

Memory research sheds light on why older adults 'accentuate the positive'

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Age-related differences appear to affect the way adults make and remember their choices in life, suggesting that older adults “accentuate the positive and eliminate the negative in their memories,” according to research published in the current issue of the *Journal of Experimental Psychology*.

Psychologists at the University of California, Santa Cruz, have learned that adults of all ages tend to “fill in the gaps” when recalling decisions of the past, shedding light on the mysteries of memory distortion. But as people age, they rely more heavily on a comparison process that favors positive emotional outcomes, said lead researcher Mara Mather, an associate professor of psychology at UCSC.

“The results add a twist to our understanding of how people remember things that weren't there,” said Mather, who coauthored the paper with UCSC graduate student Marisa Knight and then-undergraduate Michael McCaffrey, who graduated in 2003. “The way we remember one option is shaped by what we know of the other options, and the comparison process changes as we age.”

“People are always surprised by how malleable memory is, but researchers have really only scratched the surface,” added Mather.

Mather's research used studies of decision making to glean insight into how inaccurate memories are generated. The first study explored how adults make decisions when two options lack directly comparable

features. For example, when deciding between rental apartments, prospective tenants compare features such as rent, square footage, and natural light. But the comparison is problematic when more is known about one option than the other—Apartment A has hardwood floors, for example, but nothing is known about the flooring in Apartment B.

“It's a problem in decision making, because people are driven to make decisions by comparing feature-by-feature,” said Mather, who wanted to know how people cognitively cope with the gaps.

It turns out that adults of all ages tend to falsely fill in the gaps and then remember circumstances as being “more alignable” than they were. For instance, in the rental example, the tenant might “fill in the gap” by inferring that Apartment B had carpets and go on to recall that incorrect information later.

“People remember features that can be compared more than those that can't be aligned, and they make inferences that fill in the blanks and that contrast with the other information,” she said. “Alignability helps memory but also leads to false memories.”

In another experiment, Mather explored emotion's powerful impact on memory and found that older adults with high cognitive functioning use a decision-making strategy that generates more positive emotional outcomes.

These older adults tend to favor the feature-by-feature decision-making process because it guards against regret. By contrast, younger adults are more likely to employ what psychologists call the “whole option” strategy, in which they consider both the negative and positive aspects of each option before examining the next option. “Young people are trying to learn as much as they can about each option, while older people are more focused on feeling good about their choices,” said Mather.

Mather found that in general, adults aged 65 to 80 tend to initially ignore negative features--and to remember them less--than younger adults. Elders also remember more positive features than negative, compared to younger adults, she said.

Researchers previously have attributed most age differences to cognitive decline, said Mather. But in this study, Mather's team tested older adults for their cognitive abilities, and those with the best performance on tests of working memory and other complex tasks were most likely to use different strategies than the younger adults.

“This pattern suggests that younger and older adults' comparison processes are influenced by different goals," she said. "Even when older adults show little or no signs of cognitive decline, they make decisions differently than younger adults, in ways that should help them avoid regret."

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