

**Health**

# Having more children protects parents' brains from age-related decline

The brains of adults who have raised children appear younger later in life. Child-rearing seemed to have this effect on both mothers and fathers, and it was stronger the more children they had

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▲ **Raising children seems to have an anti-ageing effect on parents' brains later in life**

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The “baby brain” phenomenon – a phrase for the mental fog some individuals experience in pregnancy and early parenthood – implies that having children

negatively affects the brain. But parenthood might actually protect both mothers' and fathers' brains against age-related declines, and the effect increases with each additional child.

In the largest ever study of brain function in parents, researchers compared MRI scans from more than 37,000 adults aged 40 to 70 in the [UK Biobank study](#)  [/article/dn21650-biobank-promises-to-pinpoint-the-cause-of-disease/](#). The more children a person had, the more connectivity existed in the brain regions responsible for movement and sensation. Ageing typically decreases such connectivity in these regions, meaning these individuals seemed to have a younger pattern of brain activity.

The paper reveals the lasting impact of parenthood on the brain, says [Edwina Orchard](#)  <https://medicine.yale.edu/profile/edwina-orchard/> at Yale University, part of the team behind the study. And results were remarkably similar among males and females, implying that something other than biology might be behind the effect.

Orchard and her colleagues looked at functional MRI scans, using a signal that measures how active a region of the brain is across time. The measurements had been taken at rest, meaning the scans revealed the baseline function of the brain and how it communicates with itself when not working on a task.

Previous research on parenthood has focused on [changes in brain volume](#)  [/article/2412048-some-brain-regions-shrink-in-pregnancy-and-regrow-after-the-birth/](#) using structural MRIs – which is like the difference between taking still photographs of the brain versus video, says [Darby Saxbe](#)  <https://dornsife.usc.edu/profile/darby-saxbe/> at the University of Southern California. Brain volume can tell us what the organ looks like morphologically, but the resting state shows how the brain is working and which parts are communicating, which is “an interesting advance”, says Saxbe, who was not involved in the work.

The observations were surprisingly similar among mothers and fathers, a group often neglected in parenting research. This could mean the increased connectivity isn't just because of pregnancy, but rather something about the caregiving experience. The demands of child care – such as feeding and holding a child, or running a household – may be to blame. Parents might also be more social and physically active, factors already known to help the brain's resilience to age-related

decline.

Scans from the UK Biobank have their limits, Orchard notes: the subjects tend to be healthier and have a higher socioeconomic status than the general population, and the available data doesn't account for each person's parenting experience, such as their time spent as a caregiver. Still, according to Saxbe, the large sample size "gives us a lot of confidence that these aren't just chance associations".