

National Science Foundation
Directorate for Social, Behavioral and Economic Sciences (SBE)
Spring Advisory Committee Meeting Summary
May 13-14, 2015
NSF Headquarters, Stafford I, Room 1235

SBE Advisory Committee (AC) Members Present: Dr. Emilio Moran (Chair), Center for Global Change and Earth Observations and Department of Geography, Michigan State University; Dr. J.W. Harrington, Vice Chancellor for Academic Affairs, University of Washington, Takoma; Dr. Jon A. Krosnick, Department of Communications, Stanford University; Dr. Joanna Morris, School of Cognitive Science, Hampshire College; Dr. Steven Ruggles, Minnesota Population Center, University of Minnesota; Dr. Elizabeth Higginbotham, Department of Sociology, University of Delaware; Dr. Karen Cook, Department of Sociology, Stanford University; Dr. Catherine Eckel, Department of Economics, Texas A&M University; Dr. Nilanjana Dasgupta, Department of Psychological and Brain Sciences, University of Massachusetts at Amherst; Dr. Joseph Altonji, Economics Department, Yale University; Dr. William Riley, Office of Behavioral and Social Sciences Research, National Institutes of Health (*Ex officio*); Dr. Kenneth Bollen, Department of Sociology, University of North Carolina, Chapel Hill; Dr. George Middendorf, Department of Biology, Howard University (representing the Committee on Equal Opportunities in Science and Engineering, CEOSE); Dr. Martha Farah, Center for Neuroscience and Society and Department of Psychology, University of Pennsylvania (via phone); and Dr. Thomas McDade, Department of Anthropology, Northwestern University (via phone).

SBE Advisory Committee Absent: Dr. Ruth DeFries, Department of Ecology, Evolution and Environmental Biology, Columbia University; and Dr. Lydia Villa-Komaroff, CEOSE Liaison, Massachusetts Life Science Center.

NSF Staff in Attendance: Dr. France Córdova, Director; Dr. Richard Buckius, Chief Operating Officer; Dr. Fay Lomax Cook, Assistant Director (AD), SBE; Dr. Clifford Gabriel, Acting Deputy AD, SBE; Mr. John Gawalt, Division Director, SBE/National Center for Science and Engineering Statistics (SBE/NCSES); Ms. Jeri Mulrow, Deputy Division Director, SBE/NCSES; Dr. Jeryl Mumpower, Director, SBE/Division of Social and Economic Sciences (SBE/SES); Dr. Alan Tomkins, Deputy Division Director, SBE/SES; Dr. Amber Story, Acting Director, SBE/Division of Behavioral and Cognitive Sciences (SBE/BCS); Dr. Katherine Meyer, Acting Deputy Division Director, SBE/BCS; Dr. Deborah Olster, Senior Advisor, SBE/Office of the Assistant Director (OAD); Dr. Heather Dean, Associate Program Director, SBE/OAD; Dr. Josie Welkom, Program Analyst, SBE/OAD; Mr. Anthony Teolis, SBE Administrative Coordinator, SBE/OAD; Ms. Clarissa Johnson, IT Specialist, SBE/OAD; Mr. Philip Johnson, IT Specialist, SBE/OAD; Dr. Amy Friedlander, Staff Associate, SBE, and Acting Deputy Director, Division of Advanced Cyberinfrastructure in the Directorate for Computer Information Science & Engineering; Dr. Jaquelina Falkenheim, Senior Research Analyst, SBE/NCSES; Dr. Cheryl Eavey, Methodology, Measurement and Statistics Program Director, SBE/SES; Dr. Sally Dickerson, Social Psychology Program Director, SBE/BCS and Dr. Lee Walker, Political Science Program Director, SBE/SES, and co-chairs of the SBE Science of Broadening Participation Working Group; Ms. Julia Jester, Group Leader, Congressional Affairs, and Mr. Neil Canfield, Legislative Affairs Specialist, NSF Office of Legislative and Public Affairs; and other NSF staff.

Note: The meeting was open to the public and representatives of stakeholder groups also attended.

