

Does Motherhood Make Women Smarter?

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PHOTO BY JEFF SILKER



The impression that pregnancy and child rearing are somehow bad for a woman's brain has been around for a long time. New mothers frequently talk about what children have done to their bodies and brains. Most women have had the experience of visiting with a group of women when someone says something silly and then laughs it off as "mommy brain." Many are afraid they will lose their higher thinking skills in the midst of diaper changes and 3 a.m. feedings. One woman told me she thought she had passed a part of her brain when she delivered her placenta! I think her occasional mental lapses were caused by sleep deprivation and not some biologic curse coming from pregnancy along with varicose veins and stretch marks.

A popular commercial on television proclaims, "Babies change everything." It's true – everything changes. Relationships change, your looks change, and yes, even your brain changes. But you don't become dull, slow, or stupid. Having researched and written about the differences between the brains of men and women, I kept running across references to studies showing enhancements in the brain function of women brought on by pregnancy and child rearing. The idea that motherhood – the process of giving birth and raising children – causes specific changes in a woman's brain is not well known. It makes mothers smarter! By saying mothers are smarter, I mean more than the ability to understand advanced calculus or even to do well on an episode of Jeopardy! I'm talking about an improved brain with stronger social skills, thanks to an increase in emotional intelligence and more efficient due to an enhanced ability to multitask. Their pregnancy-boosted brain has better sensory perception and a greater ability to handle stress.

Adult women often feel smarter at the time in their menstrual cycle when estrogen peaks and do better on some tasks such as those requiring verbal fluency. Under the influence of sustained high levels of estrogen and progesterone hormones during pregnancy, key areas of the brain enlarge and strengthen. New brain cells form, producing structural changes that remodel a woman's brain. In animal studies these brain sites are involved in regulating maternal behaviors such as building nests, grooming and feeding the young, and protecting the babies from predators. These hormones affect areas of the mammalian brain which control memory, learning, and the response to fear and stress.

Evidence suggests that a woman's brain gets rewired during pregnancy. Brain scans of mothers showed them to be more active when listening to a baby cry, whereas non-mothers were more active when they heard a baby laugh. This change is evidence of the brain being reformatted or rewired, especially in areas near the hypothalamus, the brain's hormone center. Mothers react to the annoying sound of a baby's cry by activating parts of the brain associated with reward or pleasure. These are the same areas that are stimulated when a rat is given cocaine. Behavior activating the reward system is apt to be repeated since we all like to feel good; and likely a big part of why mothers bond so well with their offspring. ▶

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The idea that there are multiple types of intelligence has been around for over thirty years. Some types of intelligence include the capacity to understand words (linguistic intelligence) and the capacity to understand yourself and others (intrapersonal and interpersonal intelligences). In 1990 Peter Salovey and John Meyer, psychologists at Yale University, introduced the term emotional intelligence (EQ) defined as “the ability to monitor one’s own and others feelings and emotions and use this information to guide one’s thinking and action.” This skill can contribute to stronger friendships and marriages and even to better health through a reduction in conflict and stress. Credible evidence exists that EQ has value in the workplace in any job where people interact. Mothers regularly exercise the positive emotions of love and compassion, the foundation of emotional intelligence. These are skills that can be learned; pregnancy enhances a woman’s emotional intelligence and child rearing gives you lots and lots of practice.

Raising children is so challenging. It stimulates brain activity. Brain cells thrive the more they are used, and the new experiences of parenting, coupled with the deep emotional attachments, are some of life’s most stimulating events. Becoming smarter involves learning new skills – everything from how to handle a toddler’s temper tantrum to sensing when your child may be ill. How does this happen? Every time you have a thought, move a muscle, observe a behavior, or feel an emotion, nerves connect throughout

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your brain in a specific pattern. When you think and behave in new ways, you reinforce the pattern and the connections in your brain are made stronger. Some say that practice makes perfect and, while that doesn't always work when learning to play the piano, the repetition does make you more proficient. Therein lies the essence of learning – making the brain circuits more sturdy and enduring. Intelligent emotional responses in successful par-

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enting such as self-restraint, empathy, and conflict resolution strengthen neural circuits in the brain making them more responsive. It would seem that you are not so much what you eat as what you do.

In raising children, you have endless opportunities to participate in another's feelings and ideas – to develop empathy. The complete dependency of an infant on its mother teaches much

about how someone different from you reacts to everything going on around them. You quickly come to understand that your own pleasure, and maybe even your sanity, depends upon the happiness and well-being of another. You learn with great urgency how to understand and deal with your baby's feelings. That's why emotional intelligence is the main area in which motherhood can make you smart. If you are more empathetic with your child on a repetitive basis, you'll be more empathetic with others as well. Major corporations spend large sums of money sending key employees to seminars where they are taught to increase their EQ. Motivated by love for your child, you can get a masters degree for free!

Women who become mothers learn efficiency. They are more motivated and task oriented than ever before. It's not just that they can supervise their children while they balance the checkbook, cook supper, and talk on the phone all at once. They develop the ability to focus on the important, ignore the irrelevant, and accomplish more. They multitask out of necessity. A mom's survival and her child's successes depend on it. The mental demands on mothers today are greater than ever before.

Several studies have shown that females can respond very differently to stressful experiences following childbirth. When exposed to an acute stressful event, never pregnant females were ►

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