

# Brain research shows two parents may be better than one

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A team of researchers at the University of Calgary's Hotchkiss Brain Institute (HBI) have discovered that adult brain cell production might be determined, in part, by the early parental environment. The study suggests that dual parenting may be more beneficial than single parenting.

Scientists studied mouse pups that were raised by either dual or single parents and found that [adult cell](#) production in the brain might be triggered by early life experiences. The scientists also found that the increased [adult brain](#) cell production varied based on gender. Specifically, female pups raised by two parents had enhanced white matter production as adults, increasing [motor coordination](#) and sociability. Male pups raised by dual parents displayed more grey matter production as an adult, which improves learning and memory.

"Our new work adds to a growing body of knowledge, which indicates that early, supportive experiences have long lasting, positive impact on adult [brain function](#)," says Samuel Weiss, PhD, senior author of the study and director of the HBI.

Surprisingly, the advantages of dual parenting were also passed along when these two groups reproduced, even if their offspring were raised by one female. The advantages of dual parenting were thus passed along to the next generation.

To conduct the study, scientists divided mice into three groups i) pups raised to adulthood by one female ii) pups raised to adulthood by one female and one male and iii) pups raised to adulthood by two females. Researchers then waited for the offspring to reach adulthood to find out if there was any impact on brain cell production.

Scientists say that this research provides evidence that, in the mouse model, parenting and the environment directly impact adult brain cell production. While it's not known at this point, it is

possible that similar effects could be seen in other mammals, such as humans.

**More information:** The study is published in the May 1 edition of *PLOS ONE*.

[dx.plos.org/10.1371/journal.pone.0062701](http://dx.plos.org/10.1371/journal.pone.0062701)

Provided by University of Calgary

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