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What Are Heuristics?

These mental shortcuts can help people make decisions more efficiently

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Heuristics are mental shortcuts that allow people to solve problems and make judgments quickly and efficiently. These rule-of-thumb strategies shorten decision-making time and allow people to function without constantly stopping to think about their next course of action.

However, there are both benefits and drawbacks of heuristics. While heuristics are helpful in many situations, they can also lead to cognitive biases. Becoming aware of this might help you make better and more accurate decisions.

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The History and Origins of Heuristics

Nobel-prize winning economist and cognitive psychologist Herbert Simon originally introduced the concept of heuristics in psychology in the 1950s. He suggested that while people strive to make rational choices, human judgment is subject to cognitive limitations. Purely rational decisions would involve weighing all the potential costs and possible benefits of every alternative.

But people are limited by the amount of time they have to make a choice as well as the amount of information they have at their disposal. Other factors such as overall intelligence and accuracy of perceptions also influence the decision-making process.

During the 1970s, psychologists Amos Tversky and Daniel Kahneman presented their research on cognitive biases. They proposed that these biases influence how people think and the judgments people make.

As a result of these limitations, we are forced to rely on mental shortcuts to help us make sense of the world. Simon's research demonstrated that humans were limited in their ability to make rational decisions, but it was Tversky and Kahneman's work that introduced the study of heuristics and the specific ways of thinking that people rely on to simplify the decision-making process.

How Heuristics Are Used

Heuristics play important roles in both problem-solving and decision-making, as we often turn to these mental shortcuts when we need a quick solution.

Here are a few different theories from psychologists about why we rely on heuristics.

- **Attribute substitution**: People substitute simpler but related questions in place of more complex and difficult questions.
- **Effort reduction**: People use heuristics as a type of cognitive laziness to reduce the mental effort required to make choices and decisions.
- **Fast and frugal**: People use heuristics because they can be fast and correct in certain contexts. Some theories argue that heuristics are actually more accurate than they are biased.

> In order to cope with the tremendous amount of information we encounter and to speed up the decision-making process, our brains rely on these mental strategies to simplify things so we don't have to spend endless amounts of time analyzing every detail.

You probably make hundreds or even thousands of decisions every day. What should you have for breakfast? What should you wear today? Should you drive or take the bus? Fortunately, heuristics allow you to make such decisions with relative ease and without a great deal of agonizing.

There are many heuristics examples in everyday life. When trying to decide if you should drive or ride the bus to work, for instance, you might remember that there is road construction along the bus route. You realize that this might slow the bus and cause you to be late for work. So you leave earlier and drive to work on an alternate route.

Heuristics allow you to think through the possible outcomes quickly and arrive at a solution.

Are Heuristics Good or Bad?

Heuristics aren't inherently good or bad, but there are pros and cons to using them to make decisions. While they can help us figure out a solution to a problem faster, they can also lead to inaccurate judgments about other people or situations.

Types of Heuristics

There are many different kinds of heuristics. While each type plays a role in decision-making, they occur during different contexts. Understanding the types can help you better understand which one you are using and when.

Availability

The availability heuristic involves making decisions based upon how easy it is to bring something to mind. When you are trying to make a decision, you might quickly remember a number of relevant examples. Since these are more readily available in your memory, you will likely judge these outcomes as being more common or frequently occurring.

For example, if you are thinking of flying and suddenly think of a number of recent airline accidents, you might feel like air travel is too dangerous and decide to travel by car instead. Because those examples of air disasters came to mind so easily, the availability heuristic leads you to think that plane crashes are more common than they really are.

Familiarity

The familiarity heuristic refers to how people tend to have more favorable opinions of things, people, or places they've experienced before as opposed to new ones. In fact, given two options, people may choose something they're more familiar with even if the new option provides more benefits.

Representativeness

The representativeness heuristic involves making a decision by comparing the present situation to the most representative mental prototype. When you are trying to decide if someone is trustworthy, you might compare aspects of the individual to other mental examples you hold.

