

My name is Elizabeth Wynn. I'm the Equality and Diversity Manager at the Babraham Institute and today I am going to be giving you a quick talk on unconscious bias and stress. I'm going to cover the basics of unconscious bias, some decision making processes in our brain and how stress can affect that, as well as some tips on what you can do to mitigate unconscious bias.

So, a definition of unconscious bias. It's a stereotype about a certain group, an unconscious and automatic process, and reflects the associations we learn from the culture we grow up in. So here's a nice illustration from XKCD of how it works.

So, when talking about unconscious bias, I think it's important to understand that unconscious bias isn't something you should feel guilty or defensive about. No one likes to feel they're biased, but unconscious biases are a result of how our brains have evolved to work. They are completely natural and no one is exempt from having them. So when learning about unconscious biases and thinking about them, don't view them as a source of guilt, but instead an opportunity to learn. So unconscious biases are natural but they can have very negative side effects. I'm going to talk a little bit about unconscious biases, how they play out in the workplace.

So unconscious biases can come into effect any time we're making a decision. So that can be something as simple as who we choose to sit next to in the seminar who we approached to speak to at a conference, but some really key decision making processes that unconscious bias can affect are things like hiring, promotion and evaluation.

So I'm going to tell you about two studies that demonstrate this. So applicants to lab manager roles were judged as significantly more competent and hireable when the CV had a male name rather than a female name. And this was regardless of the gender of the person evaluating the CV, men and women were equally biased against women. An example involving ethnicity, a legal memo circulated to a law partners, partners in law firms, with mistakes was rated lower in quality when the author was perceived to be African-American rather than Caucasian. So when the author was African-American, more mistakes were identified and the evaluations said that that person probably wasn't suitable for the role. Whereas when the author was perceived to be Caucasian, it was, the evaluation was things like, "Oh, has great potential needs to improve in certain areas like attention to detail, but shows good potential." So in both of these studies and studies like it, I'm sure no one assessing the quality of the CVs or the memo thinks of themselves as biased, but everyone has these unconscious biases. It really comes down to, the reason we talk about unconscious biases and we want to figure out ways to mitigate against them is because unconscious biases limit people's potential and prevent us from making the best decisions.

So now I'm going to talk a bit about decision-making. So before the before the 1960s, the model in psychology was that humans are rational actors. That is our actions are motivated by logic and rational thinking. Then in the sixties and seventies, two researchers did experiments that they called heuristics and biases. These researchers were Tversky and Kahneman and they showed that actually humans do not always make rational decisions. In fact, sometimes we're really bad at it.

So a heuristic is a mental shortcut. In everyday terminology, we might talk about things like a gut feeling, rule of thumb, common sense, intuition, and these are all sort of examples of heuristics. So unconscious biases we might describe as a really specific subset of heuristics, ones that result, that relate to the way we process information about groups of people.

So heuristics are really beneficial. That's why our brains have evolved to use them. We come across so much information we need to have mental shortcuts in order to process it effectively. So heuristics allow us to make decisions quickly, make decisions with missing information and they reduce cognitive load. So an example of when you might use a heuristic, if you're in a restaurant, think back to a couple of months ago, dining in a restaurant. When you look through the menu, you're not going to analyse rationally each item on the menu. You're not going to weigh up the pros and cons of each thing. You're going to look at it. Something is probably going to grab your attention. You'll rely on your mental shortcuts of knowing what you like. Maybe you've heard what's good here, that sort of thing to make a decision more instinctively and quickly. And it doesn't take up as much time and mental effort allowing you to have a lovely conversation with your dining companion.

However, there are downsides to heuristics. They can lead to incorrect conclusions. They prevent new ideas if you're falling back onto your old patterns of thinking and they can replicate bad learning. So as we said earlier with unconscious biases there, they reflect the culture that you grew up in. And if we think of heuristics as a sort of, if you use a programming analogy garbage in, garbage out. So in your brain, bias in, bias out. If you've learned bias things, you're going to replicate them if you rely on your mental shortcuts that were shaped by them.

Now, because I've primed you talking about biases, this might not work as well as it would otherwise. But let's try a pop quiz. What percent of child abductions are by strangers? I'm not going to collect everyone's answers in, I just want you to think what's your automatic assumption about the number of child abductions, percent or child abductions by strangers. So the answer is less than 2%. In fact, about 90% of child abductions are by a family member. And then there's also individuals who are known to the child outside the family. So if you estimated something much higher than 2%, you might be falling prey to the availability heuristic, which is where you treat information that you can recall most easily as the most important information. If a child is abducted by a stranger, that's the kind of story that's going to get a lot of press in the news, a lot of coverage in the press. And so you're probably able to recall that kind of story much more readily than, than an abduction by a family member of a child, any stories about that. And so that skews your judgment.

So a way this might play out in the workplace is if you have five job candidates who are giving presentations when you go to discuss it afterwards, the most recent presentation might be the one which jumps to mind most easily, the one you can recall the most information about. And so you might give undue weight to that presentation over the other ones.

