

Your perception of self becomes blurrier over time

December 13 2021



Credit: CC0 Public Domain

When you look at two objects close to you such as two leaves, it's easy to tell them apart but when they are farther away from you, they become difficult to distinguish. The two objects become "compressed," a basic

principle of perception. One's concept of self works the same way, according to a new study published in the *Proceedings of the National Academy of Sciences*.

If someone asks you, for example, if you think you'll be calmer tomorrow than today, it's easy to compare the two. But if you're asked if you think you'll be calmer in 10 versus 11 days, it becomes much more difficult to discriminate between the two days.

"Our [self-concept](#) becomes increasingly blurrier over time, the farther you get from the present," says senior-author Meghan Meyer, an assistant professor of psychological and [brain sciences](#). "As you think about yourself farther out in time, either in the [past](#) or in the [future](#), you're accessing a less distinguishable version of yourself."

The research was comprised of four studies. In three of the studies, participants either rated their own personality traits or reported on their [perception](#) of self at different time points in the past and future. The study found that relative to their present self, participants compressed their past and future selves. In the fourth study, participants were prompted with a pair of personality traits and had to select which one described them better at a given period of time while undergoing an fMRI scan. The [brain](#) imaging allowed the researchers to determine how the brain organizes representations of the self across time. Each time a participant thought about themselves in the present, past, or future, the researchers could get a stamp of what their brain looked like. Those stamps became less distinguishable from one another as participants thought about themselves farther out in time.

"Even at the level of brain activity, we see evidence that our past and future selves become less distinctive as we consider ourselves farther out in time," says Meyer.

The fMRI data was consistent with the results from the participants' personality ratings, providing evidence of what the team calls the "temporal self-compression" effect. "Our research provides a new way to think about how we organize our identity over [time](#)," says first-author Sasha Brietzke.

In psychology, it is widely known that there can be problematic behaviors for some people when they think about their past or future, such as someone who doesn't save enough for retirement because they can't think that far ahead. Meyer says, "Future research on the temporal self-compression effect might help explain this type of behavior. People may have difficulty making good decisions for their future self or accurately recalling their past because they can't see their distant self in clear view."

More information: Sasha Brietzke et al, Temporal self-compression: Behavioral and neural evidence that past and future selves are compressed as they move away from the present, *Proceedings of the National Academy of Sciences* (2021). [DOI: 10.1073/pnas.2101403118](https://doi.org/10.1073/pnas.2101403118)

Provided by Dartmouth College

Citation: Your perception of self becomes blurrier over time (2021, December 13) retrieved 26 April 2024 from <https://medicalxpress.com/news/2021-12-perception-blurrier.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.