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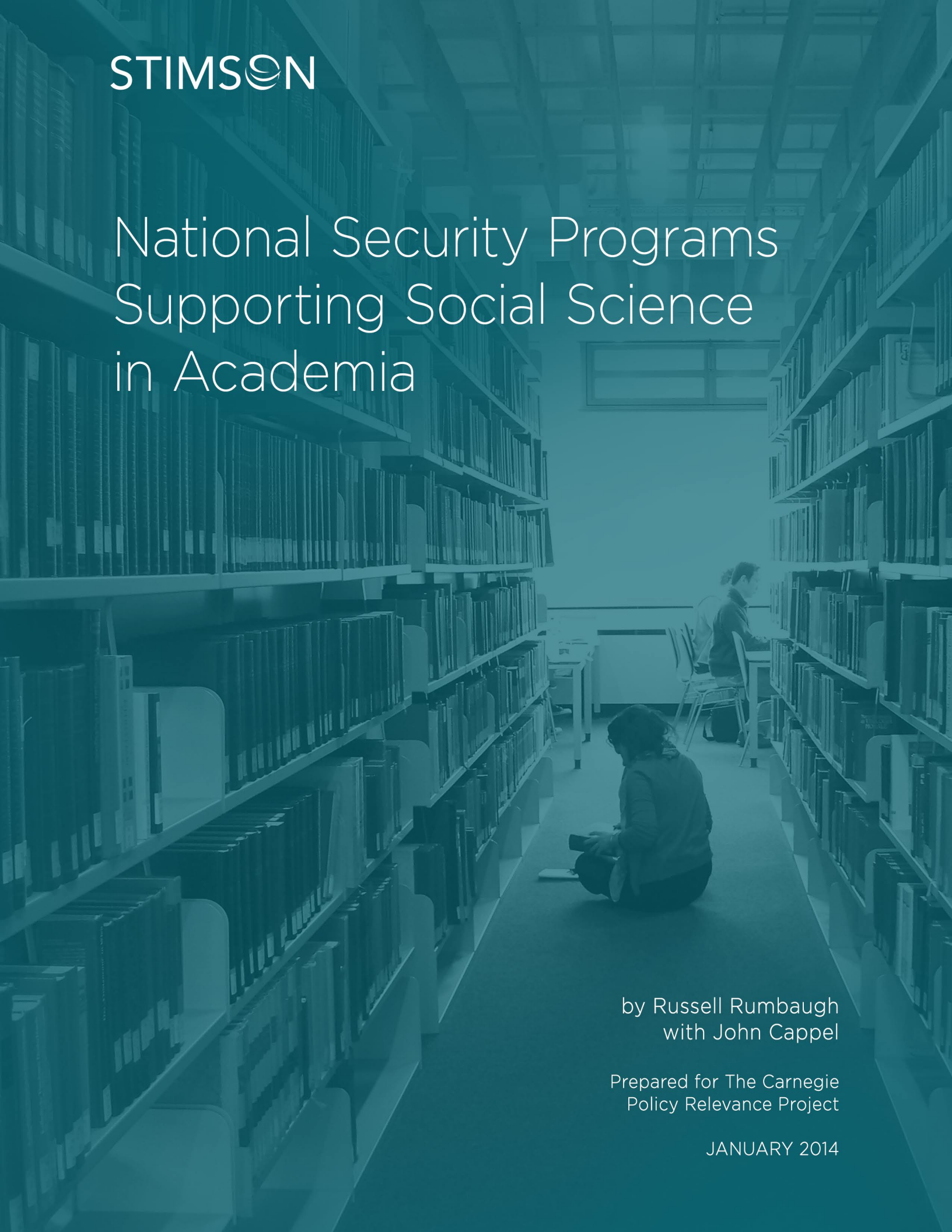
National Security Programs Supporting Social Science in Academia



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National Security Programs Supporting Social Science in Academia

