Cognitive and Neurobiological Perspectives on Why Parents Lose Awareness of Children in Cars

Background and Historical Perspective

One aspect of my research program is the study of how normal (i.e., attentive and loving) parents and caretakers, without evidence of abuse or neglect of children, and without evidence of drug abuse or organic brain dysfunction, *unintentionally and unknowingly*, leave children in cars. Under conditions in which the ambient temperature is warm enough and the car is exposed to direct sunlight, heat builds within the car and the child may die or become brain damaged as a result of hyperthermia. It is difficult to understand how a person can leave a child in a car, and yet, it appears to occur at an alarmingly high rate. A survey of 1000 parents which was presented at the National Lifesavers Conference on Highway Safety Priorities in 2014 reported that approximately 25% of all parents with children under 3 reported that at some time during a drive they had forgotten that their child was in the car with them (http://www.safekids.org/press-release/new-study-14-parents-say-they-have-left-child-alone-inside-parked-vehicle-despite).

Research indicates that children have been forgotten in cars by non-parental caretakers and mothers and fathers at all levels of socioeconomic status and education, including well-educated and highly responsible people, such as a physician, teacher, news reporter, judge, prosecutor, pediatrician, firefighter, dentist, hospital administrator, daycare owner and professors. Children dying in hot cars has been discussed in the media, including an article in the Washington Post which won the Pulitzer Prize: (http://www.washingtonpost.com/wpdyn/content/article/2009/02/27/AR200902270 1549 pf.html). Considering how widespread, fatal and tragic this phenomenon is, it is important to understand it from a scientific perspective, and more importantly, to prevent it from occurring.

Cognitive and Neurobiological Perspectives

When I began studying forgotten children in cars in 2004, over 100 children had already died after being left in hot cars (www.KidsandCars.org/statistics.html; www.moheatstroke.org). Since that time, over 200 more children have died or suffered brain damage from heat stroke after being forgotten in hot cars. As a behavioral neuroscientist I have studied this phenomenon from neurobiological and cognitive perspectives. The hypotheses and conclusions I have developed are based on my interviews with parents, reading of police reports, media reports and my service as an expert witness in civil and criminal cases.

I have developed a hypothesis to explain how this phenomenon occurs: Children forgotten in cars results from: a) the driver loses awareness of the presence of the child in the car; 2) the driver exhibits a failure of the brain's "prospective memory" system; 3) intervening events during the drive, including stressors and strong distractions, may contribute to the cause of the failure of "prospective memory"; competition between "habit" and "prospective memory" systems.

Based on my research into these cases and my expertise in the study of the brain and memory, I have concluded that all of these cases all involve the failure of the brain's prospective memory system. Psychologists define prospective memory by its three

features: (1) the person has an intention to perform an action at a later time when circumstances permit; (2) there is a delay between forming and executing the intention, a delay which typically is filled with activities not directly related to the intended action; and (3) there is typically an absence of an explicit prompt indicating that it is time to retrieve the intention from memory—the individual must "remember to remember." In the current context, prospective memory refers to the plan to transport a child to a location, typically daycare or to return home, which can occur during the course of a multi- or single-stop stop drive, or to retrieve a child from the car at the termination of a drive.

It is most important to note that over the past two decades, intact as well as a failure of prospective memory, and particularly a failure of has been studied of

Habit memory, by contrast, refers entirely to actions going on in the present. Habit memory involves tasks with repetitive actions which are performed automatically, as in driving from one location to another, such as from home to work with minimal conscious effort. The habit memory system has been referred to as our brain's "autopilot" system.

I discussed the capacity for interactions between our prospective and habit memory systems to produce catastrophic outcomes in an article published in *The Conversation*, entitled: "An epidemic of children dying in hot cars: a tragedy that can be prevented". In that article I explained how people lose awareness of children in cars and the brain memory systems that are involved in this process. Specifically, there are two independent brain memory systems with structures that are involved in prospective and habit-based memory processing. The prospective memory system involves two brain structures, the hippocampus (HC) and prefrontal cortex (PFC), which work together to optimize the conscious planning of future activities and memory multi-tasking. The habit-based memory system is based on the functioning of the basal ganglia (BG), a brain structure that enables people to accomplish well-established routine behaviors with minimal conscious effort.

A relatively benign example of BG domination over the HC-PFC system is when a person has the plan (prospective memory) to stop at a store for groceries on the way home from work. However, the person drives right past the store, oblivious to the plan to stop there for groceries. An explanation for this type of memory error is that the habit-based memory system (BG) suppressed the prospective (HC-PFC) memory system from interrupting the drive home to stop at the store. The memory of the plan to stop at the store is reactivated only when the person is exposd to a distinct cue, such as an empty refrigerator, upon returning home. The person reports that during the drive, he/she had lost awareness of the plan (and therefore forgot) to stop at the store on the way home.

The importance of prospective memory failures, however, is not always as benign as forgetting to buy groceries. There are documented examples of prospective memory-related fatal or potentially fatal tragedies: airline pilots and ground flight crew memory errors have caused the loss of life in plane crashes, police officers have forgotten their loaded guns in public restrooms and dogs have died of hyperthermia after they were forgotten in cars.

Cases of forgotten children in cars involve a failure of the prospective memory system to function properly. An explanation for this failure is that the parent's brain habit memory system outcompetes their brain's prospective memory system. In all of the cases I've studied, the parent begins the drive with the plan to bring the child to a destination, but at some point during the drive the parent reports having lost awareness of the child in the car. In these cases the parent travels directly to the final destination (typically home or work), and in the process, exits the car without awareness that the child is still in the car.

Features in Common in All Cases: Impaired Prospective Memory When a Parent Loses Awareness of the Child in the Car

Although each case involves different circumstances, they share elements in common. The primary feature which is common to all cases is that the route the person took on the day in which the child was forgotten overlapped with similar routes the parent had driven previously, or, in a subset of cases, the parent had never before driven on that route with the child. Therefore, the most important feature of these cases is that the parent depended solely on his/her prospective memory to distinguish the drive with the child on that day from similar routes the parent had driven on other days that did not include the child.

There are three categories of driving routes in cases of forgotten children in cars. The first category is a multi-stop route, in which the parent had planned on making more than one stop during a drive, one of which was to take the child to a daycare provider. The second category is a single-stop route, typically to take a child to daycare provider, and then the parent had planned to drive to another destination, typically where the parent was employed. The third category is a non-stop route, in which the parent had a single destination, such as to go home or shopping, with the plan to retrieve the child from the car upon arriving at the destination. The common factor in all of these cases is that at a critical choice point along the drive, whether it was a multi-, single- or non-stop drive, all parents report having lost awareness that the child was in the car.

