

Researchers find brain differences between believers and non-believers

March 4 2009

Believing in God can help block anxiety and minimize stress, according to new University of Toronto research that shows distinct brain differences between believers and non-believers.

In two studies led by Assistant Psychology Professor Michael Inzlicht, participants performed a Stroop task - a well-known test of cognitive control - while hooked up to electrodes that measured their brain activity.

Compared to non-believers, the religious participants showed significantly less activity in the anterior cingulate cortex (ACC), a portion of the brain that helps modify behavior by signaling when attention and control are needed, usually as a result of some anxiety-producing event like making a mistake. The stronger their religious zeal and the more they believed in God, the less their ACC fired in response to their own errors, and the fewer errors they made.

"You could think of this part of the brain like a cortical alarm bell that rings when an individual has just made a mistake or experiences uncertainty," says lead author Inzlicht, who teaches and conducts research at the University of Toronto Scarborough. "We found that religious people or even people who simply believe in the existence of God show significantly less brain activity in relation to their own errors. They're much less anxious and feel less stressed when they have made an error."

These correlations remained strong even after controlling for personality and cognitive ability, says Inzlicht, who also found that religious participants made fewer errors on the Stroop task than their non-believing counterparts.

Their findings show religious belief has a calming effect on its devotees, which makes them less likely to feel anxious about making errors or facing the unknown. But Inzlicht cautions that anxiety is a "double-edged sword" which is at times necessary and helpful.

"Obviously, anxiety can be negative because if you have too much, you're paralyzed with fear," he says. "However, it also serves a very useful function in that it alerts us when we're making mistakes. If you don't experience anxiety when you make an error, what impetus do you have to change or improve your behaviour so you don't make the same mistakes again and again?"

The study is appearing online now in *Psychological Science*.

Source: University of Toronto

Citation: Researchers find brain differences between believers and non-believers (2009, March 4) retrieved 3 May 2024 from <https://medicalxpress.com/news/2009-03-brain-differences-believers-non-believers.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>
--