

**National Science Foundation**  
**Directorate for Social, Behavioral and Economic Sciences (SBE)**  
**Spring Advisory Committee Meeting Summary**  
**May 20-21, 2013**  
**NSF Headquarters, Stafford I, Room 1235**

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SBE Advisory Committee (AC) Members Present: Dr. AnnaLee Saxenian (Chair), School of Information, University of CA, Berkeley; Dr. Christopher Achen, Politics Department, Princeton University; Dr. Kenneth Bollen (Directorate for Math and Physical Sciences AC Subcommittee on Statistical Sciences at NSF-Liaison), Department of Sociology, University of North Carolina, Chapel Hill; Dr. John Cacioppo, Center for Cognitive and Social Neuroscience, University of Chicago; Mr. Robert Denham, Esq., Munger, Tolles & Olson, LLP (via phone); Dr. Morton Ann Gernsbacher, Department of Psychology, University of Wisconsin, Madison (via phone); Dr. James W. Harrington, Jr., Vice Chancellor for Academic Affairs, University of Washington; Dr. Elizabeth Higginbotham, Department of Sociology, University of Delaware; Dr. Hilary Hoynes, Department of Economics, University of California, Davis (via phone); Dr. Kaye Husbands Fealing (SBE Liaison for the Merit Review AC), Humphrey Institute of Public Affairs, Minneapolis, MN; Dr. Nina Jablonski, Department of Anthropology, Pennsylvania State University; Dr. Jonathan Krosnick, Department of Communications, Stanford University; Dr. Barbara Landau, Department of Cognitive Science, Johns Hopkins University; Dr. Joanna Morris, Department of Cognitive Science, Hampshire College; Dr. Emilio Moran, Anthropology Department, Indiana University; Dr. Mia Ong, Diversity Resource Group, TERC, Cambridge, Massachusetts (via phone); Dr. Stanley Presser, Department of Sociology, University of Maryland-College Park; Dr. Steven Ruggles, Minnesota Population Center, University of Minnesota.

SBE Advisory Committee Members Absent: Dr. Susan Cutter (Environmental Research & Education AC Liaison), Hazards & Vulnerability Research Institute, University of South Carolina; Dr. Robert Kaplan (*Ex-Officio*), Office of Behavioral and Social Sciences Research, National Institutes of Health.

NSF Staff in Attendance: Dr. Cora Marrett, Acting Director, NSF; Dr. Myron Gutmann, Assistant Director, SBE/Office of the Assistant Director (SBE/OAD); Dr. Joanne Tornow, Deputy Assistant Director, SBE/OAD; Dr. Deborah Olster, Senior Advisor, SBE/OAD; Dr. Amy Friedlander, Science Associate, SBE/OAD; Ms. Lisa Jones, Budget Officer, SBE/OAD; Dr. Jeryl Mumpower, Division Director, SBE/Social and Economic Sciences (SBE/SES); Dr. Mark Weiss, Division Director, SBE/Behavioral and Cognitive Sciences (SBE/BCS); Dr. Kellina Craig-Henderson, Deputy Division Director, SBE/SES; Dr. Amber Story, Deputy Division Director, SBE/BCS; Mr. John Gawalt, Division Director, SBE/Center for Science and Engineering Statistics (SBE/NCSES).

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

Summary: This was the first semi-annual meeting of the SBE AC in 2013. The agenda covered the following: update on the directorate's activities; report from the BCS Committee of Visitors (COV) and the BCS response; reports from various SBE AC Subcommittees, the *Ad Hoc* Advisory Committee on the Faculty Early Career Development (CAREER) program, and the Statistical Sciences at NSF Subcommittee; meeting with the NSF leadership; a briefing on the new NSF strategic plan; a mini-symposium on replication; and a discussion of agenda items for future AC meetings.

1. Directorate Update (Dr. Myron Gutmann). Dr. Gutmann briefly reported on activities and events that have occurred in SBE since the fall, 2012 SBE AC meeting. These included staffing changes (*e.g.*, new hires and appointments, retirements and opportunities); SBE- and NSF-wide initiatives (SBE Postdoctoral Research Fellowship program; Cognitive Science and Neuroscience); the budget process; release of the new brochure, *Bringing People into Focus*; publication of the 2013 edition of *Women and Minorities in Science and Engineering*; Public Access; interagency working group activities; anticipated SBE priorities for 2014; and (with Dr. Mark Weiss) merit review.
2. BCS Committee of Visitors (COV) Report (Dr. Nina Jablonski) and Response (Dr. Mark Weiss). Dr. Jablonski provided a brief summary of the BCS COV report. The COV met in October, 2012. Its charge was to provide NSF with external expert judgment in two specific areas: 1) assessments of the quality and integrity of program

