

# Virtual reality underground ride reveals extent of public paranoia

April 1 2008

---



Computer people (avatars) on a simulated underground train. The virtual reality simulation was used to measure levels of paranoid thoughts. Credit: Department of Computer Sciences, University College London

A virtual reality Underground ride has been used by researchers to reveal the extent that paranoia occurs in the general public. The research, funded by the Wellcome Trust, demonstrates that suspicious or paranoid thoughts are much more common in the general population than was previously thought and that they are almost as common as anxiety and depression.

Until now, researchers have been unable to study paranoia (exaggerated fears about threats from others) in laboratory settings, instead relying on

questionnaires, which can be inaccurate. A collaboration led by Dr Daniel Freeman, a Wellcome Trust researcher at the Institute of Psychiatry, King's College London, has developed a computer simulation to study paranoid thoughts.

"Paranoid thoughts are often triggered by ambiguous events such as people looking in one's direction or hearing laughter in a room but it is very difficult to recreate such social interactions," says Dr Freeman. "Virtual reality allows us to do just that, to look at how different people interpret exactly the same social situation. It is a uniquely powerful method to detect those liable to misinterpret other people."

Wearing virtual reality headsets, 200 volunteers broadly representative of the general population walked around a virtual London underground carriage in a four-minute journey between station stops. The carriage contained neutral computer people (avatars) that breathed, looked around, and sometimes met the gaze of the participants. One avatar read a newspaper, another would occasionally smile if looked at. A soundtrack of a train carriage was played.

Dr Freeman and colleagues found that the participants interpreted the same computer characters very differently. The most common reaction was to find the virtual reality characters friendly or neutral, but almost 40% of the participants experienced at least one paranoid thought. The participants were extensively assessed before entering the train ride, and it was found that those who were anxious, worried, focused on the worst-case scenarios and had low self-esteem were the most likely to have paranoid thoughts. The results of the study are published today in the *British Journal of Psychiatry*.

Comments about the virtual reality characters by participants who experienced paranoid thoughts included:

"There was a guy spooking me out – tried to get away from him. Didn't like his face. I'm sure he looked at me more than a couple of times though might be imagining it."

"A girl kept moving her hand. Looked like she was a pickpocket and would pass it to the person standing opposite her."

"Felt trapped between two men in the doorway. As a woman I'm a lot more suspicious of men. Didn't like the close proximity of the men. The guy opposite may have had sexual intent, manipulation or whatever."

"There's something dodgy about one guy. Like he was about to do something – assault someone, plant a bomb, say something not nice to me, be aggressive."

"In the past, only those with a severe mental illness were thought to experience paranoid thoughts, but now we know that this is simply not the case," says Dr Freeman. "About one-third of the general population regularly experience persecutory thoughts. This shouldn't be surprising. At the heart of all social interactions is a vital judgment whether to trust or mistrust, but it is a judgment that is error-prone. We are more likely to make paranoid errors if we are anxious, ruminate and have had bad experiences from others in the past."

Dr Freeman believes that paranoid thoughts are more likely to develop in settings such as on public transport, where people can feel trapped and observed, and can't hear what others are saying. People who feared terrorism on the Underground tended to report more paranoid thoughts in the virtual train, possibly reflecting the after-effects of the London bombings on 7 July 2005. However, the researchers also found that people who regularly used the Underground experienced less paranoid thoughts in the virtual train.

"Paranoid thinking is a topic of national discussion given increasing public attention to threats such as terrorism," says Dr Freeman. "It sometimes seems as if the one thing that unites the diverse peoples of the world is our fear of one another. Worries about other people are so common that they seem to be an essential – if unwelcome – part of what it means to be human."

Paranoia is increasingly being treated using cognitive behavioural therapy (CBT). Dr Freeman believes that in the future virtual reality may be used as a tool in clinical assessment and be incorporated into CBT interventions for paranoia, allowing patients to test out their fears in virtual worlds.

Source: Wellcome Trust

Citation: Virtual reality underground ride reveals extent of public paranoia (2008, April 1) retrieved 9 April 2024 from

<https://medicalxpress.com/news/2008-04-virtual-reality-underground-reveals-extent.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--