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LETTER

A response to: “Does science communication have its goals wrong? From persuading science skeptics to promoting scientific empowerment” — A defense of certain types of persuasion

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Abstract

This response to the commentary “Does science communication have its goals wrong? From persuading science skeptics to promoting scientific empowerment” argues that the field would benefit from more attention to the persuasion literature, not less. A primary element of this argument is that a nuanced understanding of persuasion research can provide opportunities to achieve a wide range of goals — including empowering others — in ethical, evidence-based ways.

Keywords

Science communication: theory and models; Professionalism, professional development and training in science communication

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1 ▪ Our response

We are writing in response to Anne Toomey and Kevin C. Elliot's "Does science communication have its goals wrong? From persuading science skeptics to promoting scientific empowerment" [Toomey & Elliott, 2026]. Our goal is to persuade science communication practitioners and researchers to pay more attention to persuasion research, not less. We see our views as compatible with Toomey and Elliot's concept of scientific empowerment while nevertheless believing their description of persuasion could benefit from more nuance. We worry about throwing away the baby (i.e., insights stemming from evidence-based persuasion research that can catalyze empowering communication efforts) with the bathwater (i.e., ill-informed, reactionary, and ineffective attempts to align peoples' views and behaviors with those held by experts).

The tacit definition of persuasion used in the argument appears to be that persuasion is about getting publics to *accept* scientific experts' conclusions and recommendations. However, this conflates *one* potential communication goal with persuasion. Persuasion is better understood as a field of study focused on understanding how communication choices can affect what specific individuals and groups think and feel (i.e., cognition and affective outcomes) and the associated effects on relevant behaviors in a range of contexts [e.g. Montano & Kasprzyk, 2015; Perloff, 2020]. Openness to mutual persuasion through high-quality deliberative, dialogue should also be understood as how democratic governance is intended to work and underlies the attention science communication puts on dialogue.

As noted, a persuasion researcher would see wanting people to "*accept* recommendations made by scientific experts" as *one* potential goal of persuasion. Another potential goal, however, would be wanting people to *consider* scientists' recommendations in the context of one's own interests and values. This small difference is crucial to understanding the versatility of persuasion research. Moreover, a recent study shows that wanting people to "consider" scientific advice is one of scientists' top communication goals whereas trying to get people to "make decisions" scored less highly [Besley & Dudo, 2025]. Other common behavioral goals for scientists' communication efforts include wanting policymakers to fund science, young people to consider science careers, and scientists (i.e., themselves) to make research choices that align with community priorities. Recognizing that persuasion research can help with designing communication that aims to (a) help specific audiences consider scientists' insights and (b) help scientists consider specific groups' insights also reflects the reality that persuasion research can be used to design empowering communication.

A related element of the commentary into which we would like to inject nuance is its contention that communication research has shown that "facts alone don't change minds… and that meaningful progress requires two-way dialogue and long-term engagement." In fact, what communication research shows is that there is only a weak relationship between textbook science knowledge (e.g., the Earth goes around the Sun) and positive views about science [Allum et al., 2008; Besley & Yeo, in press]. In contrast, persuasion research provides substantial evidence that well-designed sharing of compelling, audience-relevant information (i.e., facts, if correct) about behavior-relevant risks and benefits, injunctive and descriptive norms, self-efficacy/behavioral control, and trustworthiness can, over time, affect associated beliefs and, in turn, related behaviors [Besley & Dudo, 2022]. For example, persuasion research suggests that scientists who want to empower a community group to share their concerns about a specific topic could benefit from communicating in ways that provide

community members with reasons to believe that sharing their concerns with scientists would be more beneficial than risky, normatively common and acceptable, and feasible. Moreover, scientists may equally need to find ways to provide community members with reasons to believe the scientists have relevant expertise, benevolence (i.e., caring), integrity, and a willingness to both listen and share. Terms such as 'facts,' '(mis/dis)information,' 'understanding,' and 'knowledge' are often used too broadly to be meaningful.

Similarly, persuasion research has long recognized that substantive behavior change takes sustained effort, including the building of relational trust. It is true that some persuasion researchers focus on how heuristic cues and associated biases can affect immediate behaviors. Other persuasion researchers, however, focus on how to create situations in which communication participants have culturally- and context-relevant opportunities to attend to various types of information (i.e., engage) in ways that result in the updating of the types of evaluative beliefs (i.e., risk beliefs, self-efficacy belief) that shape behavioral choices [Eveland & Cooper, 2013]. Dialogue, from this perspective, is an engagement tool that can sometimes help motivate and enable participants [Petty & Cacioppo, 1986] — including scientists — to update their thinking.

We share Toomey and Elliott's vision of a scientific community that engages reflexively, reciprocally, and equitably with the full range of other societal actors in ways that empower people to make decisions that improve their lives and the lives of those around them [Garlick et al., 2025]. Likewise, we see significant synergies — not incompatibilities — between the ideas that Toomey and Elliot endorse under the rubric of 'scientific empowerment' with those of evidence-based strategic communication. The STEM community does, indeed, have a longstanding penchant for simplistic ways of conceptualizing 'persuasion', but it is also the case that the hard-earned empirical insights from persuasion research could help more fully realize the sort of scientific empowerment Toomey and Elliott propose. When we look at examples such as public communication during the COVID-19 pandemic, we see many naïve, atheoretical, individualistic, *ad hoc* communication efforts that appear to have been designed without expertise in evidence-based engagement strategy. Persuasion research did not fail the STEM community. The STEM community has so far failed to use persuasion research and build the infrastructure needed to enact the strategic, sustained, and responsive communication efforts that can lead to shared empowerment. And we — social scientists, communication researchers, and science communication practitioners — have essential roles to play in helping the STEM community refresh their communication playbook. That refresh should center the attributes highlighted in Toomey and Elliot's rubric of scientific empowerment *and* those that form the corpus of evidence-based theory-driven persuasion research.

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