Factors That Contribute to the Loss of Awareness of a Child in the Car

I have studied the conditions that appear to increase the likelihood that a child will be forgotten in a car. The following are categoies of influences that would impair prospective memory and would also increase the dominance of habit memory over prospective memory:

- 1) Many, but not all, of the parents report that they had a strong stress or a highly distracting experience prior to or during the drive. Neuroscience research has shown that stress has a selective adverse effect on prospective, but not habit, memory. Although not obligatory, the stress or distracting experience helps us to understand why a subset of parents lost awareness of the child in the car.
- 2) As with stress, many, but not all, of the parents report that they had interrupted sleep on the night before the incident. Sleep deprivation has a selective adverse effect on

prospective, but not habit, memory. Although not obligatory, sleep deprivation helps us to understand why a subset of parents lost awareness of the child in the car.

- 3) There is often a change in the driving route on the day of the incident that reduces the parent's awareness of the child in the car. For example, a parent may typically drive straight from home to daycare to work, but on the day of the incident, the parent changed the route, to drive, for example, from home to a fast food restaurant (for breakfast). As a result of the change in route, in conjunction with a sleeping child, the basal ganglia triggers an autopilot response to take the person directly from the fast food restaurant to work, bypassing the planned route to daycare.
- 4) Parents that have forgotten children often report that they had routinely interacted with their child during a typical drive, but on the day of the incident the child was unusually quiet (presumably sleeping). The change in the interpersonal dynamics between the parent and child would be identified by the basal ganglia as a day in which the child was not present in the car. Therefore, the "autopilot system" would recognize the drive with a quiet child as one without the child; in the absence of child-specific cues, the basal ganglia would direct the parent to go directly to work, rather than to daycare.

Factors That Reduce the Likelihood a Child Will Be Forgotten in a Car

As noted above, approximately 25% of all parents with children under 3 reported that at some time during a drive they had forgotten (lost awareness) that their child was in the car with them. If so many parents lose awareness of children in cars, why are hot car deaths of children not more common? There are numerous factors that can interfere with the process by which a child is left in a car, or if left in a car, will reduce the likelihood the child will be harmed by heat stroke. I have observed the following influences which have been reported by parents that had lost awareness of their child during a drive, but no harm had come to the child:

- 1) After losing awareness of the child, parents have reported the presence of a cue, a specific reminder, that the child is in the car. The child may make a sound, or something may be in the car, such as an item, such as a diaper bag, that needs to be retrieved in the front or back seat, which jogs a parent's awareness of the child in the car.
- 2) Environmental conditions are highly important. The greenhouse effect (whereby the interior of a car can be 30-40 degrees hotter than the exterior) is dependent on a car having full sun exposure on a sufficiently warm day, for a sufficient period of time. There are reports of children which were unharmed after being left in cars on days that were not warm enough to cause hyperthermia. In related observations, parents have repeoted leaving their child in a car in a covered parking facility, which therefore would leave the car's internal temperature equal to the ambient temperature in the parking structure.
- 3) Timing is important. If the ambient temperature is warm enough and the car is left in full sun exposure, a child may not develop hyperthermia if a parent returns to the car in a short period of time. There is an interaction among the ambient temperature, degree of sun exposure of the car and the time a person is away from a car before the interior of the car is sufficiently hot to cause harm to the child.

- 4) Oftentimes the parent that had lost awareness of the child was not alone, and one or more passengers may hav taken note of the presence of the child. There are documented cases, however, in which two individuals both lost awareness of the presence of the child in a car, resulting in the child dying in a hot car.
- 5) There are numerous reports of bystanders who removed a child from a hot car. In my experience this has happened far more often when cars are parked in high pedestrian traffic areas, such as retail shopping parking lots, than when cars are parked at home or the parent's place of employment.

Universal Observation of a False Memory

An important and universal observation of the reports from these parents and caretakers is based on their activity during the day after the child is left in the car. These parents go about their daily routine, sometimes for an entire day's work and they even the use the car (with the deceased child in it) during the day, without the parent having any awareness the child is in the car. These people universally report having complete confidence that the child was safe, at the location where the parent had intended on taking the child. Indeed, many parents return to the daycare expecting to retrieve their child, only to be told that the child did not arrive at daycare that day. These individuals are then horrified to learn that their child spent the entire day in their car, with fatal consequences.

It is potentially of scientific value to explore the process by which the brain somehow creates the false memory that the person has fulfilled his/her task of bringing the child to daycare, or that the child was at home. It is notable that everyday routine activities that may involve the child, such as discussing the child with others, or having a picture of the child at the parent's workplace, do not serve as reminders that the child is in the car since the brain has provided the person with the false memory that the child is safe at home or at daycare. With the false memory in place, any reminders of the child during the day are considered a routine part of a normal day. The only cues that would be relevant to reactivating the prospective memory must be cues that would specifically indicate that the child is in the car, such as a phone call from a daycare employee inquiring as to why the child had not come to daycare that day.

Expert Witness Testimony and Service as a Science Advisor in Legal Cases

Service to the Defense or State in an Advisory Role

January, 2008

Defense Expert Consultant on Brain, Memory and Stress to Zwerling, Leibig & Mosely, P.C.

Charge: Manslaughter

Commonwealth of Virginia v. Balfour

A child died when his mother forgot him in a hot car

September, 2010

Consultant to a Prosecutor (Ron O'Brien; Columbus, Ohio) on the Brain and "Forgotten Baby Syndrome" to aid in the

determination of charges (no charge, manslaughter or murder)

A child died when his mother forgot him in her car

September, 2010

Defense Team Expert Consultant on Brain Functioning to Captain Elizabeth A. Ramsey, US Army Trial Defense Services

United States v. Sergeant Tina M. Laboy

A child died when parents did not notice that their child drowned in a pool August, 2014

Consultant to a District Attorney (Brock Belnap; St. George, Utah) on the Brain and "Forgotten Baby Syndrome" to aid in the determination of charges (no charge, manslaughter or murder)

A child died when her mother forgot her in her car

February, 2016

Defense Expert Consultant on Brain, Memory and Stress to Stephen Butcher

Royal Society for the Prevention of Cruelty to Animals v Patrick Shaddock

Charge: Animal Cruelty

A guide dog died when his caretaker left him in his car

September, 2016

Defense Expert Consultant on Brain, Memory and Stress to Dawn Priestman

State of Arizona v. Jared Ledo, Tucson, Arizona

Charge: Manslaughter

A child died when his father forgot him in his car

October, 2016

Defense Expert Consultant on Brain, Memory and Stress to Maddox Kilgore

State of Georgia v. Ross Harris

Charge: Murder

A child died when his father left him in his car

October, 2016

Defense Expert Consultant on Brain, Memory and Stress to Steven Secare

State of New Jersey v. Karen Gruen

Charge: Negligence

A parent left a child in hot car while shopping. The child was unharmed. December, 2016

