the evaluation of research grant applications 2014.* Stockholm: Swedish Research Council.
- Eagly, A. H., Karau, S. J. 2002. 'Role Congruity Theory of Prejudice Toward Female Leaders.' *Psychological Review*, 109(3): 573–98.
- Heilman, M. E., Eagly, A. H. 2008. 'Gender Stereotypes Are Alive, Well, and Busy Producing Workplace Discrimination.' *Industrial and Organizational Psychology*, 1(4): 393–398. DOI: <u>http://doi.org/10.1111/j.1754-9434.2008.00072.x</u>
- Linková, M. 2017. 'Academic excellence and gender bias in the practices and perceptions of scientists in leadership and decision-making positions.' *Gender and Research*, 18(1): 42–96.
- Morley, L. 2013. 'The Rules of the Game: Women and the Leaderist Turn in Higher Education.' *Gender and Education*, 25(1): 116–131. DOI: http://doi.org/10.1080/09540253.2012.740888
- Söderqvist, L., Baard, P., Hellström, A., Kolm, C. 2017. *A gender-neutral process? Gender equality observations in the Swedish Research Council's review panels 2016.* Stockholm: Swedish Research Council.
- van den Brink, M., Benschop, Y. 2011. 'Gender Practices in the Construction of Academic Excellence: Sheep with Five Legs.' *Organization*, 19(4): 507–524. DOI: http://doi.org/10.1177/1350508411414293
- van den Brink, M., Benschop, Y. 2012. 'Slaying the Seven-Headed Dragon: The Quest for Gender Change in Academia.' *Gender, Work & Organization*, 19(1): 71–92. DOI: <u>http://doi.org/10.1111/j.1468-0432.2011.00566.x</u>

c) Notions of excellence are gendered

- Addis, E. 2010. *Meta-Analysis of Gender and Science Research Topic Report: Gender and Scientific Excellence*. Luxembourg: Publications Office of the European Union.
- Aiston, S. J., Jung, J. 2015. 'Women Academics and Research Productivity: An International Comparison.' *Gender and Education*, 27(3): 205–220. DOI: http://doi.org/10.1080/09540253.2015.1024617.
- Brouns, M. 2004. Gender and the Assessment of Scientific Quality. Pp. 147-155 In European Commission. *Gender and Excellence in the Making*. Luxembourg: Office for Official Publications of the European Communities.
- Heilman, M. E., Wallen, A. S., Fuchs, D., Tamkins, M. M. 2004. 'Penalties for Success:

Reactions to Women Who Succeed at Male Gender-typed Tasks.' *The Journal of Applied Psychology*, 89(3): 416–27. DOI: http://doi.org/10.1037/0021-9010.89.3.416.

Krefting, L. A. 2003. 'Intertwined Discourses of Merit and Gender: Evidence from Academic Employment in the USA.' *Gender, Work and Organization*, 10(2): 260–27. DOI: http://doi.org/10.1111/1468-0432.t01-1-00014.

d) Gender bias demonstrated by women and men

- Moss-Racusin, C., Dovidio, J., Brescoll, V., Graham, M., & Handelsman, J. 2012. Science Faculty's Subtle Gender Biases Favor Male Students. *Proceedings of the National Academy of Sciences of the United States of America*, 109 (41):16474-16479.
- Steinpreis, R.E., Ritzke, D., & Anders, K.A. 1999. The Impact of Gender on the Review of the Curricula Vitae of Job Applicants and Tenure Candidates: A National Empirical Study. Sex Roles, 41:509-528.

e) Perceived differences in cognitive styles between women and men

Linková, M. 2017. 'Academic excellence and gender bias in the practices and perceptions of scientists in leadership and decision-making positions.' *Gender and Research*, 18(1): 42–96.

