

Laughing in the face of reality: the science of optimism

Dr Tail Sharot of the Wellcome Trust Centre for Neuroimaging in London talks about her research on optimism in prediction and decision making.

TS: So it's estimated that roughly 80 per cent of the Western population are optimistic and by that I mean that people overestimate the likelihood of good events happening in their life, like having a successful career or having talented kids, and they underestimate the probability of negative events happening in their life.

I work on decision making, I try to understand how humans make decisions and I'm especially interested in how people estimate how good or bad things are going to be before they make the decisions, how they're going to feel about it. And especially I'm interested in the fact that people are biased and they're biased in the way that they're very optimistic. What we're interested in is how the brain creates this bias and we use different techniques to try and answer this question. One technique that we use is functional neuroimaging, and in an experiment that we've done recently what we've tried to understand is how people maintain optimism in what we call – in the face of reality. So people get negative information all the time but still they remain optimistic – so we know that there's a credit crunch but still people think that they will do OK. So the question is how can that be?

For example let's say we asked someone how likely you are to get cancer and they say it's about 10 per cent, and then we tell them well in the Western world it's about 30 per cent – this is not good news, right? And then we ask them again how likely they are to get cancer and what we find is that people don't update. When they get negative information they don't learn as much, so they would still say about 11 per cent or so. But when people start off with an estimation of about 40 per cent and we say it's not that bad, it's actually about 30 per cent, then it's positive information, it's good information for them and they learn quite a bit. So the next time we ask them they say “oh, actually it's 30 per cent”, so they learn.

So the question is how is this bias generated? And when we look at the brain what we see is that first of all there's an error signal when someone is incorrect, so that is throughout. But this error signal is much, much larger when you're wrong and you get good information. So when you say “oh cancer's 40 per cent” and we say “no it's 30” then the error signal is quite large and that error signal, the brain uses that to learn and then to update the estimate. But when you get negative information, when you say “cancer is 10 per cent” and we say “no it's 30 per cent”, the error signal is much, much smaller and so the brain doesn't update as much and doesn't learn as much and we think that this mechanism is how the brain maintains optimism.

Being optimistic is extremely advantage, so it's an advantage in the way that it drives us to try and achieve the goals – even if we overestimate the likelihood of success, being optimistic kind of gets us up in the morning to be active and try to follow what we want to try to get. While depressed people are usually – they're not as likely to get up in the morning and they're actually more passive, and optimism is actually what drove humanity to develop, what kind of got our ancestors out of the caves to try and find food, what got them out of Africa to try and explore the rest of the world. So I do think this is kind of the core of what makes humans humans and that's why we find it in a huge percentage of the population.

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