Defense Expert Consultant on Brain, Memory and Stress to Ron Hanes

State of Florida v. Troy Whitaker

Charge: Manslaughter

A child died when her father left her in his car

December, 2017

Defense Expert Consultant on Brain, Memory and Stress to Jennifer Moster

State of Florida v. Steven Lillie

Charge: Manslaughter

A child died when her father left her in his car

<u>Service to the Defense as an Expert Witness in a Criminal* or Civil Trial</u> July, 2009

* Expert Testimony on Memory and Stress to Duane, Morris, LLP Charge: Manslaughter

State of Pennsylviania v. Rimma Shvartsman

A child died when a caretaker forgot him in a hot car January, 2010

Expert Witness testimony (Civil Case)

Harrison v Division of Child Services (State of Virginia)

The State of Virginia sought to block the adoption of an infant by a father who forgot his child in a car

February, 2013

* Expert Witness Testimony: State of Wyoming v. Kaleb Laatsch Gillette, Wyoming

Charge: Criminal Negligence

A child suffered brain damage when his father forgot him in his car June, 2014

* Expert Witness testimony: Public Prosecutions v. Jayde Poole Bendigo, Victoria, Australia

Charge: Manslaughter

A child died when her mother forgot her in her car

September, 2015

* Expert Witness testimony: State of Texas v. Wakesha Ives El Paso, Texas

Charge: Manslaughter

A child died when her mother forgot her in her car

August, 2016

* Expert Witness testimony: State of Arkansas v. Wade Naramore Hot Springs, Arkansas

Charge: Manslaughter

A child died when his father forgot him in his car

October, 2016 (Civil Case)

Expert Witness testimony: State of Arkansas v. Wade Naramore Hot Springs, Arkansas

Charge: Negligence

A child died when his father forgot him in his car

December, 2016 (Civil Case)

Expert Witness testimony: State of Iowa Child Protective Services v. Trent Steinhart

Des Moines, Iowa

Charge: Child Abuse

A parent left a child in hot car while shopping. The child was unharmed. August, 2017

* Expert Witness testimony: State of Iowa v. Lance Williams

Charge: Manslaughter

A child died when his father forgot him in his car

July, 2018

* Expert Witness testimony: State of Texas v. Raymond Licon, Jr. El Paso, Texas

Charge: Criminal Negligence

A child drowned when his father forgot him in the bathtub

July, 2018

* Expert Witness testimony: State of Texas v. Michael Thedford McKinney, Texas

Charges: Criminally Negligent Homicide, Tampering with evidence *A child died when his father forgot her in his car*

Media Activity Reporting on My Expert Witness Testimony and My Perspectives on Children Forgotten in Cars

November, 2004

Interactivedads.com

Good Dads Leaving Kids In Cars: What's causing dads to forget the kids they love?

October 24, 2006

Dallas Morning News

A child's death in a vehicle: Unthinkable, yet so real

July, 2007

Sentences vary when kids die in hot cars

Yahoo News:

http://news.yahoo.com/s/ap/20070728/ap on re us/left to die

Fox News:

http://www.foxnews.com/wires/2007Jul29/0,4670,LefttoDie,00.html

July, 2007

Associated Press:

PUZZLING TRAGEDY: CHILDREN LEFT TO DIE IN CARS

http://www.poconorecord.com/apps/pbcs.dll/article?AID=/20070729/NEWS/707290355

January, 2008

The Hook: COVER-

The perfect storm: Family tragedy plays out in court

http://www.readthehook.com/stories/2008/01/31/COVER-balfourtrial-REFEED-

D.rtf.aspx

August, 2008

Cincinnati Enquirer Editorial:

"We must remember: Forgetting a baby's not an impossible lapse"

http://news.cincinnati.com/apps/pbcs.dll/article?AID=/20080822/EDIT01/808220365/1019/EDIT

March, 2009

INFANT HYPERTHERMIA-Baby deaths: Tragic failures of memory, not failures of love

http://www.parentcentral.ca/parent/article/603836

March, 2009

Washington Post: Fatal Distraction: Forgetting a Child in the Backseat of a Car Is a Horrifying Mistake. Is It a Crime?

http://www.washingtonpost.com/wp-dyn/content/article/2009/02/27/AR2009022701549_pf.html

July, 2009

Scientific Advisor and Expert Testimony on Memory and Stress to Duane, Morris, LLP

State of Pennsylviania v. Rimma Shvartsman

(A child died when a caretaker forgot him in a hot car)

Fall 2009

Research Cited in: Criminal Law (Course Materials)

Professor Blaze, University of Tennessee, Knoxville

http://www.law.utk.edu/course-materials/fall2009/20094 809 Blaze 265.pdf

September, 2009

Austin American Statesman

Psychology professor says forgetting kids is not negligence

Dad faces jail in hot-car tragedy

http://www.chron.com/disp/story.mpl/hotstories/6627317.html

http://www.chron.com/disp/storv.mpl/hotstories/6627317.html

October, 2009

Day care operator to stand trial

http://www.msnbc.msn.com/id/33322784

December, 2009

Day care owner will seek mental infirmity defense

http://www.phillyburbs.com/news/local/courier_times/courier_times_news_details/artic_le/28/2009/december/30/day-care-owner-will-seek-mental-infirmity-defense.html

March, 2010

Expert Witness testimony (Forgotten Baby Syndrome):

Shvartsman v Commonwealth of Pennsyvlania

USA Today: *Toddler's van death in jury's hands*

http://www.philly.com/philly/news/breaking/20100319 Bucks day-care trial goes to closing arguments.html

http://www.buckslocalnews.com/articles/2010/03/20/the_advance/news/doc4ba5180fde563959778961.txt

 $\frac{http://content.usatoday.com/topics/article/Places, + Geography/States, + Territories, + Provinces, + Islands/U.S. + States/Pennsylvania/09wZ3gyezMc5Y/1$

Philly Blurbs: Shvartsman acquitted in tot's hyperthermia death

http://www.phillyburbs.com/news/news_details/article/92/2010/march/22/shvartsman-acquitted-intots-hyperthermia-death.html

April, 2010

USF News: USF Experts, Pulitzer Prize Lucky Charm?

http://usfweb3.usf.edu/absolutenm/templates/?a=2283&z=45

May, 2010

Parenting Magazine: Tragedy in the Backseat: Heartbreaking stories of hot-car deaths -- and how you can avoid them

http://www.parenting.com/article/Baby/Health/Tragedy-in-the-Backseat-Hot-Car-Deaths/1

April, 2010

The Mom Houston Blog: You could leave a baby to die in a car http://blogs.chron.com/momhouston/2010/04/you could leave a baby to die 1.html

August, 2010

October, 2010

Fox News 21/27 Roanoke, VA

Mom Shares Tragedy of Leaving Son in Car

 $\frac{http://www.fox2127.com/dpp/news/metro/10.07.2010\ wfxr\ news\ mom-shares-tragedy-of-leaving-son-in-car}{tragedy-of-leaving-son-in-car}$

March, 2011

Lawyers in Rochester.com:

What in hell is wrong with this picture? why is this not going up for manslaughter?

