

What we're learning about science communication training



This material is based upon work supported by the National Science Foundation (NSF, Grant AISL 1421214-1421723. Any opinions, findings, conclusions, or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the NSF.



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Our project goals ...

- Better science communication through better science communication training
- Assumption: Good training includes evidence-based technical and *strategic* skills



(e.g. clear messages, narratives, dialogue, choice of visuals, channel, communicator, etc.)

(e.g. knowledge, excitement, and beliefs about scientists' warmth, integrity, competence, identity, efficacy, norms, etc.)

(e.g. individual behavior, or policy support/opposition, etc.)



Scientists' views about communication objectives

John C. Besley
Michigan State University, USA

Anthony Dudo
The University of Texas at Austin, USA

Shupey Yuan
Michigan State University, USA

Abstract

This study looks at how United States-based academic scientists from five professional scientific societies think about eight different communication objectives. The degree to which scientists say they would prioritize these objectives in the context of face-to-face public engagement is statistically predicted using the scientists' attitudes, normative beliefs, and efficacy beliefs, as well as demographics and past communication activity, training, and past thinking about the objectives. The data allow for questions about the degree to which such variables consistently predict views about objectives. The research is placed in the context of assessing factors that communication trainers might seek to reshape if they wanted get scientists to consider choosing specific communication objectives.

Keywords

communication training, science communication, strategic communication, survey, theory of planned behavior

1. Introduction

The science communication training field appears to be growing (Miller et al., 2009; Peters et al., 2008a; Trench and Miller, 2012) and those who conduct such training are eager for guidance on what to include in their courses (Besley et al., 2016). Communication scholars also believe that such training is needed to improve the quality of communicator efforts (Besley and Tanner, 2011). Many trainers may recognize that past research (e.g. Allum et al., 2008) suggests only a limited

Corresponding author:

John C. Besley, Department of Advertising and Public Relations, Michigan State University, East Lansing, MI 48824, USA.
Email: jbesley@msu.edu

Public Understanding of Science

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DOI: 10.1177/0963662517728478

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RESEARCH ARTICLE

Scientists' Prioritization of Communication Objectives for Public Engagement

Anthony Dudo^{1*}, John C. Besley^{2*}

1 Stan Richards School of Advertising & Public Relations, Moody College of Communication, The University of Texas at Austin, Austin, Texas, United States of America, **2** Dept. of Advertising & Public Relations, Michigan State University, East Lansing, Michigan, United States of America

* These authors contributed equally to this work.

* dudo@utexas.edu



Abstract

Amid calls from scientific leaders for their colleagues to become more effective public communicators, this study examines the objectives that scientists' report drive their public engagement behaviors. We explore how scientists evaluate five specific communication objectives, which include informing the public about science, exciting the public about science, strengthening the public's trust in science, tailoring messages about science, and defending science from misinformation. We use insights from extant research, the theory of planned behavior, and procedural justice theory to identify likely predictors of scientists' views about these communication objectives. Results show that scientists most prioritize communication designed to defend science from misinformation and educate the public about science, and least prioritize communication that seeks to build trust and establish resonance with the public. Regression analyses reveal factors associated with scientists who prioritize each of the five specific communication objectives. Our findings highlight the need for communication trainers to help scientists select specific communication objectives for particular contexts and audiences.

Introduction

Recent years have witnessed an upsurge of attention to scientists as public communicators. Much of this attention stems from leaders from within the scientific community who encourage scientists to boost their communication efforts to help build rapport with the public and ensure that their views contribute to policy-making (e.g., [1–5]). Simultaneously, research on scientists as public communicators is becoming more common. This research is providing a clearer sense of how often scientists engage with lay audiences and the characteristics that drive these communication efforts (e.g., [6–9]). Addressing these baseline questions has advanced both intellectual activity and best practices relative to scientists' public engagement. But this work also has highlighted new questions that necessitate increasingly granular research. Given the state of literature, it seems an appropriate time to help supplement the field's understanding of the descriptive aspects of engagement (e.g., quantity, modality, etc.) with attempts to understand what scientists hope to affect through their public communication efforts.

