



Driving Innovation through Federal Investments
Written Testimony to the U.S. Senate Committee on Appropriations
Submitted by the Consortium of Social Science Associations
April 24, 2014

On behalf of the Consortium of Social Science Associations (COSSA), I am pleased to offer this written testimony to the Senate Appropriations Committee for the April 29, 2014 hearing titled “Driving Innovation through Federal Investments.” In it, I will describe the impacts of federal investment in social and behavioral science on society, including the U.S. economy, national security, and the health and wellbeing of our citizens.

COSSA is proud to serve as a united voice for the social and behavioral sciences, bridging the academic research community with federal policymakers. Its membership consists of more than 100 professional associations, scientific societies, universities, and research centers and institutes, representing thousands of scientists working in industry, government, and academia.

National Science Foundation

COSSA joins the broader scientific community and the 21 Senators who signed the April 11, 2014 letter to the Commerce, Justice, Science and Related Agencies Subcommittee in support of \$7.5 billion for the National Science Foundation (NSF) in FY 2015, an increase of 4.6 percent. This amount would return NSF to its FY 2010 funding level when adjusting for inflation and would allow the agency to recover some of the purchasing power lost in recent years due to sequestration and caps on discretionary spending. The amount would also attempt to put NSF back on track with the vision of the *America COMPETES Reauthorization Act of 2010*, which authorized NSF at \$7.4 billion in FY 2011, \$7.8 billion in FY 2012, and \$8.3 billion in FY 2013. If the U.S. is to maintain its scientific competitiveness on the global stage, we as a nation must continue to prioritize investments in science and technology and not abandon the aspirations set forth in the original *America COMPETES Act of 2007* and its reauthorization in 2011.

Among NSF’s science directorates is the Directorate for Social, Behavioral and Economic Sciences (SBE), which funds basic research across a broad collection of scientific fields, such as economics, anthropology, language and linguistics, political science, sociology, psychology, among others. Social and behavioral science is a STEM discipline responsible for advancing our knowledge and understanding of the human condition and the fundamental nature of who we are. It helps us answer complex societal questions, such as how to convince a community in the path of a tornado to seek cover, or statistical analyses that help local governments understand crime patterns. Without this science, policy-making on major national issues will not be based on evidence and billions of dollars will be wasted.

Allow me to provide a few examples¹ of impactful social and behavioral science funded by SBE:

- Research supported by NSF has provided the Federal Communications Commission (FCC) with its current system for apportioning the airwaves via a fruitful, practical application of game theory and experimental economics. Since their inception in 1994, FCC “spectrum auctions” have netted over \$60 billion in revenue for the federal government. The U.S. system of partitioning airwaves is now emulated in several other countries around the world, resulting in total worldwide revenues in excess of \$200 billion.
- Researchers at Indiana University, Drexel University, and Arizona State University developed spatial models to help manage the location of sex offenders. Their research addressed concerns regarding the impact of sex offender residency laws on a community, considering important factors such as whether residency restrictions lead to high concentrations of offenders in specific areas, distribute the risk across a community equitably, and keep sex offenders from living near minors. Improving the development and evaluation of sex offender residency policies in advance of any legislation allows public officials the opportunity to consider the resulting distribution of offenders in terms of local residents, better meeting the needs of communities.
- Researchers at Washington University in St. Louis investigated emotion recognition using nonverbal cues such as facial expressions, vocal tones, and body language. Based on this research, the Army Research Institute now incorporates education on nonverbal communication into soldier training, thereby assisting troops in understanding cross-cultural, nonverbal communication with non-English speaking citizens with whom they interact overseas. Thus, this research has the potential to provide human solutions in military situations. It has been demonstrated that enhancing troops’ interpersonal skills can enable them to anticipate and diffuse conflict, as well as facilitate cooperation, negotiation and compromise.

As we as a nation work to tackle challenges such as clean energy, transportation modernization, the future of the U.S. agriculture enterprise, and promoting healthy living, increased investment is needed in social and behavioral science in order to fully understand and appreciate how changes in policy, practice, and regulation will impact humans and how to craft such policies, practices and regulations to be of most use and cost efficient.

National Institutes of Health

COSSA urges the Committee to appropriate at least \$32 billion in FY 2015 for the National Institutes of Health (NIH).

The fundamental understanding of how disease works, including the impact of social environment on these disease processes, underpins our ability to conquer devastating illnesses. Perhaps the grandest challenge we face is understanding the brain, behavior, and society—from

¹ *Bringing People Into Focus: How Social, Behavioral and Economic Research Addresses National Challenges, National Science Foundation (NSF 13-62).*

response to short-term pleasures to self-destructive behavior, such as addiction, to lifestyle factors that determine the quality of life, infant mortality rate and longevity. And while Americans have achieved very high levels of health over the past century and are healthier than people in many other nations, according to the 2013 National Academies (NAS) report, *U.S. Health in International Perspective: Shorter Lives, Poorer Health*, “a growing body of research suggests that the health of the U.S. population is not keeping pace with the health of people in other economically advanced, high-income countries.”

