

There's pleasure in your pain

A crippling and painful experience like grief can also activate pleasure areas of the brain, according to a new study.

While most people let go of their loss, for a substantial minority, any reminder of their loss - a picture, a memory - brings on a fresh wave of grief and yearning.

The question is, why do some grieve and ultimately adapt, while others can't get over the loss of someone held dear?

University of California (Los Angeles) scientists suggest that such 'complicated' grief activates neurons in the reward centres of the brain, possibly giving these memories addiction-like properties.

This study is the first to compare those with complicated and non-complicated grief, and future research in this area may help psychologists do a better job of treating those with complicated grief, said Mary-Frances O'Connor of UCLA and co-author of the study.

'The idea is that when our loved ones are alive, we get a rewarding cue from seeing them or things that remind us of them,' O'Connor said. 'After the loved one dies, those who adapt to the loss stop getting this neural reward.'

'But those who don't adapt continue to crave it, because each time they do see a cue, they still get that neural reward.'

'Of course, all of this is outside of conscious thought, so there isn't an intention about it,' she said.

The researchers looked at 23 women who had lost a mother or a sister to breast cancer. (Grief is very problematic among survivors of breast cancer patients, particularly among female family). They found that, 11 had complicated grief, and 12 had the more normal, non-complicated grief.

Each of the participants brought a photograph of their deceased loved one and were shown this picture while undergoing brain scanning by functional MRI. Next, they were scanned while looking at a photograph of a female stranger.

The authors looked for activity in the nucleus accumbens, a region of the brain most commonly associated with reward. They found that while both groups had activation in the pain network of the brain after viewing a picture of their loved one, only individuals with complicated grief showed significant nucleus accumbens activations.

These findings have been reporting in the journal *NeuroImage*.

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