

Social and Behavioral Science Research in the FY 2014 Budget

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President Obama, speaking at the 150th Anniversary of the National Academy of Sciences, said, “One of the things that I’ve tried to do over these last four years and will continue to do over the next four years is to make sure that we are promoting the integrity of our scientific process; that not just in the physical and life sciences, but also in fields like psychology and anthropology and economics and political science – all of which are sciences because scholars develop and test hypotheses and subject them to peer review... And that’s why we’ve got to keep investing in these sciences.” The President’s words, representing a clear defense of the social, behavioral, and economic (SBE) sciences, were echoed by Presidential Science Adviser John Holdren at the AAAS Forum on Science and Technology Policy. The Administration’s comments were partly a reaction to a series of attacks on federal support for SBE research. These have included:

- 1) A 2012 amendment, introduced by Rep. Jeff Flake (R-AZ), to end funding for political science at the National Science Foundation (NSF). It passed the House but was not included in the FY 2013 appropriations bill. Instead, Congress accepted:
- 2) An amendment sponsored by Sen. Tom Coburn (R-OK) that restricts NSF political science funding to projects that are certified by the NSF

Director as “promoting national security and the economic interests of the United States.”

- 3) The House Labor, HHS, and Education Appropriations Subcommittee proposed restrictions on NIH economics research funding in its FY 2013 appropriations bill markup. This was also not included in the final bill.
- 4) Rep. Gregg Harper (R-MS) introduced a bill this year to eliminate support for health economics research at NIH. On May 8, NIH announced it is undertaking a “productivity review” on the contributions of NIH-supported SBE science.
- 5) Rep. Jeff Duncan (R-SC) introduced legislation this year to abolish all surveys, including the American Community Survey, at the Census Bureau, except for the decennial census, which is only allowed to ask questions directly related to apportionment. The bill also proposes to abolish the Census of Agriculture, funded by the Department of Agriculture.
- 6) House Majority Leader Eric Cantor (R-VA) told an American Enterprise Institute audience in February, «Funds currently spent by the government on social science – including on politics of all things – would be better spent helping find cures to diseases.»
- 7) House Science, Space and Technology Chairman Lamar Smith (R-TX) and his staff have questioned NSF priorities and the funding of certain grants by the SBE directorate, raising questions about the support for these sciences in the Committee’s reauthorization of the America COMPETES Act, which includes NSF.
- 8) Rep. Smith prepared a discussion draft bill, the High Quality Research Act, perceived by the scientific community and the Office of Science & Technology Policy as congressional intrusion into NSF’s merit review process. Smith said he is only after more accountability for NSF, arguing it funds “questionable” research projects, particularly in the SBE sciences. Ranking Democrat Eddie Bernice Johnson (D-TX) sent a strongly-worded letter to Smith decrying the bill and defending NSF’s support for all scientific disciplines.
- 9) Rep. Smith also sent a letter to NSF requesting explanations and the reviews for five “questionable” grants in the SBE sciences.

So despite House Commerce, Justice, and Science Appropriations Subcommittee Chairman Rep. Frank Wolf (R-VA)'s reliance on SBE research for a report on youth violence following the Newtown shootings, some in Congress have revived the time-honored tradition of skepticism over federal support for these sciences. This is the context into which the FY 2014 President's budget for SBE research emerged.

Aside from the agencies reported below, behavioral and social research also receives support from the Cabinet-level departments for which the Obama Administration, in many instances, has proposed increases in FY 2014 for research and evaluation. Highlights include:

- NSF's Social, Behavioral, and Economic Sciences (SBE) directorate continues to implement its interdisciplinary research agenda, which grew from the community suggestions embodied in the *Rebuilding the Mosaic* report.
- NSF's SBE remains an integral part of key NSF initiatives including Science, Engineering, and Education for Sustainability (SEES), Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21), and the Comprehensive National Cybersecurity Initiative.
- Proposed boosts for education research and statistics would increase evaluations of the Administration's education reform efforts, and fund additional basic and applied research about student learning.
- The Office of Behavioral and Social Sciences Research would allocate \$3 million in FY 2014 to research on the 'exposome,' to better understand the effects of cumulative environmental exposures on health.

NATIONAL SCIENCE FOUNDATION (NSF): SOCIAL, BEHAVIORAL AND ECONOMIC SCIENCES DIRECTORATE (SBE)¹

As mentioned, the directorate has again come under congressional attack, and its political science program has had its scope restricted. Further, Myron Gutmann will finish his tenure as SBE Assistant Director in August

1 <http://www.nsf.gov/sbe>; <http://www.nsf.gov/ehr>

2013. As of this writing, the search for his successor continues.

In the meantime, the directorate continues to fund research on disaster response, public health improvement, optimization of vital resources, national defense, human sustainability, the legal system, and the brain, as well as providing crucial data for the nation. The successful award rate for the directorate as a whole sits around 15-16 percent, with the average grant award at \$120,052 for FY 2012.

