



LIBRA GUIDE FOR FACULTY EVALUATION



eulife



www.eu-libra.eu

Author

Dörthe Nickel, Institut Curie

EU-LIFE Survey on Recruitment and Faculty Evaluation :

Marta Agostinho, EU-LIFE

Michela Bertero, CRG

Dörthe Nickel, Institut Curie

Zdenka Liposka, CEITEC

Marleen Vanstraelen, VIB

Acknowledgements

LIBRA is a Coordination and Support Action project of the European Commission's framework programme for Research and Innovation Horizon 2020 and is funded under grant agreement No 665937.

<http://www.eu-libra.eu>

Publication date: April 2019

Purpose

This guide provides information and considerations for a fair and gender inclusive promotions and evaluations and gives practical advice to remove gender bias from the process aiming to ultimately raise the number of female scientists in top level positions. It was written as part of the work package Career Development in the framework of the project LIBRA - Leading Innovative measures to reach gender Balance in Research Activities, funded by Horizon2020 programme of the EU, and relies partly on the experience of 12 members of EU-LIFE, the Alliance of Research Institutes in the Life Sciences. Due its objective of achieving greater gender balance at the level of senior positions, the guide will focus on the transition from junior principal investigator (PI) to senior PI. A survey and director interviews conducted in 2018 at 12 EU-Life research institutes by the Task Force on PI Selection and Career Development collected the practices in the evaluation and promotion of faculty. They have helped to develop an exemplary evaluation process to serve as the basis for practical recommendations to reach gender inclusiveness. This exemplary process can be tailored to the individual situation.

Introduction

Despite many efforts to promote gender equality and raise the numbers of women in academic research, especially at higher level positions, studies still demonstrate that while some incremental progress has been achieved, we have not been able to significantly change the situation. Men are still more likely than women to be employed by universities, start their careers at a higher grade, receive higher salaries and reach more senior academic positions¹.

Appointment and recruitment processes have received a fair amount of attention in recent years as an important mechanism in the portfolio of gendered actions, resulting in a number of handbooks and guidelines available to support research institutions in implementing fair and inclusive recruitment. Promotion and evaluation of faculty procedures, however, have not been investigated to the same degree, although figures and research corroborate the hypothesis that evaluation and promotion decisions contribute to the leaky pipeline phenomenon. The potentially wide-reaching implications of a bias against women at promotion level has been illustrated by a computer simulation in the 1990s. It was shown that if men and women are equally qualified but a negative bias against women candidates leads to just a 5 percent variance in promotion decisions, the representation of women in the overall staff can decrease from more than 50 percent at lower hierarchical levels to 29 percent at top levels². The numbers bespeak evidence of the loss of women along the career ladder: while in 2013 women account for 37% at PhD level, only 13% of academic top level positions in science and engineering were occupied by women across the EU-28 countries³. An EU-wide glass ceiling Index (GCI) comparing the proportion of women in academia with the proportion of women in top academic positions, reinforces this finding: just two of 32 investigated countries scored negative in regard to the existence of a glass ceiling effect³. Research has shown that science faculties are still more likely to hire male candidates, offer higher salaries and more career mentoring, because despite identical applications, female candidates were assessed as less competent⁴. In Spain, female researchers are 2.5 times less likely to be appointed to a full professorship than men, given that they have comparable age, experience and publication records⁵.

Given how long efforts to achieve gender equality have been discussed and implemented, it is surprising how little material focusing on promotion and evaluation with a gender perspective could be retrieved, either as information material on procedures on the websites of research organisations

or in the relevant literature. The relative paucity of data about daily practices contributed to the idea to collect such information in the framework of EU-Life. In terms of research on this topic, despite the lack of targeted publications, many of the elements and criteria that play a role for recruitment have been investigated, suggesting that the results also have significance for evaluation and promotion. The LIBRA Recruitment Handbook (available at https://www.eu-libra.eu/sites/default/files/article-files/libra_recruitment_guidelines_second_edition_0.pdf) compiles a series of recommendations for a more fair, objective, and transparent recruitment process for senior leadership positions in science research institutes, which can also support the design of gender-inclusive evaluation and promotion.

