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Editorial



Reconsidering academic beliefs about belief in the paranormal

Surveys indicate that about three in four Americans believe in one or more aspects of the paranormal, with one of highest levels of belief in psychic phenomena, like extrasensory perception (41%).^{1,2} These beliefs have remained stable for many decades,³ and they are reflected by paranormal themes that permeate television programs, documentaries, and feature films. Academia pays close attention to topics of perennial high interest and often develops courses, degree programs, or even whole departments devoted to these topics (e.g., the discipline called “popular culture”). With roughly 15,000 institutions of higher learning around the world, one might expect to find programs devoted to the study of the paranormal. Occasional courses can be found, usually in the form of classes on critical thinking or on indigenous (often meaning pre-scientific) beliefs and practices. But there is just one accredited university in the world with the name “parapsychology” in the name of the department (at Andhra University, in Visakhapatnam, India). Another 40 or so universities have at least one faculty member known for having serious experimental or scholarly interests in the possibility that some paranormal phenomena are real. This in turn means that despite perpetual fascination in the paranormal by billions of people, these topics are ignored by 99% of the academic world, except to frame these interests into the weird,⁴ bizarre, and outlandish things that people wrongly believe.

A cursory survey of the hundreds of journal articles on belief in the paranormal shows that most psychologists apparently assume that those who maintain such beliefs are suffering from one or more cognitive or emotional deficits. These articles include terms such as psychotic-like tendencies, schizotypal ideation, ontological confusion, epistemically unwarranted beliefs, poor reasoning skills, fear of death, personality weaknesses, childhood trauma, religious biases, and the “Dark Tetrad” of narcissism, Machiavellianism, psychopathy, and sadism.^{5–17} Similar concerns are expressed by educators, who raise alarms about teachers who might be transmitting their mistaken paranormal beliefs to impressionable students, or by proposing that such teachers are suffering from schizotypal thinking, or even as a sign of the wholesale failure of the educational system.^{18–21}

Disquiet about the prevalence of paranormal beliefs is not without justification because some of those beliefs are indeed associated with psychopathology, delusional behavior, and conspiratorial thinking.^{22–24} For example, some people insist that the Covid-19 pandemic was a hoax, or that the mRNA vaccines developed to treat Covid-19 were actually bioweapons.²⁵

However, confusion can arise when a survey designed to measure belief in the paranormal lumps together topics that are untestable with those that are testable. That is, a survey might ask about one’s belief in astrology, extraterrestrials, angels, ghosts, religious miracles, Bigfoot,

and a rash of other phenomena labeled paranormal. All of these topics enjoy high public interest and belief, but the evidence for most of them is either spontaneous or purely subjective, which complicates or completely inhibits scientific investigation. Thus, it is not unreasonable to ask why such strong beliefs are so prevalent, and that question in turn motivates legitimate psychological analysis.

But one might also ask about experiences labeled paranormal that are perfectly amenable to controlled scientific tests. This includes experiences called telepathy (mind to mind communication), clairvoyance (perception that transcends space), precognition (perception that transcends time), and psychokinesis (direct mind-matter interactions). These four classes of frequently reported experiences have been systematically studied using scientific methods for over a century, and in the process a substantial empirical database has been amassed that supports the reality of these phenomena.^{26–28}

Because beliefs can arise through personal experiences,^{29–32} a case can be made that widespread belief in psychic phenomena is not exclusively due to cognitive deficits or wishful thinking, but rather some of it comes from first-hand knowledge. A common objection to this proposal is that personal experiences are subject to many frailties of memory and perception, so this type of evidence is not reliable. Another objection is that most people are not trained to assess the likelihood of coincidences or other factors that might appear to be psychic.^{33–35} Such objections are valid, but these and many other possible biases are taken into account in laboratory studies designed to carefully investigate psychic experiences,³⁶ and when such frailties are excluded, positive evidence remains.

In addition, consider that some ideas once held to be inviolable are revised as science blazes new trails into the unknown. At one time it was considered an “ontological confusion” to believe that properties of elementary physical objects depend on how those objects are observed. But after the development of quantum mechanics, that belief is no longer a confusion; it is an established fact.^{37,38} Similar revisions for previously held beliefs can also be found among a growing number of scientists today who question the materialistic assumption that brain activity *causes* consciousness, leading to reconsideration of other philosophical models, like panpsychism, dual-aspect monism, and idealism.^{39–42} Likewise, UFOs, once reliable occupants of the paranormal, appear to be on their way to becoming normalized (if not well understood)⁴³ due to credible reports that the US military has known for years that there are unidentified things flying in our skies.⁴⁴ There are many other historical examples of repeatedly reported phenomena once regarded as anomalous or impossible that were eventually accepted as genuine, e.g., meteorites⁴⁵ and ball lightning.⁴⁶

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An irony

Despite the necessity to regularly update college textbooks every few years as science marches on, some academics continue to reject anything that was once labeled paranormal because they believe that such subjects are an affront to well-accepted principles of science.^{6,47,48} That reluctance is especially sharp when it comes to psychic phenomena, which some continue to insist are impossible,⁴⁷ in which case beliefs in such experiences can only be mistakes, and any claims of positive experimental evidence can only be due to flaws or fraud. This logic is unassailable until the “impossible” assertion is unpacked, whereupon a tremendous irony is revealed. That claim is frequently based on philosopher C. D. Broad’s list of the “basic limiting principles” of science.⁴⁹ This includes tenets like, “It is self-evidently impossible to have any effect before it has happened,” “It is impossible for an event in a person’s mind to produce directly any change in the material world except certain changes in his own brain,” and so on.

