

An impulsive cognitive style comes with implications, researchers say

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A new study finds that people who prioritize small but immediate rewards over larger but longer-term ones also have a mild but measurable penchant for taking the cognitive easy road in a wide variety of situations. Credit: Brown University

Know anyone who would rather have \$40 right now than \$80 next

month? Psychology researchers have just published a sprawling study about such folks. It shows them to have a mild but consistent set of tendencies—the scientists call it a "surprisingly broad cognitive phenotype"—to take the quicker and simpler path when thinking about logical challenges, the people around them, the societies they live in and even spiritual matters.

In all, the trio of researchers at Brown, Harvard and Yale universities studied a total of 8,293 subjects with batteries of quizzes and questionnaires. The data revealed small but significant associations between preferring immediate gratification and hurried approaches to problem solving, a greater propensity to think about others as being predictable rather than complex, a predilection for easier-to-consume news and social media, and a greater likelihood of believing in God without any greater likelihood of actually observing religious practice.

Lead author Amitai Shenhav, an assistant professor of cognitive linguistic and psychological sciences at Brown University, said the cognitive style the study tracks may reflect that some people put less value on exerting as much cognitive effort as others in the same situations. Understanding that this underlying cognitive style influences a wide variety of behaviors can help people understand—and modify—their behavior, he said.

"These are factors within all of us," Shenhav said. "It's useful to know what contributes to you engaging with more cognitive effort or less."

Shenhav is quick to point out that while the study in the journal *Judgment and Decision Making* teased out a wide landscape of tendencies associated with the cognitive style, they are hardly overwhelming. Instead, individuals vary enormously, commensurate with all the factors that influence personality and behavior including other inherent traits of emotionality or intelligence, upbringing and family life, social context

and education, to name a few.

"This will contribute to potentially many people having these kinds of tendencies, but to the extent it contributes, it contributes a small amount," he said. "You will easily have exceptions to this. Not everyone who is impulsive will be religious, for example, and not everyone who is religious is impulsive. There's just an association between them."

Testing thinking

Using responses to variations on the \$40-now-or-\$80-later question, the researchers quantified the extent to which volunteers favored smaller short-term rewards to larger long-term rewards. This overall tendency to place less value on future rewards (the "discount rate") is what the researchers used for the rest of the study to identify people as having more or less of the impulsive cognitive style they were studying.

From there, each subject took some of the other tests to measure how strongly their discount rate was associated with their degree of cognitive effort or deliberation in other categories of situations. One was their problem solving strategies. People with high discount rates (i.e. impulsive people) tended to engage in more intuitive, but less thoughtful, approaches than people with lower discount rates (i.e. more reflective people). That led to the impulsive folks being more likely to fall into some classic traps.

Here's one example: You are told there are \$5 bills hidden under 10 of 20 cups. Half the cups are blue and half the cups are orange, and you are told that seven of the \$5 bills are under blue cups and three are under orange cups. Impulsive people were more likely to blithely look under seven blue cups and three orange cups even though the optimal approach, which requires a bit more thought, is to take one's chances only with blue cups.

The heart of the study, however, was seeing how far into the social, political and spiritual domains the cognitive style extended. One key area was media consumption. The researchers found that impulsive people spent more time using Twitter than reflective people.

The researchers also used a survey of more than 250 people to build an index of how complex or simple different broadcast news outlets were. For example, NPR was rated more complex than various cable and network television outlets. Impulsive people were significantly less likely to listen to NPR and more likely to consult the TV news sources that people rated as easiest to consume.

The cognitive style also carried through to interpersonal judgments. The more impulsive subjects were more likely to believe that other people can be defined by a stable character that will generalize to many contexts (e.g. that someone just is a certain way) and that perceived differences between racial groups had more to do with genetics than environment.

Finally, the study extended Shenhav's previous findings relating intuition and religious belief. The authors found that a more impulsive personality type is associated with a greater likelihood of believing in God—"a belief that is arguably highly simplifying," the authors wrote. That people who preferred more immediate rewards were also more likely to believe in an afterlife, but were not more likely to worship, Shenhav said, suggests that cognitive style may say more about how beliefs are shaped and less about how people choose to practice those beliefs.

In one more key measure, the researchers found that impulsive or reflective cognitive style does not predict traditional political party affiliation.

"While discount rate is significantly associated with social conservatism, discount rate is not related to fiscal conservatism," the researchers noted.

Suggestive of strategies

Shenhav said his research on cognitive effort should not be confused with research on intelligence or morals.

"Cognitive effort has two sides to it," he said. "It can help you better reach your goals, but it is also costly. There is a good argument to be made that it would not be normatively a good idea to be engaging cognitive effort to an extreme degree all the time. Thinking is hard. Pretty much everyone can agree that you shouldn't never think, and pretty much everyone can agree that you shouldn't always be consumed in thought."

But if people recognize how extensively an impulsive [cognitive style](#) permeates into their behavior, they can consider taking more conscious control to avoid its disadvantageous consequences. People who know they can be a bit impulsive, for example, might want to purposely slow down and double-check their reasoning, or click those links on Twitter to dive more deeply into some breaking news, or ask whether a person they just met is shaped by more than their most apparent superficial characteristics.

"There are some cases where impulsivity makes sense in our daily lives," Shenhav said. "There are some tasks we just can't spend all of our time on. And there are certain things that we'd really want for ourselves and one another to spend a bit longer on."

Provided by Brown University

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