

Study shows that repeated statements are more often judged to be true

October 7 2020, by Bonnie Ertelt



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When adults hear a statement repeated twice, they are more likely to think it is true than if they've heard it only once. This has been replicated many times in existing research studies and is known as the illusory-truth effect or believing something to be true if it's repeated often enough, even when it is false.

Now, researchers from Vanderbilt Peabody College of education and human development are asking two questions related to the illusory-truth effect: Do adults learn during childhood to associate [repetition](#) as a cue for truth, and can their [prior knowledge](#) protect them from the effect?

Finding that repetition can affect a person's ability to detect truth has repercussions in society today as misinformation spreads rapidly, particularly through viral posts on social media.

"When we rely on our initial gut feelings to determine truth, we often use unreliable cues such as repetition. It's important to instead slow down and think about how we know a statement is true or false. This is especially important on [social media](#) where news feeds have been designed to encourage quick reads and quick responses," said Lisa K. Fazio, assistant professor of psychology, who led the research team.

In a paper published in September in the journal *Psychological Science*, Fazio and Carrie L. Sherry, a research assistant in Fazio's Building Knowledge laboratory, reported on their investigation into the developmental origins of the illusory-truth effect. In the study, which involved 24 5-year-olds, 24 10-year-olds and 32 adults as participants, the researchers looked at the response patterns that both children and adults made to true and [false statements](#), some repeated and some not, to determine whether children would use repetition as a cue in the same way that adults do.

"We were specifically interested in whether young children would use repetition as a cue for truth," said Fazio. "Five-year-olds are old enough to understand the concept of truth, but they are not very good at reflecting on their own thinking. Ten-year-olds are much more skilled than 5-year-olds at reflecting on their thinking, but not as good as adults. As a result, if learning to use repetition as a cue for truth requires this reflection, you would not expect to see an illusory-truth effect in 5-year-

olds or maybe even the 10-year-olds."

"Potatoes grow above ground"

Using 48 nature facts as stimuli, taken primarily from three versions of the game Brain Quest, Fazio and her team created three knowledge levels (preschool, elementary school and middle school) using 16 statements. Each level was divided into four sets of four statements—new truths, new falsehoods, repeated truths and repeated falsehoods. For each correct fact ("Tomatoes grow above ground"), they created a matching falsehood using a plausible, but incorrect alternative ("Potatoes grow above ground").

The experiment began with an exposure phase asking the children to listen on a computer to a cartoon character named Ruby the Robot who would talk about animals and nature. The children were told before starting that "Ruby knows a lot about some things, and not a lot about other things. So, some of the things Ruby tells you will be true, and some will not be true." The children were then asked to decide if a statement was interesting or not interesting to ensure that they knew which button was which on the touch screen. Half of the nature statements were presented during this phase.

In the second part of the experiment, or the truth phase, Ruby once again relayed her sometimes incorrect expertise about nature. The children were reminded that some of what she would say would be true and some would not be. However, this time, they had to decide which statement was "true" or "not true," and whether they were "sure" or "not very sure" of their response.

The adult study was similar and retained Ruby the Robot, along with exactly the same instructions and procedures, though the adults (primarily Vanderbilt undergraduates) used a mouse instead of a touch

screen and read their instructions on screen rather than receiving them verbally by the experimenter. Both phases of the experiment were done during a single session with a brief break.

Repetition, prior knowledge and judging the truth

Fazio and her team found that the five- and 10-year-old children as well as the adults judged repeated statements as more often true, showing that the illusory-truth effect was similar across all three age groups. They also found that the participants' prior knowledge did not protect them from believing repeated falsehoods.

"Our results suggest that children learn the connection between repetition and truth at a young age," Fazio said. "In general, statements that you hear multiple times are more likely to be true than something you are hearing for the first time. Even by the age of 5, [children](#) are using that knowledge to use repetition as a cue when making truth judgments.

"This is useful most of the time, but it can cause problems when the repeated statements are false," she said.

More information: Lisa K. Fazio et al. The Effect of Repetition on Truth Judgments Across Development, *Psychological Science* (2020). [DOI: 10.1177/0956797620939534](https://doi.org/10.1177/0956797620939534)

Provided by Vanderbilt University

Citation: Study shows that repeated statements are more often judged to be true (2020, October 7) retrieved 24 April 2024 from <https://medicalxpress.com/news/2020-10-statements-true.html>

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