

Psychologists closing in on causes of claustrophobic fear

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We all move around in a protective bubble of "near space," more commonly known as "personal space." But not everyone's bubble is the same size. People who project their personal space too far beyond their bodies, or the norm of arm's reach, are more likely to experience claustrophobic fear, a new study finds.

The study, to be published in the journal *Cognition*, is one of the first to focus on the perceptual mechanisms of claustrophobic fear.

"We've found that people who are higher in claustrophobic fear have an exaggerated sense of the near space surrounding them," says Emory psychologist Stella Lourenco, who led the research. "At this point, we don't know whether it's the distortion in spatial perception that leads to the fear, or vice versa. Both possibilities are likely."

Everyone experiences claustrophobic fear to some extent, but there is a wide range of individual differences. About 4 percent of people are estimated to suffer from full-blown claustrophobia, which can cause them to have panic attacks when traveling through a tunnel or riding in an elevator. Some people seek medical treatment for the condition.

"Increasing our understanding of the factors that contribute to claustrophobia may help clinicians develop more effective therapies for what can be a highly debilitating fear," says Matthew Longo, one of the study's co-authors and a psychologist at Birkbeck, University of London.

Claustrophobia is often associated with a [traumatic experience](#), such as getting stuck in an elevator for a long period. "However, we know that some people who experience [traumatic events](#) in restricted spaces don't develop full-blown claustrophobia," Lourenco says. "That led us to ask whether other factors might be involved. Our results show a clear relation between claustrophobic fear and basic aspects of spatial perception."

Neural and behavioral evidence shows that we treat space that is within arm's reach differently from space that is farther away. "It makes adaptive sense to be more aware of things that are closer to the body, for both utilitarian purposes and defensive ones," Lourenco says. "It also makes adaptive sense to be afraid of things that are too far away from you on the vertical dimension, since there can be a great cost to falling."

In ongoing work, Lourenco and Longo are investigating how the range of individual differences in spatial perception relates to fear. They are asking normal research subjects, who are not seeking treatment for claustrophobia or acrophobia (the fear of heights), to estimate various distances.

While the subjects who have higher levels of claustrophobic fear underestimate horizontal distances, those who have more acrophobic fear overestimate vertical distances. "One intriguing possibility is that these two types of fear may form opposite ends of a single spatial-perceptual continuum," Lourenco says.

Provided by Emory University

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