OPEN ACCESS

Citation: Dudo A, Besley JC (2016) Scientists' Prioritization of Communication Objectives for Public Engagement. PLOS ONE 11(2): e0148867. doi:10.1371/journal.pone.0148867

Editor: Fulvio d'Acquisto, Queen Mary University of London, UNITED KINGDOM

Received: October 6, 2015

Accepted: January 24, 2016

Published: February 25, 2016

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Data Availability Statement: Data are available in the paper and Supporting Information files. Data will also be available at the project website hosted by Michigan State University (still under development—the URL will be entered as a comment).

Funding: This material is based in part upon work supported by the National Science Foundation under Grant Nos. AISL-1421723 and AISL-1421214. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Qualitative Interviews With Science Communication Trainers About Communication Objectives and Goals

John C. Besley¹, Anthony D. Dudo²,
Shupey Yuan¹, and Niveen Abi Ghannam²

Abstract

Qualitative interviews with science communication trainers ($n = 24$) on the role of objectives and goals in training efforts suggest that trainers believe that scientists come to training with a range of long-term goals in mind. However, trainers appear to focus on teaching communication skills and are relatively unlikely to focus on identifying specific communication objectives as a means of achieving scientists' goals. The communication objective that trainers consistently report emphasizing is knowledge building. Other potential objectives such as fostering excitement, building trust, and reframing issues were rarely raised. Research aimed at helping trainers foster strategic communication capacity is proposed.

Keywords

qualitative interviews, scientists' perception of the public, training, goals, objectives

The current study seeks to better understand how science communication trainers think about communication objectives and goals. Underlying the

¹Michigan State University, East Lansing, MI, USA

²University of Texas at Austin, Austin, TX, USA

Corresponding Author:

John C. Besley, Department of Advertising and Public Relations, Michigan State University, East Lansing, MI 48823, USA.
Email: jbesley@msu.edu