Introduction

The federal government invests heavily in supporting higher education and academic research in a wide range of disciplines. Much of this funding is channeled through national security-related agencies, particularly the Departments of Defense and Homeland Security. These agencies predominantly focus on research in physical science and engineering disciplines, though they also support research in the social sciences. Of the $3.75 billion the national security agencies spent on academia in FY13, likely only tens of millions went to social science.[1]

The following discussion attempts to describe those programs at the national security agencies that provide funding for the social sciences in academia. It is only an initial scan, reliant on publicly available data. It is not based on queries of program managers themselves or the policymakers who oversee the funding and programs of the national security agencies. See Appendix B for a more comprehensive description of our methodology.

Additionally, the programs we identify likely only capture a part of the funding national security agencies provide to social sciences in academia, as available data allowed us to track only the contract spending that was directly awarded to academics. Yet there is reason to believe a significant amount of social science funding flows to academia through a sponsor providing a contract to a practicing academic on a specific question. But if this funding was provided indirectly, through subcontracts, it is essentially invisible under our methodology. Similarly, funding that flowed from other programs, but ended up supporting social science is not captured, and again it is essentially invisible under our methodology.

Given the relatively small scale of funding we have identified, this "invisible" funding could equal or even dwarf the acknowledged funding. While this uncertainty makes it hard to definitively characterize national security funding for social sciences it also highlights how little funding is formally organized into discrete programs.

Those programs we did identify can be categorized broadly as either supporting more general, qualitative research or supporting research intended to support formal applications, usually through modeling. There are also a number of other marginal programs. Additionally, any review of US government support to academia must include the National Science Foundation, which we consider separately in Appendix A.

[1] This report did not consider intelligence community programs, as their funding is classified.

Programs Supporting Qualitative or General Research

A few, largely recent, programs aim to support qualitative social science work. Notable supporters of qualitative research are the Minerva Initiative, Department of Homeland Security Centers of Excellence, the Naval Postgraduate School, and the Office of Net Assessment.

Minerva Initiative

The Department of Defense's most prominent social science research program is the Minerva Research Initiative, established in 2008 with the express purpose of funding social science research to "yield more effective strategic and operational policy decisions." Minerva's funding jumped from $5.8M in FY2012 to $16.5M in FY2013 but is requested at only $7.3M for FY2014. Because Minerva funds multiyear research, those budgets only fund 7-15 new projects a year.

The Minerva Initiative supports a wide-range of research, both qualitative and quantitative. But even Minerva is geared to leveraging academic research into formal application. One of four priority topics for FY14 is focused on research that can feed into "Models of Societal Resilience and Change." A second is dedicated to quantification and metrics of social science phenomena. Some of this quantitative focus may reflect Minerva's adoption of some research priorities previously support by the Human, Social, Cultural and Behavioral Modeling program run by the Office of the Secretary of Defense, which is planned to be discontinued (see below).

Department of Homeland Security's Centers of Excellence

Established by the Homeland Security Act of 2002, the Department of Homeland Security's Centers of Excellence program involves 12 centers located at 25 universities. They received a combined $12.2 million in contracted funding in 2013, plus additional grant funding. These centers differ in how much they support social sciences:

- The University of Maryland's National Consortium for the Study of Terrorism and Responses to Terrorism (START) focuses on social science research. It "supports research efforts of leading social scientists at more than 50 academic and research institutions, each of whom is conducting original investigations into fundamental questions about terrorism." START received $3.7 million contracted dollars in 2013 for operations and about $3 million in grant funding.

- The University of Southern California's Center for Risk and Economic Analysis of Terrorism Events (CREATE) has a large social science component but also works in operations engineering and modeling. It was awarded $1.3 million in contracts in 2013 and receives roughly $3 million in annual grant funding.

- Some centers include social science as secondary research areas. The University of Arizona's National Center for Border Security and Immigration, which primarily looks at identification and sensor technology, also looks at immigration policy and economics. Similarly, Johns Hopkins Medicine's National Center for the Study of Preparedness and Catastrophic Event Response includes sociologists and modelers.

