

IMPLICIT GENDER BIAS IN THE RESEARCH, DEVELOPMENT AND INNOVATION EVALUATION PROCESS



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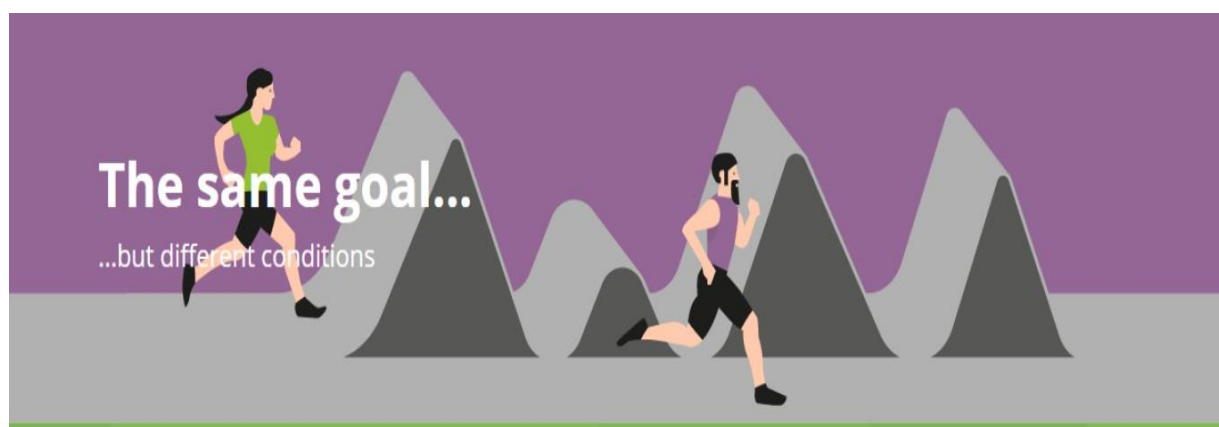
INTENT

Quality assessment has long been a key issue in research, development and innovation (hereinafter “R&D&I”), and not only in the context of funding conditions. The generally accepted notion is that quality, not sex¹, gender² or other social characteristics, is all that really matters, and that R&D&I evaluation is value-free, unbiased and unaffected by social factors. This meritocratic ideal is a widely accepted dogma across the research community and among policy makers, and the prevailing view is that excellence is self-evident.

However, the above assumption is refuted by a growing number of studies across disciplines and countries that highlight various types of implicit (unconscious) gender bias in the R&D&I evaluation process. Studies also confirm the negative impact on women’s scientific careers and provide a partial explanation for why women’s under-representation in senior academic ranks and decision-making positions persists, and why women leave science.³

The Ministry of Education, Youth and Sports (hereinafter the “MoEYS”) considers transparency and fairness in the R&D&I evaluation process to be crucial, and therefore through this material wishes to briefly inform the members of expert advisory bodies and evaluation committees about implicit gender bias in the evaluation process for individuals and their R&D&I results. This material describes how this bias manifests in the evaluation process and how its impact might be eliminated.

The intention of the material is that the insights gained from the illustrative texts and linked videos will be applied to the R&D&I evaluation process.



¹ **Sex** is as a rule innate and represents biologically shaped physiological differences between men and women.

² **Gender** is a socially shaped set of characteristics, behaviours, interests, appearance, etc. associated with the image of women or men in a particular society - what it means to be a woman or a man (the expectations society has of us in this sense) differs depending on the historical period and culture. **What is the difference between gender and sex?** Gender represents the roles of women and men in society, or ‘social sex’ - unlike biological sex, it is not innate or immutable but rather socially constructed.

³ European Research Area and Innovation Committee - Standing Working Group on Gender in Research and Innovation, Tackling Gender Bias in Research Evaluation: Recommendations for Action for EU Member States <https://data.consilium.europa.eu/doc/document/ST-1204-2019-INIT/en/pdf>.