Summary: This was the first meeting of the SBE AC in 2015. The agenda included the following items: update on the directorate's activities; presentations on the NSF Public Access Plan and a portfolio

analysis of the themes from *Rebuilding the Mosaic: Fostering Research in the Social, Behavioral, and Economic Sciences at the National Science Foundation in the Next Decade*; presentation and discussion of the report from the SBE AC Subcommittee on Replicability in Science; a meeting with the NSF leadership; and a briefing on the *Women, Minorities and Persons with Disabilities in Science and Engineering* report and SBE funding in Science of Broadening Participation (SBP), followed by a discussion on the science and practice of broadening participation. The agenda also included a session on Decision-Making under Uncertainty/Risk and Resilience: current NSF activities, a panel of research presentations by NSF-funded scientists, and discussion of future directions for SBE research in this area.

Directorate Update (Dr. Fay Lomax Cook)

The directorate update began with announcements: 1) due to the robust response from the research community, the Census Bureau has decided not to drop the “field of degree” question from the American Community Survey; 2) many current and former SBE awardees have recently been honored with prizes for their work; and 3) staff transitions and recruitments among the SBE Senior Leadership. Dr. Cliff Gabriel is serving as acting Deputy Assistant Director of SBE. Dr. Mark Weiss retired as Division Director (DD) of BCS. Dr. Amber Story is serving as acting DD, and Dr. Katherine Meyer as acting Deputy DD of BCS. Dr. Jeryl Mumpower will be completing his rotation as DD of SES over the summer. Ms. Lisa Jones (SBE/OAD Budget Officer) has left SBE to take a position in the Directorate for Education and Human Resources, and Dr. Jennifer Thornhill is now acting in that position. Recruitments for the Deputy Assistant Director, two DD positions (BCS and SES), a Budget Officer, and a Communications Specialist are underway.

Dr. Cook then reviewed the budget, new solicitations and Fiscal Year (FY) 2015 SBE research priorities. The FY 2015 budget “CRomnibus” bill granted SBE its budget request (\$272.2 million, a 6% increase over 2014). The FY 2016 budget request asks for a 7% increase over the FY 2015 level. SBE is partnering with the directorates for Engineering (ENG), Computer & Information Science and Engineering (CISE), and Education & Human Resources (EHR) on a new solicitation, *Science of Learning: Collaborative Networks (SL:CN)*, the first step in our next phase of investments in the Science of Learning. Another new solicitation is *Resource Implementations for Data Intensive Research in the Social, Behavioral, and Economic Sciences (RIDIR)*, a successor to *Building Community and Capacity for Data-Intensive Research in the SBE Sciences and in Education and Human Resources*, which had competitions in FYs 2012-2014.

In addition to continuation of core programs, plans for FY 2016 include the following: NCSSES will initiate new projects that support the development of enhanced data access tools, techniques, and visualizations, new data collection techniques building on administrative data and other “big data” sources, and questionnaire redesign and survey improvements. The cross-directorate initiatives in which SBE will participate are Understanding the Brain (UtB); Risk and Resilience: Critical Resilient Interdependent Infrastructure Systems and Processes (CRISP); Innovations at the Nexus of Food, Energy and Water Systems (INFEWS); Cyberinfrastructure Framework for 21st Century Science, Engineering and Education (CIF21); Secure and Trustworthy Cyberspace (SatC); Urban Science; and Inclusion across the Nation of Communities of Learners that have been Underrepresented for Diversity in Science and Engineering (NSF INCLUDES).

SBE has two Committees of Visitors (COVs) scheduled for the summer of 2015. The COV for the SBE Office of Multidisciplinary Activities will be chaired by Dr. Catherine Eckel, and the COV for the Division of Behavioral and Cognitive Sciences will be chaired by Dr. J.W. Harrington. Reports from both COVs will be presented at the fall, 2015 AC meeting.

In April 2015, the House of Representatives Science Committee presented and passed the America COMPETES Reauthorization Act of 2015 (H.R. 1806). The bill sets NSF funding levels by directorate, with a 48.5% decrease for SBE (as compared to the FY 2016 budget request), most of which would come from reductions in the SBE research divisions' budgets. America COMPETES also calls for a 12% reduction in the Geosciences Directorate budget, a 25% reduction in budget of the office of International Science and Engineering, a 10% reduction in the EHR budget, and an 18% reduction in the budget for the Office of Integrative activities.

