- Love / Brain



Brain researchers map out different kinds of loving

There's romantic love, love for our family, love of pets, and love of nature: these are clearly different emotions, and brain researchers can now show us what they look like.

HUMANS Love is a universal emotion, and for most people it forms a cornerstone of their life and home.

But not all loving is the same. We find romantic love as a precursor to locking in a partner with whom to share our life. We have a different kind of love for our children, or for close friends we spend time with. And what about love we feel for our pets, or for nature?

Researchers from Finland have looked into the parts of the brain that 'light up' when activated by different types of love. The results confirm that there are big differences. They found that love from a personal connection with people can be traced across more parts of the brain than love for animals, or for nature. Notably the love from close personal relations was observed particularly in the reward centres.

The brains of 55 people were scanned for the experiment, the scans being made as each person was read seven stories about love for a child, a partner, a friend, a pet, a stranger, nature – and a neutral story as a control mechanism. The participants were asked to imagine they were in the story, and to think about people in their lives. The researchers observed activity in the brain of each participant while the stories were read out. The difference in activity could then be established by comparing the six different types of love with the neutral story.

During all six 'love' stories, large areas of the temporal lobes, cerebral cortex and cerebellum lit up. But it was how the different parts became active that revealed how participants thought about the different types of love.

The types of love that differed most from the neutral story were parental love, followed by love for a partner, and for friends. The researchers found that parental love was the only type of love to appear deep inside our reward system in a small area known as the striatum. Otherwise, there were several overlaps in response between the love for children and for a romantic partner.

Fewer overlaps were found when comparing love for people, partners and children to love for animals and nature. For specific animals kept as pets, however, researchers could see reactions within some of the same parts of the brain that lit up with parental love or love for a partner. The reaction of pet owners to stories about animals indicates that we really do think of our pets as part of the family.



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