Evaluation and promotion

It is common practice in research institutes to offer Junior PIs fixed term contracts, with the possibility of renewal and/or tenure following a positive evaluation. The conditions vary from institute to institute, usually the reviews take place after 5 years.

These guidelines focus on the evaluation review practices themselves, but also offer some considerations concerning an environment that allows both women and men to thrive. Gender equality and inclusiveness cannot be achieved with isolated actions but needs a portfolio of well-considered interventions that involve and benefit men and women. A supportive and inclusive institute culture provides a strong foundation for fairness in promotion and evaluation.

Environment

A gender inclusive environment that takes the life situation of everybody into account builds a solid basis for gender equality in organisational processes. Careers are not just made through evaluation and reviews but the daily life at the institute creates the prerequisites for a successful scientific career. A typical career in academia still more often than not runs parallel to the traditional life patterns of men, which allow men to concentrate on work and delegate family connected tasks. Those who closely conform to the model are bestowed privilege and reward – so it is no surprise that female researchers are more likely to live alone and have no children⁶. A study indicates that childless male and female postdocs leave academia both at the same rate but female postdocs who are mothers or plan to be so, change their careers up to twice as often as men who are fathers⁷. It remains a challenge for many, especially women, to combine a scientific career and family life. A study in the field of biology has suggested that women achieve greater impact later on in their careers when the family-intense phase is behind them⁸. Practical measures can counteract these effects^{6,9}:

- extending the length of time before tenure evaluation for childcare or other care responsibilities
- more time for the work on a grant in case of care responsibilities
- assistance in times of family leave through the possibility to hire replacement staff or a home help
- childcare to attend meetings and events
- provisions for childcare at or near the work place with opening hours adapted to the research environment
- a core time for seminars and meetings to help everybody to attend

Creating a gender inclusive evaluation and promotion process

The first step for a gender inclusive evaluation process is to reconsider which categories are currently assessed and which ones should ideally be assessed. In addition to scientific excellence, which will most likely always be the leading criterion, there is the possibility to take numerous other categories into account, e.g. leadership skills, the role as supervisor, teaching, contribution to the daily life at the institute, duties on boards and committees, outreach work, knowledge transfer (including patents and industry collaborations),

Publication record

The more papers a researcher produces, the more high impact papers they publish and the bigger is their share in the sum of high-impact papers overall¹⁷. Research suggests that this holds true for both, men and women¹⁸. There are however, productivity differences between men and women, women tend to publish less than men, leading to fewer high impact publications for women¹⁸. The lower productivity of female researchers is influenced by the fact that higher positions, which are more often held by men, tend to result in more publications. Women are less likely to be the last author, which also negatively impacts on female productivity. The fact that women obtain fewer positions in high excellence institutions and fewer prestigious research awards could also contribute to this difference in productivity¹⁸.

It is important to keep in mind that gender bias can be woven into these categories and indicators, which can be counteracted by providing reviewers and evaluators with information or training on unconscious bias.

Resources, external funding and grants

Analysis of gender effects on grants and external funding gives mixed results. In the UK, the Medical Research Council (MRC) and the Wellcome Trust have found little evidence for gender effects for their grant programmes¹⁰, whereas another study detected that female applicants had to show 2.5 the publication impact of male candidates to be considered for a postdoctoral fellowship¹¹. Recently the European Research Council has found that the success rates for women generally correspond to the percentage of female applicants¹².

contributions to open science or the ability to integrate the dimension of sex and gender in research. Ideally, these criteria correspond to the values of the institute, and resonate its culture. These categories should be accompanied by a clear explanation how they should be interpreted and be matched with indicators to be used by evaluators. For instance, scientific excellence as a criterion could be assessed through the indicators productivity (measured through publication record), future research plan and obtained external funding. Standing in the community, as another category, could be evaluated by using awards, invitations to scientific conferences and events, as well as collaboration activity. Although in the EU-LIFE survey the results showed quite some variation in the importance assigned to these indicators, a few trends emerged. Overall, publication record, future research plan, obtained external funding, scientific collaborations, the supervision of young researchers and research integrity were deemed most critical.

