

# Unconscious bias

Adapted by Professor Uta Frith DBE FBA FMedSci FRS from guidance issued to recruitment panels by the Scottish Government

## Introduction

All panels and committees for selection and appointments at The Royal Society should be carried out objectively and professionally.

The Society is committed to making funding or award decisions purely on the basis of the quality of the proposed science and merit of the individual. No funding applicant or nominee for awards, Fellowship, Foreign Membership, election to a post or appointment to a committee should receive less favourable treatment on the grounds of: gender, marital status, sexual orientation, gender re-assignment, race, colour, nationality, ethnicity or national origins, religion or similar philosophical belief, spent criminal conviction, age or disability.

Equally, all proposals or nominations must be assessed on equal terms, regardless of the sex, age and/or ethnicity of the applicant. Proposals must therefore be assessed and graded on their merits, in accordance with the criteria and the aims and objectives set for each award scheme or call for funding.

The Royal Society provides research funding to individuals to support high quality scientific research, with the expectation that these individuals are able to reach their full potential. The Royal Society therefore expects all organisations hosting Royal Society Research Fellows and Research Professorships to provide supportive workplace structures to ensure equality and diversity within the scientific workforce. Evidence of a commitment to improving the culture in this area, such as Athena Swan accreditation, may be taken into account in making awards.

This short briefing is meant to alert you to potential difficulties around unconscious bias and prompt you to consciously revisit them before making a decision. Think of them as the safety instructions that you are given every time you are on an airplane. You may think you know them already, but it is good to rehearse them just in case.

## What is unconscious bias?

Unconscious bias is when we make judgments or decisions on the basis of our prior experience, our own personal deep-seated thought patterns, assumptions or interpretations, and we are not aware that we are doing it. The irony is that prejudice and discrimination are inevitable by-products of the efficiency of human cognition.

Making decisions about candidates is hard work and depends on being able to judge them entirely on their merits. Each and every one of us tends to believe that we are more fair, and less prejudiced than the average person. Research has shown that this is an effect of a self-serving attribution bias, one of many unconscious biases that we draw on in order to make fast decisions<sup>1</sup>.

Importantly, we have both a positive bias towards our ingroup, and a negative bias towards an outgroup. We are familiar with members of our ingroup and feel on firm ground when judging their excellence and trustworthiness.

We perceive a pleasant fluency of action when we experience familiarity, and this makes us feel confident and in control of our decisions<sup>2</sup>. With unfamiliar members of other groups we are on less sure ground. It often seems like taking a high risk to select such a candidate. Actually, in the case of both familiar and unfamiliar candidates, it is very difficult to shut out unconscious preferences and fears. We are often unaware that we redefine merit to justify discrimination<sup>3</sup>.

For example, orchestras used to be all male, but this is no longer the case. A study of auditions showed that if candidates were invisible to the appointment panel, performing behind a screen, the panel was enabled to decide on merit only, and this resulted in women being selected equally<sup>4</sup>.

## How does unconscious bias manifest itself?

We are born with a predisposition to prefer the sort of people by whom we are surrounded and to learn from them. Then, through development, our attitudes are shaped by cultural values<sup>5</sup> both implicitly and explicitly, through listening to everyday talk, or reading stories. Our unconscious brain is constantly processing and sifting vast amounts of information looking for patterns. When the unconscious brain experiences two things occurring together (e.g. many male senior managers or many female nurses), it begins to expect them to be seen together with the result that other patterns or combinations start to feel less 'normal' and more challenging to process. If left unchecked this can easily lead us into (at best) lazy stereotypes and (at worst) prejudicial or discriminatory behaviours.

## Who is affected by unconscious bias?

**We are all affected by unconscious bias<sup>6</sup>.**

The ability to distinguish friend from foe helped early humans survive. The ability to quickly and automatically categorise people according to social and other characteristics is a fundamental quality of the human mind that helps give order to life's complexity. Although we all like to think we are open-minded and objective, research shows consistently across all social groups that this is not the case. We are heavily influenced in ways that are completely hidden from our conscious mind in how we view and evaluate both others and ourselves<sup>7</sup>.

---

1. [https://en.wikipedia.org/wiki/List\\_of\\_cognitive\\_biases](https://en.wikipedia.org/wiki/List_of_cognitive_biases)

2. <http://www.ncbi.nlm.nih.gov/pubmed/22902284>

3. <http://www.ncbi.nlm.nih.gov/pubmed/15943674?dopt=Abstract&holding=npng>

4. <http://curt-rice.com/2013/10/01/what-the-worlds-best-orchestras-can-teach-us-about-gender-discrimination/>

5. <http://dsclab.uchicago.edu/documents/Kinzler%20Spelke%202011,%20Cognition.pdf>

6. [http://www.nature.com/nature/journal/v495/n7439/full/495033a.html?WT.mc\\_id=TWT\\_NatureNews](http://www.nature.com/nature/journal/v495/n7439/full/495033a.html?WT.mc_id=TWT_NatureNews)[http://www.nature.com/nature/journal/v495/n7439/full/495033a.html?WT.mc\\_id=TWT\\_NatureNews](http://www.nature.com/nature/journal/v495/n7439/full/495033a.html?WT.mc_id=TWT_NatureNews)

7. <http://www.goodreads.com/book/show/11468377-thinking-fast-and-slow>

## The relationship between unconscious bias and behaviour

A significant body of work now shows there is a direct link between unconscious bias and actual behaviour<sup>8</sup> – both in face to face situations and in paper-based analysis or assessment. We are likely to have unconscious preconceptions about people's competence, interests and behaviours. It is particularly when under time pressure or other stress that our hidden biases automatically come into play and take over the control of our actions or judgments.

