

Horrifying scans that show the real impact of love: Brain of neglected child is much smaller than that of a normal three-year-old

- **According to neurologists the sizeable difference between these two brains has one primary cause - the way were treated by their mothers**
- **Both of these images are brain scans of a two three-year-old children,**
- **Brain on the left is considerably larger, has fewer spots and less dark areas, compared to the one on the right**

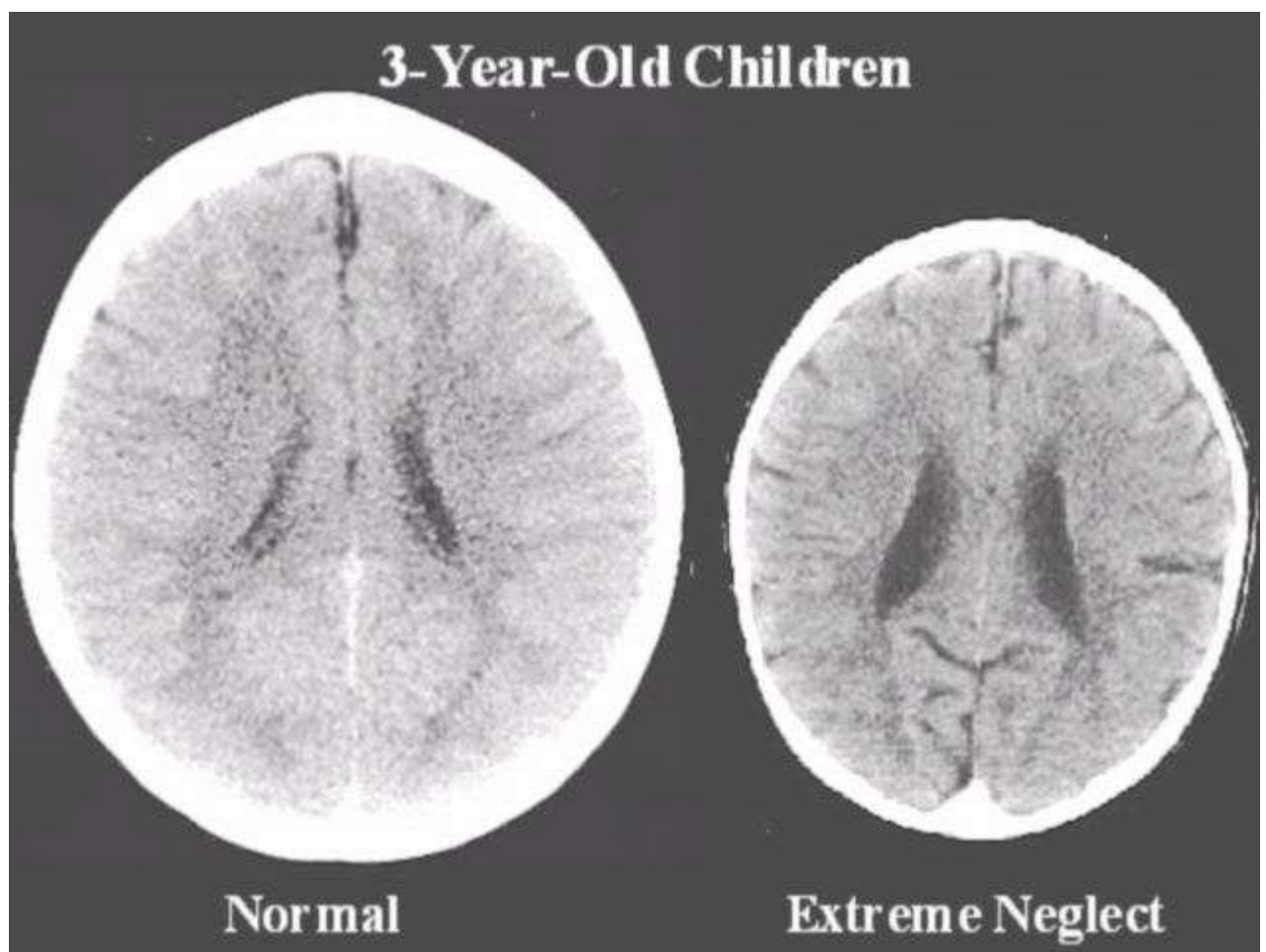
By Jill Reilly

You comfort them over a skinned knee in the playground, and coax them to sleep with a soothing lullaby.

But being a nurturing mother is not just about emotional care - it pays dividends by determining the size of your child's brain, scientists say.

Both of these images are brain scans of a two three-year-old children, but the brain on the left is considerably larger, has fewer spots and less dark areas, compared to the one on the right.

According to neurologists this sizeable difference has one primary cause - the way each child was treated by their mothers.



Shocking: According to neurologists the sizeable difference between these two brains has one primary cause - the way were treated by their mothers

The child with the larger and more fully developed brain was looked after by its mother - she was constantly responsive to her baby, reported The Sunday Telegraph.

But the child with the shrunken brain was the victim of severe neglect and abuse.

According to research reported by the newspaper, the brain on the right worryingly lacks some of the most fundamental areas present in the image on the left.



Crucial: A mother's love is fundamental to how a child's brain develops

The consequences of these deficits are pronounced - the child on the left with the larger brain will be more intelligent and more likely to develop the social ability to empathise with others.

But in contrast, the child with the shrunken brain will be more likely to become addicted to drugs and involved in violent crimes, much more likely to be unemployed and to be dependent on state benefits.

The child is also more likely to develop mental and other serious health problems.

Professor Allan Schore, of UCLA, told The Sunday Telegraph that if a baby is not treated properly in the first two years of life, it can have a fundamental impact on development.

He pointed out that the genes for several aspects of brain function, including intelligence, cannot function. And sadly there is a chance they may never develop and come into existence.



Life decisions: The brain on the right is more likely to become addicted to drugs and involved in violent crime than the child on the left

These has concerning implications for neglected children that are taken into care past the age of two.

It also seems that the more severe the mother's neglect, the more pronounced the damage can be.

The images also have worrying consequences for the childhood neglect cycle - often parents who, because their parents neglected them, do not have fully developed brains, neglect their own children in a similar way.

But research in the U.S. has shown the cycle can be successfully broken if early intervention is staged and families are supported.

The study correlates with research released earlier this year that found that children who are given love and affection from their mothers early in life are smarter with a better ability to learn.

The study by child psychiatrists and neuroscientists at Washington University School of Medicine in St. Louis, found school-aged children whose mothers nurtured them early in life have brains with a larger hippocampus, a key structure important to learning, memory and response to stress.

The research was the first to show that changes in this critical region of children's brain anatomy are linked to a mother's nurturing, Neurosciencenews.com reports.

The research is published online in the Proceedings of the National Academy of Sciences Early Edition.

Lead author Joan L. Luby, MD, professor of child psychiatry, said the study reinforces how important nurturing parents are to a child's development.