Advisory Committee (AC) to the Directorate for Social, Behavioral, and Economic Sciences (SBE)
National Science Foundation
December 3-4, 2020
Meeting Summary

Attendance

SBE AC Members Present: Dr. Dominique Brossard, AC Chair, Department of Life Sciences Communication, University of Wisconsin-Madison; Dr. Joseph Altonji, Department of Economics, Yale University; Dr. Christopher Bail, Department of Sociology & Sanford School of Public Policy, Duke University; Dr. Ann Bostrom, Daniel J. Evans School of Public Policy & Governance, University of Washington (and Advisory Committee for Environmental Research and Education (AC-ERE) Liaison); Dr. Nilanjana Dasgupta, Department of Psychological and Brain Sciences, University of Massachusetts at Amherst; Dr. Catherine Eckel, Department of Economics, Texas A&M University; Dr. Rayvon Fouché, School of Interdisciplinary Studies, Purdue University; Dr. John Gabrieli, Department of Brain and Cognitive Sciences, MIT; Dr. Sandra Graham, Department of Education, University of California, Los Angeles; Dr. Christopher Kuzawa, Department of Anthropology, Northwestern University; Dr. Willie Pearson, School of History and Sociology, Georgia Institute of Technology; Dr. William Riley, Office of Behavioral and Social Sciences Research, National Institutes of Health (NIH; *Ex officio*); Dr. Adam Russell, Applied Research Laboratory for Intelligence & Security, University of Maryland; Dr. Rocío Titiunik, Department of Politics, Princeton University; Dr. Lydia Villa-Komaroff, Intersections SBD (and Committee on Equal Opportunities in Science and Engineering (CEOSE) liaison); and Dr. Duncan Watts, Department of Computer and Information Science, University of Pennsylvania.

NSF Staff in Attendance: Dr. Arthur Lupia, Assistant Director (AD), SBE; Dr. Kellina Craig-Henderson, Deputy AD, SBE; Dr. Daniel Goroff, Division Director (DD), SBE/Division of Social and Economic Sciences (SES); Dr. Alan Tomkins, Deputy Division Director, (DDD), SES; Ms. Emilda Rivers, DD, SBE/ National Center for Science and Engineering Statistics (NCSES); Dr. Vipin Arora, DDD, NCSES; Dr. Marc Sebrechts, DD, SBE/Division of Behavioral and Cognitive Sciences (BCS); Dr. Antoinette WinklerPrins, DDD, BCS; Dr. Deborah Olster, Senior Advisor, SBE/Office of the Assistant Director (OAD); Mr. John Garneski, Staff Associate for Budget and Program Analysis, SBE/OAD; Mr. Jason Stoughton, Communications Specialist, SBE/OAD: Mr. Anthony Teolis, SBE Administrative Coordinator, SBE/OAD; Ms. Clarissa Johnson, IT Specialist, SBE/OAD; Mr. Philip Johnson, Staff Associate for IT Operations, SBE/OAD, Dr. Andrea Belz, DD, Division of Industrial Innovation and Partnerships, Directorate for Engineering; Dr. Trisha Van Zandt, Program Director, Human Networks and Data Science, SBE/BCS; and others.

Summary: This was the second meeting of the SBE AC in 2020, It was conducted remotely via Zoom. The agenda included an SBE Directorate update; a presentation on NSF partnerships; a joint session with the Directorate for Computer & Information Science & Engineering (CISE) AC on exploring collaborations between CISE and SBE; a meeting

with NSF leadership; the report from the SBE Office of Multidisciplinary Activities Committee of Visitors; a discussion about the Federal Data Strategy; a session on COVID-19-Related Research in the SBE Sciences; presentation of new SBE Funding Opportunities; and updates on the activities of the AC-ERE and CEOSE.

Welcome, Introductions, Review of Draft Summary from Spring 2020 SBE AC meeting, and Agenda Preview (Dr. Dominique Brossard, SBE AC Chair)

Dr. Brossard welcomed everyone and had AC members and SBE senior staff introduce themselves. The AC voted to accept the summary of the spring 2020 AC meeting, and Dr. Brossard previewed the current meeting agenda.

