

HOW PEOPLE THINK ABOUT SCIENCE INFORMATION

A Thesis

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by

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ABSTRACT

Science and society have never quite lived in perfect harmony. This has been due to a variety of factors hindering the relationship between these two. Nevertheless, science increasingly affects our daily lives. Regardless of assumptions as to what people should know about science and why they should know it, academic research needs to have a more complete understanding of how people think about science information. The current study examines and attempts to avoid common assumptions previously made in analyzing this question. This study uses a categorization task to reveal how individuals think about science content and correlates individual understandings of the content to individual differences. The findings presented here comprise an initial attempt to define publics for science information according to the ways they inherently and individually make sense of such information, representing a new approach to defining publics for science information. This approach is intended to add an individual component to be taken in combination with previous investigations into the question of how people think about science information, which generally hold that differences are attributable to social, cultural, and geographical factors. Future research under this paradigm may add greatly to our integrated understanding of how people think about science information and may have great and far-reaching practical implications.

BIOGRAPHICAL SKETCH

Sara Ball loves water, laughter, neurotransmitters and action potentials, artichokes, traveling, the color red, California, grapefruits, outdoors, the numbers 33 and 47, and her family and dear, sweet friends. While completing her B.A. in Neuroscience at Pomona College, Sara Ball became interested in the social implications of science. After a year-long jaunt around the Northern Hemisphere she came to Cornell with a healthy appetite for discovery about the relationship between science and people who think they don't care about science. Sara has found that people do in fact care about science, mostly when they can see how it affects their own lives, and that people differ greatly in these matters. She is pursuing a career that encourages people to realize just how much science affects our lives, and our society at large, every day.

For my mom, in case this is the only thing I ever write that warrants a dedication.

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PREFACE

For several decades, academics have been critically aware that "Science can no longer be content to present itself as an activity independent of the rest of society," (Morison, 1969, p.150). Science takes center stage in public debates, pervades our personal lives in what we eat to how we cure ailments, and alters the way we live in and perceive our environment.

The relationship between science and the rest of society has had a mottled history. From sorcery and alchemy to chemistry and biology, science and the rest of society have never quite lived in perfect harmony. They have a hard time understanding each other. Public audiences have frequently perceived barriers in their relationship with science and these relationships have often been only weakly established. In many cases, this has been due to lack of communication between scientists and public, whether lacking by intention or ability. Both sides present difficulties in communicating jargon, uncertainty, abstraction, and detail, which are among many issues that hinder a facile relationship between scientists and non-technical or non-specialist audiences. Regardless, science continues to affect our lives.

This dichotomy presents innumerable questions: ethical, personal, social, political, and economic. What do people need to know about science? Who gets to decide? What is the best way to deliver science information to non-technical audiences? What is the goal of delivering such information? The list continues. However, underlying each of these questions is a single question, the answer to which may greatly improve our ability to answer many of the former:

How do people think about science information?

Although this question has been asked and investigated in a variety of settings and under a variety of assumptions, a satisfactory answer has not yet been offered. The current study examines, and attempts to avoid, common assumptions previously made

in analyzing this question. Further, the present study defines audiences for science information via understandings that individuals independently create and attempts to correlate these understandings with individual differences.