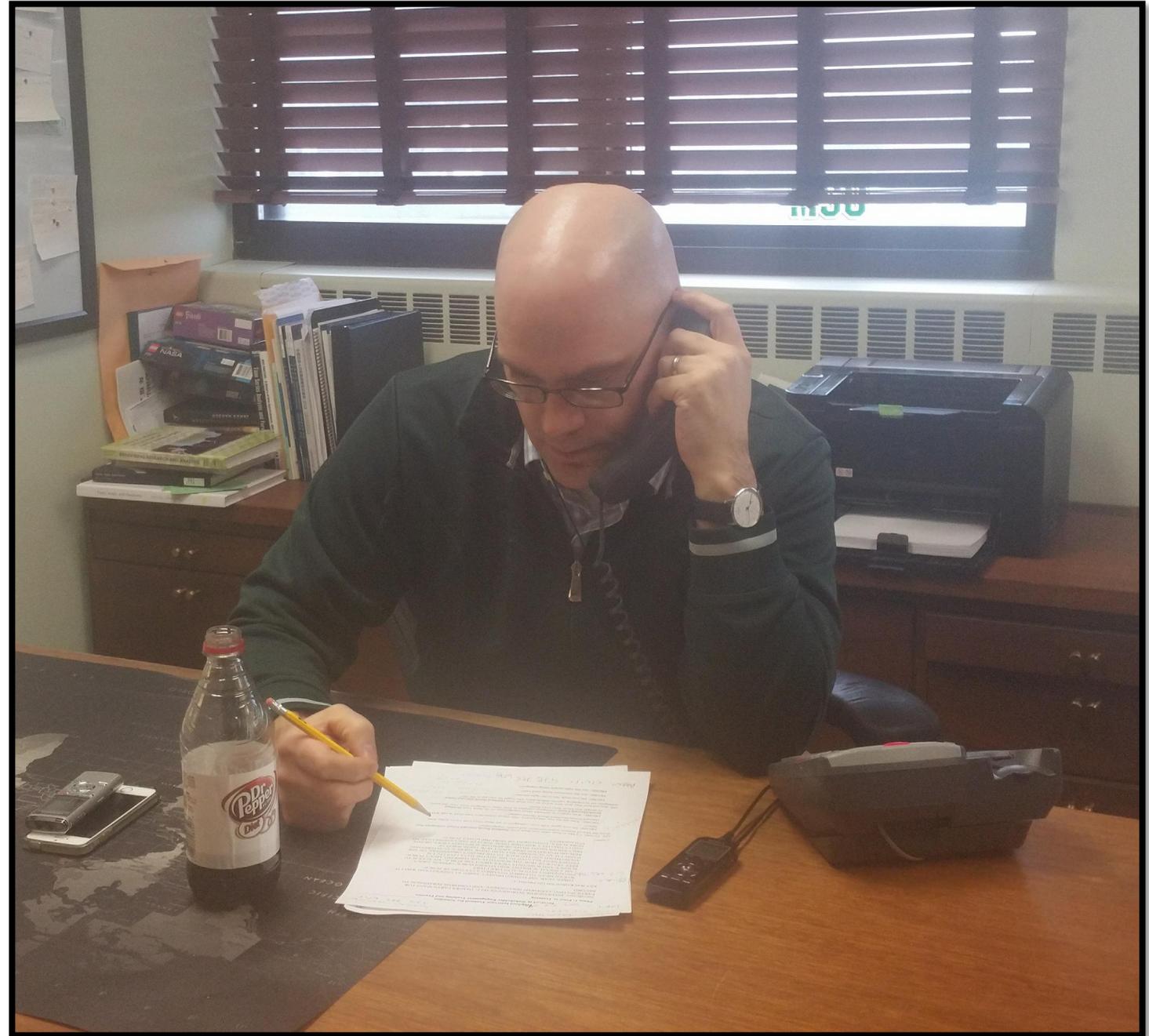


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Research built on past surveys of scientists and 2014 interviews with trainers

This sub-project ...

- Semi-structured interviews
- July-September 2017
- 33 North American trainers
- 39-110 minutes
- Phone
- Qualitative analysis (ongoing)





Our interviewees ...

Of our 33 interviewed trainers:

- About 9 in 10 white
- About 6 in 10 women
- About 5 in 10 Ph.Ds.
- About 2 in 10 social scientists
- Average about 40



Key Theme 1:

The 'deficit model' lives

“What’s the ultimate goal? The ultimate goal is to create people ... with skills to think critically about things that they're told, and sort of transform that into the decisions that they make as part of their daily lives.”



What this means:
Most training focuses on clarity skills and story-telling skills with the expectation that clear, compelling speech will help fix our problems.



Key Theme 2:

CHOOSE YOUR OWN ADVENTURE[®] · 4

“We really work with them to focus on what they want to achieve, and we really want them to define who they are interested in, interacting with, and what they actually want out of that interaction, and it’s something that I think a lot of them haven’t really taken the time to think about.”

Only a small number of programs provide guidance on how to achieve specific behavioral outcomes





Key Theme 3:

Training is for everyone

Lots of training for ...

- Graduate students
- Interested faculty

Little emphasis on selecting participants based on ...

- Need
- Opportunity
- Diversity

Key Theme 4: Lots of rehearsal, few shows

“We had quite a bit of pushback, but critique, that kind of it was too theoretical. It was too academic, which is again ironic in the fact that we’re training scientists, but it was too didactic and people didn’t get enough chance to kind of try it on and take it out for a spin.”



