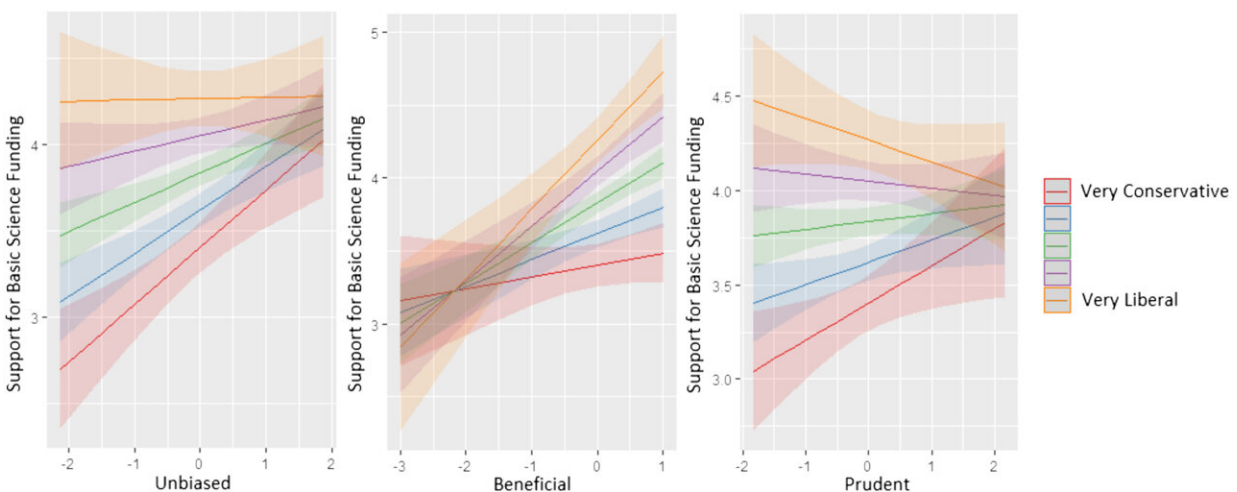


# Five factors that assess well-being of science predict support for increasing US science funding

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Interaction between ideology and perceived-Unbiased (Left), Beneficial (Center), and Prudent (Right) on support for Basic Research funding. Credit: *Proceedings of the National Academy of Sciences* (2023). DOI: 10.1073/pnas.2213838120

A [study](#) titled "Factors Assessing Science's Self-Presentation model and their effect on conservatives' and liberals' support for funding science" published in the *Proceedings of the National Academy of Sciences* (PNAS) identifies five factors that Annenberg Public Policy Center (APPC) researchers say reflect public assessments of science and are

associated with public support for increasing funding of science and support for federal funding of basic research. These factors are whether science and scientists are perceived to be credible and prudent, and whether their work is perceived to be untainted by bias, self-correcting, and beneficial.

Drawing on 13 questions in APPC's 2022 nationally representative Annenberg Science Knowledge survey (ASK) survey of 1,154 U.S. adults, researchers identified five factors that form a Factors Assessing Science's Self-Preservation (FASS) model. The model can be used to assess the extent to which public perceptions align with the self-presentation of [science](#) and scientists live up to the ways in which they define themselves and their work to the public.

The research team—APPC scholars Kathleen Hall Jamieson and Patrick E. Jamieson; Yotam Ophir of the University at Buffalo, State University of New York; and Dror Walter of Georgia State University—examined [public perceptions](#) of the extent to which scientists are credible and prudent, science or scientists adhere to their professed norms, and they produce societal benefit and benefits for people like the survey respondents.

The study finds that among conservatives, increased perceptions that scientists are unbiased and prudent were positively associated with increased [support](#) for federal funding of basic scientific research. Among liberals, increased support for federal funding of basic scientific research was positively associated with heightened perception that science produces beneficial research.

## **Factors that predict support for science funding**

"Science has gone through a rapid and intense politicization, with more Americans now deciding whether to get vaccinated or support climate

action based not only on evidence and facts but also on their [political ideology](#) and identity," says lead author Ophir, an APPC distinguished research fellow and Annenberg School for Communication Ph.D. "The FASS model allows us to identify the specific perceptions underlying beliefs and behaviors, and to highlight key differences in what matters to liberals and conservatives."

The *PNAS* paper, he added, "Shows how conservatives' reluctance to fund scientific research is driven by perceptions that scientists are biased and lack prudence. Identifying these vulnerabilities can help science communicators craft more effective messages to communicate the importance and value of science."

The researchers say the study helps to track "gaps" between science and scientists' "professed and perceived identity, spot areas that may require corrective action or better communication, and monitor fears about or attacks on science." Isolating factors on which conservatives and liberals differ helps advance understanding of the partisan responses to increased federal funding of science and support for basic researchers, the study says.

"Because they reliably reduce to five factors with significant predictive power, the ASK survey's core questions make it possible to isolate both stability and changes in public perception of science and scientists across time," says senior author Kathleen Hall Jamieson, APPC director and founder of the ASK survey. "APPC plans to field the survey yearly as a means of tracking public assessments of the well-being of science."

"Not only is federal funding a major source of science support," the researchers write, "but Congress is more likely than the private sector to agree to underwrite generating knowledge in service of public goods."

The study takes note of a 2016 initiative emerging from an Annenberg

Public Policy Center-Annenberg Foundation Trust at Sunnylands retreat convened by Robert Bradway, CEO of Amgen, and Subra Suresh, then president of Carnegie Mellon University and a former director of the National Science Foundation.

Following the retreat, a group of nearly 40 [business leaders argued](#) in an ad in the Wall Street Journal that federal [funding](#) of basic research was an investment in the nation's prosperity, security and well-being. In support of that claim, they noted that basic research was behind such innovations as the internet, smartphones, the Global Positioning System (GPS), magnetic resonance imaging (MRI), cancer proton therapy, and solar panels.

**More information:** Yotam Ophir et al, Factors Assessing Science's Self-Presentation model and their effect on conservatives' and liberals' support for funding science, *Proceedings of the National Academy of Sciences* (2023). [DOI: 10.1073/pnas.2213838120](https://doi.org/10.1073/pnas.2213838120)

Provided by Annenberg Public Policy Center of the University of Pennsylvania

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