Networking and teamwork

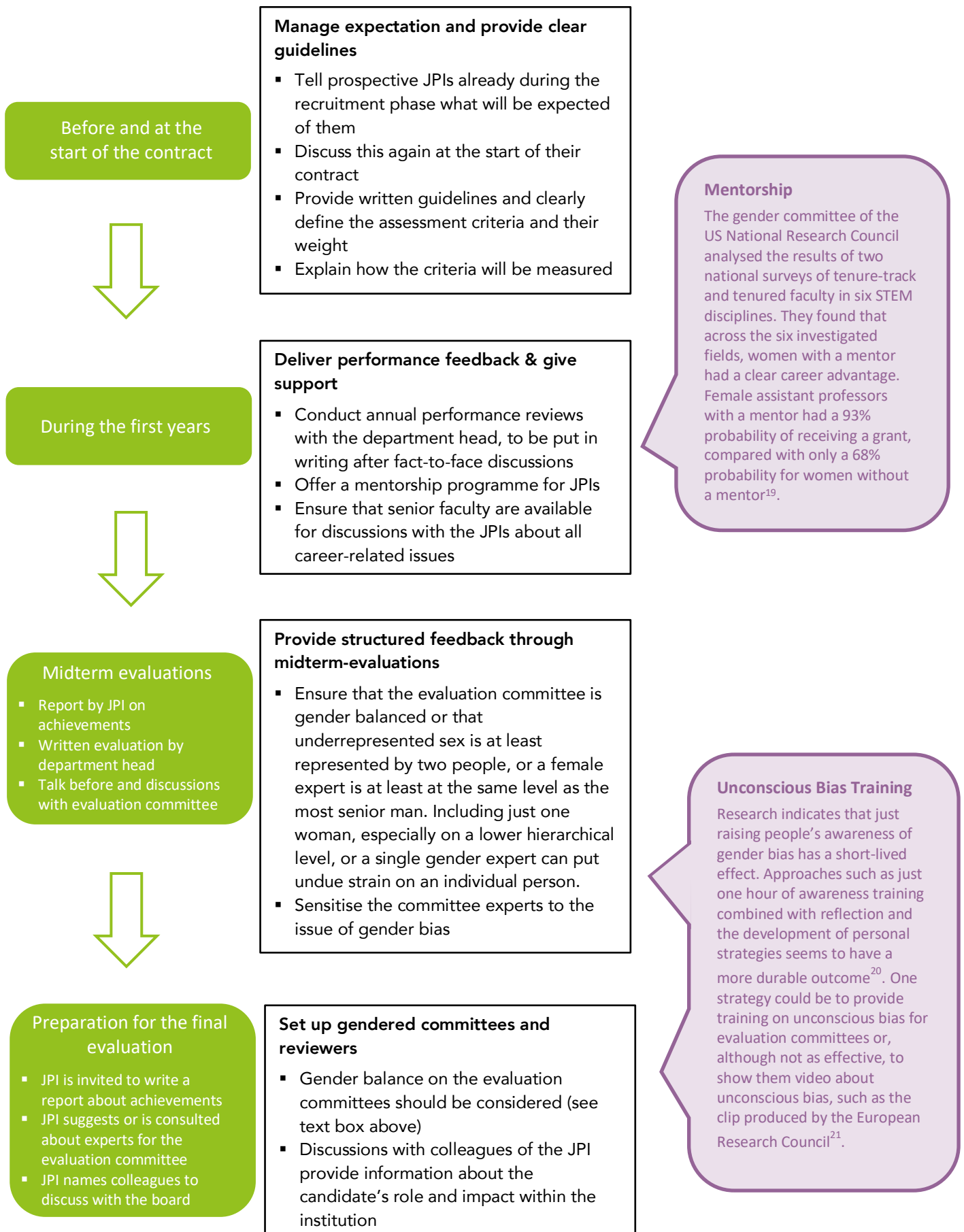
It has been argued that the barriers to women's equality in the work place are often caused by less visible biases¹⁴ that can influence how a woman is evaluated. Research has shown that it is more difficult for women to form social networks at work and they also benefit less from such connections than men. Furthermore, men's networks tend to be more extensive and contain more influential members¹⁵. Studies indicate that teamwork with male colleagues can be problematic even in very successful collaborations, because there is a tendency to downplay the share of the female contributor if the work cannot be clearly attributed, as is often the case for teams¹⁶.