Key Theme 5: Benefits are what matter



THE GOLDEN GOOSE AWARD

But:

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"[A] masterpiece... This is one of the greatest and most engaging collections of insights into the human mind I have read." —WILLIAM EASTERLY, *Financial Times*



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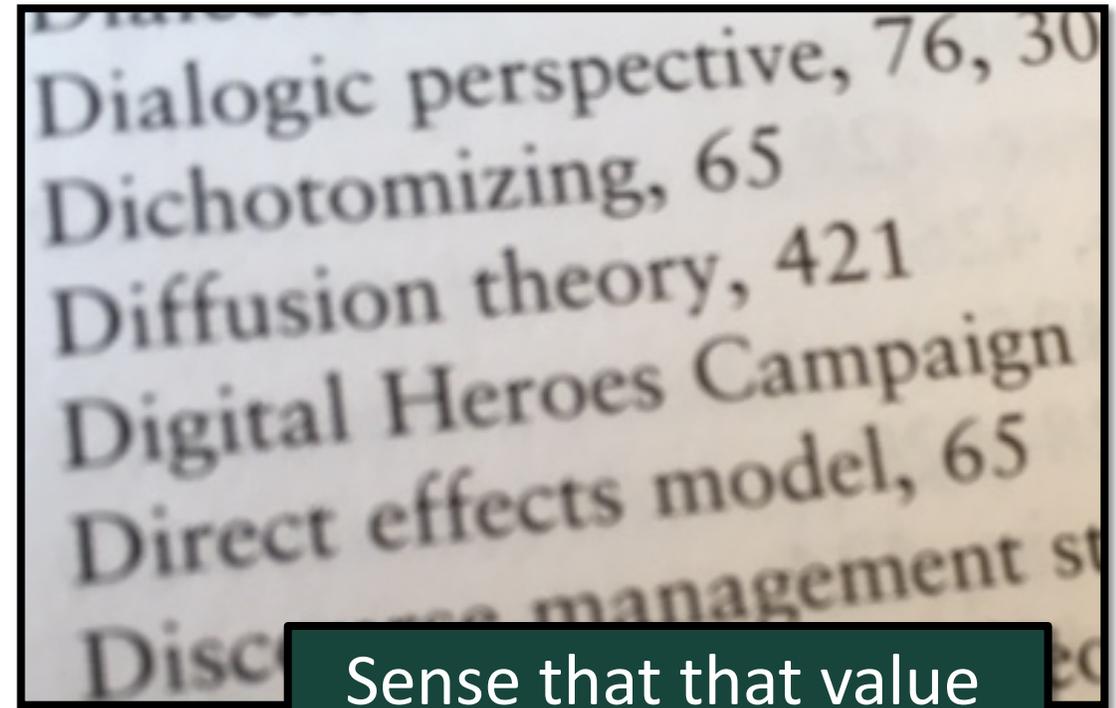


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Key Theme 6:

What's after dialogue?

“Communication is not a one-way street, it has to be a dialogue, and so that’s something that I think is under taught in academia and so it’s something that we need to emphasize in our science communication training.”