NSF Public Access Plan: *Today's Data, Tomorrow's Discoveries: Increasing Access to the Results of the Research Funded by the National Science Foundation* (Dr. Amy Friedlander)

Dr. Friedlander presented the NSF Public Access plan. Its goals include providing access to the results of research funded by the NSF to the public and minimizing the burden on awardees/investigators and on NSF staff. In addition, in FY 2014, NSF made several awards available across directorates to explore data management issues relevant to public access. The executive summary and full NSF Public Access Plan are available [here](#).

Dr. Steven Ruggles then led a discussion on the impacts of public access for SBE and how NSF can accommodate the needs of the SBE scientific communities as the data sharing component(s) of public access are developed. The AC raised concerns about the timing of data and publication deposit, but NSF's plan is to get the process started and work on problems as they arise.

Report from the SBE AC Subcommittee on Replicability in Science (Dr. Kenneth Bollen)

As Co-Chair of the SBE AC Subcommittee on Replicability in Science, Dr. Bollen presented the Subcommittee's draft final report, informed by the workshop *Robust Research in Social, Behavioral and Economic Sciences* held at NSF in February, 2014. The report offers definitions of reproducibility, replicability, and generalizability and recommendations for improving the robustness of NSF-funded research. AC members voted to approve the report for public dissemination with the title *Social, Behavioral, and Economic Sciences Perspectives on Robust and Reliable Science*. It was suggested that a new AC working group be formed to develop more specific research recommendations for SBE.

Report on the SBE 2020 Themes/*Rebuilding the Mosaic* Portfolio Analysis (Drs. Josie Welkom and Fay Lomax Cook)

Drs. Cook and Welkom presented the results of a preliminary portfolio analysis of SBE proposals related to two themes – aging, and disparities/inequalities – identified as important topics for future SBE research in *Rebuilding the Mosaic: Fostering Research in the Social, Behavioral, and Economic Sciences at the National Science Foundation in the Next Decade*. The analysis revealed that in general, there was a decrease in both submissions and awards related to the themes during the three years after publication of the *Mosaic* report, as compared to the three years prior to its release. An analysis was also done on proposals/awards for *Interdisciplinary Behavioral and Social Sciences Research (IBSS)*, a solicitation developed in 2012 to address the recommendations in the *Mosaic* report. The IBSS solicitation named the four *Mosaic* report themes as examples of topics that would benefit from interdisciplinary research in the SBE sciences, although it did not limit proposals to those topics. The analysis indicated that the proposals and awards from IBSS do, in fact, address the content themes articulated in the *Mosaic* report. During the ensuing discussion, several AC members agreed that the *Mosaic* themes are useful, but that proposals should not be limited to those themes. They also expressed the view that there may be a place for targeted funding of particular areas, such as replicability or infrastructure.

Women, Minorities and Persons with Disabilities in Science and Engineering (Dr. Jaquelina Falkenheim)

Dr. Falkenheim presented the highlights of the NCSES 2015 report, *Women, Minorities and Persons with Disabilities in Science and Engineering*, which provides statistical information about the participation of individuals in these groups in science and engineering education and employment. It is one of the signature reports produced by NCSES. The presentation provided a background for the discussion on the Science Broadening Participation that followed.

**Science of Broadening Participation (SBP; Drs. Sally Dickerson and Lee Walker)
Discussion of SBE's role in future NSF activities (led by Dr. Nilanjana Dasgupta)**

Drs. Dickerson and Walker, co-chairs of the SBE Science of Broadening Participation Working Group, updated the AC on progress in SBP. The presentation described the Dear Colleague Letters, *Stimulating Research Related to the Science of Broadening Participation*, and some of the projects funded through SBE's "matching funds" competition. Drs. Dickerson and Walker also introduced NSF INCLUDES (Inclusion across the Nation of Communities of Learners that have been Underrepresented for Diversity in Engineering and Science), a new Foundation-wide initiative for FY 2016 to which SBE is contributing \$500,000. Its goal is to fund new research, models, and partnerships that lead to transformative progress in broadening participation. Dr. Nilanjana Dasgupta then led an AC discussion on SBE's role in future NSF activities related to the science and practice of broadening participation in STEM fields. The ensuing discussion brought up the importance of highlighting the role of basic behavioral and social science research in developing interventions to broaden participation and framing scientific fields in ways that are attractive to individuals who are under-represented in those fields.