- Other centers support little or no social science research, focusing on topics in life and physical sciences and engineering like microbial hazards, zoonotic and animal diseases, explosives detection, transportation, and data visualization.

Naval Postgraduate School's Project on Advanced Systems and Concepts for Countering WMD (PASCC)

PASCC provides significant support to social science research related to combating weapons of mass destruction, but it directs most of its funding to non-academic institutions. Relying on Defense Threat Reduction Agency funding, it supports research activities in "security studies," a field primarily centered on social sciences that can also include some work in life science fields like biology and chemistry. It explicitly does not seek technological solutions, supporting research projects that "1) are involved in expanding knowledge for national defense, and (2) could potentially improve policy and international relations for combating WMD."

PASCC supports roughly two dozen projects a year for a total of about $4-5 million. Half of this funding goes to "strategic dialogues," with the other half supporting research projects.

Table 1: Programs with Social Science Funding in the National Security Agencies for FY13

Dollars in millions	Academic Social Science Funding	Total Funding	Modeling -Focused?
Qualitative/General Research			
Minerva	$6-16	$6-16	No
DHS CoE	$10	$48	Mostly No
NPS PASCC	<$1	$4	Yes
Office of Net Assessment	<$1	$12	No
Behavioral Modeling			
HSCB	$1	$20	Yes
Service Programs			
Office of Naval Research	unk.	$21	Yes
Air Force Research Laboratory	unk.	$19	Yes
Army Research Laboratory	unk.	$10	Yes
Army Research Institute	$4	$5	Mostly Yes
Marginal Programs			
Air Force Academy	--	--	No
DHS S&T Directorate	--	--	Yes
DARPA	--	--	No
Defense Threat Reduction Agency	--	--	No

Office of Net Assessment

The Office of Net Assessment, until recently a direct reporting office to the Secretary of Defense, "supports analyses that compare the standing, trends, and future prospects of U.S. and foreign military capability and military potential." In practice this focus supports social science research, though it also supports work in fields closer to the humanities, such as military history. However, the focus is driven very directly by the interests of the long-time head of the Office of Net Assessment, Andy Marshall, who favors certain topics and approaches.

In 2013, the Office of Net Assessment let $12 million worth of contracts for research, though only two of these went to academia, for a total of $600,000. The Office of Net Assessment also offers grants as well as contracts, but its most recent grant announcement closed in 2013.

Programs Supporting Behavioral Modeling

In the past several years, the Department of Defense has operated several programs that have the end goal of developing quantitative-based computer models of human behavior. Though these programs support qualitative social science research, their focus is on applying that research to modeling. Behavioral modeling programs exist both at the Department-wide level and within each of the military services.

The Office of the Secretary of Defense's Human Social Culture Behavior (HSCB) Modeling Program

HSCB was established in 2008 because the Department of Defense "lacked access to mature data, models, and tools for understanding, representing, forecasting and influencing sociocultural behaviors." The program was originally created in response to guidance from the Defense Department's premier internal planning document in 2006, usually signed by the Secretary or Deputy Secretary. However, as the wars in Iraq and Afghanistan have wound down, so has interest in the program. The FY14 budget requested no funding for the program.

Though HSCB funds social science research, its focus is on constructing models, and that focus has limited the extent to which it supports social science. According to an assessment by Mitre, the lead DoD contractor for the program, over 40 percent of awarded work between 2011 and 2013 was in physical science, engineering, and computer science disciplines, surpassing the less than 30 percent of program work that fell into the fields of anthropology, economics, political science, and sociology. Furthermore, only 21 percent of HSCB projects were led by academia.

Nevertheless, HSCB received over $20 million in both FY12 and FY13. If the ratios described above hold for funding, HSCB provides over $1 million a year to academic social science.