 $\frac{http://lawyersinrochester.com/what-in-hell-is-wrong-with-this-picture-why-is-this-not-going-up-for-manslaughter-she-forgot-her-child-but.html}{}$

May, 2011

Participation in a Film Documentary on Forgotten Baby Syndrome:

"Stop all the Clocks" (Mahjong Pictures)

June, 2011

Healthy State.org

How Loving Parents Can Leave Their Kids in a Hot Car

http://healthystate.org/archives/12678

Kansas City Star

Danger of kids left in hot cars could grow worse

http://www.kansascity.com/2011/05/31/2917758/danger-of-kids-left-in-hot-cars.html#storylink=misearch

The Korea Herald

Number of kids dying in hot cars spikes

http://www.koreaherald.com/national/Detail.jsp?newsMLId=20110609000866 August, 2011

New England Cable News

Painful tragedy gives Cape Coral father purpose

http://www.necn.com/08/29/11/Painful-tragedy-gives-Cape-Coral-father-

<u>/landing health.html?&apID=8a38406cadf14fea8b201271c99b79a5</u>

September, 2011

Kids and Cars.org

Memory and Brain Expert Addresses Federal Government on "Forgotten Baby Syndrome" to help prevent hot car tragedies

http://www.kidsandcars.org/upload/press-release/PR-09-23-11.pdf

October, 2011

Healthy News From Florida Public Media

How Loving Parents Can Leave Their Kids in a Hot Car

http://healthystate.org/archives/12678

October, 2011

Florida Department of Transportation

Forgetting a Child —How Can this Happen?

http://www.dot.state.fl.us/PublicInformationOffice/districtnewsletters/d7fall11.pdf July, 2012

CNN Living/Parenting

Tragedy in the backseat: Hot-car deaths

http://www.cnn.com/2012/07/12/living/hot-car-deaths-parenting/index.html

February, 2013

Expert Witness Testimony: State of Wyoming v. Kaleb Laatsch

Man found guilty of child endangerment

http://www.gillettenewsrecord.com/stories/Laatsch-found-guilty-of-child-endangerment,86394

March, 2013

Gillette News Record

Man found guilty of child endangerment

http://www.gillettenewsrecord.com/stories/Laatsch-found-guilty-of-child-endangerment,86394/

October, 2013

The AUSTRALIAN: Boy dies inside car after dad's memory lapse

http://www.theaustralian.com.au/news/nation/boy-dies-inside-car-after-dads-memory-lapse/story-e6frg6nf-1226732566622

December, 2013

Australian Broadcasting Corporation

The lethal consequences of forgetting young children in cars

http://www.abc.net.au/7.30/content/2013/s3916750.htm

January, 2014

Herald Sun News - Australia

What happened when a mum forgot her baby was in the car

http://www.heraldsun.com.au/news/law-order/what-happened-when-a-mum-forgot-her-baby-was-in-the-car/story-fni0fee2-1226810417252

May, 2014

Global News

What kind of person could forget a child in a car? Anyone, experts say

http://globalnews.ca/news/1356247/what-kind-of-person-could-forget-a-child-in-a-car-anyone-experts-say/

June, 2014

Contemporary Pediatrics

"Good parents" denial puts kids at risk for heat stroke

http://contemporarypediatrics.modernmedicine.com/contemporary-pediatrics/news/good-parents-denial-puts-kids-risk-heat-stroke?page=full

Parents Magazine

You'd Never Forget Your Child In The Car, Right?

http://www.parents.com/baby/safety/car/danger-of-hot-car-for-children/

July, 2014

CNN – **Breaking News**

After leaving a child in a car, 'that pain...never goes away' http://www.cnn.com/2014/07/03/us/hot-car-deaths/

CNN – Breaking News

Op-ed: Can parents really forget kids in cars?

David Diamond is a neuroscientist and frequent consultant on Forgotten Baby Syndrome cases. He says parents forget kids in cars when their memory systems clash. He also explains how flawed memory could have played a role in Justin Ross Harris' case

 $\frac{http://www.hlntv.com/article/2014/06/30/cooper-harris-child-dies-hot-car-why-parents-forget?hpt=hln10_1$

HLN NOW

This is how a parent can forget a kid in the car - A psychology professor explains how parents can forget their children in the car

http://www.hlntv.com/video/2014/07/11/forgotten-baby-syndrome-hot-car-study

NBC Today Show: Parents recall daughter's tragic hot car death Kristie Reeves-Cavaliero and Brett Cavaliero join TODAY to talk about losing their daughter when they accidentally left her in a hot car, and their efforts to prevent similar deaths. Dr. David Diamond joins to help viewers understand how a parent could forget a child.

http://www.today.com/video/today/55642762/#55642762

ABC Eyewitness News:KidsAndCars.org launches White House petition drive to prevent needless child deaths in hot vehicles

KidsandCars.org works with David Diamond, Ph.D., a neuroscientist at the University of South Florida who studies the brain and memory, including people who have unknowingly forgotten children.

http://abc7.com/family/petition-aims-to-prevent-child-deaths-in-hot-cars/184019/

Technology That Prevents Death

Forgotten Baby Syndrome is real. David Diamond, PhD discusses here this syndrome and its role in vehicular heat stroke.

http://www.thebadassbreastfeeder.com/

WTSP-TV CBS Tampa

Science behind parents leaving kids in cars

http://www.wtsp.com/story/news/local/2014/07/15/science-behind-parents-leaving-kids-in-hot-cars/12691899/

Kids group wants White House to address hot-car deaths

http://www.autoblog.com/2014/07/14/kids-group-wants-white-house-address-hot-car-deaths/

KidsandCars.org works with David Diamond, Ph.D., a neuroscientist at the University of South Florida who studies the brain and memory, including people who have unknowingly forgotten children.

