

The odds are against extra-sensory perception

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Can people truly feel the future? Researchers remain skeptical, according to a new study by Jeffrey Rouder and Richard Morey from the University of Missouri in the US, and the University of Groningen in the Netherlands, respectively. Their work appears online in the *Psychonomic Bulletin & Review*, published by Springer.

Although extra-sensory perception (ESP) seems impossible given our current scientific knowledge, and certainly runs counter to our everyday experience, a leading psychologist, Daryl Bem of Cornell University, is claiming [evidence](#) for ESP. Rouder and Morey look at the strength of the evidence in Dr. Bem's experiments.

Their application of a relatively new statistical method that quantifies how [beliefs](#) should change in light of data, suggests that there is only modest evidence behind Dr. Bem's findings (that people can feel, or sense, salient events in the future that could not otherwise be anticipated, and cannot be explained by chance alone), certainly not enough to sway the beliefs of a skeptic.

They highlight the limitations of conventional statistical significance testing (p values), and apply a new technique (meta-analytical Bayes factor) to Dr. Bem's data, which overcomes some of these limitations. According to Rouder and Morey, in order to accurately assess the total evidence in Bem's data, it is necessary to combine the evidence across several of his experiments, not look at each one in isolation, which is what researchers have done up till now. They find there is some evidence

for ESP – people should update their beliefs by a factor of 40.

In other words, beliefs are odds. For example, a skeptic might hold odds that ESP is a long shot at a million-to-one, while a believer might believe it is as possible as not (one-to-one odds). Whatever one's beliefs, Rouder and Morey show that Bem's experiments indicate they should change by a factor of 40 in favor of ESP. The believer should now be 40-to-1 sure of ESP, while the skeptic should be 25000-to-1 sure against it.

Rouder and Morey conclude that the skeptics odds are appropriate: "We remain unconvinced of the viability of ESP. There is no plausible mechanism for it, and it seems contradicted by well-substantiated theories in both physics and biology. Against this background, a change in odds of 40 is negligible."

More information: Rouder JN & Morey RD (2011). A Bayes factor meta-analysis of Bem's ESP claim. *Psychonomic Bulletin & Review*.
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