Neuropsychological Perspective on How Drivers Lose Awareness of Children in Cars

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Newscaster: Is there a treatment for “Forgotten Baby Syndrome”?

Facebook Comments: Are you FREEKING kidding me. You remember your cell phone but not your child! ... you shouldn’t have children !!!!! 
The wealthy, the poor and the middle class do it. Parents of all ages and ethnicities do it. Mothers are just as likely to do it as fathers. It happens to the chronically absent-minded and to the fanatically organized, to the college-educated and to the marginally literate. In the last 10 years, it has happened to a dentist. A postal clerk. A social worker. A police officer. An accountant. A soldier. A paralegal. An electrician. A Protestant clergyman. A rabbinical student. A nurse. A construction worker. An assistant principal. It happened to a mental health counselor, a college professor and a pizza chef. It happened to a pediatrician. It happened to a rocket scientist.
Increase in Deaths of Children in Hot Cars Since Air Bags Were Developed

This chart illustrates as we reduced airbag deaths, the number of children dying in hot cars continues to grow.

Children should never ride in the front seat; they are much safer properly restrained in the back seat.

KIDS AND CARS.org
LOVE THEM PROTECT THEM

- Increased heatstroke deaths in 1994 due to increased airbag usage.
- Decline in heatstroke deaths post-1998 and steady increase in passenger deaths.
- Data from 1990 to 2018 showing trends.

Died in hot vehicles: Children can be unknowingly left behind in the back seat by even the most responsible parents and caregivers. Always remember to open the back car door after parking your vehicle and “Look Before You Lock.”
When a child dies of heatstroke after a parent or caretaker unknowingly leaves the child in a car: How does it happen and is it a crime?

David M Diamond

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Factual Information:
What did I have for breakfast? What is my child’s name? Where does my child go to daycare?
Types of Memory

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What did I have for breakfast? What is my child’s name? Where does my child go to daycare?

Prospective Memory: Remember to do something in the future
Remember my doctor’s appointment is this afternoon. Call my colleague after lunch. Stop at the store on the way home.
Factual Information:
What did I have for breakfast? What is my child’s name?
Where does my child go to daycare?

Prospective Memory Failures Can be Catastrophic
Remember your gun. Remember to set the wing flaps.
Remember a child is in the car.
Experimental Work Demonstrating Rapid PROSPECTIVE MEMORY FAILURE

Forgetting of Intentions in Demanding Situations Is Rapid

Gilles O. Einstein
Furman University
Carrie L. Williford and Jason L. Pagan
Furman University

Mark A. McDaniel
University of New Mexico
R. Key Dismukes
National Aeronautics and Space Administration
Ames Research Center

It seems critical that people are made aware of the frailty of this kind of memory.

Forgetting can have catastrophic consequences.
August 1987: Phoenix-bound jet crashes


A Phoenix-bound Northwest Airlines jetliner carrying 153 people crashed on takeoff Sunday night from Detroit Metropolitan Airport, turning the ground into what one witness called "a sheet of flames."
BRAIN STRUCTURES INVOLVED IN MEMORY MULTI-TASKING

1 - Frontal Cortex: “Prospective Memory”

Planning for the future: Develop a plan to do something in the near future (remember to remember)
BRAIN STRUCTURES INVOLVED IN MEMORY MULTI-TASKING

1 - Frontal Cortex: Planning to do something in the future

2 – Hippocampus: Memory for all new information

Remember, today, to stop at the store on the way home, stop at daycare on the way to work
BRAIN STRUCTURES INVOLVED IN MEMORY MULTI-TASKING

1 - Frontal Cortex: Planning to do something in the future
2 – Hippocampus: Memory for all new information
3 - Basal Ganglia: Habit Memory

The Basal Ganglia acts at a [subconscious] level to enable us to perform well-learned actions automatically, as if in an “autopilot mode”
Cooperation Among Multiple Brain Structures

Prefrontal Cortex: Strategize about the next move
Hippocampus: Keep track of the score
Basal Ganglia: Perform actions automatically, without thought (being in “the zone”)
Brain Structures Also Compete Against Each Other
Hussey, 38, who has been with the Hillsborough County Sheriff’s Office for 13 years, was off duty that day. He had gone to Muvico Centro Ybor 20, according to the Sheriff’s Office, about 3 p.m. and stopped in the bathroom before the movie. He put his Glock 26, a personal weapon, on top of a toilet paper dispenser — then forgot it and left.