Military Service Programs

The military services, which own the bulk of defense funding, all run programs that support social science through their primary research organizations. Each service pursues tracks of behavioral research that seek to understand the enemy as well as our own soldiers. Research on enemy behavior often seeks to improve training simulations and to provide decision-making tools that help identify threats and predict adversaries' behavior. Research on our own soldiers combines cognitive, medical, and organizational research in order to optimize the effectiveness of both individual soldiers and military units. Projects in

these areas are solicited and funded through broad grant announcements that include social science-related topics among dozens of other research areas eligible for funding.

Four service-specific research organizations support behavioral modeling programs:

- *Office of Naval Research (ONR)*: ONR Science and Technology runs the Navy's formal research program. Two programs within ONR have some social science purpose. The first, Human Social, Cultural And Behavior Modeling, focuses on "the development of a knowledge base, building models and creating training capacity in order to understand, predict and shape human behavior cross-culturally." This effort, in part, uses case studies and multi-disciplinary literature reviews to understand violent extremism. The separate Affordable Behavior Modeling Program seeks to replicate human behavior so as to use simulators, rather than human role-players, in training. Both efforts have a heavy focus on translating knowledge into quantitative models. Although there is no exact accounting of how much goes to academic social science, the Navy's Human Systems research funding totaled $17.2 million in FY12 and $21.3 million in FY13.

- *Air Force Research Laboratory (AFRL)*: Within AFRL, the Air Force Office of Scientific Research has a Decision Making program, which received $13.9M in FY12 and an estimated $18.7M in FY13. It "focuses on the discovery of mathematical laws, foundational scientific principles, and new, reliable and robust algorithms, which underlie intelligent, mixed human-machine decision-making." Additionally, the AFRL's Human Effectiveness Directorate includes an Anticipate and Influence Behavior Division that works to "improve situational awareness and threat detection through the understanding and exploitation of human 'patterns of life'" and to develop predictive models.

- *Army Research Laboratory (ARL)*: ARL maintains a Human Effectiveness Directorate with a Simulation and Technology Training division that may similarly touch tangentially on social sciences, as well as a Soldier Performance division that relies largely on cognitive sciences to study "solider physical, cognitive, and social interactions." The Army Research Laboratory has also previously offered postdoctoral fellowships with a similarly broad scope of eligibility. It is not clear what, if any, grant funding came from these Army programs. However, Army research budgets in the areas of "Soldier Performance," "Human Behavior," and "Network-Human Science" totaled $7.7M in FY12 and an estimated $9.6M in FY13.

- *Army Research Institute for the Behavioral and Social Sciences* (ARI): ARI supports research in a wide range of areas, including topics such as basic research on "Understanding Organizational Behavior and Network Science" and applied research in areas such as leadership, organizational design, and cross-cultural communication, among others. ARI grew out of efforts to use psychology to better screen army recruits. It spent $4.1 million in FY2013 on contracts with 10 universities for social science research.

Marginal Programs

There are several other programs that have such broad mandates that they could provide academic social science funding, although such funding is essentially incidental.

A number of Defense Department offices run grant programs for which social scientists are technically eligible but where the broad range of eligibility makes it likely that little or no funding was actually given to academic social scientists. For example, the US Air Force Academy runs a grant program to expose its

cadets and faculty to research, including research in support of its Department of Behavioral Sciences and Leadership. Over 4 years, however, only one grant for $140,000 was given for research in this field out of a total grant program of $53.5 million. Programs with a similarly marginal relationship to social science can be found at the Defense Threat Reduction Agency, which runs a countering WMD program that supports work on social networks, and the Defense Advanced Research Projects Agency (DARPA), which runs a Young Faculty grant program that marginally includes social science.

The Department of Homeland Security's Science and Technology Directorate also includes a Human Factors and Behavioral Sciences Division. Research topics in this Directorate include a set of Human Factors/Identification Systems topics that "applies the social and behavioral sciences to improve detection, analysis, and understanding of threats," among several other topics.