STARTING POINTS

Daniel Kahneman and Amos Tversky, both psychologists and Nobel Prize winners in economics, have been studying human thought - how we view reality and what influences our decision-making and judgements - for decades. A large part of their research work, put in a simplified manner, has been the investigation of the systematic errors we call biases that predictably occur in certain circumstances. One example might be when an attractive and confident person is presenting something. Given that person's attributes, you can expect the audience to evaluate her performance much more positively than she would realistically deserve. This particular bias is called the halo effect. According to Kahneman and Tversky, most impressions and ideas arise in our consciousness without our being aware of how they got there.



Let's try to illustrate this with an example from one of their experiments. Imagine you are reading a profile of a completely random person:

*Peter is very shy and withdrawn, is helpful yet has almost no interest in people or the world around him. He needs order and structure in his life and has a passion for detail. Is it more likely that Peter is a librarian or a salesman?*⁴ Try answering this question yourself first, and then check the footnote⁵.

Now please watch the video available under the link: <https://www.youtube.com/watch?v=J69HkKz9g4A>.

The video highlights one type of so-called unconscious bias associated with gender stereotypes that this material focuses on. People didn't even realize that the surgeon could be a woman and instead came up with strange explanations for the situation. This demonstrated the stereotype that the profession of surgeon is still more likely to be considered a masculine field, like science, and is therefore more likely to be associated with men, so the association of science and a male scientist comes to mind much more quickly than the association of science and a female scientist. It is worth adding that although in Czech we have, in most cases, both masculine and feminine designations of profession, it is not uncommon to use the generic masculine form⁶, which can make women invisible.

⁴ Kahneman, D. 2011. Thinking, Fast and Slow. Farrar, Straus and Giroux: New York.

⁵ The resemblance of Peter's personality to the stereotypical image of a librarian immediately comes to mind, but almost everyone ignores the equally relevant statistical data in this situation. Did you know that there are up to 200 salespeople for every librarian in the Czech Republic? With so many more salespeople, it is almost certain that you will find many more "shy and withdrawn" individuals in a store than in a library. However, people ignore the relevant statistical data and in this case rely on the cultural stereotype of the profession because it allows them to make a difficult decision or judgement much more easily and quickly.

⁶ The **generic masculine** is when the masculine form is used for a person that is meant to be neutral in terms of biological sex when the speaker does not know the biological sex or considers it less important than other social characteristics in a given context. The generic masculine/non-attributive masculine/generalizing masculine is used especially when assigning a woman, a man or a group of persons to a particular occupational, status, functional or other social group.

WHAT EXACTLY IS UNCONSCIOUS BIAS?

Bias is a cognitive process that can be defined as the distorted processing of information under the influence of context and accumulated experience. In other words, we act on the basis of internalized schemas that make information processing efficient and manageable. However, these cognitive “shortcuts” can make us get things wrong because they force us to pay more attention to information that confirms our expectations, and less attention to information that refutes them, thus causing bias. Bias occurs in many everyday situations and affects us all. It can be caused by characteristics such as ethnicity, regional affiliation, race, age, sexual orientation, religious affiliation, gender, and moreover a combination of these.

Unconscious bias related to gender stereotype⁷ is defined as an unintentional and automatic mental association based on gender arising from traditions, norms, cultural values and/or experience. This automatic association is reflected in decision-making, resulting in the rapid assessment of an individual based on their gender and gender stereotypes.

⁷ **The gender stereotype** represents traditionally rooted ideas, clichés and prejudices about the (correct and unchanging) roles of men and women in society.

CAN WE AVOID UNCONSCIOUS BIAS IN THE RESEARCH, DEVELOPMENT AND INNOVATION EVALUATION PROCESS?