Nearly 125 million Americans are living with one or more chronic conditions, including heart disease, cancer, diabetes, kidney disease, arthritis, asthma, mental illness, and Alzheimer’s disease. At the same time, health care spending in the United States is being driven up by the aging of the U.S. population and the rapid rise in chronic diseases, many of which are caused or exacerbated by behavioral factors—including, obesity, caused by sedentary behavior and poor diet, and addictions resulting from health problems caused by tobacco and other drug use. As the NAS report notes, “the United States is losing ground in the control of diseases, injuries, and other sources of morbidity.”

The behavioral and social sciences regularly make important contributions to the well-being of this nation. Due in large part to the behavioral and social science research sponsored by NIH, we are now aware of the enormous role behavior plays in our health. At a time when genetic control over disease is tantalizingly close but not yet possible, knowledge of the behavioral influences on health is a crucial component in the nation’s battles against the leading causes of morbidity and mortality: obesity, heart disease, cancer, AIDS, diabetes, age-related illnesses, accidents, substance abuse, and mental illness.

As a result of the strong Congressional commitment to NIH in years past, our knowledge of the social and behavioral factors surrounding chronic disease health outcomes is steadily increasing. The NIH’s behavioral and social science portfolio has emphasized the development of effective and sustainable interventions and prevention programs targeting those very illnesses that are the greatest threats to our health, but the work is just beginning. This includes NIH’s support of economic research, specifically, research on the linkages between socioeconomic status and health outcomes in the elderly and achievement and health outcomes in children. This research has been an integral part of the interdisciplinary science NIH has historically supported. Accordingly, the agency’s investment has yielded key data, methodologies and substantive insights on some of the most important and pressing issues facing the U.S. For example, NIH-funded surveys such as the Health and Retirement Survey, the Panel Study of Income Dynamics (PSID), parts of the National Longitudinal Survey of Labor Market Experiences, and surveys on international aging and retirement provide data necessary to monitor and detect changes in important socioeconomic trends in health. This in turn allows NIH to support research that will provide the greatest return on its investment when it comes to the health of our citizens.

Preserve the Integrity of the U.S. Scientific Enterprise

To end, I would like to discuss an alarming trend we have seen in recent years regarding political intrusion in science and the peer review process. The U.S. scientific enterprise must remain insulated from political and ideological pressure if we are to encourage the most innovative science. As you move through the appropriations process this year, COSSA urges you to

discourage and object to proposals that would defund or otherwise compromise specific research areas or programs, as we saw with the political science amendment impacting NSF in FY 2013. At a time when we should be investing in our knowledge economy and doing all we can to encourage a diverse scientific workforce, such efforts would instead have a chilling effect, discouraging the next generation of researchers to embark on science careers.

Unfortunately, recent efforts in the House of Representatives seek to further set back the U.S. scientific enterprise. COSSA is deeply concerned about the impacts the *Frontiers in Innovation, Research, Science and Technology Act* (H.R. 4186), or FIRST Act, would have on NSF, the scientific community overall, and American innovation and intellectual competitiveness. Not only does the FIRST Act lack vision for the U.S. scientific enterprise by authorizing levels for NSF that would cut funding to the agency in terms of real dollars, it would also degrade NSF's gold-standard merit review process by seeking to micromanage the agency's award-making process. Regrettably, the legislation serves as a soapbox for lawmakers wishing to hurl ideological attacks on specific research areas, such as social and behavioral science or climate science. The inclusion of specific authorization levels for NSF's individual science directorates would set a dangerous precedent by allowing Congress to legislate what qualifies as meritorious science, as opposed to continuing to rely on a process that has served this nation well; that is, entrusting qualified experts to make such determinations. It would also place scientific disciplines (i.e. biology, engineering, chemistry, social science, etc.) in direct competition with one another for scarce resources, thereby discouraging interdisciplinary science, which is becoming increasingly necessary for answering complex societal challenges.

Equally distressing are the attempts to single out the Social, Behavioral and Economic Sciences (SBE) Directorate. The shortsightedness of critics of social and behavioral science research is disappointing. Publicly holding up individual research grants for ridicule based solely on their titles—research projects that a distinguished panel of scientific peers has determined meritorious—misleads the American public by asserting that taxpayer funding is being wasted without fully understanding the projects, their intent, and the benefit to society and/or the progress of science.

While I understand that the FIRST Act is an authorization bill and currently has no legal bearing on the FY 2015 appropriations process, we are nonetheless concerned by these efforts in the House and any impact they might have on lawmakers looking to further target social and behavioral science funding at NSF, NIH, or elsewhere across the federal government. COSSA is hopeful the Committee will continue to support investment in all fields of science and object to efforts to defund or devalue important social and behavioral science programs that have proven their value to the U.S. economy, national security, and the health of our citizens.

Thank you for the opportunity to express these views on behalf of the social and behavioral science community. Please do not hesitate to contact me should you require additional information.

Wendy A. Naus
Executive Director
Consortium of Social Science Associations