Furthermore, there are programs that interact with academic social sciences but do not provide funding. For instance, the Army's Training and Doctrine Command (TRADOC) runs the Cultural Knowledge Consortium, which seeks to enhance collaboration and sharing among the "socio-cultural" research community. TRADOC does not appear to provide outside research funding itself, though, so we do not include it in this summary or others like it.

The State Department and US Agency for International Development have no formal social science research programs, reflecting their lack of research focus more broadly. Both do occasionally let contracts and grants on specific social science research topics, but they do not do so in any concerted way.

Appendix A: National Science Foundation

The National Science Foundation (NSF) provides significant support to social sciences, as with most government funded academic research. Within NSF, the Directorate of Social, Behavioral & Economic Sciences (SBE) focuses on social sciences. Although NSF is not a national security agency, legislation in 2013 required that NSF grants for political science be certified as "promoting national security or the economic interests of the United States." Because NSF cancelled its remaining FY13 competitions for political science awards, we do not have further information on what grants were provided based on a national security justification and what on economic interest.

SBE's four organizations provide varying levels of support for social science research. Within SBE, the Divisions of Behavioral and Cognitive Sciences and Social and Economic Sciences focus on core social science research fields such as anthropology, geography, economics, political science, and sociology; however, some of their supported research areas, such as cognitive neuroscience, push the boundary between social science and physical science. The SBE Office of Multidisciplinary Activities also provides substantial support for social science research, although that focus is somewhat diminished by the interdisciplinary nature of the work it supports. The National Center for Science and Engineering Statistics has a much more marginal connection to social science research, as it focuses on gathering data on science and engineering education and workforce issues but also supports research—presumably social science in nature—that uses the Center's data.

NSF support for social sciences dwarfs the formal funding provided by national security agencies. As shown in Table 3 below, NSF funding for the SBE Directorate was over $250 million in FY12, dropping to just above $240 million in FY13 as the overall NSF research budget shrank. Although some of these funds are absorbed by internal costs, SBE still provided well over $210 million in grants in both of the past two fiscal years.

Table 2: Social Sciences in National Science Foundation Research Funding, FY12-13

	Funding		% of Total Research	
In millions of dollars	FY12	FY13	FY12	FY13
Social, Behavioral & Economic Sciences	$254.19	$242.51	4.4%	4.4%
Social and Economic Sciences	$97.26	$91.65	1.7%	1.7%
Behavioral and Cognitive Sciences	$92.47	$88.60	1.6%	1.6%
SBE Office of Multidisciplinary Activities	$28.22	$27.50	0.5%	0.5%
National Center for Science and Engineering Statistics	$36.23	$34.76	0.6%	0.6%
Other Research & Related Activities	$5,504.11	$5,301.21	95.6%	95.6%
Total, Research & Related Activities	*$5,758.30*	*$5,543.72*		