SBE Update (Dr. Arthur Lupia, AD, SBE; Dr. Kellina Craig-Henderson, Deputy AD, SBE)

Dr. Lupia introduced Dr. Adam Russell, the SBE AC's newest member, and updated the AC on SBE's "Empower People" strategy, which includes the world class data collection efforts of NCSES; programs that create opportunity; and activities to improve innovation.

SBE Deputy AD Dr. Craig-Henderson provided an update on NSF's Broadening Participation activities. These include the Science of Broadening Participation, the SBE Postdoctoral Research Fellowship program's Broadening Participation Track, BPInnovate, the biennial Women, Minorities, and Persons with Disabilities report produced by NCSES in collaboration with the National Science Board (NSB), and Build and Broaden 2.0.: Enhancing Social, Behavioral and Economic Science Research and Capacity at Minority-Serving Institutions.

Partnerships (Dr. Andrea Belz, DD, Division of Industrial Innovation and Partnerships, Directorate for Engineering)

Dr. Belz described the strategy and activities of the Division of Industrial Innovation and Partnerships (IIP), including the NSF Industry-University Cooperative Research Centers (IUCRC), Non-Academic Research Internships for Graduate Students (INTERN) supplements, the Innovative Post-doctoral Entrepreneurial Research Fellowship, the National GEM Consortium (GEM) Inclusion in Innovation Initiative, and the Partnerships for Innovation (PFI).

Following the presentation, the SBE AC members split off into breakout groups to consider SBE partnerships. Upon reconvening, the AC discussed partnering with foundations, NIH, and local- and regional-level entities; improving communications about NSF's partnership opportunities; overcoming barriers to partnering with social media companies; formation of AC Subcommittees to advise SBE on partnership development; and building evaluation into partnership activities.

Collaborations between SBE and CISE (Drs. Duncan Watts, SBE AC member; Dr. Beth Mynatt, CISE AC member)

Drs. Watts and Mynatt reported on the CISE-SBE Virtual Roundtable, *Harnessing the Computational and Social Sciences to Solve Critical Societal Problems.* Held in May 2020, the Roundtable's goals were to foster collaborative scientific research in the computational and social-behavioral-economic spheres; underscore the deep interdependence of technological and social systems; and explore ideas to improve collaboration between academia and industry/the public around data, science, and society. Four themes emerged from the Roundtable: the need for more and better data; the need for partnerships; the need to create and sustain multidisciplinary teams; and the need to orient research around real-world problems. Four topics for further development were identified: design of long-term research centers; negotiating partnerships between academia and industry; "Big ideas" for research infrastructure; and reconfiguring graduate training.

The discussion following the presentation surfaced several issues: on-line learning and education; misinformation and disinformation; human elements of software and computer processes design; information technology as a contributor to disparities; and trust and authenticity.

Meeting with NSF Leadership (Dr. Sethuraman Panchanathan, Director, NSF; and Dr. F. Fleming Crim, Chief Operating Officer, NSF)

Dr. Panchanathan presented his strategy for NSF. The strategy rests on three pillars: advancing the frontiers of research into the future; ensuring accessibility and inclusivity; and securing global leadership. He noted that partnerships and innovation are key to the success of this strategy, as are the SBE sciences -- which permeate everything that happens at NSF -- and translation. The discussion following the presentation touched on industry partnerships, the need for a diverse, 21st-century workforce, and the alignment of the NSF Director's strategy with the CISE-SBE Roundtable efforts discussed earlier in the day.

SBE Office of Multidisciplinary Activities Committee of Visitors (SMA COV; Dr. Sandra Graham, COV Chair; Dr. Kellina Craig-Henderson, Deputy AD, SBE)

Dr. Graham presented the report from the SMA COV that met in July 2020. The COV was overall very positive about the programs, and noted that the SMA staff were conscientious, hard-working, and committed to the goals of SBE.

