

Older adults remember the good times

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Despite the aches and pains that occur in old age, many older adults maintain a positive outlook, remembering the positive experiences from their past. A new study, reported in the April 2010 issue of Elsevier's *Cortex*, reveals that older adults' ability to remember the past through a positive lens is linked to the way in which the brain processes emotional content. In the older adult brain, there are strong connections between those regions that process emotions and those known to be important for successful formation of memories, particularly when processing positive information.

Dr Donna Rose Addis from the University of Auckland, together with a team of researchers supervised by Dr. Elizabeth A. Kensinger of Boston College (Chestnut Hill, MA), asked young adults (ages 19-31) and older adults (ages 61-80) to view a series of photographs with positive and negative themes, such as a victorious skier or a wounded soldier. While participants viewed these images, a [functional magnetic resonance imaging](#) (fMRI) scan recorded the [brain activity](#) across a number of different regions. When participants had completed the fMRI scan, they were asked to remember as many of the photographs as they could.

Analyses revealed that aging did not affect the connectivity among regions engaged during [memory formation](#) for negative photographs. However, age differences did arise during the creation of memories for positive photographs. In older adult brains, two regions that are linked to the processing of [emotional content](#) - the [ventromedial prefrontal cortex](#) (a region located just behind the bridge of the nose) and the amygdala (a region embedded in the tissue between the ears) - were strongly

connected to regions that are linked to memory formation. In young adults, there was not a strong connection between the emotion-processing regions and the memory-creation regions.

These findings suggest that older adults remember the good times well, because the brain regions that control the processing of emotions act in concert with those that control the processing of memory, when older adults experience positive events. Young adults lack these strong connections, making it harder for them to remember positive experiences over the long term.

More information: *Cortex* is available online at www.sciencedirect.com/science/journal/00109452

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