**Advisory Committee for Cyberinfrastructure (ACCI) and Statistical Sciences at NSF (StatSNSF)
Subcommittee Update (Dr. Kenneth Bollen)**

As the SBE AC Liaison to the ACCI, Dr. Kenneth Bollen briefly updated the SBE AC on the recent joint meeting of the ACCI with the Directorate for Biological Sciences AC and formation of two new ACCI working groups, one on the scale and scope of cyberinfrastructure needs across NSF and the other on data and code access and reproducibility.

As the SBE AC Liaison to the Statistical Sciences at NSF (StatSNSF) Subcommittee, Dr. Bollen also gave an update on that subcommittee's recent draft report that includes recommendations on data science as related to program officer initiatives, NSF organization, NSF research initiatives, workforce development and the NSF proposal and review cycle. The StatSNSF Subcommittee will continue to work with the AC to the Directorate for Mathematical and Physical Sciences (under which the Subcommittee is housed) to revise the report. Comments and suggestions on the report are welcomed.

Discussion with NSF Leadership (Dr. France Córdova and Dr. Richard Buckius; and Ms. Julia Jester, NSF Office of Legislative Affairs)

Dr. Córdova talked about America COMPETES and the activities of the House of Representatives and Senate appropriations committees and subcommittees that have jurisdiction over NSF. She also discussed agency-wide support for NSF INCLUDES and an upcoming invitational workshop with thought leaders, researchers, innovators, practitioners, etc., to discuss how to scale up programs that have been shown to broaden participation. The AC brought up basic research in the SBE sciences that is relevant to the development of interventions designed to broaden participation. The final topic of discussion was robust and replicable science that is under discussion by multiple NSF Advisory Committees. Dr. Córdova announced the *Director's Symposium on Robust and Reliable Science*, scheduled for September 10, 2015. The first trans-NSF event on this topic, the Symposium will raise awareness and start a

discussion among NSF staff on how to promote robustness and reliability in the science the agency supports.

NSF Activities Related to Decision-Making under Uncertainty/Risk and Resilience (Dr. Cheryl Eavey)

Dr. Eavey gave a brief overview of NSF efforts in Decision-Making under Uncertainty/Risk and Resilience. She described SBE's core program in Decision, Risk and Management Sciences (DRMS) and the directorate's participation in shorter term competitions, such as *Critical Resilient Interdependent Infrastructure Systems and Processes (CRISP)*. Decision Making under Uncertainty activities are in the final year of funding, though there is a possibility of renewal at the end of the fiscal year. The related, multi-directorate Hazard SEES (Science, Engineering and Education for Sustainability) competition is also in its final year.

Decision-Making under Uncertainty/Risk and Resilience Investigator Panel (Drs. Susan Cutter, University of South Carolina, Charles Redman, Arizona State University, and M. Granger Morgan, Carnegie Mellon University)

Dr. Susan Cutter discussed community resilience, including its definition, importance, and measurement. Dr. Charles Redman talked about resilience as stability. He also discussed designing environments so that people make better decisions within those environments and described several NSF-funded projects on the topic. Dr. M. Granger Morgan discussed an integrated assessment model of climate change and its impact on risk communication. The discussion following the investigator panel touched on how to define indices of resilience, the balance between building back quickly following a disaster versus building back better, and predicting the resilience of communities.

Agenda and dates for future meetings, assignments and concluding remarks (Drs. Fay Lomax Cook and Emilio Moran)

SBE is targeting November 12-13, 2015 for its next Advisory Committee meeting. Potential agenda items include: the Science and Practice of Broadening Participation, assessment of big initiatives in which SBE has a role, discussions in Congress, behavioral and social science research at NIH, and an investigator panel focusing on an emerging research area. There was a recommendation from the AC to re-evaluate the agenda so that more information is made available in advance and more time is set aside during the meeting for discussion.