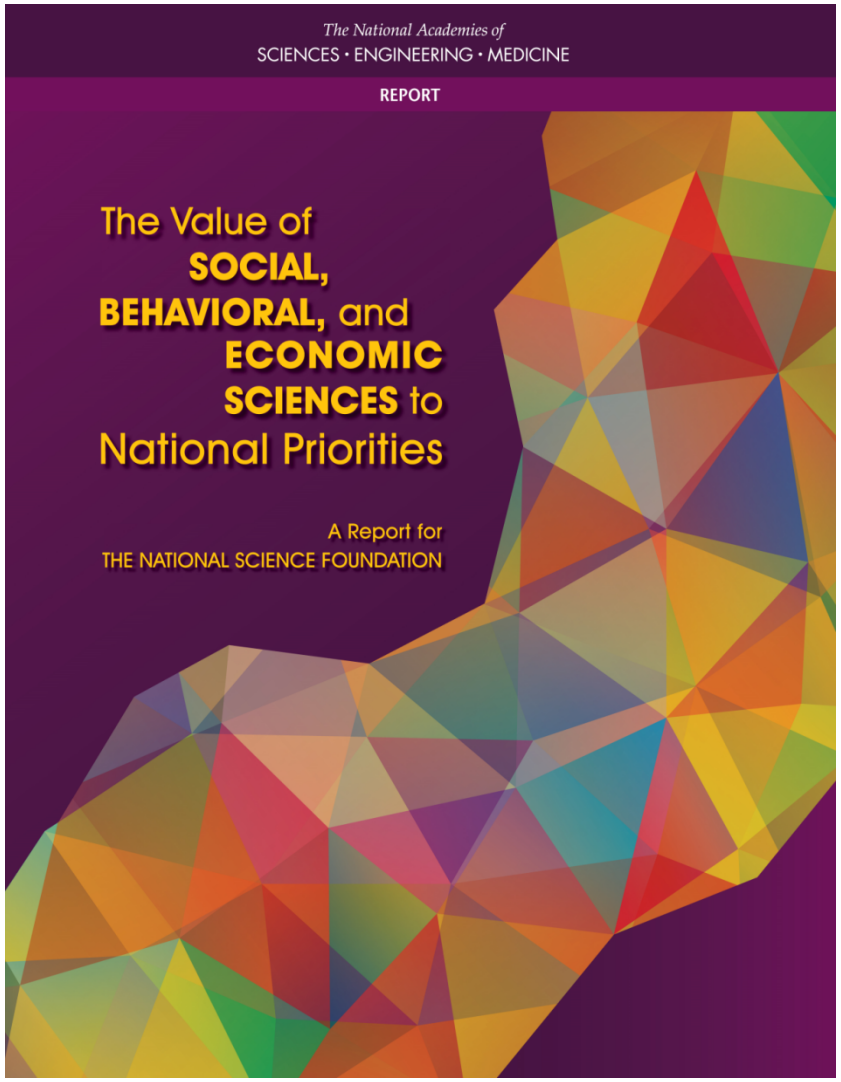


Overview of NSF Social, Behavioral, and Economic Sciences Strategic Planning

FABBS Council of Representatives
December 4, 2017

Fay Lomax Cook, PhD
Assistant Director
Directorate for Social, Behavioral, and Economic Sciences

Charge to the Committee

1. Do the SBE sciences advance the NSF mission areas of **national health, prosperity, and welfare**; securing the **national defense**; and **promoting the progress of science**?

2. Do the SBE sciences advance the **missions of other federal agencies?**

3. Do the SBE sciences advance the **work of business and industry**?

4. What are **priorities for NSF investment** in the SBE sciences, and what are **important considerations** for the NSF for future strategic planning?