f) Letters of recommendation for women and men differ

- Madera, J. M., Hebl, M. R., Martin, R. C. 2009. 'Gender and letters of recommendation for academia: Agentic and communal differences.' *Journal of Applied Psychology*, 94(6): 1591–1599. DOI: 10.1037/a0016539
- Marchant, A., Bhattacharya, A., Carnes, M. 2007. 'Can the Language of Tenure Criteria Influence Women's Academic Advancement?' *Journal of Women's Health*, 16(7): 998– 1003. DOI: http://doi.org/10.1089/jwh.2007.0348
- Schmader, T., Whitehead, J., Wysocki, V. 2007. A Linguistic Comparison of Letters of Recommendation for Male and Female Chemistry and Biochemistry Job Applicants. *Sex Roles*, 57: 509-514.
- Steinpreis, R. E., Anders, K. A., Ritzke, D. 1999. 'The Impact of Gender on the Review of the Curricula Vitae of Job Applicants and Tenure Candidates: A National Empirical Study.' *Sex Roles*, 41(7–8): 509–528. DOI: http://doi.org/10.1023/A:1018839203698
- Trix, F., Psenka, C. 2003. 'Exploring the Color of Glass: Letters of Recommendation for Female and Male Medical Faculty.' *Discourse & Society*, 14(2): 191–220. DOI: <u>http://doi.org/10.1177/0957926503014002277</u>.

g) The motherhood penalty

- Correll, S. J., Benard, S., Paik, I. 2007. 'Getting a job: Is there a motherhood penalty?', *American Journal of Sociology*, 112(5), 1297–1338. DOI: 10.1086/511799
- Williams, J. C. 2005. 'The Glass Ceiling and the Maternal Wall in Academia.' New Directions for Higher Education, 2005(130): 91–105. DOI: http://doi.org/10.1002/he.181
- Williams, J. C., Segal, N. 2003. 'Beyond the Maternal Wall: Relief for Family Caregivers Who Are Discriminated against on the Job.' *Harvard Women's Law Journal*, 26: 77– 162.

h) Gender-blind rules disadvantage parents

Smithson, J., Stokoe, E. H. 2005. 'Discourses of Work-Life Balance: Negotiating

"Genderblind" Terms in Organizations.' *Gender, Work and Organization*, 12(2): 147–168. DOI: http://doi.org/10.1111/j.1468-0432.2005.00267.x

i) Impostor syndrome may discourage women from applying

- Jöstl, G., Bergsmann, E., Lüftenegger, M., Schober, B., Spiel, C. 2012. When Will They Blow My Cover? The Impostor Phenomenon among Austrian Doctoral Students. *Zeitschrift für Psychologie*, 220 (2):109-120.
- Clance, P., Imes, S. 1978. The Impostor Phenomenon in High-Achieving Women: Dynamics and Therapeutic Intervention. *Psychotherapy: Theory, Research, and Practice*, 15:241-247.

European studies and reports

- European Commission. 2017. Implicit Gender Biases during Evaluations: How to Raise Awareness and Change Attitudes, Workshop report, 30-31 May 2017. Brussels.
- European Commission. 2014. *Gender Equality Policies in Public Research*. Luxembourg: Publications Office of the European Union.
- European Commission. 2009. *The Gender Challenge in Research Funding: Assessing the European national scenes*. Luxembourg: Publications Office of the European Union.
- European Commission. 2004. *Gender and Excellence in the Making*. Luxembourg: Publications Office of the European Union.

Appendix 1: Overview of Selected Measures Adopted by RFOs for Minimising Implicit Gender Biases in Evaluations of Research Proposals

<u>Unconscious bias trainings and awareness-raising workshops for various groups</u> <u>involved in the evaluation process</u>

Swedish Research Council (SRC)³:

- Trainings for panel chairs, agency staff
- Gender equality workshops for panel members or scientific boards
- Gender equality information to all panel members Royal Society video on Unconscious Bias: <u>https://youtu.be/dVp9Z5k0dEE</u>

Netherlands Organisation for Scientific Research (NWO):

