

# Forgetfulness, even fatal cases, can happen to anyone, study shows

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Since 1998, approximately 496 children have died of pediatric vehicular heatstroke in the United States because their caregiver forgot they were in the car, according to recent data from [NoHeatStroke.org](https://www.NoHeatStroke.org).

Advocacy groups have been lobbying Congress to enact laws to help protect against this particular forgetfulness by requiring certain safety mechanisms be installed into automobiles. Researchers at the University of Notre Dame set out to understand how and why this kind of forgetfulness is even possible.

Nathan Rose, the William P. and Hazel B. White Assistant Professor of Brain, Behavior and Cognition in the Department of Psychology, set up an experiment to better understand this lapse in what researchers call prospective memory, or the ability to remember critical but routine behaviors such as turning off the oven when you leave the house for the day.

In a study recently published in the *Journal of Applied Research in Memory and Cognition*, Rose and doctoral candidates Abigail Doolen and Andrea O'Rear designed a naturalistic procedure to measure whether and how [college students](#) could forget their cellphones—something most are dearly attached to and that could have serious consequences for them if forgotten; their "babies," so to speak.

The researchers took the cellphones of 192 Notre Dame students while they participated in an unrelated experiment and then examined how often the students forgot to retrieve their phones when they left the lab at the end of the experiment, and whether it mattered if they were given explicit reminders to grab the phone once the experiment was complete.

For the study, students were also given [activity trackers](#) to attach to the back of their waistbands. One group was reminded to ask for their cellphone and to return the tracker when finished; the other group was not. After the students finished the unrelated experiment, they were debriefed and guided to an exit, while the experimenters pretended to go on with business as usual—watching to see if and when the participants remembered to retrieve their phone or return the tracker.

About 7% of students forgot their cellphones without the reminder, compared to almost 5% of those who were reminded. Nearly 18% of either category forgot to return the tracker.

The researchers discovered that forgetting occurs when environmental cues fail to trigger one's memory of that intention at the right moment, and the intention gets lost in the shuffle, Rose said. They also found that [prospective memory](#) errors can happen to anyone.

"You process those more automatically, so you can get lost in your thoughts because your behaviors are being driven by the environment," Rose said. "It's not that you forget what it is you're supposed to be doing; you're just forgetting to do it at the appropriate moment."

The same way the students missed the [environmental cues](#) to remind them to pick up their phone or return the tracker, so it is for parents who are driving to work or running errands with a baby in the backseat, the researchers theorized. Before laws were established in the 1990s requiring [car seats](#) to be placed rear-facing in the back seat, forgetting babies in cars was uncommon. "The absence of salient visual and auditory cues from a child who is sleeping in the backseat creates a scenario conducive to forgetting the child is in the car," the researchers wrote.

Or, Rose explained, if a parent is taking a child in the car but is not typically the caregiver who does that activity, and he or she gets into the routine and set pattern of driving to work, he or she may forget the child is even there.

Rose explained that memory errors occur at the same frequency between men and women. "When you talk about the forgotten baby scenarios, people often make assumptions about who forgets their babies, who the caregivers are," Rose said. "And there's no evidence to support the idea

that men are more likely to commit this kind of error than women, or vice versa."

Rose and his co-authors believe this research can have serious implications when it comes to exonerating parents who mistakenly forget to retrieve their children out of their car seats, resulting in their deaths. "This study should help inform the public and judicial system about what does and does not cause such memory errors to happen," the researchers wrote, "even those with tragic consequences."

**More information:** Nathan S. Rose et al, They forgot their "baby"?!: Factors that lead students to forget their cell phone., *Journal of Applied Research in Memory and Cognition* (2023). [DOI: 10.1037/mac0000110](https://doi.org/10.1037/mac0000110)

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