The COV made 10 general recommendations for improvement. Regarding the panel review process, the COV recommended that SBE undertake a systematic and rigorous analysis of procedures used by the panels to determine what works and what needs improvement; and to capitalize on the expertise of Resource Implementation of Data Intensive Research in the SBE Sciences (RIDIR) and the former Science of Science and Innovation Policy (SciSIP) programs to create a data infrastructure to track program

outcomes over time. The COV recommended better training of reviewers; implementation of calibration exercises during panels; systematic analysis of triaged proposals; and attention to workload issues across panels and compensation models. The COV recommended that SBE develop more innovative ways to increase the willingness of applicants and reviewers to report critical demographic information; make a greater effort to nurture collaborations with members of underrepresented groups; and more systematically study potential bias in proposal review. Finally, the COV recommended that SBE take work toward staffing every SMA program with a dedicated permanent program officer and a rotator.

Dr. Craig-Henderson thanked the SMA COV and presented the SBE response to the COV report. She indicated that SMA would analyze the panel review process and track program outcomes over time; analyze the triage process; encourage program directors to analyze panelists' assignments and the quality of their reviews; ensure that reviewers and panelists take advantage of reviewer training resources; and encourage program officers to conduct calibration exercises at the start of panel deliberations. She indicated that SMA would discuss advocating for changes in NSF policy regarding the collection of demographic information and that SMA could support research aimed at better understanding whether and how proposal review is influenced by knowledge of Principal Investigator (PI) demographic characteristics. She also described plans for greater outreach around broadening participation activities. Regarding SMA management, Dr. Craig-Henderson indicated that SBE would ensure that each program is fully staffed based on the workload demands for the programs with an appropriate balance between permanent and rotating program officers.

Following both presentations and discussion, the SBE AC voted to approve the SMA COV report and the SBE response.

Federal Data Strategy (Dr. Daniel Goroff, DD, SES; Ms. Emilda Rivers, DD, NCSES)

Dr. Goroff reviewed the Evidence-Based Policymaking Commission and its recommendations, which led to the development of a Federal Data Strategy Action Plan. He then provided examples of how Federal data could be used to address questions about science policy such as, "What is the effect of the organization and priorities of science funders on the rate, direction, and productivity of a) scientific discovery for deepening knowledge; b) economic activity for enhancing prosperity; and c) inclusive practices for broadening participation?"

Ms. Rivers continued the presentation, introducing Research.Data.Gov, a one-stop application portal for restricted data for federal statistics, and described NCSES's role in promoting "America's Data Hub", a proposed entity that would improve our ability to acquire, access and combine data. The Data Hub's activities would result in a modernized data infrastructure, increased innovation, and expanded partnerships.

Following the presentations, the SBE AC members split off into breakout groups for more focused discussion of the Federal Data Strategy. The discussion that ensued when the AC reconvened focused on how to: define productivity in the current age of different research

outputs; measure research impact and return on investment; track trajectories of students from different communities; detect unconscious bias in research agency decision-making; and assess the efficiency of scientific discovery.

COVID-19-Related Research in the SBE Sciences (Mr. Jason Stoughton, SBE Communications Specialist; Drs. Catherine Eckel and William Riley, SBE AC members; Dr. Dominique Brossard, SBE AC chair)

Mr. Stoughton presented data on NSF funded research related to the COVID-19 pandemic and provided examples of SBE-funded RAPID awards. Dr. Eckel presented preliminary results from her RAPID award project, The Impact of COVID-19 on Norms, Risk-taking, Information, and Trust. The project is fielding surveys to assess, for example, whether compliance/precautionary behavior is affected by trust in institutions, economic preferences, and/or social norms. Results so far indicate that high trust in liberal institutions predicts higher levels of compliance behavior, and the reverse for conservative institutions; and that high levels of generalized trust and risk aversion are also associated with higher compliance with recommendations for cautionary behavior.