• (pilot) programme for evaluators aiming to avoid implicit gender biases in the evaluation process⁴: *The 30 min intervention currently tested with evaluators includes an Implicit Association Test (IAT) developed specifically for the NWO context, based on actual (gendered) evaluation materials, as well as other concrete activities to increase bias literacy and self-efficacy, using targeted examples of reference literature (e.g. on unconscious bias in CV evaluation, in interviews). The e-learning module also allows to measure participation and to follow the impact on evaluations procedures by e.g. analysing the awarding rates. Preliminary results show that the intervention is promising in creating awareness of implicit gender biases among evaluators, allowing them to correct for these biases, and thereby fostering the objectivity of the evaluation process.*

UK Royal Society – Unconscious Bias Programme⁵:

- Covers gender-based as well as other kinds of unconscious biases (ethnicity, disabilities, age, etc.), taking into consideration the intersectional nature of these biases. It includes a briefing based on scientific literature and a video animation, sent to panel members before the panel meeting. Face-to-face trainings are also offered to panel chairs. Video 'Understanding unconscious bias's was produced by the Royal Society in 2015 for this purpose: <u>https://youtu.be/dVp9Z5k0dEE</u>
- Trainings for agency staff

Austrian Science Fund (FWF)⁶:

• Diversity training in the context of research funding for board members and FWF staff.

³ Jacobson, C. 2017. "Tackling implicit gender bias in peer review - Swedish Research Council"(presentation from the workshop *Implicit Gender Biases during Evaluations: How to Raise Awareness and Change Attitudes*, 30-31 May 2017, Brussels). Retrieved from:<u>http://ec.europa.eu/research/pdf/workshop_igb/carl_jacobsson_tackling_implicit_gender_bias_in_peer_review.pdf</u>

⁴ DG Research and Innovation. 2017. "Implicit Gender Biases during Evaluations: How to Raise Awareness and Change Attitudes" (report from the workshop held in Brussels, 30-31 May 2017). Retrieved from: <u>http://ec.europa.eu/research/swafs/pdf/pub_gender_equality/report_on_implicit_gender_biases_during_evaluations.pdf</u>

⁵Cumberbatch, L. 2017. "Unconscious Bias at the Royal Society." (presentation from the workshop *Implicit Gender Biases during Evaluations: How to Raise Awareness and Change Attitudes*, 30-31 May 2017, Brussels). Retrieved from: http://ec.europa.eu/research/pdf/workshop igb/lenna cumberbatch unconscious bias.pdf

⁶Science Europe. 2017. *Practical Guide to Improving Gender equality in Research Organisations*. Retrieved from: <u>https://www.scienceeurope.org/wp-content/uploads/2017/01/SE_Gender_Practical-Guide.pdf</u>

The Irish Research Council (IRC)⁷:

• Initial phase of face-to-face unconscious bias training completed for evaluators; the Council will implement a new round of training, working with other research funders.

French National Center for Scientific Research (CNRS)⁸:

A specific committee was put into place in 2013. Its objectives are to review procedures and practices for the evaluation, recruitment and promotion of researchers at CNRS, with respect to gender equality and to make concrete proposals to improve these when relevant. Its actions so far include: training on gender equality issues and unconscious bias; production of multi-annual, sex-disaggregated statistical factsheets used by panels; introduction of family-related career breaks in evaluation consideration; changes in the procedures for awarding CNRS medals; and involvement of external gender observers during the 2015 interviews for the CNRS entry and promotion panels.

French National Research Agency (ANR):

• The 2017 action plan includes an evaluation bias training (including a gender bias training) for chairs/presidents of scientific committees, and intended to extend this training to all committee members in 2018.

German Research Foundation (DFG)⁹:

• Awareness-raising activities for the head office and review boards (including the topic of implicit bias).

