Using visual imagery to find your true passions

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Will these two girl scouts remember how much fun they are having? They were participating in a Girl Scout Science Day at Germanna Community College. Credit: Robert A. Martin

You may think you know what you like—how to spend your time or

what profession to pursue. But a new study suggests that your pre-existing self-beliefs, as well as cultural stereotypes, may interfere with your memories and keep you from remembering what truly interests you.

However, researchers at The Ohio State University found that one particular mental technique could help us overcome the barriers that block us from finding our passions.

For example, a young girl could truly enjoy participating in a science project at a summer camp while it is happening. But when she thinks about the experience later, she may remember that she has heard that "science is not for girls"—and that stereotype may cloud her memory.

Instead of remembering the good time she had at the camp, she thinks she must not have enjoyed it. And the potential spark for science is extinguished.

"When we are developing our interests and looking back on our memories, I don't think we realize how biased we can be by our pre-existing beliefs," said study lead author Zachary Niese, who did the research as a doctoral student in psychology at Ohio State.

"People think they know themselves and know if they liked something or not, but often they can be misled by their own thoughts."

In a series of four studies described in a paper published online recently in the *Journal of Experimental Psychology: General*, Niese and his colleagues found consistent evidence that people can "forget" how much they enjoyed a particular activity because of what they believed going in.

But they also found a powerful tool to counteract that bias: visualizing the activities they do from a first-person perspective.

For example, the girl in the scenario above can later visualize herself being at the camp and picture exactly what she did in the [science project](link), putting her back in touch with the joy that it brought her.

"We can use imagery as a tool to tap into our memories and more accurately identify what our actual experiences are instead of relying on our old beliefs," said study co-author Lisa Libby, associate professor of psychology at Ohio State.

"People sometimes have experiences that are inconsistent with what they think about themselves. We may think we don't like math, so if we enjoy a math class, that doesn't fit in with our view of ourselves, so we dismiss that positive experience. That's what using first-person [visual imagery](link) helps overcome."

Imagery perspective has this effect because it changes the frame of mind people use to process events. The first person perspective puts people in a frame of mind in which they pay attention to how the past event itself made them feel, Niese said.

In contrast, the third-person perspective puts people into a more abstract frame of mind in which they tend to rely more on their pre-existing beliefs. Further, imagery perspective is so tightly bound to people's frame of mind that it is even possible to change how people process events by merely showing them photographs taken from one visual perspective or the other, he said.

One of their experiments demonstrated exactly how this works. In this study, 253 [undergraduate women](link) began by taking a survey in which they reported their level of interest in science.

Several days later, they played a computer simulation game with the goal of creating a balanced ecosystem by manipulating the amount of grass

and number of sheep and wolves to sustain the system. Some of the women played an interesting version of the game that gave them complete control. Others participated in a deliberately boring version that allowed them to simply run through predetermined settings rather than make any choices.

The researchers then had participants complete a task designed to influence their frame of mind in the moment. They showed all the women a series of images and told them to pay attention to each one and try to form an impression of it in their mind.

The images each showed an everyday action (such as wiping up a spill) that differed only in whether the photo was taken from the first-person or third-person perspective. (In other words, whether the person was watching herself clean the spill, or watching it from the perspective of another person.)

Each participant saw all photos in either the first-person or third-person perspective.

After viewing the photos, participants read instructions referring to the ecosystem simulation as a science task and then answered questions about how interesting they thought the task was.

The results showed the power of first-person imagery in influencing how the participants thought about the simulation.

Remember that all the women had reported how interested they were in science several days earlier. For women who viewed the third-person photos, it didn't matter if they played the boring or interesting version of the game. Their reported interest in the activity was very similar to how much interest they reported in science earlier.

If they believed they were interested in science going into the game, they reported that the game was interesting; if they believed they weren't interested in science going in, they reported that the game as not so interesting.

In other words, their pre-existing beliefs completely blinded them to how interesting the game actually was, Niese said.

But not so for the women who viewed the first-person perspective photos. They showed no bias from their pre-existing beliefs. Instead, they accurately reported more interest in the game if they played the interesting version than if they played the boring version.

This meant that women who engaged in an interesting science task were able to accurately recall how interesting it was even when they thought they were the kind of person who wasn't interested in science.

In other words, first-person imagery helped women get in touch with how interesting a science activity actually was rather than be biased by their pre-existing beliefs, Niese said.

The benefits of first-person imagery didn't stop there.

At the end of the study, the researchers offered participants three future "opportunities to do more things like the science task you completed today."

Results showed that the women who played the interesting version of the simulation and who viewed the first-person photos were more likely than others to show greater interest in future science activities.

Many studies show that people's memories are biased by their pre-existing beliefs and cultural stereotypes, Niese said. This research

suggests there is a way to overcome those biases, by using first-person imagery to change people's frame of mind while recalling their experiences.

"Part of what is so interesting and surprising about our study is that a simple manipulation—just the way people think about a past event—is changing their conclusions about what they're doing and whether they're interested or not," he said.

"It's something people could do on their own if they wanted to and gain these benefits in situations where cultural stereotypes or pre-existing beliefs might be likely to bias their judgment or cloud their memories."

More information: Zachary Adolph Niese et al, I can see myself enjoying that: Using imagery perspective to circumvent bias in self-perceptions of interest., *Journal of Experimental Psychology: General* (2019). DOI: 10.1037/xge0000612

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