

# What Is Cognitive Bias?

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## What Is Cognitive Bias?

A cognitive bias is a systematic error in thinking that occurs when people are processing and interpreting information in the world around them and affects the decisions and judgments that they make.

The human brain is powerful but subject to limitations. Cognitive biases are often a result of your brain's attempt to simplify information processing. Biases often work as rules of thumb that help you make sense of the world and reach decisions with relative speed.

- **Some of these biases are related to memory.** The way you remember an event may be biased for a number of reasons and that, in turn, can lead to biased thinking and decision-making.
- **Other cognitive biases might be related to problems with attention.** Since attention is a limited resource, people have to be selective about what they pay attention to in the world around them.

Because of this, subtle biases can creep in and influence the way you see and think about the world.

The concept of cognitive bias was first introduced by researchers Amos Tversky and Daniel Kahneman in 1972. Since then, researchers have described a number of different types of biases that affect decision-making in a wide range of areas including social behavior, cognition, behavioral economics, education, management, healthcare, business, and finance.

### Cognitive Bias vs. Logical Fallacy

People sometimes confuse cognitive biases with logical fallacies, but the two are not the same. A **logical fallacy** stems from an error in a logical argument, while a **cognitive bias** is rooted in thought processing errors often arising from problems with memory, attention, attribution, and other mental mistakes.

## Signs

Everyone exhibits cognitive bias. It might be easier to spot in others, but it is important to know that it is something that also affects your thinking. Some signs that you might be influenced by some type of cognitive bias include:

- Only paying attention to news stories that confirm your opinions
- Blaming outside factors when things don't go your way
- Attributing other people's success to luck, but taking personal credit for your own accomplishments
- Assuming that everyone else shares your opinions or beliefs
- Learning a little about a topic and then assuming you know all there is to know about it

When you are making judgments and decisions about the world around you, you like to think that you are objective, logical, and capable of taking in and evaluating all the information that is available to you. Unfortunately, these biases sometimes trip us up, leading to poor decisions and bad judgments.

## Types

Learn more about a few of the most common types of cognitive biases that can distort your thinking.

- **Actor-observer bias**: This is the tendency to attribute your own actions to external causes while attributing other people's behaviors to internal causes. For example, you attribute your high cholesterol level to genetics while you consider others to have a high level due to poor diet and lack of exercise.
- **Anchoring bias**: This is the tendency to rely too heavily on the very first piece of information you learn. For example, if you learn the average price for a car is a certain value, you will think any amount below that is a good deal, perhaps not searching for better deals. You can use this bias to set the expectations of others by putting the first information on the table for consideration.
- **Attentional bias**: This is the tendency to pay attention to some things while simultaneously ignoring others. For example, when making a decision on

which car to buy, you may pay attention to the look and feel of the exterior and interior, but ignore the safety record and gas mileage.

- **Availability heuristic**: This is placing greater value on information that comes to your mind quickly. You give greater credence to this information and tend to overestimate the probability and likelihood of similar things happening in the future.
- **Confirmation bias**: This is favoring information that conforms to your existing beliefs and discounting evidence that does not conform.
- **False consensus effect**: This is the tendency to overestimate how much other people agree with you.
- **Functional fixedness**: This is the tendency to see objects as only working in a particular way. For example, if you don't have a hammer, you never consider that a big wrench can also be used to drive a nail into the wall. You may think you don't need thumbtacks because you have no corkboard on which to tack things, but not consider their other uses. This could extend to people's functions, such as not realizing a personal assistant has skills to be in a leadership role.
- **Halo effect**: Your overall impression of a person influences how you feel and think about their character. This especially applies to physical attractiveness influencing how you rate their other qualities.
- **Misinformation effect**: This is the tendency for post-event information to interfere with the memory of the original event. It is easy to have your memory influenced by what you hear about the event from others. Knowledge of this effect has led to a mistrust of eyewitness information.
- **Optimism bias**: This bias leads you to believe that you are less likely to suffer from misfortune and more likely to attain success than your peers.
- **Self-serving bias**: This is the tendency to blame external forces when bad things happen and give yourself credit when good things happen. For example, when you win a poker hand it is due to your skill at reading the

other players and knowing the odds, while when you lose it is due to getting dealt a poor hand.

- **The Dunning-Kruger effect**: This is when people who believe that they are smarter and more capable than they really are. For example, when they can't recognize their own incompetence.

At times, multiple biases may play a role in influencing your decisions and thinking. For example, you might misremember an event (the misinformation effect) and assume that everyone else shares that same memory of what happened (the false consensus effect).

### Cognitive Biases That Distort Your Thinking

## Causes

If you had to think about every possible option when making a decision, it would take a lot of time to make even the simplest choice. Because of the sheer complexity of the world around you and the amount of information in the environment, it is necessary sometimes to rely on some mental shortcuts that allow you to act quickly.

Cognitive biases can be caused by a number of different things, but it is these mental shortcuts, known as heuristics, that often play a major contributing role. While they can often be surprisingly accurate, they can also lead to errors in thinking.

Other factors that can also contribute to these biases:

- Emotions
- Individual motivations
- Limits on the mind's ability to process information
- Social pressures

Cognitive bias may also increase as people get older due to decreased cognitive flexibility.<sup>1</sup>

## Impact of Cognitive Bias

Cognitive biases can lead to distorted thinking. [Conspiracy theory beliefs](#), for example, are often influenced by a variety of biases.<sup>2</sup> But cognitive biases are not necessarily all bad. Psychologists believe that many of these biases serve an adaptive purpose: They allow us to reach decisions quickly. This can be vital if we are facing a dangerous or threatening situation.

For example, if you are walking down a dark alley and spot a dark shadow that seems to be following you, a cognitive bias might lead you to assume that it is a mugger and that you need to exit the alley as quickly as possible. The dark shadow may have simply been caused by a flag waving in the breeze, but relying on mental shortcuts can often get you out of the way of danger in situations where decisions need to be made quickly.

## Tips for Overcoming Cognitive Bias

Research suggests that cognitive training can help minimize cognitive biases in thinking.<sup>3</sup> Some things that you can do to help overcome biases that might influence your thinking and decision-making include:

- **Being aware of bias:** Consider how biases might influence your thinking. In one study, researchers provided feedback and information that help participants understand these biases and how they influence decisions. The results of the study indicated that this type of training could effectively reduce the effects of cognitive bias by 29%.<sup>3</sup>
- **Considering the factors that influence your decisions:** *Are there factors such as overconfidence or self-interest at play?* Thinking about the influences on your decisions may help you make better choices.
- **Challenging your biases:** If you notice that there are factors influencing your choices, focus on actively challenging your biases. *What are some factors you have missed? Are you giving too much weight to certain factors? Are you ignoring relevant information because it doesn't support your view?* Thinking about these things and challenging your biases can make you a more critical thinker.

Reducing cognitive bias may also be beneficial in the treatment of some mental health conditions.<sup>4</sup> Cognitive bias modification therapy (CBMT) is a treatment

approach based on processes that are designed to reduce cognitive bias. This form of therapy has been used to help treat addictions, depression, and anxiety.