The internal DFG Working Group 'equal opportunities in research and academia' has developed a training module for members of the head office. The first training included a scientific presentation by a renowned scientist on aspects of information processing, categorising, stereotypes and implicit bias. In a follow-up workshop, these aspects were further discussed in relation to practical aspects of the evaluation and decision processes at DFG. Concrete measures have been developed that could further avoid possible judgement and decision bias, and recommendations and guidelines for panels will serve as basis for further discussions with DFG review boards. (Review boards evaluate proposals to fund research projects and also monitor the review process to ensure that uniform standards are observed.) As a next step, these review boards will be asked to explicitly discuss aspects of implicit bias, paying particular attention to gender bias, in one of their forthcoming review meetings.

Science Foundation Ireland (SFI)¹⁰:

• Unconscious bias training

In 2016, all SFI staff, including the executive committee and the Board of Management, received sector-specific, data-driven unconscious bias training by an external provider. Feedback and lessons from the session have been fed into process improvements within the organisation, such as expanded briefing to peer reviewers and a reconsideration of the

http://research.ie/assets/uploads/2016/06/final-_progress_report_on_gender.pdf

⁷Irish Research Council. 2016. *Irish Research Council policies and practice to promote gender equality and the integration of gender analysis in research* (Progress Update). Retrieved from:

⁸Science Europe. 2017. *Practical Guide to Improving Gender equality in Research Organisations*. Retrieved from: <u>https://www.scienceeurope.org/wp-content/uploads/2017/01/SE_Gender_Practical-Guide.pdf</u>

⁹Science Europe. 2017. *Practical Guide to Improving Gender equality in Research Organisations*. Retrieved from: <u>https://www.scienceeurope.org/wp-content/uploads/2017/01/SE_Gender_Practical-Guide.pdf</u>

¹⁰Science Europe. 2017. *Practical Guide to Improving Gender equality in Research Organisations*. Retrieved from: <u>https://www.scienceeurope.org/wp-content/uploads/2017/01/SE_Gender_Practical-Guide.pdf</u>

information provided to review panels.

Swiss National Science Fund (SNSF)¹¹:

The Swiss National Science Fund has an international advisory board for gender equality. The members are internationally recognized gender experts and distinguished researchers. This committee meets twice a year and makes sure that gender equality issues are addressed in the organisation on a regular basis. Committee members have given presentations on biases and stereotypes and their impact on the evaluation process to the SNSF research council members in 2015 and 2016.

European Research Council (ERC)¹²:

- The Institució CERCA video is now shown to panel members (<u>https://www.youtube.com/watch?v=g978T58gELo</u>), and training on unconscious gender biases for programme officers is being launched.
- Briefing of panel members BEFORE starting the remote evaluation and DURING meetings in Brussels.

Canadian Institutes of Health Research (CIHR) and other federal Canadian RFOs¹³:

• CIHR has adopted Gender Equity Framework which includes gender equity challenges, including unconscious bias. As part of this, unconscious bias training module for peer reviewers: <u>http://www.cihr-irsc.gc.ca/lms/e/bias/</u>

The Social Sciences and Humanities Research Council (SSHRC), the Natural Sciences and Engineering Research Council (NSERC), and the prestigious tri-agency funded Canada Research Chairs (CRC) programme also recommend this unconscious bias training module, and it is actually mandatory for the CRC governance and peer-review committees.

Collecting, monitoring and publishing

Gender-disaggregated analysis of application rates, success rates, share of women among PIs and/or participants of funded projects, requested amounts should be a regular procedure in any public Research Funding Organization. Regular monitoring should be put in place in order to trace possible effects of awareness-raising activities.

Swedish Research Council (SRC)¹⁴:

Gender equality presentations to peer review groups.

Each Scientific Council presents to the Board the outcome of the annual calls for proposals regarding the operative goals of the strategy.