Committee on the Value of Social, Behavioral, and Economic Sciences to National Priorities

ALAN I. LESHNER (Chair), American Association for the Advancement of Science

JOHN S. CARROLL, Sloan School of Management, Massachusetts Institute of Technology

IVY ESTABROOKE, Utah Science, Technology and Research Agency, Salt Lake City, Utah

RALPH GARRUTO, Department of Anthropology, State University of New York, Binghamton

KATHLEEN MULLAN HARRIS, Carolina Population Center, University of North Carolina at Chapel Hill

RON HASKINS, Center on Children and Families, The Brookings Institution, Washington, DC

EDWARD H. KAPLAN, Yale School of Management, Yale University

RONALD D. LEE, Department of Economics, University of California, Berkeley

ROBERT MOFFITT, Department of Economics, Johns Hopkins University

DUNCAN WATTS, Microsoft Corporation, New York, New York

YANNIS C. YORTSOS, Viterbi School of Engineering, University of Southern California

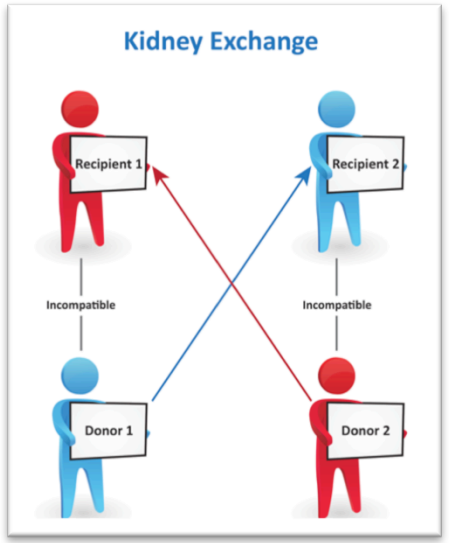
Response to the Question: Why Support Social, Behavioral and Economic (SBE) Research?

- Virtually every major challenge the United States faces requires understanding the causes and consequences of people's behavior.
- Even those that at first glance appear to be issues only of medicine or engineering or computer science have SBE components.
- Like all sciences, the social sciences bring a rigorous, methodical approach to pursuing knowledge.

The Committee Reached Three Conclusions. Conclusion 1

Overall, the **social, behavioral, and economic sciences** produce a better understanding of the human aspects of the natural world, contributing knowledge, methods, and tools that **further the mission of NSF**.

- Health
- Prosperity and welfare
- National defense
- Progress of science



Conclusion 2

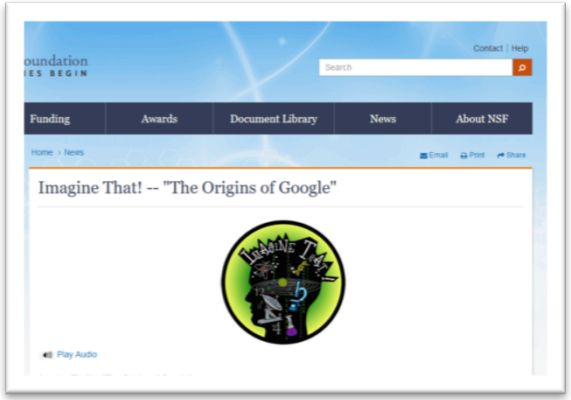
The understanding, tools, and methods provided by the **social, behavioral, and economic** provide an essential foundation that **helps other agencies achieve their missions**.

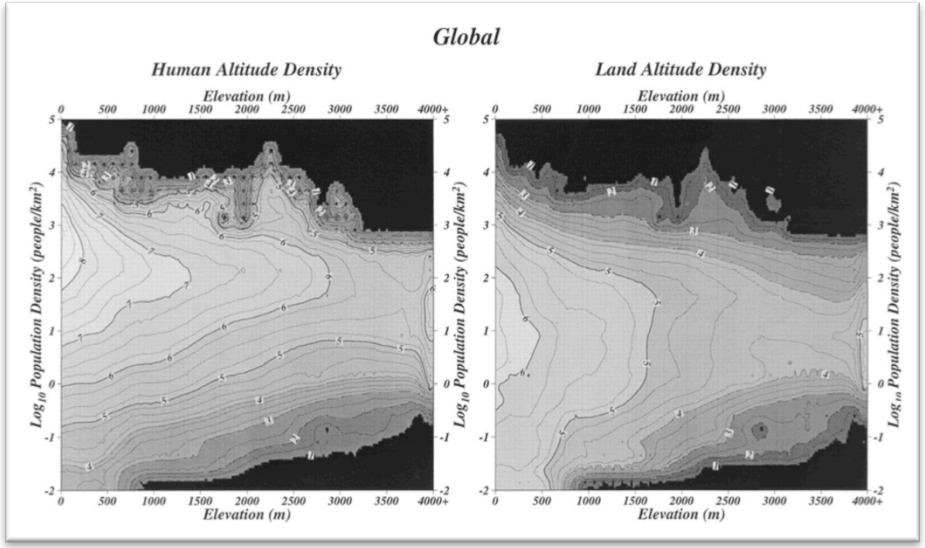
- Auctioning off radio frequencies (FCC)
- Containing Ebola (CDC)
- Improving national security, intelligence and counterterrorism (DoD and other agencies)

