

An EPSRC Panel Members Guide to Managing Unconscious Bias in Peer Review

In preparation for your participation as an EPSRC Panel Member in peer review meetings, this briefing is being provided to introduce you to the topic of unconscious bias. The briefing has been compiled by [Pearn Kandola](#), a firm of business psychologists who have worked with a range of research funding organisations. Pearn Kandola have been working with EPSRC to safeguard our peer review process. This briefing is one of the outputs of this work.

There is a growing body of research that shows that some groups perform less well in peer review⁽¹⁾. In a classic study, Wennerås & Wold (1997)⁽²⁾ found that women had to be 2.5 times as productive as their male counterparts to be rated as equivalently competent in fellowship awards. EPSRC funding data identifies that black and minority ethnic fellowship applicants have a lower success rate than their white counterparts for the years between 2012-16. One of the explanatory factors for this is unconscious bias. We can hold unconscious biases about lots of different social categories. A part of your role is to help panel members manage these biases so that we can reduce the amount of error in our decision-making.

To help manage the impact of unconscious bias we are providing you with this briefing to help raise your awareness of the topic. As a Panel Member, you play a pivotal role in managing bias in the meeting. We expect you to work with the other Panel Members and Panel Convenor to identify and challenge unconscious bias in your meetings.

This guide provides you with a background to the topic, an approach to measuring your own biases, as well as information about the biases you are likely to encounter in peer review with the steps you can take to mitigate them.

If you have any questions about the information contained in this guide or your role then please raise them with your EPSRC Panel Convenor.

¹ BORNMANN, L, R MUTZ, and H DANIEL. "Gender Differences In Grant Peer Review: A Meta-Analysis". *Journal of Informetrics* 1.3 (2007): 226-238. Web.

² Wennerås, Christine and Agnes Wold. "Nepotism And Sexism In Peer-Review". *Nature* 387.6631 (1997): 341-343. Web.

UNCONSCIOUS BIAS: FAQs

What is unconscious bias?

Unconscious bias is defined as a misleading cognitive tendency or a way of thinking that leads us to the wrong conclusion. In a nutshell, unconscious bias is our preference for or against other people or groups of people. These biases can affect our ability to be objective when making decisions without us ever knowing that they are having an impact. That is what makes it unconscious.



Do I have unconscious bias?

Yes. Although some biases are very common, for example gender bias and ethnicity bias, not everyone has the same biases.

Don't just take our word for it. If you would like to find out about your biases you can take the Implicit Association Tests by following this [link](#). These tests were designed by Psychologists at Harvard University. In one version of the test, 72% of the approximately 300,000 test takers showed an unconscious bias whereby they associated men more quickly with science than women³. These tests have also been found to predict behaviour in a number of domains including selecting job applicants⁴ and in how effectively physicians⁵ treat their patients.

Where do these biases come from?

These biases come from two main sources: our neurological programming and our social programming.



Neurological programming:

The **amygdala** and **ventromedial prefrontal cortex** are parts of the prefrontal cortex in the brain.

They are most strongly associated with recognising difference, processing threat, risk and fear, emotional associations, judgement and decision-making. These parts of the brain are activated when we notice that we are different in some way from the person we are interacting with. This is one of the ways that our unconscious processes can start to affect our conscious decisions.

³ Nosek, Brian A. et al. "Pervasiveness And Correlates Of Implicit Attitudes And Stereotypes". *European Review of Social Psychology* 18.1 (2007): 36-88. Web.

⁴ Rooth, Dan-Olof. "Automatic Associations And Discrimination In Hiring: Real World Evidence". *Labour Economics* 17.3 (2010): 523-534. Web.

⁵ Green, Alexander R. et al. "Implicit Bias Among Physicians And Its Prediction Of Thrombolysis Decisions For Black And White Patients". *Journal of General Internal Medicine* 22.9 (2007): 1231-1238. Web.

Social Programming:

We are also influenced by our past experiences with individuals and groups of people, as well as wider social influences. These include:

Family
Friends
Media



Anything else we should know?

Three key points:



Unconscious bias is implicit and is usually hidden to the decision-maker. To reduce the impact of unconscious bias we cannot just tell ourselves that our decisions will no longer be subject to unconscious bias. Instead, we need to improve the way we make decisions by creating an environment which research shows limits the impact of unconscious bias.



The second point to make is that there are lots of different types of unconscious bias, both in terms of the subject of the bias (e.g. gender or Institution where you qualified) as well as the manner in which they can impact decisions.



The final point to make is that we should not attach blame to unconsciously biased behaviours. They are a natural result of how our brains work. Instead we need to recognise the fact that they exist, that they can affect the quality of our decisions and be forthright in reducing their impact.

SOURCES OF BIAS LIKELY TO IMPACT PEER REVIEW & STRATEGIES FOR MANAGING THEM

Pearn Kandola have worked with a number of funding bodies, both in the UK and overseas. From our work with these organisations we have identified a number of sources of bias that can impact peer review. The table below provides examples of these biases.

Sources of Bias	Example
Anchoring Bias - relying too heavily on your first impression.	<i>She interviewed superbly. It will be hard not to award her project funding.</i>
Attribution errors - explaining away someone's positive or negative performance on external factors	<i>He may have some excellent publications but he is lucky enough to be working with some very talented scientists.</i>
Cognitive Load - Trying to process too much information in too short a time period.	<i>A good example of this would be attending to emails during the panel meeting.</i>
Confirmation Bias - The tendency to search for or interpret information in a way that confirms one's preconceptions.	<i>I've always thought she was very sharp, is that other people's experience as well.</i>
Contrast Effect - where proposals are directly compared against each other in order to arrive at an overall rating.	<i>They've done quite well but difficult to score at the moment until we have heard about the others.</i>
Grouptthink - a social pressure for consensus.	<i>Often identifiable by decisions for some proposals being taken very quickly and without challenge.</i>
Halo/Horns Effect - Where only positive or negative evidence is discussed for each person.	<i>Some discussions take on an overly positive or negative tone.</i>

Strategies to Manage Bias

There are a number of approaches to manage bias in decision-making. The most important of which is awareness that your decisions are vulnerable to bias. We recommend you follow the following steps during your panel activities:

1. **Increase Awareness.** Carry out a number of Implicit Association Tests. Do not assume that your decisions will be objective. Reflect on the vulnerability to bias that all humans have.
2. **Challenge Yourself.** Give yourself the instruction to 'be fair' and remind the panel of the importance of being fair in the meeting. Consciously focussing on fairness makes us less vulnerable to unconscious biases.
3. **Evidence Based.** Ensure the panel members provide the rationale for the decisions they make and encourage challenge in the meeting. Scores should be justifiable against the provide rating scales.
4. **Challenge Others.** Be aware of the example of bias above. Challenge your colleagues where you see evidence of these.
5. **Follow the process.** Following objective decision making processes reduces the impact of bias. Ensure you have a clear understanding of the process, competencies and scoring process.