Appendix B: Methodology

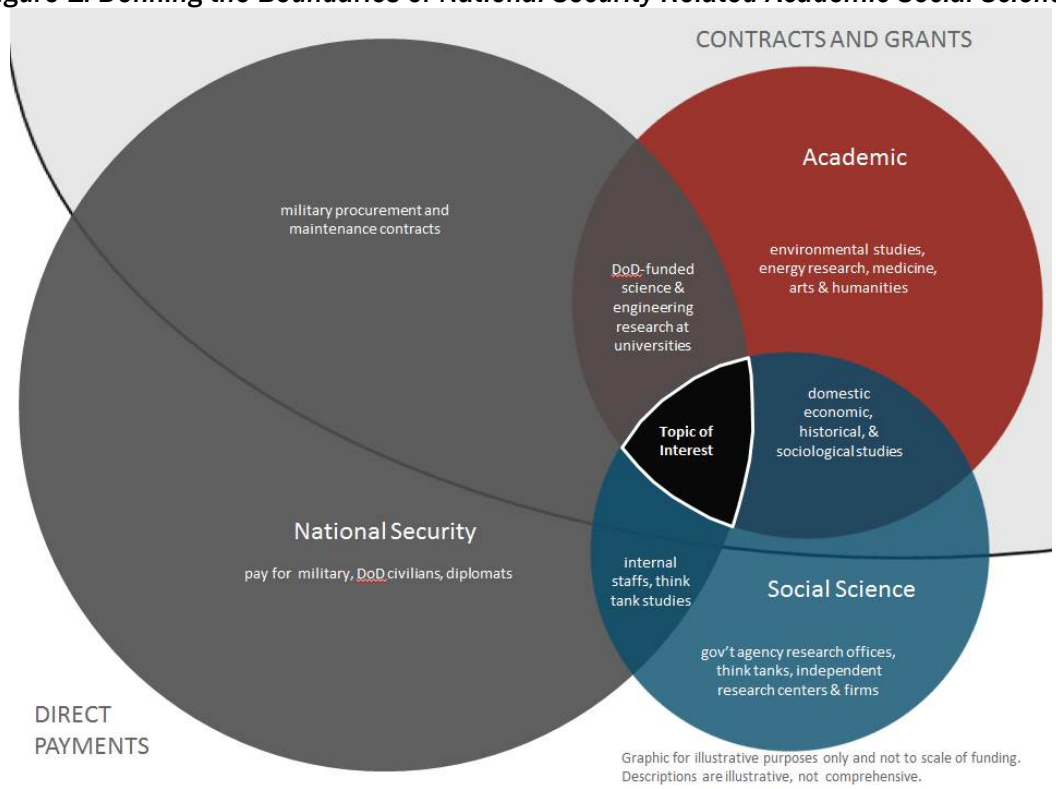
The information in this report was gathered in several stages using a range of data sources described in this appendix. The primary components of this process were reviewing USASpending.gov data for contract and grant records, studying program entries in the Catalog of Federal Domestic Assistance and grant announcements on Grants.gov, gleaning some funding data from Department of Defense budget justification documents, and gathering information from government-run websites and other publicly available reports.

Estimating who funds social science research and at what levels is hard, even though it seems like it should be simple. Figure 1 illustrates how the concept should be a simple task of identifying the intersection of three areas. There is national security, in this work defined as those agencies focused on national security. These agencies interact with academia, here loosely defined as a university or college that provides higher education. Social science is a distinct research area. We are interested in identifying the programs at the intersection of these three areas—national security, academia, and social science.

We can even add another distinction—contracts and grants—because our topic of interest requires the national security agencies to let money outside of their direct control to the academy, and contracts and grants are the mechanisms to do so.

But though this concept is clear enough, it is hard to find in practice. None of the agencies organize their efforts in any way that delineates efforts that fall within this topic of interest, let alone a comprehensive accounting of these efforts. As a result, while it is often possible to determine whether a case satisfies one or two of the target criteria, there is often insufficient information to conclusively determine whether it satisfies all three.

Figure 1: Defining the Boundaries of National Security-Related Academic Social Science



Examination of USASpending.gov Records

The initial research design for this report sought to use information on USASpending.gov, which is supposed to provide a thorough database of government spending, to build a comprehensive picture of both contract and grant spending for academic social science research. Upon initial examination, Product/Service Codes, a system used to categorize government purchases, and the North American Industrial Classification System, a tool for tracking broader patterns of economic output in North America, appeared to offer a viable method for selecting the relevant contracts. The Catalog of Federal Domestic Assistance, a comprehensive scheme for categorizing federal grant funding, seemed to provide a similar way to discriminate among grant awards.

Closer review of the contract and grant data returned using these methods quickly revealed that this method would not provide as comprehensive of a picture as was initially hoped. The PSC, NAICS, and CFDA codes were not reliable indicators of whether a contract or grant was awarded for social science work, and other descriptive information available in USASpending entries was too paltry and inconsistent to otherwise identify the nature of the work being performed on contracts.