Health News Florida

Hot Car Deaths: Tragedy or a Crime?

http://health.wusf.usf.edu/post/hot-car-deaths-tragedy-or-crime

When a child dies people feel someone should pay the price," said Dr. David Diamond, a professor of neuroscience at the University of South Florida. He studies memory and forgetting. He thinks parents leaving their kids in cars is a tragedy, but he doesn't think it's a crime.

Mother of Ridgefield Boy Who Died In Hot Car Speaks Out Fox News - CT

http://foxct.com/2014/07/31/mother-of-ridgefield-boy-who-died-in-hot-car-speaks-out/

Rogers-Seitz started reading anything she could get her hands on about child heatstroke in cars. She talked to nonprofit advocacy groups such as KidsAndCars.org, read what experts such as David Diamond, a psychology professor at the University of South Florida, have written about a phenomenon known as Forgotten Baby Syndrome, and studied the legislative stops and starts to try and save lives.

Dr. Sara responds to reader comments on Forgotten Baby Syndrome http://www.bundoo.com/community-blog/dr-sara-responds-to-reader-comments-on-forgotten-baby-syndrome/

Dr. Diamond is arguably the national expert on Forgotten Baby Syndrome. His research formed the basis of the article

'Forgotten baby syndrome': expert witness called in Jayde Poole baby in car death case

Giving evidence via videolink from the US as a defence witness, neuroscientist Professor David Diamond, an expert on memory from the University of South Florida, told a Supreme Court jury on Wednesday that the case was similar to a phenomenon known as "forgotten baby syndrome".

Professor Diamond said 200 children had died worldwide over the past 15 years from the phenomenon after being left behind in cars.

 $\frac{http://www.theage.com.au/victoria/forgotten-baby-syndrome-expert-witness-called-in-jayde-poole-baby-in-car-death-case-20140723-zw06r.html \#ixzz38HoXwg4Y$

http://www.heraldsun.com.au/news/law-order/experts-say-jayde-poole-may-have-suffered-forgotten-baby-syndrome-when-she-left-her-baby-in-fatally-hot-car/story-fni0fee2-1226998939674

Jayde Poole found not guilty over death of baby Bella, who died after being forgotten in a hot car

 $\frac{http://www.heraldsun.com.au/news/law-order/jayde-poole-found-not-guilty-over-death-of-baby-bella-who-died-after-being-forgotten-in-a-hot-car/story-fni0fee2-1227000198424?nk=9e4da9b6193cf727f62c9136fd803c07$

http://www.mamamia.com.au/news/jayde-poole-forgotten-baby-syndrome/?utm_source=feedburner&utm_medium=%24{email}&utm_campaign=Feed%3A+typepad%2FKsWc+%28%24{Mamamia+-+rss}%29

Professor Diamond told the court the short drive to and from Hungry Jack's was one Ms Poole had done many times before so her dominant brain system, known as basal ganglia, would have put her in auto-pilot mode.

Neuroscientist David Diamond explains forgotten baby syndrome on The Today Show (Australia)

http://www.youtube.com/watch?v=KtjCWDvrQLs

The World Today - ABC News Australia

'Forgotten Baby Syndrome' could explain Bendigo manslaughter case http://www.abc.net.au/worldtoday/content/2014/s4053707.htm

An American neuroscientist says a Victorian woman whose baby died after being left in a hot car had suffered a case of the little known "Forgotten Baby Syndrome"

The Wichita Eagle

Hot-car deaths could happen to any parent, experts say

"These tragedies are unfortunately occurring on a regular basis," said David Diamond, a neuroscientist and professor at the University of South Florida who has been researching vehicular child hyperthermia deaths for the past 10 years. http://www.kansas.com/2014/07/26/3569471/hot-car-deaths-can-happen-to-any.html

WTSP-TV CBS Tampa

Science behind parents leaving kids in cars

http://www.wtsp.com/story/news/local/2014/07/15/science-behind-parents-leaving-kids-in-hot-cars/12691899/

Health News Florida

Hot Car Deaths: Tragedy or a Crime?

http://health.wusf.usf.edu/post/hot-car-deaths-tragedy-or-crime

When a child dies people feel someone should pay the price," said Dr. David Diamond, a professor of neuroscience at the University of South Florida. He studies memory and forgetting. He thinks parents leaving their kids in cars is a tragedy, but he doesn't think it's a crime.

Automobile Alliance Decals Remind Parents of Hot-Car Dangers In a news conference, acting NHTSA Administrator David Friedman said the current technology "just isn't reliable enough" for the agency's seal of approval. http://associationsnow.com/2014/07/automobile-alliance-reminds-parents-hot-car-dangers-decals/

CNN Opinion

I, too, left my child in a hot car

http://www.cnn.com/2014/06/25/opinion/hostin-hot-car-child/

"It's reasonable to call this an epidemic," says memory expert David Diamond, a scientist at the Veterans' Hospital in Tampa, Florida, who is often consulted on such cases. "It happens, on average, once a week from spring to early fall."

August, 2014

Shelbyville Times-Gazette

Kids, hot cars are deadly combination

http://www.t-g.com/story/2105969.html

KidsandCars.org works with David Diamond, Ph.D., a neuroscientist at the University of South Florida who studies the brain and memory, including people who have unknowingly forgotten children.

WWL.com AM870 News-Talk-Sports

Tommy Tucker: Kids Left in Hot Cars

 $\underline{http://audio.wwl.com/a/95225873/8-4-7-10am-tommy-kids-forgotten-in-hot-cars.htm}$

Tommy talks to Dr. David Diamond, a neuroscientist and memory expert, about how people can forget and leave their kids in a car

The Kansas City Star

KC agencies reach out to parents to help them keep kids out of hot cars http://www.kansascity.com/news/local/article1183929.html

Though Diamond would welcome a foolproof device to help parents remember their children in a car, he is not sure what it would look like or how it would operate. "It has to be waterproof, childproof and cannot depend on batteries," he said. "And just a movement sensor is not enough." Diamond recalled the story of one father who dismissed a sensor-based car alarm apparently triggered by his child in the locked vehicle. The father looked out at his car from his office window but failed to discern anything amiss. "He shut off the alarm remotely from his key chain," Diamond said.

The Ridgefield Press

Mother speaks out to prevent child heatstroke deaths

http://www.theridgefieldpress.com/33843/mother-speaks-out-to-prevent-child-heatstroke-deaths/

Both Ms. Fennell and Ms. Rogers-Seitz have read studies from Dr. David Diamond, a professor of psychology, molecular pharmacology and physiology at the University of South Florida and a frequent consultant on "Forgotten Baby Syndrome" court cases.

