

To remember the good times, reach for the sky

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A study published in the April issue of *Cognition* shows that motor actions can partly determine people's emotional memories. Moving marbles upward caused participants to remember more positive life experiences, and moving them downward to remember more negative experiences, according to Daniel Casasanto (MPI Nijmegen) and Katinka Dijkstra (Erasmus University). "Meaningless" motor actions can make people remember the good times or the bad.

When people talk about positive and negative emotions they often use spatial metaphors. A happy person is on top of the world, but a sad person is down in the dumps. Some researchers believe these metaphors are a clue to the way people understand emotions: not only do we use spatial words to talk about emotional states, we also use spatial concepts to think about them.

Motion and emotion

To test this link between vertical space and emotion, in a first experiment Casasanto and Dijkstra asked students to move glass marbles upward or downward into one of two cardboard boxes, with both hands simultaneously, timed by a [metronome](#). Meanwhile, they had to recount autobiographical memories with either positive or negative emotional valence, like 'Tell me about a time when you felt proud of yourself', or 'a time when you felt ashamed of yourself'.

When prompted to tell positive memories, participants began recounting their experiences faster during upward movements, but when prompted to tell negative memories they responded faster during downward movements. [Memory retrieval](#) was most efficient when participants' motions matched the spatial directions that metaphors in language associate with positive and [negative emotions](#).

'Meaningless' motions modify memory

The second experiment tested whether these seemingly meaningless motor actions could influence the content of people's memories. Participants were given neutral-valence prompts, like 'Tell me about something that happened during high school', so they could choose to retell something happy or sad. Their choices were determined, in part, by the direction in which they were assigned to move marbles. Moving marbles upward encouraged students to recount positive high school experiences like 'winning an award', but moving them downward to recall [negative experiences](#) like 'failing a test'.

'These data suggest that spatial metaphors for emotion aren't just in language', Casasanto says, 'linguistic metaphors correspond to mental metaphors, and activating the mental metaphor 'good is up' can cause us to think happier thoughts.'

Since simple motor actions can trigger this mental metaphor, could there be practical implications? 'Who knows', says Casasanto, 'it would be great if this basic research can help people think more positively in the world beyond the laboratory - marble therapy?'

Provided by Max-Planck-Gesellschaft

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