operations and program-level technical and managerial matters pertaining to proposal decisions, and 2) forward-looking comments pertaining to areas of support and new opportunities for advancing science and infrastructure at both the program and division levels, and in interdisciplinary settings. In addition, BCS sought advice on 1) vision for the intellectual future of BCS for the next decade, including the infrastructure necessary to attain that vision; 2) encouraging mid-scale research (“bigger science”) for the BCS sciences and metrics for determining success in such endeavors; and 3) comments on the division’s innovative approaches to merit review, and suggestions for effective ways to evaluate and monitor such approaches. Overall, the COV was deeply impressed by the high quality and stewardship of the division’s research programs and commended its continuing efforts to ensure the intellectual and scientific integrity of the merit review process, and its emphasis on innovation and the assessment thereof in program concept and delivery. With regard to the merit review process, the COV recommended that BCS experiment with different review cycles, explore the use of virtual conferencing software for review panels, and consider using an editorial board-like process to triage non-competitive proposals before or after *ad hoc* review. The COV also reiterated previous COVs’ calls for permanent program officers for all programs. Regarding the nature of “bigger science”, the COV recommended that SBE and BCS staff consider new inter- and transdisciplinary activities in four areas: human environment interactions through time; human movements, mobility and interactions through time; long-term study of human development through the lifespan; and human interaction with technology.

Response: Dr. Weiss thanked the COV and accepted the recommendations. He spoke of the new BCS strategic plan, which addresses several of the recommendations in the COV report, and described successful BCS experiments with merit review, including the Geography and Spatial Sciences program’s “One-Plus” approach, the College of Reviewers used by the Perception, Action and Cognition program, the Biological Anthropology program’s use of an eight- rather than six-month receipt cycle for proposals, and cross-cutting panels for computational cognition that review proposals from multiple directorates. Regarding interdisciplinary research, Dr. Weiss described a number of successful efforts within SBE and between SBE and other NSF directorates, *e.g.*, Interdisciplinary Behavioral and Social Science Research, Building Community and Capacity for Data-Intensive Research in the Social, Behavioral, and Economic Sciences and in Education and Human Resources, Dynamics of Coupled Natural and Human Systems, Science of Learning Centers, Cognitive Science and Neuroscience, Creative Research Awards for Transformative Interdisciplinary Ventures and Integrated NSF Support Promoting Interdisciplinary Research and Education.

The AC discussed and accepted the COV report.

3. Report from the SBE AC Subcommittee on Youth Violence (Drs. Nina Jablonski, AC member, Brad Bushman, Ohio State University, and Katherine Newman, Johns Hopkins University). Dr. Jablonski noted that the Subcommittee was formed at the request of Representative Frank Wolf, following the 2012 Newtown, CT school shootings. Drs. Newman and Bushman reported on the February, 2013 *Workshop on Youth Violence* during which invited experts discussed the risk factors for youth violence and identified important areas for future research, including social rejection, family influence, prenatal exposure to hormones and other factors, organizational behavior, information flow through organizations, mass media and social media, structure of gun markets, social structure, poverty, and using data mining techniques to comb social media for patterns of behavior that might predict violence. The ensuing AC discussion focused on the commonality of youth violence around the world, the role of media attention in exacerbating youth violence, and links between risk factors for violence and international terrorism. When asked by Dr. Gutmann to boil down research directions for SBE to articulate in a Dear Colleague letter, many suggestions emerged: the importance of studying multiple risk factors simultaneously (*e.g.*, peer rejection and violent media); social media; data mining; and rejection theory.
4. Working Lunch. The AC discussed the upcoming visit of the Acting NSF Director, Cora Marrett, over lunch.
5. Report from the SBE AC Subcommittee on Advancing SBE Survey Research (Dr. Jonathan Krosnick). Dr. Krosnick reported on two conferences organized by the Subcommittee. At those events, academic, commercial and government researchers and a large group of discussants covered many topics: assessment of accuracy of survey measurements; sample selection; response rates and accuracy of results; compensating respondents; tools to improve recall; effects of confidentiality and anonymity on accuracy of responses; cognitive pretesting; human vs. machine coding; software innovations; supplemental and biomarker data; paradata; diaries;

transparency; interviewer training; and data standardization, optimization and dissemination. The slides and transcripts of presentations have been posted on the conferences' websites, and a formal report is forthcoming. The AC discussion following Dr. Krosnick's presentation touched on the use of Google/Twitter in surveys, ways of asking questions, and the advantages and disadvantages of centralizing data archiving at a single site. Suggestions for next steps included consolidating survey infrastructure to reduce costs, using the forthcoming conference reports to inform a call for proposals, supporting more research on the accuracy of web data and creating uniform metadata standards.