Hot car deaths spur invention to remind parents

http://www.hutchnews.com/news/local_state_news/tragic-deaths-lead-to-life-saving-inventions/article_96e101d8-29ab-538b-86a4-7c9477cce7ed.html

David Diamond, a neuroscientist at the University of South Florida who studies the brain and memory, said there are a variety of different inventions surfacing. "There isn't a foolproof device available that will satisfy all criteria. If it's something that can be put into the car, batteries can go dead. Phones go dead, so it's hard to imagine it activated by an app. A transmitter could cause possible radiation concerns and it has to be water proof ..."

August, 2015

'Expert witness', family of Naramore testify in hot car death trial http://katv.com/news/local/expert-witness-family-of-naramore-testify-in-hot-car-death-trial

Defense calls neuroscientist in Naramore hot car death case

http://www.arktimes.com/ArkansasBlog/archives/2016/08/18/defense-calls-neuroscientist-in-naramore-hot-car-death-case

Diamond hypothesizes that FBS occurs as a result of the competition between cognitive and habit forms of memory. Cognitive memory occurs when one consciously plans out a task to accomplish in the future, for example, planning to take a child to daycare as a part of a larger driving plan. In contrast, habit memory occurs when one performs a routine that can be completed automatically with minimal thought, such as driving to work in an "autopilot" mode, in which decisions as to where to stop and turn occur automatically.

Judge found not guilty of negligent homicide in death of son in hot car; Arkansas Democrat-Gazette

 $\frac{http://www.nwaonline.com/news/2016/aug/19/hot-car-death-trial-sister-law-talks-forgetting-ch/}{}$

September, 2015

Social media divided in support for mom who left baby in shopping cart

http://pix11.com/2015/09/01/social-media-divided-in-support-for-mom-who-left-baby-in-shopping-cart/

Expert witness testifies on 'Forgotten Baby Syndrome

http://www.kfoxtv.com/news/features/top-stories/stories/Expert-witnesstestifies-on-39-Forgotten-Baby-Syndrome-39-206134.shtml#.Vgw7dCs96W4

EL PASO, Texas – An expert witness in the trial of a mother accused of leaving her five-month old in a hot car testified for the defense Wednesday.

Dr. David Diamond, a professor at the University of Florida, testified as an expert witness in neuroscience and memory. Diamond discussed what he called the phenomenon of "Forgotten Baby Syndrom Syndrome."

"Forgotten Baby Syndrome" is when normal, attentive, loving parents forget their kids in the car," he said.

ExpertPages Blog

Mother Convicted for Leaving Infant in a Hot Car uses Psychology Expert Witness; Colin Holloway, Attorney at Law

https://blog.expertpages.com/general/mother-convicted-for-leaving-infant-ina-hot-car-uses-psychology-expert-witness.htm

Despite emotional testimony from Wakesha Ives and analytical expert witness testimony about Forgotten Baby Syndrome by Dr. Diamond, the jury of 10 women and 4 men found the defendant guilty of criminally negligent homicide for Janay's death. The jury acquitted Ives of the more serious charge recklessness causing serious bodily harm due to omission – which carries a maximum sentence of 20 years - suggesting that jurors put some degree of stock into the defendant's case and her expert witness's contributions.

October, 2015

Mother sentenced to probation in baby's hot car death http://www.kfoxtv.com/news/features/featured/stories/Mother-sentenced-to-probation-in-baby-s-hot-car-death-225625.shtml#.VkSUKysY11E

EL PASO, Texas – An El Paso mother was sentenced to two years probation in the death of her 5-month-old daughter, who was left in a hot car in 2013.

November 22, 2015

Could you forget your baby?

https://au.news.yahoo.com/sunday-night/features/a/30153185/could-youforget-your-baby/?cmp=st

Television Documentary on Forgotten Babies

Dr Diamond says helping a jury to understand why women like Lyn could forget their child is a big part of the work he now does.

January 3,2016

Keyless ignition unintended consequences can be deadly http://www.hayspost.com/2016/01/03/keyless-ignition-unintendedconsequences-can-be-deadly/

An internationally renowned memory and brain expert, Dr. David Diamond, professor at the University of South Florida ... has been studying memory-related fatalities in vehicles for the past decade. Dr. Diamond's research examines how our brain memory systems break down when we're stressed or distracted by important events ... Each time we drive a car, warns Diamond, we challenge our brain memory systems to work together to function properly. But depending solely on our memory is a human factors failure which is destined to happen.

June 20, 2016

The Conversation: An epidemic of children dying in hot cars: a tragedy that can be prevented

 $\frac{https://the conversation.com/an-epidemic-of-children-dying-in-hot-cars-a-tragedy-that-can-be-prevented-60909}{tragedy-that-can-be-prevented-60909}$

As a neuroscientist, I have studied this phenomenon from neurobiological and cognitive perspectives. I have interviewed parents, studied police reports, served as an <u>expert witness</u> in civil and criminal cases and contributed to <u>media</u> <u>segments</u> and <u>documentaries</u> on the topic.

Based on my research and my expertise, I have developed a hypothesis as to how this tragedy occurs. This type of memory failure is the result of a competition between the brain's "habit memory" system and its "prospective memory" system — and the habit memory system prevails.

The Jerusalem Post: Who Leaves a Baby in a Hot Car?

http://www.jpost.com/Blogs/Learners-Permit/Who-Leaves-a-Baby-in-a-Hot-Car-460730

ABC News; 'Forgotten Baby Syndrome': A Parent's Nightmare of Hot Car Death

 $\frac{http://abcnews.go.com/Lifestyle/forgotten-baby-syndrome-parents-nightmare-hot-car-death/story?id=40431117}{$

August, 2016

Expert doesn't believe Harris intentionally left son in car to die

 $\frac{http://www.ajc.com/news/news/local/expert-doesnt-believe-harris-intentionally-left-so/nsJJG/$

A psychologist and memory expert who has interviewed hot-car murder suspect Ross Harris has arrived at the conclusion that Harris did not intend to kill his son Cooper. David Diamond, a University of South Florida professor, will be called by the defense as an expert witness at the upcoming murder trial set to begin Sept. 12 in Brunswick. Diamond has spoken extensively on the subject of children being left in hot cars and has coined the term "Forgotten Baby Syndrome."

Two years after the death of his son Cooper, Justin Ross Harris is going on trial for murder.

The Atlanta Journal-Constitution; Breakdown (podcast) http://breakdown.myajc.com/episode/episode-7/

September, 2016

Congressman Tim Ryan Introduces New Legislation to Get Technology into Vehicles to Prevent Child Heatstroke Deaths

http://timryan.house.gov/press-release/congressman-tim-ryan-introduces-new-legislation-get-technology-vehicles-prevent-child

Washington, DC – Today, U.S. Representatives Tim Ryan (D-13th OH), Peter King (R-2nd NY) and Jan Schakowsky (D-9th IL) introduced the Helping Overcome Trauma for Children Alone in Rear Seats Act (HOT CARS Act of 2016, H.R. 6041), a critical piece of legislation that would prevent children from being needlessly killed and injured when left alone in vehicles.

