

## **Social and Behavioral Science Research in the FY 2015 Budget**

*Wendy Naus and Angela L. Sharpe  
Consortium of Social Science Associations*

*Heather Kelly and Patricia Kobor  
American Psychological Association*

*Gerald E. Sroufe and Christy Talbot  
American Educational Research Association*

### **HIGHLIGHTS**

- A bill to reauthorize the National Science Foundation (NSF) working its way through the House Science Committee would authorize deep budget cuts to the Social, Behavioral and Economic Sciences Directorate at the National Science Foundation.
- Leadership changes taking effect: Fay Lomax Cook will head the Social, Behavioral and Economic Sciences Directorate at NSF effective in September 2014. Robert Kaplan, who has headed the Office of Behavioral and Social Sciences Research at the National Institutes of Health (NIH) for three years, is leaving to become Chief Science Officer of the Agency for Health Care Research and Quality, effective May 2014.
- Behavioral and social science research will be represented in several NIH Common Fund initiatives in FY 2015, including the Science of Behavior Change and a new initiative on physical activity and health.
- The Department of Defense is continuing large projects related to mental health (in particular, Post-Traumatic Stress Disorder and suicide) which could increase the proportion of Medical Research accounts dedicated to human-centered science.

Sometimes called the “human sciences,” research in the behavioral, social and economic sciences often focuses on subjects about which members of Congress have strong opinions. In the response below from U.S. Science Advisor John Holdren, PhD, to a question in a March 26, 2014 hearing of the House Science Committee, one sees not only a vigorous defense of these disciplines but also subjects – poverty, regulation, statistics – that are so often the focus of partisan debate:

“There has been abundant documentation of the benefits to society of NSF’s investments in this domain. These fall in the categories of making our democracy work better, including work on the conduct of elections...decision-making under uncertainty...Tracking and improving economic and social well-being; economic and social databases and statistics; understanding poverty; understanding what works in teaching; improving public health and safety; risk communication...optimizing disaster response; controlling the spread of infectious diseases through social behavior; reducing human trafficking...national defense and international relations... understanding the effectiveness of sanctions; nonverbal communication, which helps our troops function in environments where other languages are spoken...I think we are getting a lot of bang for our buck out of social, behavioral and economic sciences at NSF.”<sup>1</sup>

Concern about research directions or research results have led some policymakers to try to marginalize or defund the behavioral, social and economic sciences. Sen. Tom Coburn’s (R-OK) amendment<sup>2</sup> imposing more stringent review requirements on NSF’s political science research in FY 2013 resulted in a temporary halt to the funding of those research grants. His amendment language did not survive in the FY 2014 omnibus. But NSF is not the only agency to be urged to give additional scrutiny to these sciences. NIH Director Francis Collins was asked in a March 2014 hearing in the House Appropriations Subcommittee on Labor, Health and Human Services, Education, and Related Agencies about several specific grants.<sup>3</sup> Agency heads seem to walk a narrow

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<sup>1</sup> <http://science.house.gov/hearing/full-committee-hearing-review-president-s-fiscal-year-2015-budget-request-science-agencies>

<sup>2</sup> [http://www.coburn.senate.gov/public/index.cfm?a=Files.Serve&File\\_id=91498db1-70c4-4d92-8c6a-6d97a89b1f25](http://www.coburn.senate.gov/public/index.cfm?a=Files.Serve&File_id=91498db1-70c4-4d92-8c6a-6d97a89b1f25)

<sup>3</sup> <http://docs.house.gov/meetings/AP/AP07/20140326/101860/HHRG-113-AP07-20140326-SD001.pdf>

## SOCIAL AND BEHAVIORAL SCIENCE RESEARCH IN THE FY 2015 BUDGET

ledge between defending their research portfolios and review procedures and placating well-placed critics, with the result that behavioral, social and economic sciences and their allies are called to defend their training, methods, subjects of research, and findings. Far from shrinking from the combat, however, scientists in these disciplines understand better than most that receipt of federal funds means explaining and justifying the investment. What is controversy but a teachable moment?