Conclusion 3

The **social, behavioral, and economic sciences** have provided advances in understanding and tools and methods that have been **applicable to business and industry** and that **enhanced the U.S. economy**.

- Development of internet search engines
- Using the altitudes of the world population to inform product development and marketing





Cohen and Small (1998) *PNAS* vol. 95

Preparing for the Future: Priorities and Elements NSF Should Consider in its Strategic Planning

1. Undertake a systematic and transparent strategic planning process
2. Attend to current trends in science
3. Support training consistent with ways science is evolving across all scientific fields (e.g., interdisciplinary, data intensive, and team-oriented)
4. Strengthen communication of SBE research

Steps to Address NASEM Recommendations for Strategic Planning

1. Examine other agencies' strategic planning process
2. Solicit input from the a) NSF leadership; b) National Science Board; c) SBE Advisory Committee; d) SBE and other research communities; e) National Academies; f) NSF/SBE staff; g) other relevant stakeholders including federal agencies and industry, etc.
3. Identify grand challenges for the SBE Sciences: *Societal Challenges that can be addressed by fundamental research in the SBE sciences*

Grand Challenge #1: *Maximizing Cooperation and Communication*

Rationale for importance

- Improved cooperation and communication between employers and the workforce can increase access to opportunity.
- Effective education depends on classroom communication and student cooperation.
- Trust in public institutions requires better communication.
- Policy development and implementation require bipartisan cooperation and communication.
- Understanding science requires better communication from scientists.
- Violence and aggression may be reduced with better cooperation in society, and between societies.
- Political discourse benefits from cooperative discussion and deliberation.

Maximizing Cooperation and Communication: Scientific Questions

- What psychological and physiological mechanisms improve perspective taking?
- What are mechanisms of the fundamental attribution error?
- How does self-distancing improve cooperation?
- How can trust be calibrated between collaborators or competitors and between humans and technology?
- How do cooperation and communication build trust?
- What are the psychological and neural mechanisms of understanding complex messages?
- How do complex messages lead to beliefs and behavior change?
- How do different cultures support cooperation between groups?
- How do cultures differ in communicative effectiveness?
- How do messages become propagated in society—becoming viral?

Grand Challenge #2: *Public Trust in Institutions*

Rationale for importance

- Public trust in public institutions is deteriorating in the U.S. and in many countries.
- Healthy and dynamic societies depend on the confidence citizens place in their institutions whether government, military, financial, medical, or academic.
- Civic participation can provide a sense of common identity, security, and shared values.
- Trust and respect in institutions is necessary to protect citizen well-being.
- Fomenting intentional distrust can distract from focusing on the issues.
- Sharing private or confidential information with government institutions requires trust.

Public Trust in Institutions: Scientific Questions

- What are factors that build trust and which cause it to erode?
- Do the factors that affect trust differ by geography, race, or socio-economic status?
- What is the impact of an individual's immediate family or social network on their decisions about whom and what to trust?
- What impact does social media and traditional media have on building or eroding trust?
- What factors do citizens use to differentiate between organizations as they decide on whom or what to trust?
- How does a democratic form of government thrive in an environment of distrust?
- Does the scientific method apply to governance?
- What is the role of criticism and open dialog in building/engendering trust?
- How do individuals identify the truth, and separate it from false data?

Grand Challenge for Today

What do you see as the grand challenge(s) for the SBE sciences?

Thank you.

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