

# Cognitive Bias

You're not as rational as you may think!

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# What is a Cognitive Bias?

*“A cognitive bias is a systematic pattern of deviation from norm or rationality in judgment”*

Key word: *Systematic*, not *random* or *one-off*.

While powerful, our brain has limitations. Biases are a way to simplify information processing.

*“allowing cognitive biases enables faster decisions which can be desirable when timeliness is more valuable than accuracy [2]”*

Our brain takes shortcuts, in the form of *heuristics*. Unfortunately, accuracy is sometimes more important than timeliness...

# Why this Talk?

I like to think that I'm logical and make rational decisions, but I am susceptible to all of these biases, just like everyone else.

I'd like to be aware of them and do my best to correct my thinking when biases influence my decisions. In my experience being aware of some of the biases makes them easier to recognize.

I am not an expert, but simply interested in cognitive biases!

Warning: There are many - Wikipedia lists more than 150

# Confirmation Bias

The tendency to search for, interpret, focus on and remember information in a way that confirms one's preconceptions.

Examples: The confirmation bias affects the way people view political information. For example, people generally prefer to spend more time looking at information which supports their political stance, while neglecting information that contradicts it. [5]

Very prevalent. Echo chambers are everywhere.

# Survivorship Bias

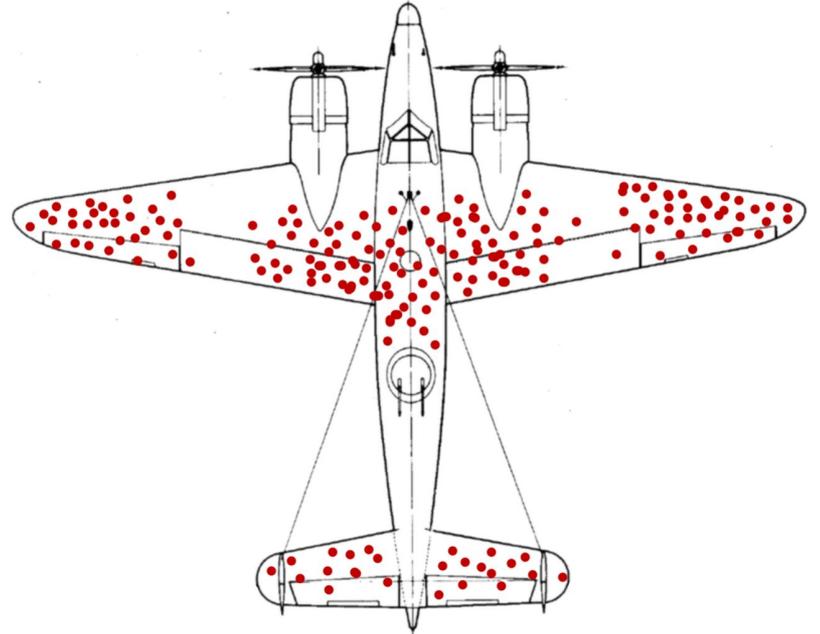
Concentrating on the people or things that "survived" some process and inadvertently overlooking those that didn't because of their lack of visibility.

Examples:

Adding armor to bomb planes during WWII.

“They don't make ‘em like they used to”.

Analysis indicates that companies are doing better than they actually are.



# Anchoring

The tendency to rely too heavily, or "anchor", on one trait or piece of information when making decisions (usually the first piece of information acquired on that subject).

Example: Your SSN affects the size of the bid you place.

# Fundamental Attribution Error

We judge others on their personality or fundamental character, but we judge ourselves on the situation. Explains why we often judge others harshly while letting ourselves off the hook at the same time by rationalizing our own unethical behavior.

Examples: Your colleague is late to a meeting and you conclude it's because the colleague is lazy, ignoring the fact that you are sometimes late as well, e.g. due to an important meeting running over or that you are having issues with your laptop's network card.

# Framing Effect

Drawing different conclusions from the same information, depending on how that information is presented. People decide on options based on whether the options are presented with positive or negative connotations; e.g. as a loss or as a gain.

One of the strongest influences in decision making.

Examples: Would you pick “80% lean beef” or “20% fat beef”?

Researchers are allocated more funds if their results are framed in terms of successes rather than failures [9].

# Other Biases

**Groupthink.** The psychological phenomenon that occurs within a group of people in which the desire for harmony or conformity in the group results in an irrational or dysfunctional decision-making outcome. Group members try to minimize conflict and reach a consensus decision without critical evaluation of alternative viewpoints by actively suppressing dissenting viewpoints, and by isolating themselves from outside influences.

**Sunk Cost Fallacy.** The phenomenon where people justify increased investment in a decision, based on the cumulative prior investment, despite new evidence suggesting that the decision was probably wrong.

**Hindsight bias.** Sometimes called the "I-knew-it-all-along" effect, the tendency to see past events as being predictable at the time those events happened.

**Availability Heuristic.** The tendency to overestimate the likelihood of events with greater "availability" in memory, which can be influenced by how recent the memories are or how unusual or emotionally charged they may be.

# Relevant Situations

Widely applicable in life, not just work, and not just work as a developer.

- Hiring
- Reviewing someone's code
- Troubleshooting a production issue
- Conducting a post mortem analysis
- Debating a solution as a group
- Judging risk when planning a project or estimating how much time is needed to finish it
- Negotiations

**Thanks!**

# References

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