## Travel&Life



#### HEALTH

### Is PTSD in our genes?

Study of Holocaust survivors said 'yes' but is deeply flawed

By SEEMA YASMIN
The Dallas Morning News

In the fall of 2015, Rachel
Yehuda and her team at the
Icahn School of Medicine at
Mount Sinai in New York
published results of a study
looking at the genes of 32
Jewish women and men. All
were Holocaust survivors who
had been either interned in Nazi
concentration camps, forced into
hiding during World War II, or seen or
experienced torture. The team also studied the genes of 22 children who were
born to Holocaust survivors after the war.

Previous studies had found that children of Holocaust survivors have a higher risk of developing post-traumatic stress disorder, depression and anxiety, especially if the parents themselves have PTSD. In a 2015 paper in the journal Biological Psychiatry, Yehuda wrote she had found a genetic explanation for this apparent inheritance of trauma.

Her team found changes in the DNA of Holocaust survivors, changes which the scientists said were passed on to offspring. "The gene changes in the children could only be attributed to Holocaust exposure in the parents," Yehuda said.

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What Yehuda described has come to be

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DREAMSTIME

known as epigenetic inheritance. It's the idea that traumatic experiences affect DNA in ways that are passed on to children and grandchildren, kind of like molecular scars. The idea has taken off, and New Age guru Deepak Chopra is among those who support the finding. But Yehuda's study is deeply flawed.

#### What is epigenetics?

If DNA contains instructions for making eyes brown and hair curly, epigenetics

See **PTSD. 4** 

### TRAVEL

# Orlando theme parks have been good, bad and unpredictable

BY DEWAYNE BEVIL Staff writer

Ten years ago this month, I started writing about Central Florida's theme parks and attractions full time. That's a lot of sunscreen, re-hydrating and double-wide strollers, my friends.

In a decade, there have been good days, tragic events, rampant rumors and unexpected developments. That's the news biz, of course, but here are 10 things I never would have guessed 10 years ago.

- That people would pay for two Universal Orlando theme parks so they could ride a themed-to-the-rails train between two theme parks and do so whilst voluntarily wearing a long black robe, even in the blazing-hot Florida
- That a splashy 200-foot volcano would arise next to Interstate 4 to form the centerpiece of Volcano Bay water park.

See **PARKS, 4** 



#### Drs. Oz and Roizen

### Trans fat ban; HPV vaccines for boys

Q: When New York banned trans fats in restaurants in 2013, did it do any good? -William O., New York City

A: Yes, it did. Over a three-year period, New York counties that went with the new rule had a 6.2 percent decrease in hospital admissions for myocardial infarction and stroke compared with counties that didn't.

People are catching on that food companies really only care if you'll buy something, not about your health. This public realization has fueled the call for eliminating trans fats nationwide. Ever since 2013, when the Food and Drug Administration decided that trans fats were not generally regarded as safe, doctors and healthyfood advocates have been

getting out the word that partially hydrogenated vegetable oils (that's what trans fats are) are unhealthy. Americans now consume 80 percent fewer trans fats than they did a decade ago!

The really big news: In 2018, we're scheduled for nationwide trans fat regulation. Harvard's T.C. Chan School of Public Health estimates that eliminating trans fats from the U.S. food supply could prevent up to a quarter of a million heart attacks and related deaths annually. And with that one piece of legislation, the federal government would immediately see over \$60 billion in annual health care savings! Currently, the federal budget is attempting to reduce health care costs by \$80 billion a year by cutting programs for

kids and the disabled. The upcoming national trans fat regulation will get us 75 percent of the way there without denying one kid his or her vaccinations. (With the proposed budget, 50 percent of kids who qualify for vaccinations would be turned away.)

In the meantime, get trans fats off your plate now. How? Read labels. Don't eat or buy foods with "partially hydrogenated" anything on the ingredients list. Labeling law allows products to claim "0 grams of trans fats" if they contain less than 0.5 gram per serv-

ing.
Your best bet: Stay clear of prepared and packaged baked goods and foods.

Q: I want my 14-year-old son to get the **HPV** vaccine, but only about half of his peers

have had the shots. It's still a good idea, right? Mary G., Tulsa, Oklahoma

**A:** Getting your son the HPV (human papilloma virus) vaccine is a brilliant move —and one that every parent of an adolescent boy or girl should do. Unfortunately, only about 46 percent of adolescent boys and 60 percent of adolescent girls have been vaccinated against HPV, according to Sarah Oliver, M.D., and the Centers for Disease Control and Prevention. Further research shows that only 13.4 percent of guys 18 to 29 have been vaccinated.

That's a shame, because the vaccine provides effective protection from strains of HPV that lead to noncancerous genital warts, cancer of the penis in men and of the anus and throat,

and base of the tongue and tonsils in both women and men. For women, it protects against cancers of the cervix, vagina and vulva.