The obvious PSC code for identifying social science spending is "AJ7: R&D-General Science and Technology-Social Sciences." The obvious NAICS code is "541720: Research and Development in the Social Sciences and Humanities." Coupled with the marker for "educational institution" carried on all contract records, such codes promised a simple answer to the question of what programs and what funding national security agencies provide academia for social sciences.

Despite the seemingly similar descriptions, however, the codes actually capture very different funding. Under the PSC code, national security agencies directed only $4.1 million to educational institutions. That $4.1 million went to ten universities, with all but one receiving its funding from the US Army Research Institute for the Behavioral and Social Sciences. (ARI spent an additional $660, 000 in specifically psychological fields.) The remaining university received $53,000 from the State Department to create a digital archaeological map of Iraq.

Yet under the NAICS code, national security agencies spent $34.6 million in FY13. Some of that $30 million difference is clearly social science work, specifically $650,000 for two studies funded by DoD's Office of Net Assessment that were categorized under the PSC as "Special Studies" rather than R&D. This difference also included $150,000 from the Army Corps of Engineers for archaeological curation to seven universities.

Most of the funding under the broader NAICS code, however, would not strike most as social sciences. $16 million of the difference goes to applied physics for the Department of Defense at the University of Washington, University of Massachusetts—Lowell, and Penn State University. Some of that funding could go to social sciences as part of multidisciplinary efforts. For instance, Penn State's funding is dedicated to developing non-lethal weapons and includes teaching classes on their use. It nonetheless seems an overstatement to consider such efforts true social science funding.

The NAICS code captured another $1.3 million for psychological research that appears to be more medical than social science in nature. To confuse matters more, $360,000 (and three of the universities) of the ARI funding under the social sciences PSC is listed not under the social sciences NAICS, but the life sciences NAICS, suggesting these contracts are more for psychological research than social science.

The remaining bulk of the difference in funding between the NAICS and PSC is the Department of Homeland Security's Centers of Excellence.

This methodology nonetheless proved of some value, as the PSC and NAICS codes could be used to generate rough estimates of social science contract spending. Nonetheless, inconsistencies and apparent errors in the application of these codes significantly limit the accuracy of these estimates. The CFDA codes, on the other hand, were far too broad to provide any useful approximation of social science grant spending.

Review of CFDA Codes and Grant Announcements

To fill in the gap in grant information left by the shortcomings of the USASpending data, grants were examined from a top-down, programmatic perspective. This approach begin with a careful review of every grant program listed in the Catalog of Federal Domestic Assistance in the Departments of Defense, State, Homeland Security, Veterans' Affairs, and Energy , as well as the Agency for International Development and the National Science Foundation. If a CFDA program's title and/or description indicated it might contain a social science research component, it was recorded for further examination.

To determine if those CFDA codes that seemed potentially relevant were in fact of interest, the grant opportunity announcements listed under that code on Grants.gov were reviewed. Some CFDA codes were ruled out following that review. For those that were not ruled out, the relevant grant announcements were further examined to narrow down the nature of work on the grants, expected or historical funding levels, and whether the announcements indicated a regularly recurring grant program.

Spot-Check of Department of Defense Budget Justifications

Review of CFDA codes and grant announcements suggested that some CFDA codes might roughly correspond with line items in the Department of Defense's budget justification documents. As a result, budget justification documents from the Department of Defense, Air Force, Army, and Navy for Research, Development, Test & Evaluation (RDT&E) were studied for budget data on programs related to social science research, particularly those programs that had already been identified. This approach did result in gathering some useful additional information on overall programmatic budget levels, but it unfortunately offered little perspective on how much funding was passed outside of the government through contracts and/or grants.

Review of Program Websites and Other Reports

Throughout the research process, websites for potential or actual federal social science-related programs, along with a limited number of government and other reports on social science programs, were studied. This broad approach served a variety of purposes, including identifying possibly relevant programs, determining whether potentially relevant programs were actually of interest, and gathering further detail on what work is done under different programs. Such research was especially important towards the later stages of research for filling out details and tying up loose ends that had not been addressed in grant announcements or budget justification documents.