1. **Know** what gender bias looks like and how it manifests itself. Unconscious biases have much less impact on an evaluation if we are aware that women or any other under-represented group may face external barriers that negatively affect their scientific careers.⁸
2. **Take seven minutes to watch the video** available under the link below <https://www.youtube.com/watch?v=g978T58gELo> prepared by the Catalan Research Centres Institute (CERCA), which the European Research Council also recommends to its evaluators. Here you will find a **concrete example of the evaluation process** with a reflection on bias and recommendations on how to proceed in the given situations.
3. **We recommend watching** the three-minute video by **The Royal Society** available under the link <https://www.youtube.com/watch?v=dVp9Z5k0dEE&feature=youtu.be>.
4. Accept the fact that **something like this is also happening to me**, and that I am very likely to commit some degree of bias in the evaluation process.
5. When preparing for an evaluation or meeting of an expert advisory body or evaluation committee, try to **"slow down" your decision-making process**.
6. Make sure you spend **sufficient time** on the evaluation. There is evidence (?) that evaluators who were over-busy or did not pay much attention to the evaluation scored women lower than men based on the same materials.
7. Use the **same criteria for all the people** you evaluate. Research points to the fact that a different standard is applied to the evaluation of women and men. Evaluate all the materials provided. **Do not base your evaluation on only one aspect** of the material being evaluated.
8. During the evaluation, **occasionally assess your own judgement** and reflect on whether biases are influencing your decision-making.
9. Remember that you are **unlikely to be fairer** and less influenced by prejudice than others.
10. It is much **easier to spot unconscious bias in others** than in yourself, so if you **notice** something, **point it out**.⁹
11. Think about **what is considered excellence or quality in the evaluation in question**, what criteria we use to evaluate it, whether men and women have equal opportunities to achieve excellence, and whether the **criteria are discriminatory**. **A possible example for reflection** might be the completion of a **research fellowship abroad as proof of quality** - the question here is whether it is equally "challenging" in our society for a man and woman to go abroad with their family - will their partner follow them? Stereotypically, it is still more often the case that a male scientist goes on a research fellowship and his female partner accompanies him with their small children. **Parenthood may therefore have a negative effect on the number of research fellowships abroad in this respect**. And,

⁸ Régner, I., Thinus-Blanc, C., Netter, A. et al. Committees with implicit biases promote fewer women when they do not believe gender bias exists. *Nat Hum Behav* 3, 1171–1179 (2019) doi:10.1038/s41562-019-0686-3.

⁹ 5. – 10. The Royal Society, <https://royalsociety.org/~media/policy/Publications/2015/unconscious-bias-briefing-2015.pdf>.

as mentioned above, sometimes the eligibility criteria for junior scientist programmes may set age limits that do not allow participation by parents who have taken a career break to care for their children or may not allow for the transfer of the principal investigator position upon return from maternity/paternity leave, thus creating a certain disadvantage. **Therefore, it is necessary to take into account any parental leave in the evaluation - e.g. when age/time limits are set (years spent caring for children should not be counted), or when the number of publications over a certain period is evaluated (it might be more appropriate to evaluate e.g. their three best results, not results over a certain period). If a condition is participation in a research fellowship, its absence may be due to caring for children and not the applicant's lack of quality.**

Making decisions based on “cognitive shortcuts” can be advantageous in some situations (such as when we are in danger or need to make a very quick decision in a situation that is complicated or opaque). However, when evaluating other people, this rather intuitive way of making decisions can negatively affect their career paths.¹⁰ **It is therefore important to be aware of the existence of unconscious biases and try to work with them.**

¹⁰ If you are interested in learning more about this topic, we recommend watching a video from McKinsey & Company, one of the most prestigious consulting companies in the world, humorously depicting the unconscious biases present in the work environment. For example, the very first case describes the bias we tend to apply to mothers, especially those with young children. They are automatically not considered for jobs, are automatically not offered new job opportunities, participation in new projects, etc. To highlight unconscious bias, the roles of women and men are deliberately swapped in the video. As the video shows, unconscious gender bias has a greater negative impact on women's careers and is one of the reasons for the low number of women at the top of the job ladder and differences in pay for women and men. The whole video lasts five minutes <https://www.youtube.com/watch?v=JFW2cfzevio>.