Institutional fit

How well a person is received to fit into an institution is often a conscious or unconscious criterion for promotion. Decisions can be influenced by the tendency to promote and select people in our own image, however, familiarity and visibility may lead to biased choices. Unreflected stereotypes can colour expectations about leadership style and negative views about women's abilities and skills may play a role in excluding them from key roles in the organisation¹³.

The implementation of a scoring methodology can ensure that all reviewers use the same approach and help to set an informative threshold. An example is scoring methodology introduced by the Cavendish Laboratory at the Department of Physics at the University of Cambridge in the UK¹⁴.

A Model Evaluation Process for Junior Principal Investigators (JPI)





Written assessments

- External reviewers provide written assessment report
- Head of department of JPI writes evaluation
- The heads of thesis committee of the JPI's PhD students provide an assessment on supervision skills

Support gender-equal assessments

- Ensure that reviewers have comprehensive information about the criteria to be used for the assessment to be able make their evaluations accordingly
- The reviewers should receive standardized information about the candidates
- Provide the reviewers with material about unconscious gender bias

Recommendations and reviews

Analysis of recommendation letters suggests that female applicants are only half as likely to receive excellent letters versus good letters as male recipients. Male and female reviewers show no difference in their likelihood to write stronger letters about males than females²². Male candidates are more likely to be described with stand-out adjectives compared to equally qualified female candidates, focusing more on abilities and using fewer grindstone words²³ such as "hardworking". Female tenure candidates may not be evaluated less favourably than male applicants, but in a study they were four times as likely to receive cautionary comments expressing reservations about their qualification²⁴.



Talks & discussions

- JPI gives public presentation, evaluation committee is present
- Meeting JPI and evaluation committee for chalk talk about past and future
- The evaluation committee meets and discusses with the members of the JPI's team to assess the group's research and training activities
- Evaluation committee has the opportunity to speak to three colleagues of the candidate to discuss their opinion about the candidate's role and impact on the institute

Ensure a gender-inclusive evaluation

- Provide unconscious bias training for the evaluation committee
- Provide the opportunity to collect information on all skills and contributions other than scientific excellence, e.g. leadership, communication, supervision, teaching, collegueship etc.

Recognition

Having succeeded at a task that is seen as a male task, does not automatically lead to recognition. Not conforming to gender stereotypes, ie. acting as "agent" rather than as "carer" can result in a devaluation of the woman. Research has shown that successful women can be penalized for their achievements, by being more disliked, personally dispraised and less desired as a boss than identically described men²⁵.



