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THE BRAIN

Twenty Cognitive Biases That Could Be Helping You Make Bad Decisions

October 8, 2015 | by Tom Hale



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The human mind is a beautiful thing. Our ability to perceive, manage and express our individual experiences has been a huge reason for <u>our success as a species</u>. However, let's not get too narcissistic. As rational as we like to think we are, our brain is riddled with ingrained patterns of thought which can lead us to be very irrational.

Cognitive scientists and psychologists call these blips "cognitive biases." Simply put, cognitive biases are mistakes made by the brain when reasoning, evaluating or other cognitive processes. They are usually caused by an association with previous emotional memories. We experience and perform these deviations on a daily basis, even if we are utterly unaware of it. In fact, in the business, political and marketing worlds, these little shortcomings of the brain are regularly used and abused against you.

This neat infographic from <u>Business Insider</u>, created by graphic designer Samantha Lee and reporter Shana Lebowitz, shows 20 of these cognitive biases that make us realize how irrational and malleable our little meat-bag brains can be.

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20 COGNITIVE BIASES THAT SCREW UP YOUR DECISIONS

1. Anchoring bias.

People are over-reliant on the first piece of information they hear. In a salary negotiation, whoever makes the first offer establishes a range of reasonable possibilities in each person's mind.



2. Availability heuristic.

People overestimate the importance of information that is available to them. A person might argue that smoking is not unhealthy because they know someone who lived to 100 and smoked three packs a day.



3. Bandwagon effect.

The probability of one person adopting a belief increases based on the number of people who hold that belief. This is a powerful form of groupthink and is reason why meetings are often unproductive.



4. Blind-spot bias.

Failing to recognize your own cognitive biases is a bias in itself. People notice cognitive and motivational biases much more in others than in themselves



5. Choice-supportive bias.

When you choose something, you tend to feel positive about it, even if that choice has flaws. Like how you think your dog is awesome - even if it bites people every once in a while.



6. Clustering illusion.

This is the tendency to see patterns in random events. It is key to various gambling fallacies, like the idea that red is more or less likely to turn up on a roulette table after a string



7. Confirmation bias.

We tend to listen only to information that confirms our preconceptions - one of the many reasons it's so hard to have an intelligent conversation about climate change.



8. Conservatism bias.

Where people favor prior evidence over new evidence or information that has emerged. People were slow to accept that the Earth was round because they maintained their earlier understanding that the planet was flat.



9. Information bias.

The tendency to seek information when it does not affect action. More information is not always better. With less information, people can often make more accurate predictions.



10. Ostrich effect.

The decision to ignore dangerous or negative information by "burying" one's head in the sand, like an ostrich. Research suggests that investors check the value of their holdings significantly less often during bad markets.



11. Outcome bias.

Judging a decision based on the outcome - rather than how exactly the decision was made in the moment. Just because you won a lot in Vegas doesn't mean gambling your money was a smart decision.



12. Overconfidence.

Some of us are too confident about our abilities, and this causes us to take greater risks in our daily lives. Experts are more prone to this bias than laypeople, since they are more convinced that they are right.



13. Placebo effect.

When simply believing that something will have a certain effect on you causes it to have that effect. In medicine, people given fake pills often experience the same physiological effects as people given the real thing.



14. Pro-innovation bias.

When a proponent of an innovation tends to overvalue its usefulness and undervalue its limitations. Sound familiar, Silicon Valley?



15. Recency.

The tendency to weigh the latest information more heavily than older data. Investors often think the market will always look the way it looks today and make



16. Salience.

Our tendency to focus on the most easily recognizable features of a person or concept. When you think about dying, you might worry about being mauled by a lion, as opposed to what is statistically more likely, like dying in a car accident.



17. Selective perception.

Allowing our expectations to influence how we perceive the world. An experiment involving a football game between students from two universities showed that one team saw the opposing team commit more infractions.



18. Stereotyping. Expecting a group or person to

have certain qualities without having real information about the person. It allows us to quickly identify strangers as friends or enemies, but people tend to overuse and abuse it.



