

NewsNote: Naughty Rodents — Your Brain without Dad

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Do children need fathers? Fascinating research on that question is reported by Shirley S. Wang of *The Wall Street Journal*. Anna Katherina Braun, a German biologist, has been working with colleagues to understand the biological impact of single parenting. Her research has focused on the degu, a small rodent that is a distant relation to the guinea pig.

The research indicates that little degus raised without dads “exhibit both short-and long-term changes in nerve cell growth in different regions of the brain.” The research also reveals that “fatherless degu pups exhibit more aggressive and impulsive behavior than pups raised by two parents.” Sound like anyone you know?

The specifics:

The researchers then looked at the neurons—cells that send and receive messages between the brain and the body—of some pups at day 21, around the time they were weaned from their mothers, and others at day 90, which is considered adulthood for the species.

Neurons have branches, known as dendrites, that conduct electrical signals received from other nerve cells to the body, or trunk, of the neuron. The leaves of the dendrites are protrusions called dendritic spines that receive messages and serve as the contact between neurons.

Dr. Braun’s group found that at 21 days, the fatherless animals had less dense dendritic spines compared to animals raised by both parents, though they “caught up” by day 90. However, the length of some types of dendrites was significantly shorter in some parts of the brain, even in adulthood, in fatherless animals.

The end result can be a pup without normal cognitive and emotional function that experiences brain activity like “a horse without a rider.” Since the basic wiring of the brain is similar in both the human child and the degu pup, Dr. Braun believes that a very similar process is likely to emerge in the brains of fatherless children. Even so, the human brain is far more complex.

Similar research at the University of Ottawa has found a similar pattern in young voles (another rodent). As a result, it appears that biological evidence now exists that would suggest that fatherless children (and especially boys?) are at greater risk of cognitive and emotional instability — and eventual delinquency — without dad in the home.

Of course, we should not need biological studies to demonstrate and validate what we should already know — children need fathers in the home. The epidemic of fatherlessness has brought disaster on a society-wide scale, and has brought harm into the lives of millions of young children, both boys and girls.

Girls raised with biological fathers in the home begin to menstruate at later ages than girls without a father in the home. Boys raised without dad are far more likely to drop out of school, be arrested, be unemployed, and be designated as delinquent. In sum, fathers matter.



Christians recognize this as a theological matter, long before we consider biology. We know that the Creator's intention in marriage and the family is for children to have both mother and father. One of the most vulnerable designations in the Bible is the fatherless.

So, read the reports on biological research with interest and connect the dots from the data to the biblical worldview. This is about far more than young degus and voles. This is about the lives of children who deserve both mom and dad.

Shirley S. Wang, "This is Your Brain Without Dad," *The Wall Street Journal*, Tuesday, October 27, 2009.

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