Unconscious bias

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What is bias?

We are not aware of most of our cognition and thinking (Mlodinow, 2012; Norman, 2005). Each and every day we respond subliminally to a huge range of events and conditions. Most of the time we do not question or challenge these cognitive processes since the whole point of them being subliminal is for them to process things efficiently in the background.

We use a number of different techniques to enable this effectiveness and many of these lead to biases in our enacted thinking. Bias is essentially pre-existing or primed knowledge and beliefs brought to bear on immediate situations and contexts. Without such shortcuts, we would be far less able to operate effectively in the world.

But there are times when these shortcuts can have negative effects – the snap judgements we make for unknown reasons; the immediate reactions we have that result in other consequences; or simply the benefits we take for granted as we go about what we think of as a normal life (seen from our own perspective).

When these individual decisions add up we start to then see larger scale biases. The gender pay gap is still there (<https://www.gov.uk/government/consultations/closing-the-gender-pay-gap>), even in academia. But the gap itself is a symptom of deeper structural, social and political issues. In Moss-Racusin et al. (2012), both male and female science professors rated female applicants as less competent than male applicants and they offered female students a lower starting salary. And students of both genders tend to rate female academics lower than male (MacNell et al., 2014).

There tends to be no 'consciously' executed rationale to bias, although when bias is identified, we are more than able to create such rationales (Ariely, 2012). On top of that, the bias against bias is difficult to research and address (Moss-Racusin et al., 2015). We don't like to believe that we are not entirely in control of our own thinking. Being reminded that our decisions, ideas, attitudes, or actions may have resulted from some other source than 'me' can be a difficult situation to accept.

But accepting and using it can be a very valuable, albeit challenging, process.

It works both ways

Gender bias can work positively and negatively for and against both genders mainly because stereotyping is one of the primary underlying mechanisms (Mlodinow, 2012). For example, we readily (and subliminally) make use of appearance when we ascribe, accentuate or confirm attributes to people, such as lower reporting of shoplifting if a person has a tidy appearance (Steffensmeier & Terry, 2016). This simple social appearance stereotyping is a reasonably trivial and obvious example.

For example, in Brescoll et al. (2010), women working in roles associated as male were judged far more harshly when compared to men working in those roles.

When they made mistakes, people in gender-incongruent jobs – female police chiefs and male women's college presidents – were ascribed a lower status and seen as less competent than their gender-congruent counterparts. (Brescoll et al., 2010)

A similar result is reported in Brescoll et al. (2012), where a negative impact on male subordinates was observed.

The lesson here is perhaps that tackling bias wherever it is found or can arise is simply a healthy thing to do for any community. The unfair unevenness and asymmetries

observed in social groupings have to be continually appraised and challenged. But it is perhaps also true that, as with the title of the study by Brescoll et al. "Hard won and easily lost: the fragile status of leaders in gender-stereotype-incongruent occupations" (Brescoll et al., 2010), it can be so easy to assume that a problem has been sorted and forget that the problem is far deeper than the symptoms.

The other lesson is that when working to resolve an existing imbalance, the really hard work perhaps only starts when a new balance is being tried. Implicit biases do not stop operating and can arise in particular ways when a shift in normative positions is realised.

For example, women being perceived as 'coldly ambitious' instead of 'assertive' (Okimoto & Brescoll, 2010). Moving to a more even gender balance may bring to the surface a number of other symptoms of deeper issues.

The effort required to identify, challenge and then keep working on implicit biases can be significant. But there are practical things that can be done to affect bias, and we review them below.

Balance your work

When creating anything (when creating materials for a general audience) get into the habit of balancing it wherever possible.

- Imagine a wider audience than just yourself. There is strong evidence to suggest that gender gaps in educational attainment, especially in STEM subjects (science, technology, engineering and mathematics), are socially constructed (Good et al., 2010). We tend to write for ourselves and that's OK but once you have that first draft, imagine reading it to a varied audience. This is healthy for your own ideas and thinking as well as your readers'.

- Use gender-neutral language; use all the tricks in the writing book to avoid any gender preferences. Studies show that gender neutral language alienates far less than gender-specific ('he' or 'she' only) or gender-balanced ('he and she') text (Stout & Dasgupta, 2011).
- Use examples of a range of different people and role models: using relevant examples of people that students can identify with (in terms of in-group) is a well-known effect in maintaining educational attainment. In terms of gender, the study by Good et al. (2010) shows that mixed examples of gender in images in science textbooks lead to comparable attainment results in students (when compared to single gender or counter-stereotypical images). Similarly, simply having female role models in maths can improve female student attainment (Marx & Roman, 2002), although the wider effects are not as simple as a single result (see below).

Increase positive exposure to imbalances

This is perhaps one of the simplest and most obvious changes that can be made – if you have staff that are representative of students, attainment will be affected positively. We all identify with a certain amount of self-similarity and this personal bias is very often projected.