19. Survivorship bias.

An error that comes from focusing only on surviving examples, causing us to misjudge a situation. For instance, we might think that being an entrepreneur is easy because we haven't heard of all those who failed.



20. Zero-risk bias.

Sociologists have found that we love certainty - even if it's counterproductive. Eliminating risk entirely means there is no chance of harm being caused.



SOURCES: Brain Biases; Ethics Unwrapped; Explorable; Harvard Magazine; HowStuffWorks; LearnVest; Outcome bias in decision evaluation, Journal of Personality and Social Psychology; Psychology Today; The Bias Blind Spot: Perceptions of Bias in Self Versus Others, Personality and Social Psychology Bulletin; The Cognitive Effects of Mass Communication, Theory and Research in Mass Communications; The less-is-more effect: Predictions and tests, Judgment and Decision Making; The New York Times; The Wall Street Journal; Wikipedia; You Are Not So Smart; ZhurnalyWiki

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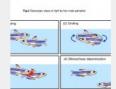
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Recommend 86

Brent Feiker ⋅ 6 months ago

You forgot the liberal bias!.....the one where you believe being a sissy ass doormat and thinking with pure emotions void of any logic will some how bring about a good outcome.

22 A V · Share



Jorge Knight ⋅ 6 months ago

This is what sages have been pointing out for millenia. Its what most spiritual teachers since day dot have been preaching. However despite there being truth in this article... very few people will address the issues it brings up. Addressing the issues outlined here is a path of awakening. It is the definition of wisdom and the route to peace for ourselves and others. Unfortunatly what was missed in that poster was "not listening or implimenting any counter strategies to anything in this poster".

7 ^ V · Share



Willow D'Arcy · 6 months ago

Hmmm - I'm curious where they got the info for #12. There's something called the Dunning-Kruger effect (also a cognitive bias) that suggests the opposite. The more expert people are, the more they underestimate their ability and the less expert people overestimate their ability. (I'm sure there's like 5 biases in this statement and in the study, I am just proposing the possibility of another perspective.)

20 ^ Share



JP → Willow D'Arcy · 6 months ago

Absolutely, the more you know, the more your self-assessment improves ...in that field. (Experts in a given field can overestimate how much they understand in a different field, for sure!)

But yes, they can be overconfident regarding risk. I've worked with scientists who habitually perform sloppy lab actions which the most junior lab assistants are rigorously warned against for safety reasons. They're not arrogant about their knowledge, but they are far more complacent about the risks.

It's the flip side of neophobia (fearfulness of new things)-- old things seem safer by virtue of familiarity.

5 ^ V · Share



Tom McWonald → Willow D'Arcy · 6 months ago

Oh please! The article wasn't mean to engage with your brain, it was only designed to provide a neat little forum for 'Science Nerds' to feel self-satisfied at the modicum of knowledge they picked up on websites. Please desist from posting anything else, with your intelligence you are not appreciated here.

3 ^ V · Share >



CascadianAbroad ⋅ 6 months ago

I love how many of the comments arguing the point of the article fall neatly into one of the boxes.

15 ^ V · Share



Tom McWonald → CascadianAbroad · 6 months ago

I love how you appear to demonstrate Biases 1,2,3, 6, 7, 16 and 17 in your supporting of this article on biases.

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CascadianAbroad → Tom McWonald · 6 months ago

Yup... because we all have them!

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Tom McWonald → CascadianAbroad · 6 months ago

I agree. So you could argue what's the point of the article, other than showing a neat little 'Infographic'? This is what's wrong with online media: it presents junk food and tells us it's superfood.



CascadianAbroad → Tom McWonald · 6 months ago

Plus, I'd take the infographic over the Buzzfeed lists of "5 reasons you..." or "This Happened. You won't believe what happens next!" :-)

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CascadianAbroad → Tom McWonald · 6 months ago

That's one way to look at it. I don't believe the point of the article is to remove biases, but to help people understand that there are reasons we think the way we do... or better yet, that there are reasons OTHER people think the way THEY do. My guess is a lot of people have never been exposed to a list like this before. Maybe it'd be useful in modern discourse to take a second to understand why someone might have an opinion that differs with ours.