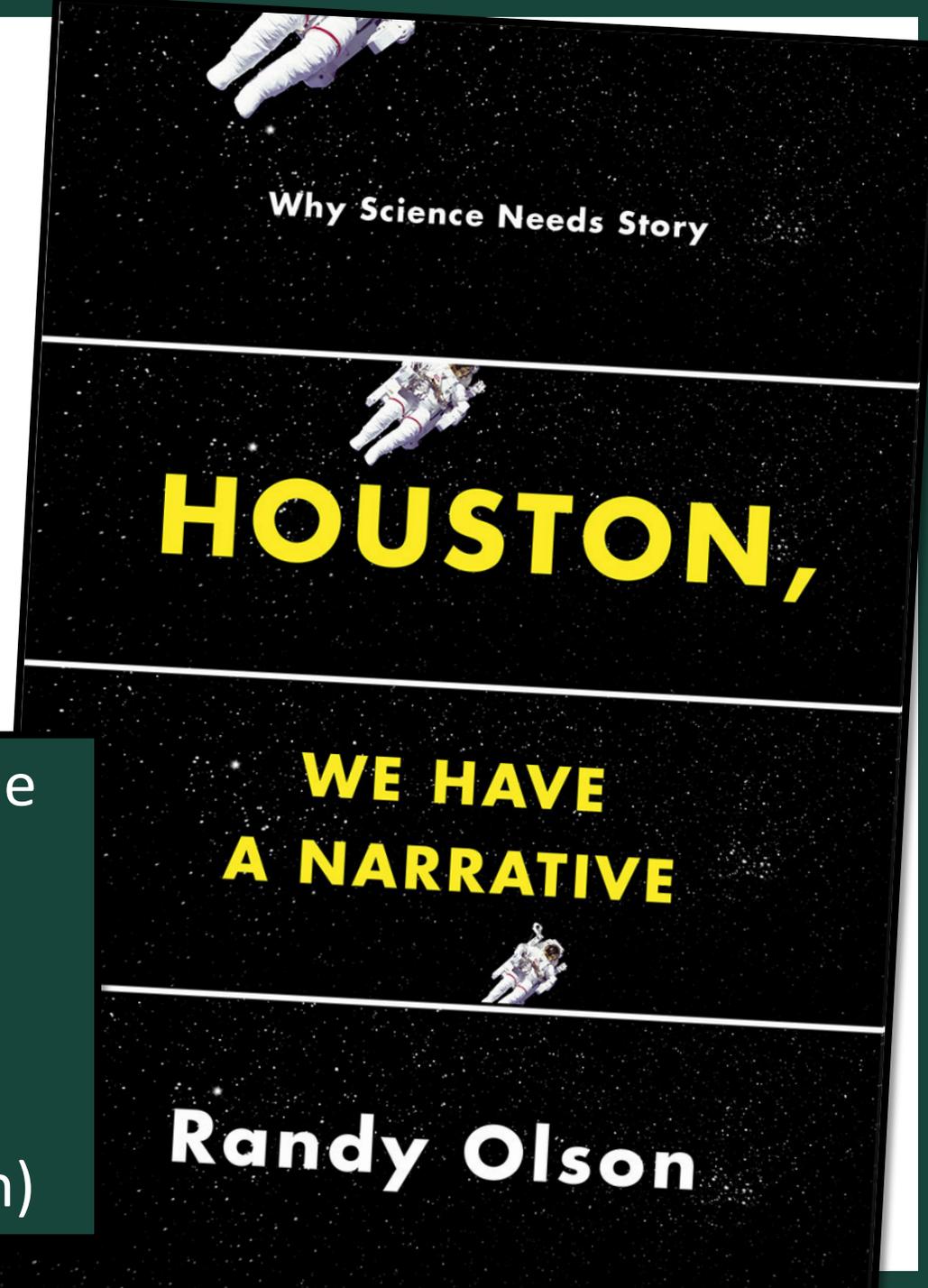
Sense that that value of dialogue is that it's a better tactic to fill knowledge deficits (versus build real relationships)



Key Theme 7: Stories are great too ...

“And then these days, there almost always is kind of a storytelling component that we do as part of workshops.”

Sense that that value of stories is as a better tactic to fill knowledge deficits
(Not convey motivation, warmth)



Key Theme 8:

About your research ...

“I don’t draw on the peer reviewed literature at all. ... [T]he vast majority of research that I’ve drawn is from mass publication books, which themselves cite peer reviews.”

[Some reference to motivated reasoning, framing, ‘six Americas’ audience segmentation]



Key Theme 9:

Evaluation would be great but ...

“I would say sort of shallow evaluation after every single ... round just to generally find out, do people like this format, again, that’s where a lot of our tweaks and reflection comes in.”



Key Theme 10: Distill, translate, decode ...

“We work with journalists a ton because journalists are great at helping scientists distill their complex messages into something that makes sense.”

“We would kind of start with some orientational stuff around why framing is an important part of science translation and give some people examples of groups that have used training to effectively translate science for public understanding and policy and practice impact.”



Distilled

But:



Crafted

In the end, we would like ...

1. ... continued growth ranks of trainers
2. ... more trainers to talk to each other
3. ... more researchers do/share useful work
4. ... **more emphasis on training**
for specific communication effects

(and impact requires clarity on goals
and ensuring goals will drive tactics)

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*This material is based
upon work supported by
the National Science
Foundation (NSF, Grant
AISL 1421214-1421723.
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