Having female lecturers and professors can reduce the attainment gap observed between female and male students in STEM subjects by improving female attainment (Carrel et al., 2010). Importantly, this research also showed that as the level of study increased, so too did the importance of gender representation on attainment – that gender representation at all levels of study is essential to achieve equipotential achievement.

Having said that, recent findings show that students perceive female professors to be

generally less capable than male professors. Prior bias in terms of role assignment or gender capability assessment is something that can take time to change when it is acculturated socially. Similarly, the counter-intuitive result shown in Hoyt & Simon (2011) suggests that simply having role models is not enough to engender an immediately positive effect.

But there is evidence to show that exposure can work on short and long-term bias structures and that such longer-term benefits are the real reward. For example, Beaman et al. (2008) show that existing and prior biases remain in terms of preferring male leaders in local politics but that stereotypes of gender roles are weakened with repeated exposure to female leaders or politicians. Most significantly, this seems to have a cumulative effect over time and exposure, leading to longer-term changes in gender balance as demonstrated through local election results.

Reduce the opportunities for bias to be expressed or realised

In studies on employment and pay negotiation:

Reducing the degree of situational ambiguity constrains the influence of gender on negotiation. (Bowles et al., 2005)

It seems that, with ambiguity, comes the opportunity to allow implicit bias to emerge. In certain economic negotiations, this emerging bias affects women negatively in terms of outcomes – lower salaries or increased payments.

But this also allows a fantastic opportunity for simple, good practice: being explicit and very clear about standards and conditions of employment can reduce gender pay gaps:

In job negotiations with clear industry standards, there were no differences in salaries negotiated by men and

women. When industry standards were unclear, female MBAs accepted wages that were, on average, \$10,000 lower than those accepted by male MBAs. (Bowles et al., 2005)

Similarly, having rigorous, transparent and accessible processes for decision-making can also help reduce the ambiguous 'spaces' within which bias can emerge. For example, removing gender bias through anonymising hiring processes was demonstrated in the famous blind audition research in Golding & Rouse (2000).

Another technique reported in Bohnet et al. (2012) demonstrates reduced bias when joint evaluations were carried out when compared to single evaluations. Again, the behavioural 'nudge' that Bohnet et al. refer to may result in reducing the opportunities for unchecked biases to fully emerge.

Beware of priming

Being told you are good at something can have different effects on different individuals and different groups of individuals. A specific gender grouping study is provided by Shih et al. (1999), where Asian-American women were primed to consider themselves as either Asian or women and then immediately tested in maths. In the former group, they performed better than in the latter.

The hypothesis here is that being reminded that you are in one group affects your own view of yourself and even your ability to do certain things. Of course, this also relies on the prior bias that 'Asians have superior quantitative skills'. More disappointingly it also relies on the corollary too – that women have lower quantitative skills and self-identify with that group and group stereotype.

When adjusted, neither of these stereotypes is true in and of itself – but the threat or promise of it is more than enough to have an effect.

So this priming effect took a prior bias and seemed to leverage it positively to enhance student attainment. But great care has to be taken when priming of any kind is utilised – not least in terms of the ethical issues involved in deliberately (and secretly) affecting other people's cognitive states.

In addition to the ethics, the actual responses will vary depending on the individuals being primed. For example, reinforcing positive reactions in some might lead to stereotype threat in others (see *Stereotype threat*).

In fact, research shows that all you need to trigger an in-group perception is simply to be told that you are in that group (Mlodinow, 2012). So, think before you prime...

Don't rely on meritocracy

One of the basic arguments against positive discrimination is that of pure meritocracy – that it should only be talent, skills or ability that ensures an individual's success. Unfortunately there aren't too many absolutely neutral methods to measure such merit that do not also call into question other basic skills and abilities. We rarely employ or make decisions based on single metrics and very rarely are we sufficiently objective to do this properly.

For example, Castilla & Benard (2010) found that explicitly applying meritocratic methods tended to increase gender imbalance in favour of men.

Participants in the meritocratic condition showed greater preference for the male employee over an equally qualified female employee.

Interestingly, when participants were instructed to apply a values-based method and use 'managerial discretion', the imbalance moved significantly in the opposite direction (towards women).

This was thought to be due to priming that suggested an imbalance did need to be addressed in favour of women.

But perhaps most significantly, when participants were instructed to take a values-based approach without using discretion, then the imbalances largely disappeared! This may tie in with findings in Bowles et al. (2005) that by removing space for bias, gaps can be reduced.

To put it simply – if we are left to not only measure but to create the method of measurement, we might be getting it very wrong (see *Defining excellence*). But if we are given good methods by which we can measure (even using subjective criteria) and clear space within which such measurement should take place, then most people are actually pretty good at being fair.