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Tom McWonald → CascadianAbroad · 6 months ago

But most of these biases are recognised by people even as they hold on to them. For instance, racial stereotyping or confirmation bias. We apply true reasoning only when we have to, for instance during a maths exam or following a complicated novel. This article presents nothing that is new or really useful. At least according to me:)



Infractor → Tom McWonald · 6 months ago

The whole point of such biases is that they aren't recognised by us when we're presenting them, or at least not in the majority of instances. Some people are aware that they're prejudiced, etc. but those aren't quite the same as a cognitive bias. Both entirely legitimate things, mind you, on their own.

1 ^ V · Share >



Tom McWonald → Infractor · 6 months ago

well most people are not familiar with the terminology that is used along with accompanying cute pics of an ostrich or a pink brain. And why should we be, unless we are psychologists? This article makes one critical mistake: it assumes that a decision based on one of its biased categories is likely to be a wrong decision. An evolutionary psychologist would have a field day with this one. Are we successful despite or because of the assumptions we make in deciding a course of action?



CascadianAbroad → Tom McWonald · 6 months ago

I don't agree that most people recognize their biases, especially the two you mention. It's why FOX News and MSNBC are so popular. They present arguments that confirm what we already believe, but I doubt very few of

their viewers recognize that.

I see a difference in racial bias vs racism as well. There's a biological bias that exists in all of us, a way of arranging different characteristics in our heads. It's when we apply negative values to those biases that racism takes hold. Again, I don't think it's a thoughtful process, but one that is engrained during our upbringing. It's a reflexive, practiced behavior and stops being a conscious one.

If anything, there's value in these articles in that it can create intelligent, reasonable dialog between two people like ourselves!



Tom McWonald → CascadianAbroad · 6 months ago

Sounds like you know something about essentialism in children. OK but, notwithstanding the ignorance of their own ignorance, at the end of the day people use the tools they need to engage with the world that is presented to them. I would argue that some of these biases are inherently dangerous to intelligent thought, however others even a Stoic would shrug his shoulders at. But I agree about opportunity for interesting dialog my friend!

Share >



dwsNY · 6 months ago

Thank goodness I'm depressed and don't suffer from any of the biases that lead people to overestimate their skill, smarts, and likelihood of success!



Tom McWonald ⋅ 6 months ago

What a smug little article. Fails to point out that most of these 'biases' (some of which apply to some of the people some of the time) are in fact useful and help us to navigate the world. Also that most people are aware that their thinking on some topics is non-rational but are happy with the status quo. Also, this is a rehash of millennia-old thinking, as the ancient Greeks recognised very well (heard of Aristotle?) that proper thinking requires training in logic, metaphysics, ethics, geometry etc. Oh but please carry on with your sweet little scorecard.

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Julian Barnett · 6 months ago

Most of these examples are pretty biased and presumptuous...

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Arturis Dentalis • 6 months ago

This is a great site for some of the most commonly used fallacies:

https://yourlogicalfallacyis.c...

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Aaron FK · 6 months ago

Combine this with a chart of logical fallacies and you get two pieces of evidence as to why VERY FEW THINGS IN SCIENCE SHOULD BE SETTLED! Except for the Physical laws, everything is up for grabs. It would also be helpful if scientists would apply these and the logical fallacies to themselves BEFORE they publish, lecture, and contribute to documentaries.

2 A Share



Tom McWonald → Aaron FK · 6 months ago

In fact no scientific statement is absolute, otherwise it would not be a scientific statement. It must be falsifiable, hence accepted until it is disproved. Even 'I aws' (i.e. gravity) are not factual phenomena, but are

taken as universally accepted norms until shown otherwise.

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GeneGene T. DancingMachine → Aaron FK · 6 months ago

And your evidence that they don't do this as often as they should is what, exactly? As far as I know, scientists LOVE to pile on and disprove each other. It's a way of making a name for themselves and establishing scientific authority.

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Bwin51 · 6 months ago

Salience bias would have been better served by the example of dying by gun rather than by traffic accidents. That's old stats.

