

Using neural stimulation to modulate paranormal beliefs

ABSTRACT:

Background

Dual-processing theories of belief argue that supernatural beliefs are underpinned by a weak analytical thinking style and by a strong intuitive thinking style. We call this the Intuitive Belief Hypothesis. We address the limitations of this literature, particularly an over-reliance on analytical primes and methods, and in two studies develop new manipulations to causally test the Intuitive Belief Hypothesis.

Aims

In order to test the Intuitive Belief Hypothesis in a more direct and robust fashion, we conducted two studies using experimental methods where we attempted to modulate intuitive/analytical cognitive style and cognitive inhibition and test the effects of this modulation on paranormal beliefs.

Method and Results

Study 1 tested the role of intuition/analytical thinking and cognitive inhibition in modulating supernatural beliefs. We used transcranial direct current stimulation of the right Inferior Frontal Gyrus and were able to successfully increase cognitive inhibition and down-modulate paranormal beliefs, but we found no relationship between intuitive/analytical thinking and paranormal beliefs. In study 2 we developed an innovative two-week long training programme with the aim of increasing either intuitive or analytical thinking in two groups. While this training had an effect on cognitive styles, neither group experienced changes in their paranormal beliefs.

Conclusion

We conclude that it is premature to explain belief in gods as ‘intuitive’, and that these beliefs are likely to be rooted in socio-cultural factors that are modulated by specific neuro-cognitive mechanisms, such as cognitive inhibition.

Keywords

Paranormal beliefs, Brain stimulation, Dual processing, Cognitive inhibition, Right inferior frontal gyrus

Published Work:

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