The Irish Research Council (IRC)¹⁵:

from:http://ec.europa.eu/research/pdf/workshop_igb/erc_evaluation_process.pdf

¹³ <u>http://www.cihr-irsc.gc.ca/e/50238.html</u>

¹¹Science Europe. 2017. *Practical Guide to Improving Gender equality in Research Organisations*. Retrieved from: <u>https://www.scienceeurope.org/wp-content/uploads/2017/01/SE_Gender_Practical-Guide.pdf</u>

¹²Alves de Jesus, C. 2017. "European Research Council: Overview of the Evaluation Process." (presentation from the workshop *Implicit Gender Biases during Evaluations: How to Raise Awareness and Change Attitudes*, 30-31 May 2017, Brussels). Retrieved

 ¹⁴ Jacobsson, C. 2017. "Tackling implicit gender bias in peer review - Swedish Research Council" (presentation from the workshop *Implicit Gender Biases during Evaluations: How to Raise Awareness and Change Attitudes*, 30-31 May 2017, Brussels). Retrieved from: http://ec.europa.eu/research/pdf/workshop_igb/carl_jacobsson_tackling_implicit_gender_bias_in_peer_review.pdf

Jacobsson, Carl. 2018. "Gender equality in research funding: Some examples from Swedish RC (unpublished presentation)." ERAC SWG Gender meeting (19 April 2018).

• The production of annual gender-disaggregated statistics and monitoring and analysis of the gender-balance of applicants and awardees.

German Research Fund (DFG)¹⁶:

• Reports annually on the number and the proportion of women researchers submitting proposals to the DFG and on the success of these proposals

Science Foundation Ireland (SFI)¹⁷:

• Annual gender-disaggregated analysis of the success rates of all funding programmes

FWO (Fonds voor Wetenschappelijk / National Fund for Scientific Research)¹⁸:

• Permanent monitoring of participation and success rates of male and female applicants

Research Council of Norway (RCN):

- Annual collection, monitoring and publishing of sex-disaggregated data, including application rates and success rates of women and men regarding number of projects (PIs) and proportion of funding.
- Monitoring the proportion of projects that includes a gender perspective in the content of research.
- Figures and analyses are presented to the Board on an annual basis.

French National Research Agency (ANR):

• Collection of sex-disaggregated data and an anlysis of the proportion of women and men among applicants and beneficiaries of the grants.

Gender equality observations in evaluation panels:

Swedish Research Council¹⁹:

• Gender observation was introduced in 2008 on selected evaluation panels. The objective of gender equality observations in evaluation panels is to examine and unveil any differences in the evaluation process for funding applications with regard to gender, since they are often subtle and difficult to identify. The purpose of the observations is not to reveal how particular panels or individual panel members behave and relate to gender issues but to discern significant patterns. To date, observations have led to the production of a series of recommendations on how the evaluation process can be developed and improved in order to attain a higher level of

http://research.ie/assets/uploads/2016/06/final-_progress_report_on_gender.pdf

¹⁶http://www.dfg.de/en/research_funding/principles_dfg_funding/equal_opportunities/monitoring_equal_opportunity/index.html

¹⁹ Jacobsson, C. 2017. "Tackling implicit gender bias in peer review - Swedish Research Council" (presentation from the workshop *Implicit Gender Biases during Evaluations: How to Raise Awareness and Change Attitudes*, 30-31 May 2017, Brussels). Retrieved from: http://ec.europa.eu/research/pdf/workshop_igb/carl_jacobsson_tackling_implicit_gender_bias_in_peer_review.p df; Science Europe. 2017. *Practical Guide to Improving Gender equality in Research Organisations*, p. 17. Retrieved from: https://www.scienceeurope.org/wp-content/uploads/2017/01/SE_Gender_Practical-Guide.pdf

¹⁵ Irish Research Council. 2016. *Irish Research Council policies and practice to promote gender equality and the integration of gender analysis in research* (Progress Update). Retrieved from:

¹⁷ Science Europe. 2017. *Practical Guide to Improving Gender equality in Research Organisations*. Retrieved from: <u>https://www.scienceeurope.org/wp-content/uploads/2017/01/SE_Gender_Practical-Guide.pdf</u>

¹⁸GENDERACTION. 2018. *Report on national roadmaps and mechanisms in ERA priority 4* (public deliverable).

gender equality. Furthermore, the reports from the gender equality observations are used in the training for review panels, by decision-making bodies, and by research council staff.²⁰

<u>Gender-balanced composition of evaluation panels and bodies that take funding</u> <u>decisions</u>

Gender balanced on boards and panels is an indirect tool to advance gender equality, due to the fact that both men and women manifest gender bias. A slight increase in the proportion of women therefore does not guarantee elimination of gender bias.