6. Discussion with Dr. Cora Marrett, Acting Director, NSF. Dr. Marrett complimented the AC on the *Workshop on Youth Violence* report and on its efforts in survey research. She agreed with the AC and BCS COV on the importance of continued investment in interdisciplinary science and noted that SBE could be the model for interdisciplinarity, given the wide range of fields in the directorate. There was considerable discussion of how best to communicate the value of SBE sciences, not only at the individual award level, but at higher levels of NSF investments (e.g., program portfolios of research), and how the AC might help to define the narratives and thereby improve public understanding of investments in SBE research. Additional discussion focused on the Coburn amendment to the FY 2013 Appropriations Bill that imposed restrictions on the NSF Political Science program, and data needs for the SBE AC Subcommittee on the Science and Practice of Broadening Participation.
7. Mini Symposium on Replication (SBE AC lead discussants Drs. John Cacioppo, Chair, Hillary Hoynes, and Jonathan Krosnick; Speakers Drs. Ronald Thisted, University of Chicago and Jonathan Schooler, University of California, Santa Barbara). Dr. Cacioppo articulated the charge to the AC Subcommittee on Replication, i.e., to review the state of replication in the sciences, including institutional norms, research on robust practices that produce the best results, identification of partners, consideration of the human and financial resources necessary for replication of scientific findings, consideration of the relationship between the challenge and potential of replicability, and recommendations for future actions. Dr. Thisted's presentation, "Why Most Published Research Findings are False", focused on the processes of scientific inquiry, publication, the nature of hypotheses, and publication bias. It concluded with a set of recommendations regarding the appropriate use of statistical analyses at different stages of experimentation and scientific reporting, infrastructure needs, and other practices in the scientific process that that might support improvements in replicability. Dr. Schooler spoke in detail about the "decline effect", i.e., the reduction in effect sizes that are reported with multiple replications of studies. His presentation provided potential explanations for the decline effect and identified actions that NSF/SBE might take to support research and practice in this area, and thereby improve scientific replicability.
8. Report from the NSF Ad hoc Advisory Committee on the CAREER Program (Drs. Theresa Maldonado, Director, Division of Engineering Education and Centers, Directorate for Engineering and Anita La Salle, Program Director, Computer and Network Systems, Directorate for Computer & Information Science & Engineering). Drs. Maldonado and La Salle described the charge to their *ad hoc* committee, i.e., to determine the future of the CAREER Program, and then asked the SBE AC to provide input on the program's future. Several issues were raised by the AC, including the appropriate career stage of awardees, the need for smaller or more frequent awards, and potential applicants' perceptions about the low probability of receiving a CAREER award. There was additional conversation about what "counts" in different SBE disciplines or institution types for faculty advancement, i.e., size or duration of the award, the focus on the integration of research and education, the potential for the Presidential honor. AC suggestions included developing a "menu" of awards of different budgets and durations to provide flexibility.
9. Report from the SBE AC Subcommittee on the Future of the Science of Learning (Dr. David Lightfoot). Dr. Lightfoot reported on two workshops that reviewed the Science of Learning Centers (SLC) program and produced recommendations for future NSF/SBE activities in this research area. The primary recommendation from the workshops was that the agency should continue to support an interdisciplinary Science of Learning program using a diverse array of award mechanisms, and to create a National Synthesis Center for the Science of Learning and its Translation that would serve a convening function, support networking and data sharing. In the ensuing discussion, the AC considered the need for a separate program on the science of learning and different models for supporting cross-directorate activities at NSF.

10. Report from the Statistical Sciences at NSF (StatSNSF) Subcommittee (Dr. Kenneth Bollen). In his brief update, Dr. Bollen described the Subcommittee's activities in addressing the following general themes: "big data", multidisciplinary, validity and trustworthiness of data, evidence-based decision making, management, storage, archiving and sustainability of data; and workforce preparation. The AC provided feedback on the utility of bringing different disciplines' approaches together, and the potential of the Subcommittee's work to have impact not just within NSF, but nationally.
11. NSF Strategic Plan (Dr. Alan Blatecky, Division Director, Advanced Cyberinfrastructure, Directorate for Computer & Information Science & Engineering). Dr. Blatecky described the strategic planning group's solicitation of input from NSF staff, the National Science Board and many ACs. He reviewed the NSF Mission and Vision statements and reiterated the agency's goals: to transform the frontiers across all fields of science and engineering; to stimulate innovation and address societal needs through science and engineering; and to perform as a model organization. He explained how the plan will emphasize measurement, tracking and evaluation of NSF activities, and linking those to the budget. In the discussion period, AC members raised concerns about the relatively short timeframe of the proposed evaluation activities vs. the much longer timeframe in which scientific advances and societal impacts occur, how to ensure NSF's continued investment in new scientific opportunities within the evaluation framework and the agency's international standing and activities. Mr. John Gawalt (SBE/NCSES) described the new NSF Office of Evaluation that is currently recruiting staff, interacting with the Office of Management and Budget, and working toward the goal of a common plan/approach across NSF for evaluation, drawing in the many individual, ongoing evaluation efforts at the agency.
12. Future meetings, Assignments and Concluding Remarks. The next AC meeting was scheduled for November 14-15, 2013. Potential agenda items include engaging the SC to shape a communications narrative for NSF; expanding the SBE portfolio to support research on public perceptions of the credibility of social science and its replicability, and a virtual symposium on that topic; the National Academies report on Science, Technology, and Innovation Indicators; Public Access; and re-competition of the "Big 3" surveys (*i.e.*, the General Social Survey, the Panel Study of Income Dynamics and the American National Election Studies). The AC also asked to receive data and background materials farther in advance of their meetings and more time for discussion of issues and presentations.

For a more complete record of the conversation, see the full transcript of the AC meeting.