Some now classic experiments in the US<sup>9,10</sup> showed that white interviewers sat farther away from black applicants than from other white applicants, made more speech errors, smiled less genuinely and ended the interviews 25% sooner. Such actions were subsequently shown to diminish the performance of any interviewee treated that way, whether black or white. Another study examines the theory that women are perceived less favourably when they demonstrate leadership attributes often associated with men<sup>11</sup>.

Of course, it is complicated. Sometimes we think putting someone from an underrepresented group on a panel will solve the problem. However, different unconsciously held stereotypes can interact with each other. It is not always clear to which ingroup we belong, and it is not always easy to predict this for others. As a rule of thumb, our ingroup is the group we'd like to belong to. Understandably, this is often the group that is currently in power. Thus it is not surprising that women can be biased against other women, and people from black and minority ethnic (BME) groups against other people from the same BME groups.

## How do we identify unconscious bias?

It helps to be aware of its existence. Once we accept that we will all quite naturally use subconscious mental shortcuts, then we can take the time to consider them and reflect on whether such implicit thought processes are inappropriately affecting the objectivity of our decision-making.

A striking demonstration of hidden bias is provided by Implicit Association Tests (IAT)<sup>12</sup>.

The test measures the speed with which you associate values of different concepts. For example, you are given the task of sorting pictures of men to the left and women to the right. You are also given words to sort into categories of science related or arts related. It turns out that you are faster to sort these words if science words are to be placed to the left where men have been placed and arts words to the right where women have been placed. The reason for this is that you unconsciously associate science with men and arts with women. If it's the opposite way around, your performance is more effortful and therefore slower.

There are such strong cultural stereotypes that they feel truthful, when research has shown over and over again, that they are not<sup>13</sup>. It is a sad fact that women's careers in science are blighted by such stereotypes<sup>14</sup>.

Another way of putting this is that we unconsciously discriminate in favour of things that feel 'natural' and 'right' as opposed to those that are less familiar, but might actually be correct. The very act of taking the IAT, which you can do<sup>15</sup>, can force hidden biases into the conscious part of the mind. It can be a sobering experience.

8. <http://spottheblindspot.com>

9. Reviewed in: [https://books.google.co.uk/books?id=IWBW97v\\_HPAC&printsec=frontcover&dq=The+social+psychology+of+interpersonal+discrimination&hl=en&sa=X&ei=GZ-nterpersonal%20discrimination&f=false](https://books.google.co.uk/books?id=IWBW97v_HPAC&printsec=frontcover&dq=The+social+psychology+of+interpersonal+discrimination&hl=en&sa=X&ei=GZ-nterpersonal%20discrimination&f=false)

10. <http://www.sciencedirect.com/science/article/pii/S0022103174900596>

11. <http://www.ncbi.nlm.nih.gov/pubmed/12088246?dopt=Abstract&holding=npng>

12. [https://en.wikipedia.org/wiki/Implicit-association\\_test](https://en.wikipedia.org/wiki/Implicit-association_test)

13. <http://news.sciencemag.org/math/2014/03/both-genders-think-women-are-bad-basic-math>

14. <http://www.pnas.org/content/111/12/4403.abstract>

15. <https://implicit.harvard.edu/implicit/takeatest.html>

## What can we do about unconscious bias?

First, there is no point in being defensive. You can never access your own unconscious cognitive processes, but you can achieve more fairness and improve the quality of your decision-making if you have a commitment to question cultural stereotypes. This means slowing down the decision process and being vigilant.

Second, it has been shown that we are far more able to see the operation of bias in others than in ourselves<sup>16</sup>. We can therefore help each other out in detecting and calling out bias.

We have learned to be vigilant of tribalism as far as our affiliation to particular Universities is concerned and ask people to declare conflict of interest and leave the room while the relevant decision is made. It is impossible to do this if the whole panel is from one University, of one sex or of one type of cultural background. This is one of the reasons that we need diversity on committees and panels.

It is hard to deal with what we might call suspicion of the unfamiliar. This includes the suspicion that women and people from different cultural backgrounds might not be quite such excellent scientists. But in order to make decisions on the basis of merit and excellence we should not fear the unknowns.

The very act of realising that you have hidden biases can enable you to mentally monitor and attempt to ameliorate any hidden attitudes before they are expressed in your decision and even minor changes in behaviour can be helpful.

### Action points

- When preparing for a committee meeting or interview, try to slow down the speed of your decision making.
- Reconsider the reasons for your decision, recognising that they may be post-hoc justifications.
- Question cultural stereotypes that seem truthful. Be open to seeing what is new and unfamiliar and increase your knowledge of other groups.
- Remember you are unlikely to be more fair and less prejudiced than the average person.
- You can detect unconscious bias more easily in others than in yourself so be prepared to call out bias when you see it.

16. <http://psp.sagepub.com/content/28/3/369>