



Smart People Believe Weird Things

Rarely does anyone weigh facts before deciding what to believe By MICHAEL SHERMER

In April 1999, when I was on a lecture tour for my book *Why People Believe Weird Things*, the psychologist Robert Sternberg attended my presentation at Yale University. His response to the lecture was both enlightening and troubling. It is certainly entertaining to hear about other people's weird beliefs, Sternberg reflected, because we are confident that we would never be so foolish. But why do *smart* people fall for such things? Sternberg's challenge led to a second edition of my book, with a new chapter expounding on my answer to his question: Smart people believe weird things because they are skilled at defending beliefs they arrived at for nonsmart reasons.

Rarely do any of us sit down before a table of facts, weigh them pro and con, and choose the most logical and rational explanation, regardless of what we previously believed. Most of us, most of the time, come to our beliefs for a variety of reasons having little to do with empirical evidence and logical reasoning. Rather, such variables as genetic predisposition, parental predilection, sibling influence, peer pressure, educational experience and life impressions all shape the personality preferences that, in conjunction with numerous social and cultural influences, lead us to our beliefs. We then sort through the body of data and select those that most confirm what we already believe, and ignore or rationalize away those that do not.

This phenomenon, called the confirmation bias, helps to explain the findings published in the National Science Foundation's biennial report (April 2002) on the state of science understanding: 30 percent of adult Americans believe that UFOs are space vehicles from other civilizations; 60 percent believe in ESP; 40 percent think that astrology is scientific; 32 percent believe in lucky numbers; 70 percent accept magnetic therapy as scientific; and 88 percent accept alternative medicine.

Education by itself is no paranormal prophylactic. Although belief in ESP decreased from 65 percent among high school graduates to 60 percent among college graduates, and belief in magnetic therapy dropped from 71 percent among high school graduates to 55 percent among college graduates, that still leaves more than half fully endorsing such claims! And for embracing alternative medicine, the percentages actually increase, from 89 percent for high school grads to 92 percent for college grads.

We can glean a deeper cause of this problem in another statistic: 70 percent of Americans still do not understand the scientific process, defined in the study as comprehending probability, the experimental method and hypothesis testing. One solution is more and better science education, as indicated by the fact that 53 percent of Americans with a high level of science education (nine or more high school and college science/math courses) understand the scientific process, compared with 38 percent of those with a middle-level science education (six to eight such courses) and 17 percent with a low level (five or fewer courses).

The key here is teaching how science works, not just what science has discovered. We recently published an article in *Skeptic* (Vol. 9, No. 3) revealing the results of a study that found no correlation between science knowledge (facts about the world) and paranormal beliefs. The authors, W. Richard Walker, Steven J. Hoekstra and Rodney J. Vogl, concluded: "Students that scored well on these [science knowledge] tests were no more or less skeptical of pseudoscientific claims than students that scored very poorly. Apparently, the students were not able to apply their scientific knowledge to evaluate these pseudoscientific claims. We suggest that this inability stems in part from the way that science is traditionally presented to students: Students are taught what to think but not how to think."

To attenuate these paranormal belief statistics, we need to teach that science is not a database of unconnected factoids but a set of methods designed to describe and interpret phenomena, past or present, aimed at building a testable body of knowledge open to rejection or confirmation.

For those lacking a fundamental comprehension of how science works, the siren song of pseudoscience becomes too alluring to resist, no matter how smart you are. SA

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Michael Shermer is publisher of Skeptic magazine (www.skeptic.com) and author of In Darwin's Shadow and Why People Believe Weird Things, just reissued.