

How Professional Societies Influence Public Perceptions of Science: A Conceptual Perspective

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Research Overview

Professional associations and research societies serve as key institutional sites through which scholars are connected across scientific communities by means of publications, conferences, social media, and other professional convenings. In addition to serving their members, these organizations shape public understandings of science, science education, and scientific learning. This conceptual paper examines three mechanisms through which they influence public perceptions of science: cultivating public trust, setting scientific priorities, and advancing science policy and practice. The influence is illustrated through work of educational research organizations and other scholarly organizations across science.

The Importance of Public Perceptions of Science Education

Science plays a central role in shaping understandings of the physical world, public health, and learning. As economies and research systems become increasingly interconnected, nations rely on scientific expertise to address education, public health, and social challenges. Cross-national collaboration is especially important given the global and interdependent nature of many of these issues.

Members of the public—including political leaders, government officials, institutional administrators, and citizens—draw on scientific evidence to inform policy and practice. Professional societies also can advocate for specific policies by collaborating with policymakers and practitioners and sharing evidence. Public trust in science is therefore consequential. When scientific knowledge is regarded as credible and useful, support for science is more likely to be expressed through funding, policy adoption, and public acceptance. Professional societies contribute to this process by disseminating research and by shaping the perspectives of leaders in universities, government, and scientific communities.

Theoretical Framework: Trust as Social Capital

This discussion is grounded in a social capital framework, which considers the resources individuals derive from relationships with other individuals and institutions (Bourdieu, 1977a; 1977b; Coleman, 1988; 1994; Lin, 2001; Putnam, 2000). From this perspective, social capital is embedded in ties to peers, senior colleagues, universities, associations, and research societies.

Trust is a foundational component of social capital. It facilitates the exchange of resources and information and supports participation in shared networks and normative structures. In the absence of trust, the development of social capital is substantially constrained.

Social capital is generated through moral and social obligations that bind individuals through shared commitments. These obligations shape conduct, reinforce group norms, and may operate

as mechanisms of social control. For instance, a faculty member at a university may feel obligated to study their local community.

Social capital develops recursively: trust and obligation foster relationships, and those relationships transmit information, norms, values, and opportunities that generate additional social capital. In this sense, social capital is both self-reinforcing and generative.

Education Research in Relation to Science Education and Learning

Supporting science education in schools is a matter of global importance. Education research is an interdisciplinary field that draws on the humanities, behavioral sciences, social sciences, and applied domains such as public policy and social work. It examines curriculum, instruction, schooling, and learning across the life course, from early childhood through higher education and professional trajectories, using both qualitative and quantitative approaches at individual and institutional levels. This paper argues that professional organizations and research societies play a significant role in shaping public perceptions of science, particularly in relation to set priorities for future research and work.

This paper will conclude with recommendations and suggestions as to how scientific organizations can facilitate scientists' engagement with policymakers and enhance public knowledge of science, while strengthening scientific advisory mechanisms, and creating opportunities for science-policy discussions across multiple segments of society.