A soft-spoken older woman might remind you of your grandmother, so you might immediately assume that she is kind, gentle, and trustworthy. However, this is an example of a heuristic bias, as you can't know someone trustworthy based on their age alone.

Affect

The affect heuristic involves making choices that are influenced by the emotions that an individual is experiencing at that moment. For example, research has shown that people are more likely to see decisions as having benefits and lower risks when they are in a positive mood. Negative emotions, on the other hand, lead people to focus on the potential downsides of a decision rather than the possible benefits.

Anchoring

The anchoring bias involves the tendency to be overly influenced by the first bit of information we hear or learn. This can make it more difficult to consider other factors and lead to poor choices. For example, anchoring bias can influence how much you are willing to pay for something, causing you to jump at the first offer without shopping around for a better deal.

Scarcity

Scarcity is a principle in heuristics in which we view things that are scarce or less available to us as inherently more valuable. The scarcity heuristic is one often used by marketers to influence people to buy certain products. This is why you'll often see signs that advertise "limited time only" or that tell you to "get yours while supplies last."

Trial and Error

Trial and error is another type of heuristic in which people use a number of different strategies to solve something until they find what works. Examples of this type of heuristic are evident in everyday life. People use trial and error when they're playing video games, finding the fastest driving route to work, and learning to ride a bike (or learning any new skill).

Difference Between Heuristics and Algorithms

Though the terms are often confused, heuristics and algorithms are two distinct terms in psychology.

> Algorithms are step-by-step instructions that lead to predictable, reliable outcomes; whereas heuristics are mental shortcuts that are basically best guesses. Algorithms always lead to accurate outcomes, whereas, heuristics do not.

Examples of algorithms include instructions for how to put together a piece of furniture or a recipe for cooking a certain dish. Health professionals also create algorithms or processes to follow in order to determine what type of treatment to use on a patient.

How Heuristics Can Lead to Bias

While heuristics can help us solve problems and speed up our decision-making process, they can introduce errors. As in the examples above, heuristics can lead to inaccurate judgments about how commonly things occur and about how representative certain things may be.

> Just because something has worked in the past does not mean that it will work again, and relying on a heuristic can make it difficult to see alternative solutions or come up with new ideas.

Heuristics can also contribute to stereotypes and prejudice. Because people use mental shortcuts to classify and categorize people, they often overlook more relevant information and create stereotyped categorizations that are not in tune with reality.

How to Make Better Decisions

While heuristics can be a useful tool, there are ways you can improve your decision-making and avoid cognitive bias at the same time.

Slow Down

We are more likely to make an error in judgment if we are trying to make a decision quickly or are under pressure to do so. Whenever possible, take a few deep breaths. Do something to distract yourself from the decision at hand. When you return to it, you may find you have a fresh perspective, or notice something you didn't before.

Identify the Goal

We tend to focus automatically on what works for us and make decisions that serve our best interest. But take a moment to know what you're trying to achieve. Are there other people who will be affected by this decision? What's best for them? Is there a common goal that can be achieved that will serve all parties?

Process Your Emotions

Fast decision-making is often influenced by emotions from past experiences that bubble to the surface. Is your decision based on facts or emotions? While emotions can be helpful, they may affect decisions in a negative way if they prevent us from seeing the full picture.

Recognize All-or-Nothing Thinking

When making a decision, it's a common tendency to believe you have to pick a single, well-defined path, and there's no going back. In reality, this often isn't the case.

Sometimes there are compromises involving two choices, or a third or fourth option that we didn't even think of at first. Try to recognize the nuances and possibilities of all choices involved, instead of using all-or-nothing thinking.

12 Sources

Verywell Mind uses only high-quality sources, including peer-reviewed studies, to support the facts within our articles. Read our editorial process to learn more about how we fact-check and keep our content accurate, reliable, and trustworthy.

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