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Olivier · 6 months ago

As numerous people have pointed out. There never was a time that people thought the earth was flat. Only a time that people thought they used to think that. It's also possible to have a intelligent conversation about climate change. Extra credit to anyone who can spot the biases in this graphic.



Robert Sierra Jr · 6 months ago

Your recency and conservatism biases conflict.



Julian Barnett → Robert Sierra Jr · 6 months ago

Both are biases you could have individually, but a single person doesn't have both at the same time. Rather person A has a recency bias and person B has a conservatism bias.



brent → Robert Sierra Jr · 6 months ago

The way they are described and the examples used certainly seem to conflict. I don't profess to know a better explanation, but am pretty sure there are examples that would make them less conflictive.



GeneGene T. DancingMachine → brent · 6 months ago

I used to work in a scientific/engineering organization that established safety standards. As we were updating the standards, we would invariably have both kinds of bias in the room, with the conservative ones wanting to keep the standards the same based on the old data, and others who had just generated new data who wanted to change the standards.



James Rowland ⋅ 6 months ago

"Experts are more prone to [overconfidence] than laypeople, because they are more convinced that they are right."

Not according to the Dunning-Kruger effect, which shows the exact opposite is true.

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Jade Carroll → James Rowland · 6 months ago

I think you're using the other version of expert. When I read the line, I thought along the lines of a trained Psychologist never thinking they're wrong because they're "the experts".

Common example: "I'm the adult; I know what's best". I don't think it means expert as in "someone above average in competence"

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#8 Actually they knew the earth was round since the Greeks measured the diameter in 200BC. There were also maps in circulation showing America and the Antarctic long before Columbus sailed (like the Piri Reis map which is a copy of an even older map). The Victorians invented the rumor that earlier Europeans believed the earth was flat, but that was a fallacy/fancy. Sadly most of these cognitive biases are still alive and well in the science community. Like the mass of evidence that opposes the Big Bang theory (that we continue to ignore)...

3 ^ Share



RoflTank → JonathanH13 · 6 months ago

A theory still in use because everything else is still a hypothesis at this point.

There is, however, evidence that the universe never began and will never end... It just *is*, and always has been.

2 ^ Share



Sal → RoflTank · 6 months ago Reference?



Badger → JonathanH13 · 6 months ago

Do you have a source for that mass of evidence that opposes the Big Bang theory?



JonathanH13 → Badger · 6 months ago

If you really want to understand this, you have to dig deep into astronomy/astrophysics. It is actually pretty boring stuff, mostly to do with inconsistent redshifts in quasars.

Look up Halton Arp Intrinsic Red Shift on you tube.

1 ^ V · Share >



Chris Munro → JonathanH13 · 6 months ago

A fitting source to quote for this article. Halton Arp's work has been shown to suffer extensively from selective perception and confirmation bias, and finally choice selective bias when he stuck to his theory even after further study with improved equipment showed his theories carried no weight. Intrinsic Red Shift is a disproved theory.

1 ^ V · Share >



Sean Patrick Franklin → Badger · 6 months ago

The Bible, of course! /sarcasm

3 ^ V · Share



Defenestrator ⋅ 6 months ago

#17 - Hastorf & Cantril 1954! It wasn't an experiment, it was an observational study and the point is that BOTH sides saw the opposing side as committing more fouls. Worth reading the original text, it's one of those that could easily be written today and in many different realms.



Matthew Pentecost ⋅ 6 months ago

It's nice to see a post on this fascinating topic, but on a somewhat nitpicky note I feel obliged to mention that cognitive biases are not necessarily errors, nor do they make us "irrational". They are simply shortcuts designed to reduce the massive amount of energy your brain expends in comprehending our hopelessly complex world. Most of the time they work, which is why they

persist in the face of their occasional failures. Think of the way we know that, on average, putting water on a fire makes it go out. This is not always correct, but in a life or death situation the balance of probabilities favours it as a strategy versus taking the time to determine the exact optimal way of putting out the fire.

16 ^ V · Share >



brent → Matthew Pentecost · 6 months ago

Well put.

