Science of Science: Discovery, Communication and Impact

Mary K. Feeney
Social and Economic Sciences
Social, Behavioral and Economic sciences
National Science Foundation
Science of Science: Discovery, Communication and Impact

Supports research focused on advancing knowledge and theory on the social science of scientific discovery; theories, models and data improving our understanding of scientific communication; and how science advances evidence-based policymaking and public value.

SoS:DCI welcomes proposals applying rigorous empirical research methods to advance theory and knowledge on:

- The social and structural mechanisms of scientific discovery.
- Theories, frameworks, models and data that improve our understanding of scientific communication and outcomes.
- The societal benefits of scientific activity and how science advances evidence-based policy making and the creation of public value.
Science of Science

Discovery
- Science teams, collaboration, gender, race, disability in STEM
- Participatory science, community / participatory science

Communication
- Misinformation, science communication
- Communication/evidence to policy makers, participatory science

Impact
- R&D outcomes, development, research outputs (pubs, cites, etc)
- Broadening participation, equity, policy, education, action
Science of Science

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• EAGER: Equity in scientific co-production processes: Creation of a framework. PI: Karen Akerlof; Co-PI: Kristin Timm
• Collaborative Research: An evidence-based approach towards technology workforce expansion by increasing female participation in STEM entrepreneurship. PI: Jonathan Eckhardt & Brent Goldfarb
• Assessing bias and idiosyncrasies in elite scientific peer review. PI: Aaron Clauset; Co-PI: Daniel Larremore

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• Inequity & mistrust of scientific information – understanding science misinformation in Black communities & developing community-driven science communication strategies. PI Michael Xenos, Co-PIs: T Newman & L Williamson
• Testing strategies & impacts of communicating the value of museum biological collections. PI: Adrian Smith, Co-PI Nicole Lee
• Integrating spiritual, moral & ethical consideration into science communication for improved decision making & public action on climate science. PI: Jessica Eise

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• R&D outcomes, Improving the use of science in collaborative environmental governance. PI Craig Thomas, Co-PI Tomas Koontz
• CAREER: Assessing the effect of source credibility on public perceptions of science and place-based conservation. PI: Dara Wald
• Corporate science communication and its effect on scientific knowledge and attitudes. PI: Nicole Lee
Recent effort

NSF 22-035

Dear Colleague Letter: NSF and William T. Grant Foundation Partnership to Increase the Use, Usefulness, and Impact of Research about Youth

December 27, 2021

Dear Colleague:

With this Dear Colleague Letter (DCL), the Directorate for Social, Behavioral, and Economic Sciences (SBE) of the National Science Foundation (NSF) notifies the research community of a collaboration with the William T. Grant Foundation (WT Grant) on a coordinated call for proposals focused on increasing the public value of scientific research: “Increasing the Use, Usefulness and Impact of Research about Youth.”

The William T. Grant Foundation is a private philanthropy founded in 1938, that has been investing “in high-quality research focused on reducing inequality in youth outcomes and improving the use of research evidence in decisions that affect young people in the United States.”

Public and private sector decision-makers across the U.S. work hard to improve the quality of life of young people. Research findings can help them in that effort but only if certain conditions are in place. Those conditions include:

- Research findings are timely and relevant to the challenges that decision-makers face;
- Decision-makers have access to trusted research findings and the capacity to use them; and
## Work we supported from WTG partnership

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<tr>
<th>WTG: Beyond the black box: Understanding the use of algorithmic risk assessments in the juvenile justice system</th>
<th>WTG: Diffusion of Research on Supporting Mathematics Achievement for Youth with Disabilities through Twitter Translational Visual Abstracts</th>
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| **Principal Investigator:** Kelly Murphy, Child Trends Inc.  
**Award Amount:** $450,000.00 | **Principal Investigator:** Jessica Rodrigues, University of Missouri-Columbia. Co-PIs: Elizabeth Farley-Ripple, Joel Malin. Award Amount: $311,844.00 |

Juvenile justice systems throughout the nation use research-based, algorithmically based, juvenile risk and needs assessment tools. This study will examine how decision makers use risk assessments. We will examine how different contextual factors affect the use of the tool as well as how the use of the tool affects youth outcomes. A key goal of this study will be to develop policy and practice guidance to promote more effective and equitable use of risk assessments.

This project develops effective strategies for sharing mathematics-focused research with a teacher audience, to help reduce inequality in mathematics and STEM outcomes for youth with disabilities. The project will explore (a) current and innovative strategies for communicating research focused on supporting mathematics learning for students with disabilities and (b) the diffusion of research via social media (i.e., Twitter) to a teacher audience. The project supports a diverse STEM workforce through its research activities and by providing funded, STEM-related research experiences to undergraduate students with disabilities.
Lessons Learned

1. Broader Impacts
2. Dissemination plans matter
3. Research on Evidence & Research on Research Use vs Evaluation
4. Translation (who when how)
5. Entanglement of communication, translation, policy, evidence, data vs lived experience – Social Science!!!
Thank You!

Questions?

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