For FY 2014 SBE will maintain its participation in cross-directorate programs such as Science, Engineering, and Education for Sustainability (SEES), the Comprehensive National Cybersecurity Initiative, Big Data, and the Innovation Corps. SBE will continue its ongoing strategic transformation through support for interdisciplinary research and training through the NSF-wide INSPIRE program and SBE's own SBE 2020, based on the *Rebuilding the Mosaic* report. It will also play a role in the BRAIN Initiative through its investments in cognitive science and neuroscience. In addition, SBE will provide enhanced resources to the National Center for Science and Engineering Statistics (NCSES).

The Social and Economic Sciences (SES) division is led by Jeryl Mumpower. SES priorities outside of support for basic research in the core disciplines in its jurisdiction include: interdisciplinary research under SBE 2020; participation in international partnerships such as the European Open Research Area program; a Big Data emphasis area to “create new opportunities for SBE researchers in the context of the 21st Century networked society”; enhanced funding for SEES activities through SBE-specific emphases on understanding energy use and decision making, coastal communities, vulnerability and resilience, water sustainability and climate, and Hazards, Sustainability Research networks; and the science of broadening participation.

The Behavioral and Cognitive Sciences (BCS) division is led by Mark Weiss. The division will increase support for the cognitive science and neuroscience program to help understand the brain. Like SES, BCS will support projects in interdisciplinary research, international partnerships, and SEES activities. It will also, along with the SBE's Office of Multidisciplinary Activities (SMA) and NSF's Office of International and Integrative Activities, continue to support the Science of Learning Centers. Funding remains on a downward path as NSF prepares to terminate

support for these centers at the end of FY 2014 (Cohort I) and FY 2015 (Cohort 2). A subcommittee of the SBE Advisory Committee (SBEAC) has recently held two workshops to consider SBE's continued investment in the Science of Learning. A discussion of the workshops' results was on the agenda for the SBEAC meeting on May 20-21, 2013.

Enhanced funding for the NCSES, led by John Gawalt, is part of SBE's plans for FY 2014. The increase would support the first survey of research and development activity by non-profit organizations other than universities in 15 years. NCSES will also develop and test effective data collection strategies for the Microbusiness Innovation Science and Technology Survey, which will focus on the smallest employers. With increased resources, NCSES will also continue to expand the scope of administrative records as sources to augment its surveys.

The SMA supports the directorate's I-Corps investment as well as some SEES activities, and will devote resources to the Secure and Trustworthy Cyberspace initiative. This investment will support research at the intersection of the economic and computer sciences to explore market forces that incentivize good behavior to protect cyberspace. SBE would diminish its support for the Science of Science and Innovation program, although SMA will still provide \$5.1 million for the program.

NATIONAL INSTITUTES OF HEALTH (NIH)²

Understanding the complex influences of behavior on health is a critical part of NIH's mission. There is strong evidence that half of all deaths in the U.S. can be attributed to behavioral factors such as smoking, poor diet, substance abuse and physical inactivity. In addition, behavioral and social factors contribute to the high costs of preventable morbidity and mortality. NIH-supported behavioral and social sciences research ranges from basic research on memory, learning and perception, to prevention research, to clinical trials and comparative effectiveness research.

NIH is the largest funder of behavioral and social sciences research (BSSR) in the federal government, and BSSR is part of the portfolio of every NIH institute and center. Basic behavioral and social sciences research studies mechanisms and processes that influence behavior at the individual, group,

² <http://obsr.od.nih.gov>

community and population levels. Findings from basic BSSR lead to new approaches for reducing risky behaviors and improving the adoption of healthy practices.

The NIH Office of Behavioral and Social Sciences Research (OBSSR), led by Robert Kaplan, is the primary coordinating entity for BSSR. 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 emphasizing the critical role that behavioral and social factors play in health, health care and well-being. OBSSR leads the coordination and development of policies, goals, and objectives related to strengthening research in the behavioral and social sciences at NIH. The FY 2014 budget estimate for OBSSR is \$27.3 million, a slight increase over FY 2012. OBSSR's vision is to bring together the biomedical, behavioral and social science communities to work more collaboratively to solve the pressing health challenges facing our nation. OBSSR's plan includes facilitating 1) the next generation of data and analysis methods; 2) behavioral and social science in an evolving health care system, and 3) training the next generation of behavioral and social scientists.

In FY 2014, the office will again support the NIH Basic Behavioral and Social Science Opportunity Network (OppNet), a trans-NIH initiative to expand agency support for basic BSSR. OppNet's support from all 27 institutes and centers, however, is uncertain given NIH Director Francis Collins' decision to release them from providing contributions to the initiative. Unlike many trans-NIH initiatives, OppNet is not funded via the NIH Common Fund, but through a tap on the institutes and centers. Additionally, the agency has indicated that it intends to conduct an internal study of the productivity of behavioral research and cell biology.