Minutes later, Temple Terrace 9-year-old Zane Noland entered the same stall and saw the gun. He exited the stall and told his father,
Tragic PROSPECTIVE MEMORY FAILURES: Dogs Have Died of Hyperthermia When their Owners Lose Awareness of their Sleeping Dog in back of the Car

Four Police Dogs Have Died in Five Weeks After Being Forgotten in Hot Cars

BY HARRIET SOKMENSUER
@hgsokmensuer 07/25/2015 AT 05:40 PM EDT

A Georgia K9 officer at Savannah State University died earlier this month after his handler mistakenly left him in a hot car – the second such police dog death in the state this month and the fourth nationwide since mid-June.

Baston, a 7-year-old German shepherd, passed away on July 10 at his handler’s home in Rincon, Georgia, after being left in the car for three to four hours, according to police reports.
A Recipe for a Disastrous PROSPECTIVE MEMORY FAILURE:
A quiet child out of a parent’s view on a well-traveled route
The dominance of the “Habit Brain Memory System” causes parents to lose awareness of the child
A Recipe for a Disastrous PROSPECTIVE MEMORY FAILURE: A quiet child out of a parent’s view on a well-traveled route. The dominance of the “Habit Brain Memory System” causes parents to lose awareness of the child.

For parents surveyed with children under 3, nearly 25% reported they had forgotten (lost awareness) that their child was in the car with them.

A Recipe for a Disastrous PROSPECTIVE MEMORY FAILURE:
A quiet child out of a parent’s view on a well-traveled route
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Tragedy averted: Parents and caretakers have commonly reported to me that they had lost awareness of the child in the car during a drive. They were shocked when they heard their child make a sound or if they saw the child.
Factors Which Help Explain Why Parents Lose Awareness of Their Children in Cars

Factors Common to all Cases: A change in routine (or distraction, stress, sleep deprivation) causes a failure of Prospective Memory
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THERE ARE SO MANY REMINDERS IN OUR CARS, BUT THE MOST IMPORTANT ONE...

Headlights on

Child in car

JUST ISN'T THERE!
Technology in Cars Based on Auto Manufacturers’ Recognition of an Epidemic of Children Forgotten in Cars

GM unveils new feature to prevent child deaths in hot cars

by Peter Valdes-Dapena  @peterdrives

June 13, 2016: 12:40 PM ET
“Hot Cars Act of 2019”
Legislation Mandating Forgotten Child Alert Systems in New Cars

Hot car deaths of children prompt car alert legislation

By Susanna Capelouto, CNN

Hundreds of children have died in hot cars. New bill aims to stop this horror.

A BILL

To require the Secretary of Transportation to issue a rule requiring all new passenger motor vehicles to be equipped with a child safety alert system, and for other purposes.

1 Be it enacted by the Senate and House of Representa-
2 tives of the United States of America in Congress assembled,
3 SECTION 1. SHORT TITLE.
4 This Act may be cited as the “Hot Cars Act of
5 2019”.
Summary

1 - Competition between Habit (Basal Ganglia) and Prospective (Prefrontal Cortex/Hippocampus) Brain Memory Systems is normal memory processing.

2 – Prospective Memory is highly susceptible to stress, distraction and sleep deprivation.

3 – When the Habit Memory System is engaged a person can lose awareness of the original plan, which can have tragic consequences.

Overall: Memory impairments occur without our awareness. Technology needs to be implemented in all cars so that no more children are left, unknowingly, to die or suffer brain damage in hot cars.
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The legalization of marijuana is forcing law enforcement to come in contact with various types, ingestion methods and concentrations. However, most law enforcement officers are not familiar with the different strains of cannabis. The various concentrates (i.e., shatter, hash, budder, wax) of the methods it can be used. Basic understanding of cannabis as well as topics such as vaping, SFETs with cannabis use and common misconceptions about its use, will be presented. Rather than focus on the science of cannabis, information presented will assist officers and prosecutors in their daily job tasks.