Dr. David Diamond, a professor in the Departments of Psychology, Molecular Pharmacology and Physiology at the University of South Florida, said, "The one aspect which is not a factor is that these children were not forgotten by parents who were reckless with regard to care for their children. This modern day phenomenon must be explained from a brain science perspective, not one that blames parents for being negligent."

HOT CARS Act of 2016 Introduced Today Will Prevent Child Heatstroke Deaths by Getting Much-Needed Technology into Vehicles

http://www.kidsandcars.org/2016/09/15/hot-cars-act-of-2016-introduced-today-will-prevent-child-heatstroke-deaths-by-getting-much-needed-technology-into-vehicles/

Washington, D.C. (September 15, 2016) - Today, U.S. Representatives Tim Ryan (D-13th OH), Peter King (R-2nd NY) and Jan Schakowsky (D-9th IL) introduced the Helping Overcome Trauma for Children Alone in Rear Seats Act (HOT CARS Act of 2016, H.R. 6041), a critical piece of legislation that would prevent children from being needlessly killed and injured when left alone in vehicles.

Dr. David Diamond, a professor in the Departments of Psychology, Molecular Pharmacology and Physiology at the University of South Florida, said, "We must have a system that provides a reminder to parents of the presence of a child in the backseat for that rare occasion when a child's life is in danger because parents, through no fault of their own, lose awareness of the presence of their child in the car."

Memory researcher: Charges too harsh against father of boy who died in car

http://www.fox13news.com/news/local-news/205099562-story

TAMPA (FOX 13) - It's a story stirring controversy between parents. Last week, a Hillsborough County firefighter was charged with aggravated manslaughter after <u>allegedly leaving his 2-year-old inside a hot car</u>, leading to the child's death. "There are lots of things we forget. We forget material objects. We forget appointments. But we don't forget our children in cars," Diamond explained. It's a thought process

Professor David Diamond used to believe himself, but the USF psychology professor and memory scientist has changed his tune after extensive research into how the brain snaps into autopilot during everyday life.

We make these fatal memory errors. And we say they shouldn't happen, but they actually happen quite often," Diamond said. It's called "suppression of prospective memory," when a routine overrides an out-of-the-norm activity in our day. It could be as simple as forgetting to stop at the store after work, or as serious as forgetting a quiet baby in the backseat.

Expert in 'forgotten baby syndrome' says parents' loss of awareness can be tragic

http://www.placead.tampabay.com/news/publicsafety/expert-in-forgotten-baby-syndrome-says-parents-loss-of-awareness-can-be/2293194

In 12 years of research, Diamond has spoken with suffering parents and listened to their unbearable 911 calls. He has studied the ways habit and memory can fail the best of parents, with a simple lapse in awareness leading to unspeakable tragedy.

"It has nothing to do with love or lack of love," he told the *Tampa Bay Times* in an interview on Sunday

November, 2016

Harris verdict could spur more hot-car death prosecutions

http://www.cnn.com/2016/11/17/us/justin-ross-harris-verdict-impact/index.html/

"Prosecutors in the case said that Harris wanted to kill his child and use the hot car as a weapon," said neuroscientist David Diamond, a professor of psychology at the University of South Florida who has spent 12 years studying fatal memory errors and forgotten children and has testified as an expert in criminal and civil trials.

January, 2017

Ross Harris launches appeal of murder conviction

The Atlanta Journal-Constitution

http://www.myajc.com/news/local/ross-harris-launches-appeal-murder-conviction/Hbuss1IPrWoSQJI6zaOn9N/
The filing also said Staley Clark should not have required a defense expert, psychologist David Diamond, to turn over notes of his interviews with Harris to the prosecution.
Diamond, who has coined the term "Forgotten Baby Syndrome," was expected to take the stand and explain how a parent can leave a child in a car by accident.

Allowing prosecutors to have Diamond's notes put Harris' defense team in an "untenable position," the motion said. The defense chose not to call Diamond to give his expert testimony.

January, 2017

Dateline NBC; Unimaginable: Forgotten Baby Syndrome?

 $\frac{http://www.nbcnews.com/dateline/video/unimaginable-forgotten-baby-syndrome-852859459589}{852859459589}$

Dr. David Diamond, a neuroscientist at the University of South Florida, talks with Andrea Canning about a phenomenon he says can happen to any parent: forgetting their child in a car.

Did Ross Harris, Hot Car Murderer, Suffer From 'Forgotten Baby Syndrome'?

 $\frac{https://2paragraphs.com/2017/01/did-ross-harris-hot-car-murderer-suffer-from-forgotten-baby-syndrome/}{}$

Dateline interviews a number of people including Dr. David Diamond, professor of psychology, molecular pharmacology and physiology at the University of South Florida, who has studied hundreds of cases of children who have died in cars. "It's referred to as forgotten baby syndrome,"

March, 2017

Why do children get left in hot cars?

10News WTSP

http://www.wtsp.com/news/local/why-do-children-get-left-in-hot-cars/417054969 David Diamond, a professor at the University of South Florida, has studied hot car deaths for 12 years. ... "What we do find consistently, is when a person's driving, they believe they are alone in the car ..." says Diamond.

10News WTSP has learned in many cases, if charges are filed, they are usually dropped because it is difficult to prove there was criminal intent.

The World Today: Victorian coroner investigating 2015 inadvertent child car death

An hour of current affairs background and debate from Australia and the world every Monday to Friday, 12:05 pm, ABC Local Radio and Radio National. http://www.abc.net.au/worldtoday/content/2016/s4639723.htm

A Victorian coroner has launched an investigation into the death of an infant left unintentionally in a car two years ago. One cognitive neuroscientist has given evidence that memory failure or forgotten baby syndrome may have played a part. Featured: Professor David Diamond, University of South Florida

The hot car death epidemic: 37 children die every Summer after being forgotten in vehicles by their parents - as experts warn it could easily happen to YOU

http://www.dailymail.co.uk/news/article-4283806/Anyone-forget-child-hot-carexpert-says.html#ixzz4ghj6zoJA

Diamond said, 'Many strategies have been suggested ... but most people refuse to take any precautionary measures because they believe this could never happen to them, a potentially fatal mistake.'