How effective is it? According to recent findings, infection with HPV types dropped 56 percent in 14- to 19-year olds during the first four years after the vaccine's introduction (2006-2010) and by 61 percent in 20- to 24-year-olds during the next four years. Another study found that young people who received at least one shot of the quadrivalent HPV vaccine had an 88 percent lower rate of infection with the strain that can lead to oropharyngeal cancer.

The recommended dosage: All 11- or 12-year-olds should get two shots of Gardasil-9 which covers nine strains

of HPV  $-\sin to 12$  months apart. If your child is over 14, he or she should get three shots in a six-month period. Catch-up vaccination is advised for females up to age 26 and males up to age 21 who weren't vaccinated when they were younger. For full recommendations, ask your doc. Remember: The chance of a vaccine causing a problem versus protecting you against a serious one like cancer is over 40,000 to

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PHOTOS BY SUSAN STOCKER/STAFF PHOTOGRAPHER

The wheel of misfortune contains a collection of photos of Florida's criminals and celebrities.

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eternity."

At the entrance of the museum is a poster of gangster Al Capone with a cigar in his mouth inviting visitors "to take a selfie with Uncle Al." His image is attached to a mannequin dressed in a white tuxedo and blue tie.

Walk deeper into the museum and your eyes shift to the "South Florida Wheel of Misfortune," a giant circus-like wheel with famous local mug shots of figures including Larry King, Jim Morrison and former Panamanian leader Manuel Noriega.

In the 1900s to 1920s section, there's a portrait of Julia Tuttle, "the Mother of Miami;" and a photo of South Florida mobster Meyer Lansky, who was "considered one of the most financially successful mobsters in American history," according to the information card under his photo.

Of note, a black-andwhite photo of the first Fort Lauderdale city jail built in 1909 before the city and Broward County were created. "The jail was wooden and the walls were double-layered with three cells to accommodate two prisoners each," read the informational card.

There are also, in the 1930s section, photos and articles of former Broward Sheriff Walter Clark and his brother and deputy chief Bob Clark, who were known for "a wave of violence and corruption in Broward County," according to the informational

Skip ahead to the 1980s and there's the 1985 mug shot of Griselda Blanco, who was known "la mae rina" or "the godmother" during Miami's drug wars. Above her, the 1981 Time magazine cover which declared Miami as "Paradise Lost."

For folks who want to capture their visit to the museum, there's the "Take A Shot" section, where they can dress up in a black-andwhite striped inmate uniform or a Broward sheriff's deputy uniform to snap a mug shot.

"We let everyone put on real police uniforms and real crook uniforms," said Mancini. There are also old and modern booking and fingerprinting devices, breathalyzers. Lie detectors, too.

"We have kids' lie detectors, the sweat on their fingers gives off a small shock," he said.

Speaking of shock, there's a replica of "Old Sparky," the Florida electric chair, and mug shots of people such as serial killer Ted Bundy, who were executed that way.

In addition to the museum, which is free to enter, there's an occasional van tour that covers crimes in the downtown Fort Lau-



A life-sized photo of Al Capone greets visitors to the South Florida Crime Museum.

derdale area. The tour costs \$15 per person, lasts about 2 hours and makes at least three stops: at Stranahan House, the historical district along Himmarshee Street, and Evergreen Cemetery, "which is always a big hit because there are so many interesting people buried there," said Mancini. The van tours don't have a set schedule.

The tour, which starts and ends at the museum, includes the era of Prohibition, drug smuggling, the history of gambling, and the wacky things that South Florida criminals have done. For example, he talks about Steven Mulhall, the Coral Springs man who snatched a nameplate from the door of a Broward Circuit judge's courtroom and posted a picture of it on Facebook.

"It's a never-ending supply of idiots," he said. "There is too much materi-

In the late 1990s, Mancini led a "murder, mystery and mayhem tour" every three to four months for members of the Miami-Dade Historical Society. But after the terrorist attacks of Sept. 11, 2001, Mancini was busy practicing law and stopped the tours.

Still, the idea to resurrect something that would highlight South Florida crimes was in the back of his mind.

"I said, if I am going to do this, I better do this now before I lose interest," recalled Mancini. "I love it. This is so much fun compared to practicing law."

The South Florida Crime Museum is at 213 Commercial Blvd., Lauderdale-by-the-Sea. It is free and open daily, but the hours vary. For more information about the museum or tours, visit crimetoursmuseum.com or call 954-281-8810.

#### **PTSD** Continued from Page 1

refers to ways in which those genes are turned on and off. Genes are the blueprint for creating proteins, while epigenetics is the study of how genes are read.

At least that's the original definition of epigenetics. Nowadays, the term is also used to describe gene modifications that are passed on from parents to children. Some scientists say we transmit more than our genes. We also pass on molecular switches and information about how those genes

should be expressed. One of the most studied epigenetic modifications is DNA methylation, in which small molecules are added to genes, changing the activity of DNA. In a study published in the American Journal of Psychiatry in 2014, Yehuda found that male Holocaust survivors who had PTSD had children with higher methylation of a gene involved in stress response.

