Disbelieving Free Will Makes Brain Less Free

If people are told that free will doesn't exist, their brains might follow suit.

A test of people who read passages discrediting the notion of free will found an immediate decrease in brain activity related to voluntary action. The findings are just one data point in ongoing scientific investigation of a millennia-old philosophical conundrum, but they raise an intriguing possibility.

"Our results indicate that beliefs about free will can change brain processes related to a very basic motor level," wrote researchers led by psychologist Davide Rigoni of Italy's University of Padova in a study published in May's *Psychological Science*.

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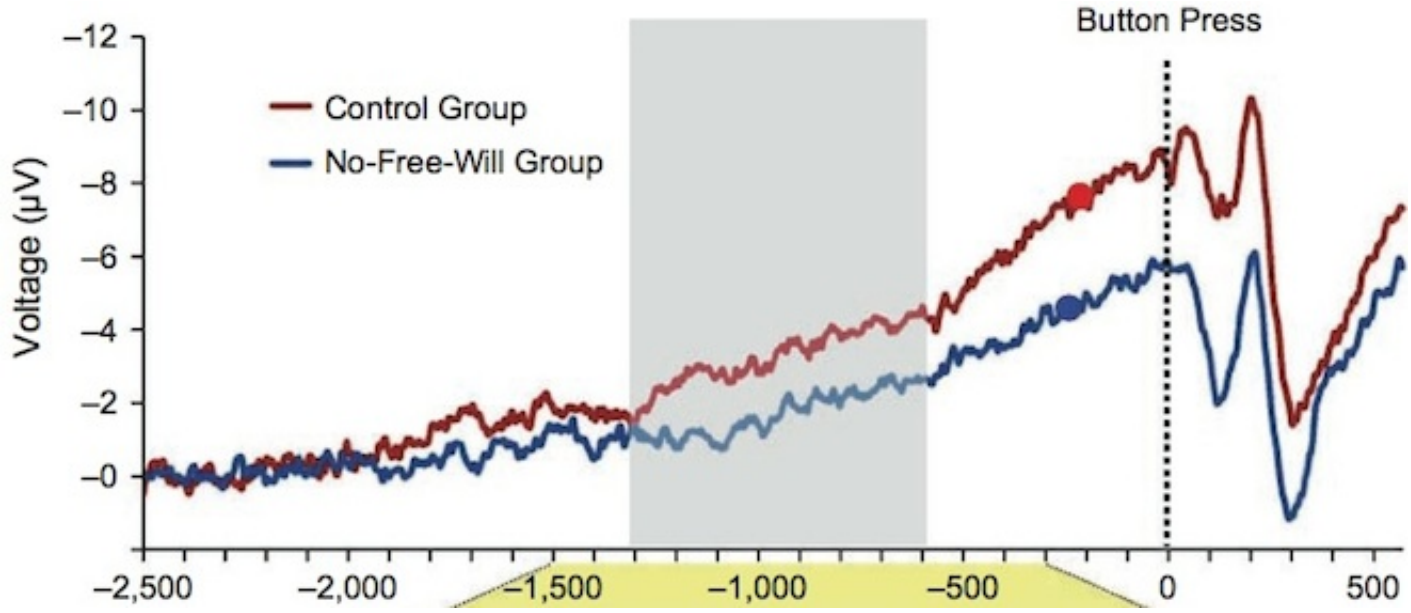
Rigoni's team asked 30 people to read passages from Francis Crick's 1994 book *The Astonishing Hypothesis: The Scientific Search for the Soul*. Half read a passage that didn't mention free will, while the others read a passage describing it as illusory. All were hooked to electroencephalograph machines that monitored electric activity known as "readiness potential," which is linked to the neurological computations that occur in the milliseconds before voluntary movement.

The test subjects were then asked to press a mouse button when a cursor flashed on a computer screen for several seconds. Those who read the passage dismissing free will displayed significantly lower readiness potentials. Their actions seemed to involved less voluntary control than the control group's.

Tested on when they decided to press the button, the non-free-will group reported doing so a fraction of a second before their counterparts. To lose confidence in free will seemingly introduced a lag between conscious choice and action.

Earlier psychological studies of free will have found that discrediting free will seems to trigger an increase in cheating aggressiveness, encourage people to be less helpful and generally sap motivation.

The latest findings extend the effects of disbelieving to a more basic physical level. Whether there's a relationship between free will, motor activity and more complex behaviors is yet to be determined, but "abstract belief systems might have a much more fundamental effect than previously thought," wrote the researchers.



Electrode readings of activity in brain regions linked to voluntary behavior in a control group (red) and people who read a passage discrediting free will (blue). Dots indicate the moment at which they decided to press a button. *Psychological Science*

Image: Loozrboy/Flickr.

H/t: BPS Research Digest

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