So the reason I brought up this one heuristic was just to give you an example of the kind of mental shortcuts that are well-documented and understood. So Tversky and Kahneman in their original research, they came up with three different heuristics, the availability heuristic, anchor heuristic and relatedness heuristic. And I'm not going to go into all of those in detail. And since then there has been a lot more research done into this and more types and subtypes of heuristics have been identified. And like I said, I'm not going to go into them hugely in detail, in fact I'm not going to cover any more of them, but this was just an example.

So stressful situations. How does this impact our decision making and problem solving abilities? I'm going to touch really briefly now on neuroscience. It's going to be very simplified and generalised. Decision making and problem solving processes in our brain are very complicated. A lot of parts of the brain are involved. But to simplify when we are not stressed, our prefrontal cortex, which is the top down regulation of behaviour, thought and emotion, that's the area of the prefrontal cortex is in charge

of is the area which has the most sort of control over decision making. So that's the rational side of decision making.

When we introduced stress, for example, a global pandemic, but also things like if you had an argument with a family member, if you haven't had enough sleep, if you're working towards a deadline, we know that stress has a lot of physiological effects on the body, including hormones and neurotransmitters.

And again, in a very simplified and generalized way, when we introduced stress, the amygdala is the area of the brain, which as a result takes precedence in our decision making. So it sort of overrides the prefrontal cortex, activates the basal ganglia, and means we make more decisions based on habitual responses. So we rely more on our heuristics, including the heuristics around unconscious bias.

So there has been, there have been a lot of studies on the effect of stress on behavioural decisions and there's a lot of the variation sometimes. So for example, stress can make certain groups more risk taking and certain groups more risk averse. But some things which are more general across populations: in stressful situations, we make more habitual responses than goal directed choices. We make more impulsive decisions and we are less likely to adjust our initial judgments. So I'm sure you can draw the conclusion between these types of responses and unconscious bias, how our unconscious biases are much more likely to come out in stressful situations when we're exhibiting this kind of behaviour.

So now I'm going to talk about some tactics you can use to reduce the impact of your unconscious biases. So it's important to emphasize here: the goal is not to get rid of unconscious biases. Unconscious biases are a result of a normal way our brain works and they're really deeply ingrained. So it's practically impossible to get rid of unconscious biases so our goal is to mitigate the effects of them. I said earlier that having unconscious biases is not a moral failing, it doesn't make you a bad person. But I think that when you become aware of unconscious biases, you do then have motivation to mitigate them; if not for the moral imperative of making a more just and equal world, but also there is a business case there. You want to be able to make the best decisions.

So some tactics here. Learn about and be aware of biases. So I talked about the availability heuristic and when I gave a definition and example of that, it might have prompted you to think about other examples. For example, if a friend of yours was burgled, that might prompt you to take more precautions relating to burglary yourself. So your actual risk of being burgled probably hasn't changed, but your perceived risk has because of what information is most available to you. What information is easiest for you to access. So I think that when you learn the definition and have examples of a type of bias, for example, these heuristics are if you've ever done any unconscious bias training you might've come across things like the horns and halo effect or confirmation bias. And I think that once you have names for these kinds of things, it makes it easier for you to identify them in real life other times you come across them. So that's a good reason to learn about them.

And being aware of biases. It's also important to be aware of your own personal biases. So there is the Harvard implicit association test. This is something you can take online and it relates to lots of different categories and it can be useful for figuring out what particular biases you're most vulnerable to. For example, you might take it and learn, "Ah, I actually don't have that much gender bias association but turns out I am really biased towards tall people. That's something I should be aware of." So being aware of what biases you might be particularly vulnerable to so that you can be more vigilant about them.

Another thing you can do is take your time. So I know that this isn't good advice if the reason you're stressed is because you're working to time pressure. But if you are able to take time to make important decisions and you're less likely to rely on your snap judgments, your heuristics, which could introduce bias and you'll have the time to use your rational side of your brain in order to make those decisions. So for example, if you know that you're tired and stressed and in a bad mood because you had a poor night's sleep, see if you can put it off to the next day when you're feeling much more rested.

Create structures like checklists or SOPs, standard operating procedures. So this can be beneficial because it's basically reducing cognitive load by, instead of relying on mental shortcut, relying on sort of physical shortcuts. So again, it makes it easier for you to process the information. You can do it more quickly, but you can be sure that you're doing it in a more evidence based and logical way rather than a way which has potentially flawed and biased.

Mindfulness. So this is something I didn't know until I was preparing for this talk, but it turns out that there is a lot of research out there which shows that practicing mindfulness reduces bias. One hint as to why this might be a study where participants did mindfulness activities and then in an fMRI were doing decision making and problem solving tasks, they had more blood flow to their prefrontal cortex and less to their amygdala compared to a control group. So that might give us a hint as to why mindfulness reduces bias. But the effects of mindfulness on reducing stress are well known as well. So it seems to me that practicing mindfulness, especially in stressful times would be an excellent way to reduce the chances of bias coming out.