### **NATIONAL INSTITUTES OF HEALTH**

Understanding the complex influences of behavior on health is a critical part of the mission of the National Institutes of Health (NIH). There is strong evidence that over 40 percent of premature mortality in the U.S. can be attributed to behavioral factors such as smoking, poor diet, substance abuse, and physical inactivity. NIH-supported behavioral and social sciences research (BSSR) ranges from basic research on memory, learning, and perception, to prevention research, to clinical trials and comparative effectiveness research. Basic behavioral and social sciences research involves mechanisms and processes that influence behavior at the individual, group, community, and population levels. Findings from basic BSSR lead to new approaches for reducing risky behaviors and improving the adoption of healthy practices.

NIH is the largest funder of behavioral and social sciences research in the federal government and BSSR is part of the portfolio of every NIH institute and center.

The NIH Office of Behavioral and Social Sciences Research (OBSSR)<sup>4</sup> is the primary coordinating entity for behavioral and social sciences research. Authorized by Congress in 1994, OBSSR is one of six coordinating offices in the Division of Program Coordination, Planning, and Strategic Initiatives in the Office of the NIH Director. It advances the NIH mission by working across the NIH silos, brokering joint funding announcements, while emphasizing the critical role that behavioral and social factors play in health, health care, and well-being. The FY 2015 budget request for OBSSR is \$26.1 million, the same funding level as that of FY 2014. OBSSR has leveraged its modest resources by partnering with other NIH units and federal agencies, by creating initiatives to develop and improve methodology and

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<sup>4</sup> <http://obssr.od.nih.gov/index.aspx>

measurement, and by enhancing training opportunities via summer institutes and other means.

In FY 2015, "along with voluntary contributions from NIH and Centers,"<sup>5</sup> OBSSR plans to continue to support the trans-NIH Basic Behavioral and Social Science Opportunity Network (OppNet). OppNet was initiated by the NIH director in November 2009 to expand the agency's portfolio in basic scientific inquiry that explains the mechanisms and processes that influence individual and group health-related behaviors. From FY 2010 to 2014, 24 institutes and centers (ICs) and program coordination offices within the NIH Office of the Director submitted to a tap, to collectively plan and fund OppNet solicitations. The initiative had raised and committed \$90 million through FY 2013, a significant influx of funding for basic BSSR. Maintaining the initiative without a predetermined tap reflects a change in management and funding of OppNet that may reduce the breadth of future collaborative research opportunities.

In FY 2015, OBSSR proposes to undertake two new initiatives. The first, Technology to Improve Medication Adherence Measurement and Intervention Research, would support research projects that assess medication adherence using mobile and other technologies, especially adherence to multiple medications. The second initiative would involve collaboration with the White House Office of Science and Technology Policy to model and evaluate the behavioral and social science workforce. The Office plans to continue to work through NIH institutes and centers to fund multi-year programs, including research to reduce or eliminate health disparities, a program to enhance behavioral and social sciences content of medical school curricula, and more.

**NATIONAL SCIENCE FOUNDATION (NSF): SOCIAL, BEHAVIORAL AND ECONOMIC SCIENCES DIRECTORATE (SBE)**

The political context in Congress around social and behavioral science continues to be challenging. As Congress works toward reauthorizing the America COMPETES Act this year, a handful of policy makers continue to raise questions about the value of social and behavioral science. The Frontiers in Innovation, Research, Science and Technology Act, or FIRST Act, which is working its way through the House Science, Space, and Technology Committee, poses a particular challenge for SBE. If

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<sup>5</sup>[http://odeo.od.nih.gov/budget\\_finance/docs/OD\\_Final\\_CJ2015.pdf](http://odeo.od.nih.gov/budget_finance/docs/OD_Final_CJ2015.pdf)

## SOCIAL AND BEHAVIORAL SCIENCE RESEARCH IN THE FY 2015 BUDGET

enacted, the legislation would authorize deep budget cuts to the SBE directorate. In addition, ongoing efforts to thwart federal funding for social and behavioral science through amendments are expected as the FY 2015 appropriations process moves along.