 $\frac{http://www.dailymail.co.uk/news/article-4283806/Anyone-forget-child-hot-car-expert-says.html \#ixzz4ghjRo840}{}$

June. 2017

ABC Action News: Mourning families lobby for new rules to battle 'Forgotten Baby Syndrome' Existing technology could warn forgetful parents

http://www.abcactionnews.com/news/local-news/mourning-families-lobby-for-new-rules-to-battle-forgotten-baby-syndrome

Today, parents and families who unknowingly left children in hot cars are joining some members of Congress, as well as safety advocates, to introduce legislation that would require cars to be equipped with this already existing technology.

Dr. Diamond is among the experts who is speaking in support of the legislation being proposed today, saying simple changes in routine, simple distractions, stress or fatigue are among the factors that can contribute to loving and responsible parents unknowingly leaving a child behind in a car.

News Conference on the Introduction of the HOT CARS Act of 2017

 $\frac{http://saferoads.org/2017/06/07/media-advisory-child-safety-news-conference-with-live-webcast-on-67/$

Washington, D.C. (June 7, 2017) — Today, U.S. Representatives Tim Ryan (D-13th OH), Peter King (R-2nd NY) and Jan Schakowsky (D-9th IL) introduced the <u>Helping Overcome Trauma for Children Alone in Rear Seats Act</u> (HOT CARS Act of 2017, H.R. 2801), a critical piece of legislation that would prevent children from being needlessly killed and injured when unknowingly left alone in vehicles.

Dr. David Diamond, a professor in the Departments of Psychology, Molecular Pharmacology and Physiology at the University of South Florida, said, "We must have a system that provides a reminder to parents of the presence of a child in the backseat for that rare occasion when a child's life is in danger because parents, through no fault of their own, lose awareness of the presence of their child in the car."

News4Washington: 'We Can Stop This': Hot Cars Act Aims to End Accidental Deaths of Children

For the past 12 years, Dr. David Diamond has studied the brain, memory and why parents accidentally leave children in hot cars. He said at a news conference Wednesday that two brain structures compete: those that control the ability to plan to do something in the future and those that follow "auto-pilot" habits. When people are stressed or sleep-deprived, the auto-pilot system can dominate.

"This phenomenon must be explained from a brain science perspective, not one that blames parents for being negligent," he said in a statement.

'We Can Stop This': Hot Cars Act Aims to End Accidental Deaths of Children | NBC4 Washington http://www.nbcwashington.com/news/health/We-Can-Stop-This-Hot-Cars-Act-Aims-to-End-Accidental-Deaths-of-Children-427091213.html#ixzz4jRAT8y3w

NCL statement in support of HOT CARS Act of 2017 to prevent child heatstroke deaths by getting much-needed technology into vehicles

http://www.nclnet.org/hot cars act

The HOT CARS Act would require the U.S. Department of Transportation to issue a final rule requiring cars to be equipped with a system to alert the drive if a passenger remains in the back seat when a car is turned off.

Dr. David Diamond, a professor in the Departments of Psychology, Molecular Pharmacology and Physiology at the University of South Florida, spoke about how the brain works and how leaving a child in a car can happen to the best of parents or caregivers.

NewsItaliane: Arezzo shock, forgotten child in the car dies: From his mother a heartrending cry"

https://www.newsitaliane.it/2017/arezzo-shock-bambina-un-anno-mezzo-muore-dimenticata-auto-dalla-madre-107358

A one year old daughter died of cardiac arrest after being forgotten in a closed car in Castelfranco di Sopra (Italy).

Dr. David Diamond ... has dedicated his career to research on the neurobiological aspects of FBS.

Not All Babies Are Forgotten

http://www.kars4kids.org/blog/not-babies-forgotten/

I decided to ask Dr. David Diamond what he thought. Considered the expert on forgotten babies, Diamond speaks and writes extensively on the subject, and has testified in trials of parents whose babies died in hot cars.

Diamond, incredibly, responded, suggesting that since the catchphrase is not always well-received and since, "leaving a child in a car is not an act of brain damage or pathology," he no longer uses the phrase Forgotten Baby Syndrome.

Hot Cars Act May Help Stop 'Forgotten Baby Syndrome' Podcast - LISTEN LIVE WUSF 89.7; On Point with Tom Ashbrook

 $\frac{http://wusfnews.wusf.usf.edu/post/hot-cars-act-may-help-stop-forgotten-baby-syndrome\#stream/0$

One of the people in attendance at that ceremony was <u>Dr. David Diamond</u> from the University of South Florida. He's a leading <u>researcher</u> in the neurobiology of <u>"forgotten baby syndrome,"</u> and he joins the show to address the question that rushes to mind when a child is left in a hot car: "How can a parent forget their child? How is that possible?"

July, 2017

Editorial: Hot cars and children don't mix

 $\frac{http://www.eacourier.com/opinion/editorials/editorial-hot-cars-and-children-don-t-mix/article\ c2030ba0-515e-11e7-b628-ab892a49ad31.html$

Psychologists explain how parents can forget kid in the back of a car

http://www.abc15.com/news/state/psychologists-explain-how-parents-can-forget-kid-in-the-back-of-a-car

This has to do with normal brain functioning in which some information just gets lost, even information as important as my child is in the car," said Diamond.

Sick, Absent, or Forgotten? How a Change in Routine Can Become Deadly in Minutes

https://usa.childcareaware.org/2017/07/sick-absent-forgotten-change-routine-can-become-deadly-minutes/

In Gene Weingarten's Pulitzer prize-winning piece about vehicular heatstroke tragedies, "<u>Fatal Distraction</u>," Dr. David Diamond, a neurobehavioral scientist, deduced from his research of vehicular heatstroke deaths that the most common factor associated with parents who forgot their child in the backseat was a change in routine.

August, 2017

Summer Heat Turns Cars Into Ovens

https://share.kaiserpermanente.org/article/

Expert: Dad "lost awareness" of son

http://www.weareiowa.com/news/local-news/expert-dad-lost-awareness-of-son-in-hot-car/790521214

Attorneys for both sides finished their cases on Wednesday, with one last witness giving powerful testimony for the defense. University of South Florida neuroscience expert David Diamond says while Williams was driving to his barbershop last June, he simply didn't remember his six-month-old son was in the back seat, but the prosecution strongly disagreed.

Judge to decide fate of man in hot car death trial

 $\underline{http://www.kcci.com/article/judge-to-decide-fate-of-man-in-hot-car-death-trial/12022620}$

Lance Williams, 35, appeared in court Wednesday but did not testify, though his attorneys brought David Diamond, a psychology professor at the University of South Florida, to the stand.

November, 2017

Hot Car Deaths: Tragic Accident or Intentional Murder

http://via.news/north-america/hot-car-deaths-tragic-accident-murder/