

COMMENTARY

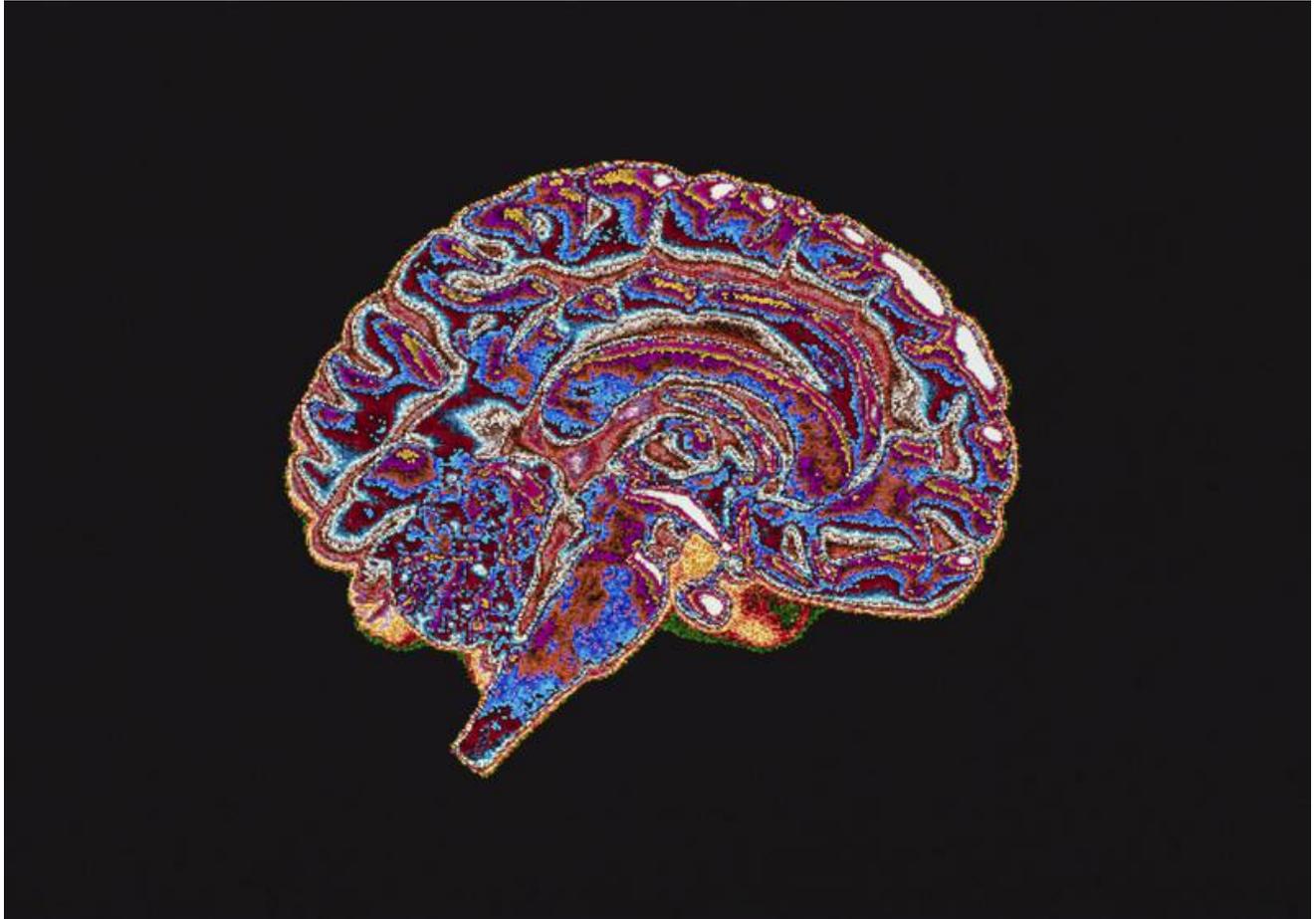
Jeffery M. Leving: Becoming a father changes the brain. In a good way, actually.

By Jeffery M. Leving

Chicago Tribune • Dec 05, 2022 at 3:06 pm



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For better and for worse, the link between biological parents and their children is well known, from a child inheriting a mother's wit and skill at math to inheriting a father's nose and short temper. It turns out children also cause a change in a father's brain, according to new evidence, improving their ability to empathize and process things visually.

Researchers from the University of Southern California found that women aren't the only ones who go through physical change when they become parents. Men's brains, according to a research [study](#) published in the journal *Cerebral Cortex*, undergo measurable changes after their children arrive.

Those changes involve slight brain shrinkage that contributes to neuroplasticity, which is the brain's ability to create and form new synaptic connections to adapt to new experiences. In layperson's terms, it affects areas in the brain linked to empathy and visual processing.

"Becoming a parent entails changes to your lifestyle and your biology," said Darby Saxbe, the study's senior author and a professor of psychology at USC's Dornsife College of Letters, Arts, and Sciences, in a statement. "And it requires new skills like being able to empathize with a nonverbal infant, so it makes sense but has not been proven that the brain would be particularly plastic during the transition to parenthood as well."

The study examined the brain scans of 40 expectant fathers — 20 in the U.S. and 20 in Spain — and also looked at a control group of 17 childless men in Spain. Saxbe and her team found that the most significant changes in the expectant fathers occurred in the cortex, the brain's outer layer that manages attention, planning and executive functioning. By comparing scans made before and after the babies were born, changes where the brain processes visual information and areas that are part of the brain's default mode network were noticed. Conversely, the childless men showed no change.

The default mode network refers to regions of the brain that "light up" when the brain is at rest (not doing a particularly cognitive task), Saxbe told [USC News](#).

"These regions are thought to be involved in mentalizing about other people's thoughts and feelings. The fact that we found changes in that part of the brain both for fathers suggests that there is some remodeling of the social brain taking place," Saxbe said.

Men also go through hormone changes when they become fathers, according to Lauren Cook-McKay, a licensed marriage and family therapist who was quoted in [Healthline](#).

"The man's cortisol and testosterone levels generally dip within the first few weeks of being a father," she said. "This somehow makes fathers less aggressive, bringing them close to their children. New fathers also experience an increase in prolactin, oxytocin, and estradiol, which causes a man to exhibit nurturing behaviors."

Cook-McKay also said something that I've been writing about for some time, that being with your infant child is beneficial for both child and parents.

"Parental psychological adjustment determines parental involvement," Cook-McKay said. "Parents who have poor parental psychological adjustments tend to be less involved with their children. Engaging with an infant can help produce positive effects in terms of responsiveness and attentiveness."

Engaging with your infant child is vital for fathers because it establishes a strong relationship between father and child early on. I've written several times over the years about the numerous studies that have shown that children tend to do much better behaviorally and emotionally when both of their parents play a meaningful role in their lives.

The USC study shows that there's more research to be done on how the brain reacts to things such as fear, learning and reward when becoming a father, as well as effects from sleep deprivation and stress. While we have known the impact of fathers on their children, it is interesting to learn of the biological impact of children on their fathers.

Jeffery M. Leving is founder and president of the Law Offices of Jeffery M. Leving Ltd. Leving is an advocate for the rights of fathers and the author of "Fathers' Rights," "Divorce Wars" and "How to be a Good Divorced Dad."