1 ^ V · Share >



Erica Lyons · 6 months ago

#8. They knew the earth wasn't flat. They also knew the amount of food on the boat wasn't enough to go all the way around. And it wasn't. Good thing the ships ran into the Caribbean islands, or they'd have starved to death.



Kerry → Erica Lyons · 6 months ago

You need to move your notion of time needle back a little bit further from where it landed. Back from Columbus to Galileo. Although Columbus is far more interesting and horrible than our fourth grade teachers would have liked for us to realize. Different cultures have always had different notions of what the earth is shaped like. There was even one that thought the planet was a flat disc carried around space on the back of a turtle. For realz, and not just for Terry Pratchett.

2 ^ Share



nursethalia → Erica Lyons · 6 months ago

Who are the "they" you're referring to?

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Olivier → nursethalia · 6 months ago

The general consensus has actually always been that the earth/kosmos was spherical. Almost all natural philosophers sought to reduce nature to one or several elements, and almost always conjectured that said substance would have to be either infinitine and or stretch out the same length every distance. In bothe instances creating a sphere of 'being'.

Most noteablye was Aristotle, who laid the foundation of a geocentric spherical worldview which Ptolemy worked out even further. Calculating the rough size of the earth through observing what he thought to be celestial spheres. e.g. interlocking spheres arounf the earth, with the outer holding the stars and moving more inwards the planets including the moon and sun.

The attempt to cross the atlantic actually had more to do with new ship designs and a new model that calculated the earts sphere was smaller than it actually is. They barely made it. And subsequent journeys took a huge toll on the crews.



Joseph Baggaley · 6 months ago

Ostriches don't bury their heads in sand, QI pointed this out a while ago.

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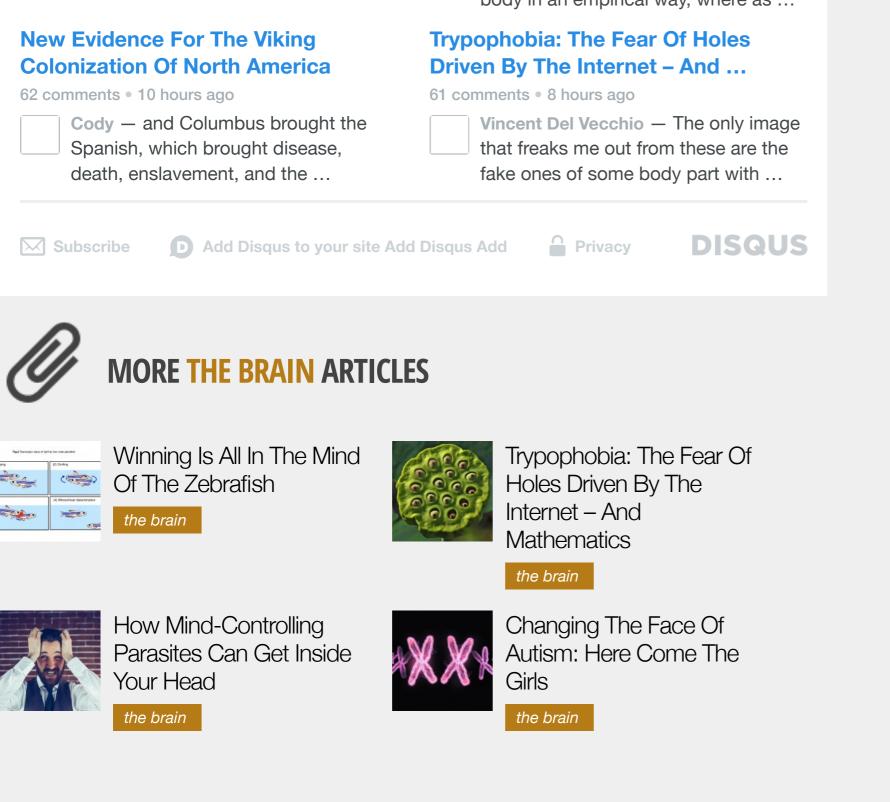
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