Final discussions and recommendation

- Evaluation committee discusses and gives recommendation to scientific director
- Final decision is made by director

Encourage an open and inclusive discussion culture

- Make sure that the committee assess the candidates following the previously established criteria and that new criteria are not made up on the spot
- Set up discussion rules to avoid decisions being taken by established decision makers without the input of all committee members
- Each committee member should be responsible for paying attention to a gender equal and inclusive process, it should not be delegated to a single person

Bibliography

- 1 Danell, Rickard, and Mikael Hjerm. "Career prospects for female university researchers have not improved." *Scientometrics* 94.3 (2013): 999-1006
- 2 Martell, Richard F., David M. Lane, and Cynthia Emrich. "Male-female differences: A computer simulation." (1996): 157.
- 3 European Commission. "She figures 2015." (2016).
- 4 Moss-Racusin, Corinne A., et al. "Science faculty's subtle gender biases favor male students." *Proceedings of the National Academy of Sciences* 109.41 (2012): 16474-16479.
- 5 Women and Science Unit *White Paper on the Position of Women in Science in Spain* (UMYC, 2011).
- 6 Connolly, Sara, and Stefan Fuchs. "Analysing the leaky pipeline in academia." in : European Commission. Directorate-General for Research. *Women in Science and Technology: Creating Sustainable Careers*. Office for Official Publications of the European Communities, 2009.
- 7 Goulden, Marc, Karie Frasch, and Mary Ann Mason. "Staying competitive: Patching America's leaky pipeline in the sciences. Berkeley, CA: Center for American Progress." (2009).
- 8 Long, J. Scott. "Measures of sex differences in scientific productivity." *Social Forces* 71.1 (1992): 159-178.
- 9 Ceci, Stephen J., and Wendy M. Williams. "Understanding current causes of women's underrepresentation in science." *Proceedings of the National Academy of Sciences* 108.8 (2011): 3157-3162.
- 10 Grant, Jonathan, Simon Burden, and Gillian Breen. "No evidence of sexism in peer review." *Nature* 390.6659 (1997): 438.
- 11 Christine, Wenneras, and Wold Agnes. "Nepotism and sexism in peer-review." *Nature* 387.May (1997): 341-343.
- 12 European Research Council. *Statistics On Gender Balance - December 2016* (2017).
- 13 Welle, Brian, and Madeline E. Heilman. "Formal and informal discrimination against women at work." *Research in social issues in management: Managing social and ethical issues in organizations* (2007): 229-252.
- 14 <https://www.phy.cam.ac.uk/women-in-physics/WiPFiles/athena-swan-gold-application>
- 15 Ibarra, Herminia. "Homophily and differential returns: Sex differences in network structure and access in an advertising firm." *Administrative science quarterly* (1992): 422-447.
- 16 Heilman, Madeline E., and Michelle C. Haynes. "No credit where credit is due: attributional rationalization of women's success in male-female teams." *Journal of applied Psychology* 90.5 (2005): 905.
- 17 Sandström, Ulf, and Peter van den Besselaar. "Quantity and/or quality? The importance of publishing many papers." *PloS one* 11.11 (2016): e0166149.
- 18 van den Besselaar, Peter, and Ulf Sandström. "Vicious circles of gender bias, lower positions, and lower performance: Gender differences in scholarly productivity and impact." *PloS one* 12.8 (2017): e0183301.
- 19 Bonetta, Laura. "Reaching gender equity in science: The importance of role models and mentors." *Science* 327.5967 (2010): 889-892.
- 20 <https://erc.europa.eu/news-events/magazine/unconscious-bias---avoidable-or-inevitable>
- 21 <https://vimeo.com/191134397>
- 22 Dutt, Kuheli, et al. "Gender differences in recommendation letters for postdoctoral fellowships in geoscience." *Nature Geoscience* 9.11 (2016): 805.
- 23 Schmader, Toni, Jessica Whitehead, and Vicki H. Wysocki. "A Linguistic Comparison of Letters of Recommendation for Male and Female Chemistry and Biochemistry Job Applicants." *Sex Roles* 57.7-8 (2007): 509-514.

24 Steinpreis, Rhea E., Katie A. Anders, and Dawn Ritzke. "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 (1999): 509-528.

25 Heilman, Madeline E., and Tyler G. Okimoto. "Why are women penalized for success at male tasks?: the implied communality deficit." *Journal of applied psychology* 92.1 (2007): 81.