While the President requests only a 1.2 percent increase for NSF overall, the SBE directorate<sup>6</sup> would see a 6 percent boost under the FY 2015 proposal. The request includes a total of \$272 million for the directorate, which is \$15 million above the FY 2014 enacted level. Similar to last year's request, the bulk of the increase is slated for SBE's National Center for Science and Engineering Statistics, which would see a 29.2 percent increase; SBE's research divisions—Social and Economic Sciences and Behavioral and Cognitive Sciences—would receive 1.7 percent and 1.2 percent increases, respectively.

According to the request, SBE will maintain active participation in FY 2015 in NSF's many foundation-wide programs and initiatives, including Cognitive Science and Neuroscience; Cyberinfrastructure for the 21<sup>st</sup> Century Science, Engineering and Education (CIF21)/Big Data; Comprehensive National Cybersecurity Initiative (CNCI); and Innovation Corps (I-Corps), among others. SBE will also continue to participate in the cross-directorate Science, Engineering and Education for Sustainability (SEES) initiative, though funding will start tapering off as NSF looks to sunset the SEES initiative by FY 2017.

The request for SBE's Social and Economic Sciences (SES) division seeks to maintain support for existing programs while also allowing SES to fund more fellowships through the SBE Postdoctoral Research Fellowships-Interdisciplinary Research in the Behavioral and Social Sciences (SPRF-IBSS). According to the request, this would "further transform SBE by increasing interdisciplinary research, training, and integration with other parts of NSF." SES will also continue its participation in the National Nanotechnology Infrastructure Network.

A major shift will occur in the Behavioral and Cognitive Sciences (BCS) division in FY 2015 with the sun-setting of the remaining two Science of Learning Centers and a transition from centers to an NSF-wide interdisciplinary Science of Learning initiative. Funding for the centers will end in FY 2015 and the request includes \$4 million for BCS's contribution to the new initiative, which is a partnership with the

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<sup>6</sup> <http://www.nsf.gov/dir/index.jsp?org=SBE>

directorates for Computer and Information Science and Engineering (CISE), Engineering (ENG), and Education and Human Resources (EHR). The goal of the new effort is to create a national, integrated Science of Learning Community. In addition, BCS seeks to expand its support for research in the areas of terrorism, pandemics, youth violence, sustainability, and forensic science in FY 2015.

Within the National Center for Science and Engineering Statistics (NCSES), the proposed 29.2 percent increase would be used to target improvements in NSF's statistical activities. For example, the Survey of Doctorate Recipients (SDR) will collect data and develop estimates relating national employment outcomes for STEM subfields, race and gender. Additionally, NCSES will continue to attempt to address data gaps in SDR related to understanding the "relationship between federal support for graduate education and student outcomes, such as employment."

#### **DEPARTMENT OF EDUCATION: INSTITUTE OF EDUCATION SCIENCES<sup>7</sup>**

The Institute of Education Sciences (IES), led by John Easton, is the federal government's principal agency for conducting research on education. Its four centers, the National Center for Education Research (NCER), the National Center for Education Statistics (NCES), the National Center for Education Evaluation and Regional Assistance (NCEE/RA), and the National Center for Special Education Research (NCSEER), comprise the central operational structure for the agency.

The proposed budget requests an overall increase to fund the IES, from \$576.9 million in FY 2014 to \$637.2 million for FY 2015. State and local school improvement requirements such as the development of common core standards and assessments have called attention to the need for a more robust research platform to support education innovation, and further improvements in statewide longitudinal data systems.

The Education Research, Development, and Dissemination account provides for National Research and Development Centers (NRDCs) as well as the What Works Clearinghouse, the Education Resources Information Center, and special research competitions. These research activities would receive \$190.3 million in FY 2015, increased from \$179.9 million in FY 2014. The increased funding would support

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<sup>7</sup> <http://www.ed.gov/offices/ies>

## SOCIAL AND BEHAVIORAL SCIENCE RESEARCH IN THE FY 2015 BUDGET

expanded research on both early childhood and adult learning, and would continue the implementation of a research program designed to stimulate partnerships and improve practice that was initiated in 2014. IES also plans to launch a Virtual Learning Laboratory that would include a NRDC to examine online and blended learning strategies, a summer learning institute on techniques for analyzing data and providing useful feedback, and a post-doctoral training program.

