

Stress caused by poverty reduces mom's ability to nurture—and may be passed on in genes

From the inside, nothing in the world feels more powerful than our impulse to care for helpless children. But new research shows that caring for children may actually be even more powerful than it feels. It may not just influence children's lives—it may even shape their genes.

One of the most important recent discoveries in biology is that this process of translating genes into cells can be profoundly influenced by the environment. New studies suggest a vicious multigenerational circle that affects a horrifyingly large number of children, making them more vulnerable to stress when they grow up and become parents themselves.

In a groundbreaking 2004 *Nature* paper, Michael Meaney at McGill University and his colleagues looked at a gene in rats that helps regulate how an animal reacts to stress. A gene can be “methylated” or “demethylated”—a certain molecule does or doesn't attach to the gene. This changes the way that the gene influences the cell.

In carefully controlled experiments Meaney discovered that early caregiving influenced how much the stress-regulating gene was methylated. Rats who got less nuzzling and licking from their mothers had more methylated genes. In turn, the rats with the methylated gene were more likely to react badly to stress later on. And these rats, in turn, were less likely to care for their own young, passing on the effect to the next generation.

Read full original article: [Poverty's Vicious Cycle Can Affect Our Genes](#)