Cognitive Bias
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Lord Neuberger

"The big problem, as it is everywhere, is with unconscious bias. I dare say that we all suffer from a degree of unconscious bias, and it can occur in all sorts of manifestations. It is almost by definition an unknown unknown, and therefore extraordinarily difficult to get rid of, or even to allow for."

Fairness in the courts: the best we can do: Address to the Criminal Justice Alliance. Lord Neuberger, 10 April 2015
https://www.supremecourt.uk/docs/speech-150410.pdf

What is bias?

Bias, in the psychological sense
**Wason’s selection task**

These four cards all have:
- a letter on one side
- a number on the other side.

E   X   1   6

Rule: ‘All cards with a Vowel on one side have an Even number on the other side.’

*Which cards would you have to turn over to decide whether this statement is true or false?*

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**‘Mental Contamination’**

The 450 foot Capilano Suspension Bridge

*Image: Maarten Van Horenbeeck*

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**Error**

Failure of rule following

E.g. confirmation bias, errors in reasoning about probability, errors due to choice structure

‘Cognitive bias’

**Inconsistency**

Unwanted influences

E.g. “implicit bias”, contamination, priming due to group membership, stereotypes, etc

‘Social biases’

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**Mechanisms of implicit bias**

- **Stereotype accessibility**
- **Automatic associations**
- **Priming**

*Osgood & Luria (1954)*
The ‘Implicit Association Test’ (IAT)

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Self-generating dynamic of biases

Ie target of bias underperforms due to the biases and/or a biased environment

Discussion: hiring criteria case study

What advice would you give to chairs of future hiring committees so they could ensure a gender impartial hiring process?

An applicant for the police chief job is described as highly educated, but not streetwise. The gender of the applicant affects which characteristics people judge are important for the job (but not which they are perceived to have).


Idris Elba is ‘too street’ to play 007, says James Bond author

He thinks the actor isn’t ‘manly’ enough

Do you worry about social bias? How? How do you address it in people who come to tribunals?

Anti-bias strategies

Why bias mitigation hard (1)
- Easier to see biases in other people than ourselves

“Well, you’re the only one who thinks we’re a sexist organisation.”

Why bias mitigation hard (2)
- Source(s) of bias hard to locate
- Extent of bias hard to assess

Cartoon Reproduced with kind permission of Grizelda and Private Eye Magazine
What doesn’t work on its own

- Ignoring social identity (e.g. “colour blindness”)
- Trying to be objective / suppression

Awareness raising


Focussing on individuals


What can judges do about bias - a framework

Effect on bias - Does your strategy...

Mitigate bias

Insulate against bias

Remove bias

Who it affects - Is your strategy...

Personal

Interpersonal

Institutional
<table>
<thead>
<tr>
<th>A 3x3 model</th>
<th>Mitigate</th>
<th>Insulate</th>
<th>Remove</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal</strong></td>
<td>Avoid risk factors (hunger, fatigue), articulate reasoning, 'imagine the opposite'</td>
<td>Remove information that activates bias (e.g. relearning associations)</td>
<td>Cognitive training (e.g. relearning associations)</td>
</tr>
<tr>
<td><strong>Interpersonal</strong></td>
<td>Identifying others' biases is easier; challenging conversations</td>
<td>Sub-divide tasks to insulate; independence of procedures</td>
<td>Exposure to diversity (&quot;Contact hypothesis&quot;)</td>
</tr>
<tr>
<td><strong>Institutional</strong></td>
<td></td>
<td></td>
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</table>
Exercise: put your anti-bias strategies into the 3x2 framework

Addressing bias is like healthy eating

Need for collective approaches

Possible future actions

Review practice using 3x3 framework
Take an implicit association test
https://implicit.harvard.edu/implicit/
Get a resource pack by emailing t.stafford@shef.ac.uk
Other?
Exercise: future actions

Reserve slides (for discussion etc)

END

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examples of biased experts


A 50-year-old woman, no symptoms, participates in routine mammography screening. She tests positive, is alarmed, and wants to know from you whether she has breast cancer for certain or what the chances are. Apart from the screening results, you know nothing else about this woman. How many women who test positive actually have breast cancer? What is the best answer?

- nine in 10
- eight in 10
- one in 10
- one in 100

The probability that a woman has breast cancer is 1% ("prevalence")
If a woman has breast cancer, the probability that she tests positive is 90% ("sensitivity")
If a woman does not have breast cancer, the probability that she nevertheless tests positive is 9% ("false alarm rate")


- "97 percent of judges (thirty-five out of thirty-six) believed that they were in the top quartile in “avoid[ing] racial prejudice in decisionmaking”