- Swedish Research Council: 50 % in research council boards, gender equal distribution in evaluation panels²¹
- FFG, Austria has the goal of more than 30% of women on evaluation committees by 2020²²

Targets/quotas for gender equality in bodies involved in evaluation and funding decisions:²³

- Denmark: The gender equality act boards of public councils (e.g. boards of research funders) that are appointed by a minister should have a gender balance of men and women.
- Finland: The Equality Act includes a quota provision (at least 40 % of either men or women) that applies to state administration committees, advisory boards, working groups and other similar bodies.
- Iceland: The Gender Equality law of 2008 stipulates that each board, formal advisory group and the like constituted by a public entity shall comprise at least 40 % of each sex (including boards of research funds appointed by a minister).
- Spain: The Organic Law for effective equality between women and men of 2007 stipulates that public institutions must promote gender balance (40-60 %) in selection and evaluation committees. The science, technology and innovation law (No 14/2011) requires gender balance in all research and innovation decision-making bodies.
- NordForsk: Within research-funding organisations, all committees, groups and panels appointed by NordForsk must have at least 40 % of minority gender.
- The Irish Research Council aims for 40 % of each gender to be represented in the membership of all assessment, advisory and management boards, committees, workshops and focus groups. Science Foundation Ireland has committed to achieving

²⁰ Söderqvist, L., P. Baard, A. Hellström, C. Kolm. 2017. *A GENDER-NEUTRAL PROCESS? Gender equality observations in the Swedish Research Council's review panels 2016*. Stockholm: Swedish Research Council. Retrieved from: <u>https://publikationer.vr.se/en/product/a-gender-neutral-process-gender-equality-observations-in-the-swedish-research-councils-review-panels-2016/? ga=2.10410940.881237013.1525553198-</u>

<u>383385548.1525553198:</u> Ahlqvist, V., J. Andersson, L. Söderqvist, J. Tumpane. 2015. *A GENDER NEUTRAL PROCESS? A qualitative study of the evaluation of research grant applications 2014.* Stockholm: Swedish Research Council. Retrieved from: <u>https://publikationer.vr.se/produkt/a-gender-neutral-process/?_ga=2.44160813.881237013.1525553198-383385548.1525553198</u>

²¹Jacobsson, C. 2017. "Tackling implicit gender bias in peer review - Swedish Research Council" (presentation from the workshop *Implicit Gender Biases during Evaluations: How to Raise Awareness and Change Attitudes*, 30-31 May 2017, Brussels). Retrieved

from:http://ec.europa.eu/research/pdf/workshop_igb/carl_jacobsson_tackling_implicit_gender_bias_in_peer_revi ew.pdf

²²GENDERACTION. 2018. Report on national roadmaps and mechanisms in ERA priority 4 (public deliverable).

²³ Directorate-General for Research and Innovation. 2018. *Guidance to facilitate the implementation of targets to promote gender equality in research and innovation*. Luxembourg: Publications Office of the European Union.

40 % of representation of each gender on assessment panels by 2020.

- The Swiss National Science Foundation introduced a 40 % quota for women in its Foundation Council responsible for key regulations and the service agreements with the federal government.
- In the United Kingdom, the research councils have made a commitment to 'manage Council appointments to achieve at least 40 % of the under-represented gender on each Council'.
- The Norwegian Equality and Anti-discrimination Act requires gender balance of official committees, i.e. no sex should have lower representation in any committee than 40 %. This applies to the Research Council of Norway's Executive Board, Divisional Boards and program committees. These are the bodies that take all strategic and funding decisions. The panels are regarded as ad hoc advisory committees where equal representation is a target but not a requirement.