Much of Broad’s argument was devoted to comparing his principles against purported psychic phenomena, whereupon he concluded that if any of those phenomena were in fact real, then much of established science would need to be significantly revised. At this point, skeptics appear to have stopped reading Broad’s article, because rather than using those principles to reject psychic phenomena, Broad fully accepted the evidence because, as he put it, these phenomena “have been established to the satisfaction of everyone who is familiar with the evidence and is not the victim of invincible prejudice.”^{49,p.307} He then concluded that radical changes to his basic limiting principles of science were required.

Besides adopting an utterly backwards interpretation of Broad’s position, some authors also fail to appreciate the depth of the relevant experimental literature. As a result, they regularly disregard or distort critical details. For example, Branković⁶ cites a series of highly successful precognition studies published by Bem,⁵⁰ and then immediately dismisses those results because three investigators failed to replicate his findings. The problem is that Branković neglected to report the rest of the story. A few years after Bem’s publication, some 33 laboratories from 14 countries had published a total of 90 replication attempts.⁵¹ A meta-analysis of all of those studies found an overall statistical effect associated with $z = 6.40$, $p = 1.2 \times 10^{-10}$, and a Bayes Factor of 5.1×10^9 in favor of precognition. In other words, independent replications produced highly significant evidence that far exceeded the Bayes Factor rule of thumb for establishing “decisive evidence” of an effect, in this case by a factor of 10 million.⁵² This ought to have satisfied even the most hardened skeptics’ demand for “extraordinary evidence,”⁵³ but the rest of this story is rarely reported.

What is just as remarkable as the confirmation of Bem’s experimental results is that in spite of him having regularly published articles on conventional psychological topics during his 50 year academic career, not a single one of the journals he regularly published in would accept this meta-analysis (Bem, 2018, personal correspondence). It appears that the “invincible prejudice” mentioned by Broad in 1949 remains firmly intact. For some journal editors, evasion of uncomfortable ideas appears to be the rule rather than the exception.

Another example of a long series of successful replications of a psychic effect involves experiments testing for telepathy. One such method is called the *ganzfeld* experiment (a German word for “whole field”). This test measures whether one person can mentally “send” information about a randomly selected visual target to another person who is strictly isolated by shielding and distance.^{36,54} From 1974 to 2018, some 117 ganzfeld experiments were reported.⁵⁵ The probability of the overall results, as compared to chance expectation, was associated with $p = 5.6 \times 10^{-16}$. Assessment of selective reporting biases and variations in experimental quality could not account for these results, and independent labs had reported statistically identical effect sizes. The Bayes Factor was nearly 19 million in favor of telepathy. Of special interest regarding this class of experiments is that a pair of psychology professors

who explicitly denied belief in any form of psychic ability repeated the experimental method, and to their surprise they obtained statistically significant results with virtually the same effect size found in the meta-analysis.⁵⁶ Then, in a mind-boggling twist, because they believed that psychic phenomena were impossible, they dismissed their own results as evidence of an unspecified “crud factor.”

Other than a firm belief in crud factors, why do some academics persist in believing that psychic phenomena must forever remain in the purgatory of the paranormal? One possible answer is that psychologists (in particular) tend to have a naïve understanding of the “deep” physical world as described by modern physics. While there are still no well-accepted theories that can adequately explain psychic effects, the very fact that physical reality is nonlocal (i.e., meaning the existence of “connections” between physical objects that transcend ordinary space and time),^{57,58} which coincidentally is the same property that makes psychic phenomena so difficult to understand, immediately eliminates any argument that these experiences are impossible or that they violate accepted scientific knowledge.

A second answer is that many college textbooks provide such garbled descriptions of the relevant experimental literature that it is little wonder why psychology professors and generations of their students end up believing the false meme that this domain of research is untrustworthy, or that the evidence is inadequate. For example, in 1985 a review of telepathy experiments was published in *American Psychologist* by Irvin Child, at the time chair of the psychology department at Yale University.⁵⁹ In that article, Child reviewed how psychology textbooks described this category of experiments. He concluded that some textbooks contain “nearly incredible falsification of the facts about the experiments; [while] others simply neglect them.”^{59,p.1228} Another review published in 1991 by Roig and colleagues surveyed sixty-four textbooks published between 1980 and 1989. They found significant errors resulting from “an overreliance on secondary sources.”^{60,p.157} A more recent survey of psychology textbooks published from 1990 through 2002 found only brief mentions of this domain, focusing only on skeptical assertions, and scorning the successful series of ganzfeld telepathy studies based on (unproven) allegations of fraud or claims of methodological inadequacy.⁶¹

To avoid robotically tossing the more intriguing aspects of human experience into the paranormal wilderness, I recommend that all fledgling scientists be required to take courses in the history, philosophy, and sociology of science. Without gaining a full appreciation of science and the origins of its worldview, it is easy to imagine that we understand more than we actually do. Using the cudgel of “established principles of science” to proclaim that an experience is impossible is not a sign of superior intellect, but a failure of imagination.

I often think of something Terrence McKenna once said: “As the bonfires of knowledge grow brighter, the more the darkness is revealed to our startled eyes.” The fact is that we have just begun to explore the exquisitely beautiful, complicated nature of reality and our role in it. The urge to constrain what we are allowed to imagine during this journey, when the “darkness” abounds all around us, should, I propose, be earnestly avoided.

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