Dr. Brossard introduced the National Academies of Science, Engineering and Medicine Societal Experts Action Network (SEAN) that links decision makers with SBE researchers who provide evidence-based guidance that supports local, state, and federal policies and responses related to COVID-19**.** Funded by NSF/SBE and the Sloan Foundation, SEAN has issued a COVID-19 Data Guide for Decision-Making and Rapid Expert Consultations on encouraging COVID-19 protective behaviors and cooperation with COVID-19 contact tracing. SEAN is now exploring student behavior and COVID-19 testing, confidence in COVID-19 vaccines, and other topics.

Dr. Riley discussed COVID-19-related activities in the behavioral and social sciences at the National Institutes of Health. These include funding opportunities, a COVID-19 Survey Item Repository and other research tools, the Rapid Acceleration of Diagnostics (RADx) Underserved Populations program to assess and expand COVID-19 testing for underserved communities, and other activities.

CEOSE Update (Dr. Lydia Villa-Komaroff, SBE AC member and CEOSE Liaison)

Dr. Villa-Komaroff updated the SBE on CEOSE activities, including the Committee's biennial reports. CEOSE plans to focus next on three themes aimed at "making visible the invisible": Leadership (2019-2020); Understanding Intersectionality (2021-2022); and Recognition of Under-Under-Represented Groups (2023-2024). At its October 2020 meeting CEOSE met with members of the National Science Board and discussed the Board's Vision 2030 activities. That meeting also included a visit with the NSF Director, a joint session with the AC for the Directorate for Biological Sciences, presentation of the *Women, Minorities and Persons with Disabilities in Science and Engineering Digest*, and a discussion of Community Engagement: American Indian and Alaska Native Communities.

AC-ERE Update (Dr. Ann Bostrom, SBE AC member and AC-ERE Liaison)

Dr. Bostrom updated the SBE AC on AC-ERE activities, including forthcoming reports on Environment and Human Security and on Public Health and Environmental Research and Education. The Oct 2020 AC-ERE meeting included a panel on Broadening Participation, a presentation, Achieving Science Innovation through Justice, Equity, Diversity, and Inclusion (Dr. Chris Schell, University of Washington, Tacoma), and breakout sessions on Public Health & Environmental Research and Education, Co-Production, and Education.

New SBE Funding Opportunities (Drs. Marc Sebrechts, DD, BCS; Dr. Trisha Van Zandt, Program Director, Human Networks and Data Science)

Dr. Sebrechts introduced Strengthening American Infrastructure (SAI), a new cross-directorate funding opportunity led by SBE. SAI will support workshops and Early Concept Grants for Exploratory Research (EAGER) awards that bring together experts across disciplines to support untested fundamental research grounded in user-centered concepts and offering the potential to substantially improve or transform the design, use, development, cost-effectiveness, or maintenance of U.S. infrastructure. Proposals must include a central focus on at least one SBE program area with the lead PI being an expert in social, behavioral, or economic science.

Dr. Van Zandt introduced SBE's Human Networks and Data Science program (HNDS). The Infrastructure tract (HNDS-I) supports development of large-scale next-generation data resources that enable new kinds of data-intensive research in the SBE sciences. The Core Research tract (HNDS-R) aims to leverage progress in network and data science to answer fundamental questions across SBE sciences.

The AC discussion after the presentations focused on the need to improve communications about these new opportunities to the research community, particularly with investigators who are not already familiar with NSF, SBE or how to interact with program officers.

Wrap-up, Assignments, and Closing Remarks (Dr. Arthur Lupia, AD, SBE; Dr. Dominique Brossard, SBE AC Chair)

Drs. Lupia and Brossard thanked the AC, SBE staff, and invited speakers for their participation in the meeting. AC members discussed formally endorsing the report from the CISE-SBE Virtual Roundtable, *Harnessing the Computational and Social Sciences to Solve Critical Societal Problems.*

Departing AC members, Drs. Altonji, Dasgupta and Eckel, reflected on their experiences serving on the SBE AC. Dr. Lupia encouraged AC members to convey by email suggestions for improving the AC meeting. Dr. Brossard adjourned the meeting at 5:00 p.m.

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This meeting summary was approved by the SBE AC at its May 6, 2021 meeting.