

STRESSED-OUT MOMS, STRESSED-OUT KIDS

By Kelly Mills



When it comes to the mental health of children, mothers have historically—and unfairly—shouldered much of the blame. Poor mothering was originally believed to be the cause of everything from autism to schizophrenia. And yet while most people today reject the “blame the mother” theory of mental health, we do know mothers have a profound influence over their children. It is also clear that many mothers are dealing with a host of environmental stressors, including poverty and the fight to survive, and that these conditions impact the whole family. So how do health researchers determine the impact of maternal stress on children, and which interventions are effective? Through a variety of studies, faculty at the School are looking at ways to improve the psychological life of kids.

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In the debate over the influence of genetics versus environment, rats have much to teach us, according to **Darlene Francis**, assistant professor of psychology and public health. Francis and her colleagues note that not all mother rats behave the same, that some mother rats practice the soothing behaviors of licking and grooming their pups more often than others. The mothers who lick more frequently are less anxious, more tolerant of novelty, and less prone to stress. Francis assembled two groups of mother rats: one strain that was bred to be anxious, and another that was not. She implanted the embryos of “calm” rats in both calm mothers and anxious mothers. Once the rats were born, she divided them again among calm and anxious mothers, who reared the pups.

The results were striking: Rats raised by anxious mothers were far more likely to be fearful and prone to stress, despite their genetic make up. And interestingly, this tendency towards anxiety stayed with the rats in adulthood. In contrast, the rats who were reared by calm mothers were themselves calmer and more inclined to explore new environments. This study demonstrated that while genes are significant, early environment has a profound impact on the expression or non-expression of those genes.

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In another experiment, Francis examined the impact of maternal stress on rat development. She found that mother rats who experienced stress in the days after giving birth licked and groomed their offspring less frequently than rats who had not been exposed to stressors. As a result, the children of these stressed mothers were more anxious and nervous. This sensitivity to stress also manifested in the next generation of rats: The grandchildren of the stressed mothers were also anxious and fearful.

For Francis, who worked as a counselor for at-risk youth before finishing her graduate work, these studies highlight how crucial it can be to provide effective interventions early in a child’s life.

But does maternal stress and anxiety have the same impact on human children? Many studies have looked at the impact of early life experience on child development, and found similar results. One such study was conducted by **Lia C. Haskin Fernald**, assistant professor in the Division of Community Health & Human Development. Fernald works with impoverished families in Mexico

through a program called Programa de Educacion, Salud y Alimentacion (PROGRESA). While the goal of PROGRESA is to improve the health of children, the program is unusual in that it offers families unrestricted money and allows the families to determine how it will be spent, rather than offering strict subsidies for medical services. The only condition for receiving the cash transfer is that families must give children micronutrient supplements if needed and commit to four health-clinic visits per year.

For part of the program, Fernald studied the mental health of mothers and how it impacted children. Among poor mothers, over 60 percent had the symptoms of depression. Living in poverty and making difficult financial choices with limited resources took a toll on women, and this was reflected in their children: The children of depressed mothers had altered stress physiology.

When the families were given the PROGRESA money, children’s health improved on a number of fronts. Children in the intervention group were less likely to be anemic, they had fewer sick days, and they were less likely to be growth-retarded as a result of poor nutrition. Because of the PROGRESA program, parents were able to buy healthier and sufficient food and make physical improvements to homes.

Fernald believes interventions such as these demonstrate that improving social and economic conditions for families is an effective vehicle for improving children’s health. “The Mexican model of PROGRESA, which is a conditional cash transfer program, is extremely innovative, and should be a model for countries throughout the world,” she says. 

