

# Awe-inspiring science can have a positive effect on mental well-being, research finds

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Research led by psychologists at the University of Warwick has revealed a profound connection between the spirituality of science and positive well-being, much like the benefits traditionally associated with religion.

The research explored how people use [science](#) as a source of [spirituality](#) and its connection with their sense of well-being. [The paper](#), "Spirituality of Science: Implications for Meaning, Well-Being, and Learning," has been published in *Personality and Social Psychology Bulletin*.

Dr. Jesse Preston, Associate Professor in the Department of Psychology at the University of Warwick and lead author of the study said, "Spirituality is most often associated with religion, but science can be a powerful source of awe and wonder for many. It can provide a meaningful source of understanding oneself and the universe, and it can foster a sense of connection to others and our place in the world."

## **Science parallels positive well-being observed in religious people**

In three studies, Dr. Preston and her research team surveyed 1,197 people (602 men, 589 women, and 6 others) on their attitudes towards [religious beliefs](#), spirituality and their interest and belief in science.

The first study established the concept of "spirituality of science," and asked people about feelings of transcendence, connection and meaning when engaging with science. Participants' responses were compared with other attitudes towards science, including an interest in science and belief in science, feelings of awe, meaning in their lives and religious beliefs.

Spirituality of science was related to belief in science, but unlike other attitudes including interest in science and belief in science, spirituality of science was also associated with feelings of awe and general spirituality. This showed that scientific sources of spirituality may be psychologically similar to religious spirituality.

In the second study, the researchers focused specifically on a group of 526 atheists and agnostics, and found that spirituality of science was correlated with measures of psychological well-being, such as happiness, and meaning in life.

Preston explained, "Previous research has found that religious belief generally predicts positive mental well-being, but it has also implied that non-religious people may be subject to poorer psychological well-being. This research has found that in fact, sources of spirituality outside of religion, like science, can have similar positive effects."

## **Meaningful experiences could improve educational outcomes in science**

The third study investigated links between spirituality of science and engagement and learning in science, and found that [spiritual experiences](#) in science predicted stronger engagement and recall of scientific information.

Dr. Preston says the findings of the research could improve the teaching and learning of science in schools and predict better educational outcomes. "Although science and religion differ in many ways, they share a capacity for spirituality through feelings of awe, coherence, and meaning in life. This capacity for spirituality has some important benefits and implications, as this research has found.

"People with greater feelings of spirituality of science were more positively engaged with science material, which predicted better science performance. And in a group of atheists and agnostics, spirituality of science predicted measures of well-being and meaning in life, paralleling the positive effects of [religion](#) that is frequently observed in [religious people](#)."

Dr. Preston added, "This work contributes not only to our current understanding of science attitudes but also to our general understanding of spirituality."

**More information:** Jesse L. Preston et al, Spirituality of Science: Implications for Meaning, Well-Being, and Learning, *Personality and Social Psychology Bulletin* (2023). DOI: [10.1177/01461672231191356](https://doi.org/10.1177/01461672231191356)

Provided by University of Warwick

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