The National Center for Education Statistics (NCES) remains the primary data source for education systems and policy makers across the nation and has established large longitudinal databases on vital issues regarding students, schools, and school personnel. It also supports U.S. participation in international studies of education achievement. The NCES budget would increase from \$103.1 million to \$122.7 million under the Administration's proposal. The increase would support two specific programs: one permitting states to participate in a pilot program to benchmark the performance of their 15-year-olds on the Program for International Student Assessment (PISA), and one to collect post-secondary data every two years to help ensure that higher education reforms are based on recent and relevant information. The National Assessment of Educational Progress (NAEP), which measures and reports on the status and trends of student learning over time, was level funded in FY 2014, but would receive a \$7.38 million reduction in FY 2015. The Administration's explanation for the reduction is simply that the reduced amount will be sufficient.

While the President's budget proposes to eliminate 20 federal education programs, none are in the area of research and development. Additionally, the budget includes as much as \$45 million for an ARPA-E program to explore new approaches to education research that would be administered outside IES.

### **DEPARTMENT OF DEFENSE**

Driven by its mission focus, the Department of Defense (DOD) supports a \$63 billion research and development (R&D) enterprise, most of which funds weapons development programs. Within the overall R&D account, DOD's fundamental and applied research portfolio (the Science and Technology or S&T line) includes support for behavioral, cognitive and social science. The majority of this research is funded through intramural and extramural programs within the Army Research Institute (ARI) and Army Research Laboratory (ARL), the Office of Naval Research (ONR),

the Air Force Office of Scientific Research (AFOSR), and the Air Force Research Laboratory (AFRL). These military service laboratories conduct and sponsor fundamental (6.1), applied/exploratory development (6.2), and advanced development (6.3) research in the human systems area. All of the services fund research in the broad categories of personnel, training and leader development, warfighter protection, sustainment and physical performance, and system interfaces and cognitive processing. There also are human systems research programs funded through the Office of the Secretary of Defense, the Defense Advanced Research Projects Agency (DARPA), and a variety of other smaller DOD entities. Additional “medical” research is appropriated outside the S&T line in the Defense Health Program.

The President’s FY 2015 budget request proposes a reduction of \$494 million (or 4.1 percent) to the overall DOD S&T account excluding medical research, falling from an FY 2014 level of \$12.0 billion to \$11.52 billion. Overall, defense 6.1 basic research programs would be cut by 6.9 percent, 6.2 applied research programs would be reduced by 4.0 percent, and 6.3 advanced development research programs would be decreased by 3.1 percent. Army, Navy, and Air Force military service labs all would see cuts to their 6.1, 6.2, and 6.3 accounts in FY 2015. DOD’s Defense-wide research programs would see a decrease in 6.1 support but slight increases in 6.2 and 6.3 levels, and DARPA is slated for an agency-wide increase of \$136 million (4.9 percent) over its FY 2014 level, increasing from \$2.78 billion to \$2.91 billion in FY 2015. The Defense Health Program R&D budget would take a substantial cut in the Administration’s 2015 proposal, falling from \$1.56 billion in FY 2014 to \$655 million in FY 2015, though it appears that the bulk of the cuts would be made not in basic research but in technology accounts.

Within these overall S&T accounts it is unclear how human-centered, behavioral research programs specifically would fare in each of the military laboratories, Defense-wide agencies, and medical research programs under the President’s request. In the current budget environment, behavioral research accounts in the S&T line can expect to see level or decreased funding. Within the medical research programs, DOD is continuing large projects related to mental health (in particular, Post-Traumatic Stress Disorder and suicide) which could increase the proportion of those accounts dedicated to human-centered science.