

# What happens to deferred intentions in the brain?

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Placing a checkmark on the to-do list is an extremely liberating feeling for many eager list lovers, especially when the task has been postponed for a long time. But what happens in our brain when we have completed a postponed task? Will it be deactivated? If so, how? A team of scientists from the Collaborative Research Centre 940 "Volition and Cognitive Control" at TU Dresden, together with two leading international experts, Julie Bugg and Michael Scullin, investigated these questions in a systematic review article.

Headed by Dr. Marcus Möschl from the Chair of General Psychology at TU Dresden, the team analysed 20 years of research on intention deactivation and so-called aftereffects of completed intentions across different research fields.

There are many everyday examples of postponed intentions: children who put off tidying up their room until later, people planning to call their best friend tomorrow rather than now, and so on. Intentions have been proven to influence our thoughts and actions until they are completed. Afterwards, they could be deactivated and removed from our mental to-do list.

"To our surprise, however, the studies we reviewed have repeatedly shown that completed intentions are sometimes not deactivated immediately, but continue to affect people. For instance, when implementing new intentions," explains Marcus Möschl.

In particular, this happens, when an action has been postponed until a certain salient event or stimulus functions as a reminder. Elderly or [sick people](#), for instance, may postpone taking medication until they receive a

calendar notification on their phone. If this alarm accidentally rings again after having taken the medication, they may not only recall their intention, in drastic cases, they even might take their medication again.

However, as the studies suggest, such drastic cases of aftereffects are rather rare. "Often, intentions seem to be deactivated as soon as they are completed," continues Dr. Möschl. "However, this deactivation does not always work perfectly like switching the light on and off. In some cases, connections between a stimulus and a completed action have to be dissolved step by step until the event or stimulus no longer triggers the retrieval of the completed intention."

Now the scientists want to investigate in which situations it could be advantageous if completed [intentions](#) remain activated and whether these aftereffects play a role in learning new routines.

**More information:** Marcus Möschl et al, Aftereffects and deactivation of completed prospective memory intentions: A systematic review., *Psychological Bulletin* (2019). [DOI: 10.1037/bul0000221](https://doi.org/10.1037/bul0000221)

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