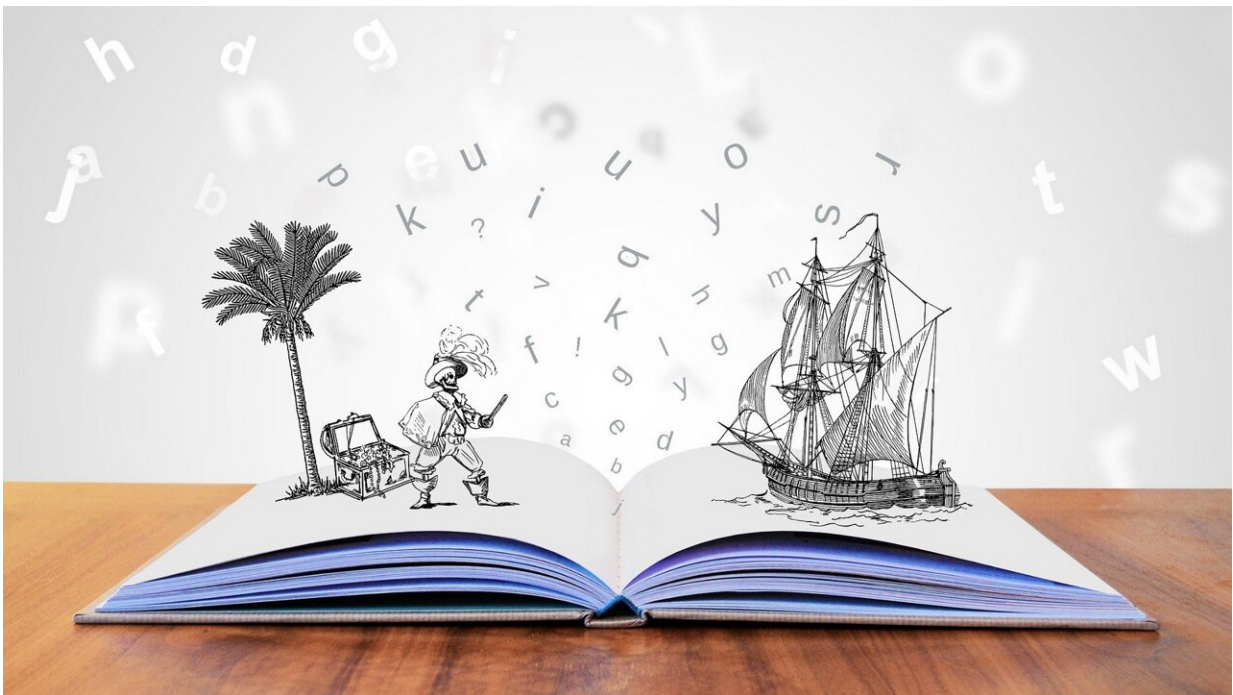


Mental imagery a helpful way to distract teens from negative thought patterns, study finds

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For adolescents who may get stuck in negative thought spirals, refocusing on mental imagery is a more effective distraction than verbal thoughts, a recent study from Oregon State University found.

A short-term distraction can break up the thought spiral, which makes room for that person to then seek help from a therapist, friend or parent, said study author Hannah Lawrence, an assistant professor of psychology in OSU's College of Liberal Arts.

"When we get stuck thinking about negative things that happened in the past, that makes us feel even worse, and it leads to more difficulties regulating our emotions and regulating our bodies," Lawrence said. "We want to connect people to some more comprehensive strategies or skills that could get us unstuck from those thinking patterns."

Lawrence runs the Translational Imagery, Depression and Suicide (TIDES) Lab at OSU, researching [risk factors](#) and developing effective interventions for depression in adolescents, including interventions that can be scaled up so they're accessible to a wider population.

"These negative things are going to happen to all of us, so knowing ahead of time which tools we should pack in our toolbox that we can pull out to help lower our [emotional reactions](#) in the moment, just enough to get us out of those loops, will help us get unstuck," she said.

The study, published in the *Journal of Affective Disorders*, aimed to determine which form of negative rumination—either verbal thoughts or imagery-based thoughts—caused a greater drop in the adolescent participants' affect, or general mood; and also which form of thought was more effective at distracting them and helping them break out of that negative mood.

The 145 participants were ages 13 to 17 and recruited from a rural area of New England where Lawrence conducted the research study. The group was predominantly white and 62% female. Participants also filled out a depression questionnaire, which showed that about 39% of the group experienced clinically elevated symptoms of depression.

The researchers started by inducing a negative mood in the teenage participants, using an online game designed to create feelings of exclusion. (After participants completed the study, researchers explained the game to them to help alleviate any lingering hurt feelings.)

Participants were then split into groups and prompted to ruminate, either in verbal thoughts or mental imagery; or prompted to distract themselves, also in verbal thoughts or mental imagery. In the rumination group, participants were given prompts like "Imagine the kind of person you think you should be." In the distraction group, prompts such as "Think about your grocery list" were meant to distract them from their [negative affect](#).

To encourage verbal thoughts, researchers had participants practice coming up with sentences in their head describing a lemon using specific words. To encourage mental imagery, they had participants practice imagining what a lemon looked like in different conditions.

Researchers used noninvasive sensors to record electrical activity of the heart and skin conductance response as a way to measure physiological responses to the various prompts. They also directed participants to rate their current emotional affect at four different points during the study.

While there was no significant difference in the adolescents' response between the two types of rumination—both verbal thoughts and mental imagery had a similar effect on their mood—researchers found that mental imagery was significantly more effective as a distraction than verbal thoughts.

"Using mental imagery seems to help us improve our affect, as well as regulate our nervous system," Lawrence said. "The fact that we didn't have a significant result for ruminating in imagery versus verbal thought tells us that it doesn't really matter what form those negative cognitions

take. The part that seems really problematic is the getting-stuck part—dwelling over and over again on these sad or anxiety-inducing things that happen."

Researchers don't know exactly why mental imagery is so effective, but they hypothesize it's because imagery is much more immersive and requires more effort, thus creating a stronger emotional response and a bigger distraction. There's also some evidence that imagining mental pictures lights up the same part of the brain as seeing and experiencing those things in real life, Lawrence said.

In her work, Lawrence has found some adults seem to ruminate in only one form, while most teens report ruminating in both verbal thoughts and [mental imagery](#). One possibility is that these thought patterns become self-reinforcing habits, she said, with the negative images or verbal messages becoming more ingrained over time.

"That's why I like working with teenagers: If we can interrupt these processes early in development, maybe we can help these teens get to adulthood and not get stuck in these negative thinking patterns," Lawrence said. "All of us ruminate. It's a matter of how long we do it for, and what skills we have to stop when we want to."

More information: Hannah R. Lawrence et al, Reimagining rumination? The unique role of mental imagery in adolescents' affective and physiological response to rumination and distraction, *Journal of Affective Disorders* (2023). [DOI: 10.1016/j.jad.2023.02.066](https://doi.org/10.1016/j.jad.2023.02.066)

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