But these changes are exceedingly difficult to interpret. Yehuda's team found that if both of the child's parents were Holo caust survivors with PTSD, the child was more likely to have lower methylation of that gene.

#### Small study size

The problems with Yehuda's 2015 study which is still generating headlines stating that trauma is inherited begin with the small study size. Only 32 survivors and 22 of their offspring were studied. That's a very small group on which to base this theory and a major study flaw that many media outlets over-

While the team studied the children of women who lived through the Holocaust, they would have to study the greatgrandchildren of survivors to prove actual epigenetic inheritance from mother to offspring. Why must four generations be studied? Baby girls are born with their lifetime supply of eggs. The eggs that made you were present inside your mother when she was a fetus inside your grandmother. Because a

pregnant woman already possesses the DNA of her grandchildren and these genes can be affected by things during her pregnancy, the DNA of the great-grandchildren has to be studied to show that epigenetic changes were passed on across genera-

Another flaw is that researchers looked at only a tiny number of genes. Further, the study didn't account for the influence of social factors. Children born to Holocaust survivors may grow up listening to accounts of the war's horrors. Josie Glausiusz, a participant in Yehuda's 2014 study, raised this point in a recent essay in the Israeli newspaper Haaretz. Glausiusz's father survived the Bergen-Belsen concentration camp. She wrote, "I was troubled by a question: How does one separate the impact of horrific stories heard in childhood from the influence of epigenetics?"

She's not the only one to raise this question. Researchers have also cast doubt on the study's conclusions based on the small changes in DNA methylation that were seen. There's also the issue of reverse causation: If DNA methylation is significant, is that change caused by trauma or does the methylation itself increase the risk of PTSD?

The week after the study was published, the blog of the Center for Epigenomics at the Albert Einstein College of Medicine in New York called it the "over-interpreted epigenetics study of the

John Greally, professor of genetics at the college, wrote: "The story being told by the Holocaust study is indeed fascinating as a scientific possibility, and will no doubt prompt others to pursue similar studies. Unfortunately, the story is typical of many in the field of epigenetics, with conclusions drawn based on uninterpretable studies."

Those who survived the horrors of the Holocaust and other tragedies find themselves asking whether they will pass that trauma on to their children. The headlines say "yes," but based on a close look at the research, the answer so far is "no."

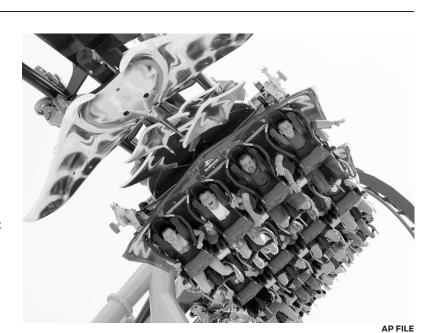
#### **PARKS** Continued from Page 1

- That a ramp leading from I-4 directly into a Disney Springs parking garage would prompt a friend to call and say, "This changes everything." And that Disney's stated goal of creating more dining and shopping options would come to fruition
- That some Disney World fests (Super Soap Weekend, ESPN Weekend, Star Wars Weekends, all held at Hollywood Studios) would wither, while others (Epcot's Food & Wine, Flower & Garden) would expand and nearly collide with Halloween and Christmas
- That my favorite coasters in town would be rolling through

- SeaWorld Orlando. Manta makes me feel like Superman, and that second hill on Mako is my happy air-time place.
- That Cypress Gardens would surge, then flail, and then morph brick by brick into Legoland, much to the delight of kids between 2 and 12. Still not to be missed: the big ol' Banyan tree and the Florida-shaped pool in the gardens.
- That we would spend six years saying "Who cares about 'Avatar'? No one cares about 'Avatar'!" and then watch folks literally line up for hours for two "Avatar" rides and a gift shop at Disney's Animal Kingdom.
- That there would be beer and wine, however limited, daily at select Magic Kingdom restaurants. (Still no booze at corner stands, like so many predicted and/or feared, or evidence that

- there was rolling-over-in-
- grave incidents.) ■ That a "Frozen" ride would take over the spot of the previ-
- ously much-maligned Maelstrom at Epcot and that some folks would be up in arms about it. (And yet, some folks line up for hours to float by Anna and Elsa in Frozen Ever After. I sense a trend.)
- That the Amazing Adventure of Spider-Man at Islands of Adventure would still be my overall fave. This is not a knock on, oh, say, Harry Potter and the Forbidden Journey, its sister ride. If that's your jam, then jam away. But Spidey has Stan Lee cameos and a newsroom theme — and doesn't have big, nasty spiders. 'Nuff

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Visitors to the Sea World theme park experience some of the twists and turns on the Manta thrill ride in Orlando.