In addition, OBSSR will support two new initiatives in FY 2014. The first, Shared Medical Decision Making, focuses on the development and use of tools to optimize joint medical decision making by patients and health care providers. The second will support basic research to: 1) identify and measure behavioral and social environmental exposures across the life course, including the development of applications for mobile devices and sensor technologies to do so; and 2) develop analytic methods to infer meaning about the contributions of interactions among environmental exposures and biological factors to disease risk and resilience. This

initiative refers to the ‘exposome,’ a play on the word ‘genome’ that focuses on the totality of all environmental exposures of an individual over the life course and across geographical space. At the request of the National Institute on Environmental Health Sciences and the Environmental Protection Agency, the National Academy of Sciences recently published a report on the exposome, *Exposure Science in the 21st Century: A Vision and a Strategy*.³

Consistent with recommendations contained in this report, basic research on the exposome is needed to understand how environmental exposures interact with individual characteristics, such as genetics, physiology, and epigenetics, to influence health. While much is known about how variation in individual behaviors (e.g., diet, physical activity) or in the social environment (e.g., neighborhood) are linked to health outcomes, NIH hopes to develop improved reliable, validated tools to measure the interactions between individual behaviors and the population-level social environmental exposures in real time and across the life course.

OBSSR will continue to fund multi-year programs on research to reduce or eliminate health disparities; a program to enhance the behavioral and social sciences content of medical school curricula; research to develop and translate basic BSSR into effective health behavior interventions; and application of systems science methodologies to the behavioral and social sciences and health. OBSSR will also continue to support research that applies systems approaches to health disparities through the Network on Inequality, Complexity, and Health. Finally, the office will offer annual summer training institutes on systems science methodology and health, randomized clinical trials involving behavioral interventions, dissemination and implementation research in health, mobile health, and research methods in the behavioral and social sciences.

DEPT. OF EDUCATION: INSTITUTE OF EDUCATION SCIENCES (IES)⁴

The IES, led by John Easton, is the federal government’s principal agency for conducting education research. The agency’s central structure includes four centers: the National Center for Education Research, the National Center for Education Statistics, the National Center for Education

3 <http://dels.nas.edu/Report/Exposure-Science-21st-Century/13507>.

4 <http://www.ed.gov/offices/ies>

Evaluation and Regional Assistance, and the National Center for Special Education Research.

The proposed budget requests an overall increase for the IES, from \$593.7 million in FY 2012 to \$671.1 million in FY 2014. 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.

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 activities would receive \$202.3 million in FY 2014, increased from \$108.4 million in FY 2012. The increased funding would support expanded research on both early childhood and adult learning, and would introduce a research program designed to stimulate partnerships designed to improve practice.

The IES authorization mandates at least eight NRDCs. Currently-funded centers conduct research on rural education; cognition and science instruction; instructional technology; technology for science education; data driven reform; assessment, standards and accountability; English language learners; early childhood education; and teacher effectiveness in math. A new planned center will focus on the transmission and use of research to improve practice.

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 \$108.7 million to \$122.7 million under the Administration's proposal. The increase would pay for a special pilot administration that would provide state-level results on the International Program for Student Assessment.

The National Assessment of Educational Progress, which measures and reports on the status and trends of student learning over time, was level funded in FY 2012, but would receive a \$5 million reduction in FY 2014. The given explanation is simply that the reduced amount will suffice.

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 \$25 million for an ARPA-Ed program to explore new approaches to education research.

DEPARTMENT OF DEFENSE (DOD)

Driven by its mission focus, DOD supports a \$70 billion R&D enterprise, which includes support for fundamental and applied research in the behavioral, cognitive and social sciences. The majority of this research is funded through intramural and extramural programs within the Army Research Institute and Army Research Laboratory; the Office of Naval Research; the Air Force Office of Scientific Research; and the Air Force Research Laboratory. These military service laboratories conduct and sponsor fundamental (6.1), applied/exploratory development (6.2), and advanced development (6.3) research in human systems. All four 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 are also 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 in the Defense Health Program.

The President's FY 2014 request would slightly reduce overall DOD S&T funding by \$74 million (or 0.6%), falling from an FY 2012 level of \$12.1 billion to \$12.0 billion. Army, Navy and Air Force labs all would see cuts to their S&T programs in FY 2014, though in each case the fundamental research accounts would increase (see table II-5). DOD's Defense-wide research agencies would get increased funding in FY 2014 across 6.1, 6.2 and 6.3 accounts, and DARPA is slated for a 1.8% increase from \$2.8 billion to \$2.9 billion. DOD's medical research budget would take a substantial cut, falling from \$1.3 billion in FY 2012 to \$730 million in FY 2014 (a 42.7% decrease).

Within these accounts, it is unclear how human-centered behavioral research programs specifically would fare in each laboratory, agency or program under the President's request. In the current budget environment, behavioral research accounts can expect to see level funding or very small increases at best. Within the medical research programs, DOD is standing

up large projects related to mental health (in particular, Post-Traumatic Stress Disorder and suicide) which could increase the proportion of funding dedicated to human-centered science.

DOD also continues to support the Minerva Research Initiative, initiated by former Secretary Gates in 2008. The initiative seeks to build deeper understanding of the social, cultural, and political dynamics that shape regions of strategic interest around the world. DOD expects to issue a solicitation for a FY 2014 competition in the summer of 2013.