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Conscription Updated

Modernizing the Selective Service System

JOSHUA MARGULIES
Frank Batten School *of* Leadership *and* Public Policy
University of Virginia

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DISCLAIMER

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgements and conclusions are solely those of the author, and are not necessarily endorsed by the Batten School; by the University of Virginia; by the National Commission on Military, National, and Public Service; or by any other entity. The National Commission on Military, National, and Public Service does not stand by the accuracy of all facts asserted, nor analyses and conclusions.

HONOR STATEMENT

On my honor as a student, I have neither given nor received unauthorized aid on this assignment.

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ACRONYMS

AS	-	Alterative Service
ASEN	-	Alternative Service Employer Network
ASW	-	Alternative Service Worker
AVR	-	Automatic Voter Registration
CO	-	Conscientious Objector
DLL	-	Driver's License Legislation
DMV	-	Department of Motor Vehicles
DOD	-	Department of Defense
DOJ	-	Department of Justice
FAFSA	-	Free Application for Federal Student Aid
GAO	-	Government Accountability Office
HCPDS	-	Health Care Personnel Delivery System
JAMRS	-	Joint Advertising Market Research and Studies
MSSA	-	Military Selective Service Act
NCES	-	National Center for Education Statistics
NCMNPS or "the Commission"	-	National Commission on Military, National, and Public Service
SPDS	-	Skilled Personnel Delivery System
SSS	-	Selective Service System
STEM	-	Science, Technology, Engineering, and Mathematics

EXECUTIVE SUMMARY

Should war break out and a mass mobilization of combat troops be necessary, the Selective Service System (SSS) serves as a database from which local draft boards pull. At present, only young men are required to register. While compliance rates are relatively high under the current scheme, the SSS as it is structured now can only mobilize combat troops in response to war. The National Defense Authorization Act for Fiscal Year 2017 created the National Commission on Military, National, and Public Service to research potential modifications to the SSS to obtain *skilled* individuals. *Should war necessitate a mobilization of skilled individuals, the SSS cannot effectively meet the manpower needs of the nation.*

Insights from the fields of behavioral science and social psychology serve to inspire policy options not previously considered in potential reforms to the SSS. Four policy options are considered, including what is expected to be the new status quo: all persons must register with the SSS, not just young men.

The second, third, and fourth policy options are modeled on the Health Care Personnel Delivery System. These options will see the creation of a peacetime, premobilization registration database called the Skilled Personnel Delivery System (SPDS). Postsecondary educational attainment will be used as a proxy for skill. Conferral of postsecondary certificates and degrees will be tied to registration with the SPDS.

Policy Option #2 requires respondents to choose between registering SPDS or not. No default is set and students will not be conferred their certificate/degree until a response is provided. Policy Option #3 requires students to register with the SPDS in order to be conferred their degree/certificate. Policy Option #4 will see the Federal Government automatically register students with the SPDS as soon as they are conferred a degree/certificate.

Policy options are evaluated on the following criteria: Cost the Federal Government, Cost to Respondents, Additional Implementation Costs, Effectiveness, Cost-Effectiveness, Conscious Decision-Making, and Political Feasibility. In public hearings, the Commissioners at the National Commission on Military, National, and Public Service have consistently held that conscious decision-making is of great importance in their considerations. I weight this evaluative criterion most heavily of all in my analysis of the policy options considered in this report. All projections are made for the first five years of implementation.

I recommend that the SSS utilize an active choice framework (Policy Option 2) in the creation of a Skilled Personnel Delivery System. This framework will provide students earning postsecondary certificates and degrees the choice to register with the SPDS. A response will be necessary in order for a certificate/degree to be conferred, but students are not required to register. I estimate that this option will cost the Federal Government approximately $6 million in additional appropriations to the SSS over the first five years. I estimate the opportunity cost to respondents over those five years to be approximately $15 million. I estimate additional implementation costs over those five years to be approximately $29 million. This option will afford the SSS no more than 3.4 million skilled individuals in the first five years at a per capita cost to acquire each individual of roughly $60. I believe the political feasibility of this option is moderate. Despite being the most expensive option of those considered, this option scores highest of all with regard to conscious decision-making.

PROBLEM STATEMENT

For more than a century, young men in the United States have been required to register with the Selective Service System (SSS). Should war break out and a mass mobilization of combat troops be necessary, the SSS serves as a database from which local draft boards pull.

The National Defense Authorization Act for Fiscal Year 2017 created the National Commission on Military, National, and Public Service to "conduct a review of the military selective service process." The mandate further requires that the Commission research potential modifications to the SSS to "obtain for military, national, and public service" those individuals who possess skills in healthcare, language, cyber, and science, technology, engineering, and mathematics.

While compliance rates are relatively high under the current scheme, the SSS as it is structured now can only mobilize combat troops in response to war. *Should war necessitate a mobilization of skilled individuals, the SSS cannot effectively meet the manpower needs of the nation.*

BACKGROUND INFORMATION

Modern Warfare & the Skills Gap

The 20th century saw warfare expand beyond the limits of land and sea to the air. That the Department of Defense (DOD) now operates a Cyber Command and the Air Force a Space Command should be clear signs that warfare is no longer limited to land, sea, and air. Despite the military's investment in these new warfighting domains, there exist noticeable staffing shortages in some of these warfighting units, especially in cyber and electronic warfare (Pendleton, 2019). Beyond warfighting, the U.S. Government Accountability Office (GAO) has found that there exists skills gaps on the civilian side of the DOD as well, in domains such as healthcare, physical security, and human resources (Farrell, 2013). A report produced by the Partnership for Public Service, in conjunction with Booz Allen Hamilton, found that there is a critical shortage of cybersecurity professionals across the whole of the Federal Government (2015). Conscious of these deficiencies and the changing landscape of warfare, Congress decided to act.

National Defense Authorization Act for Fiscal Year 2017

The National Defense Authorization Act for Fiscal Year 2017 (NDAA) created the National Commission on Military, National, and Public Service (NCMNPS) to "conduct a review of the military selective service process" (National Defense Authorization Act for Fiscal Year 2017, 2016). The mandate further requires that the Commission research potential modifications to the SSS to "obtain for military, national, and public service" those individuals who possess skills in healthcare, language, cyber, and science, technology, engineering, and mathematics (STEM) (NDAA for FY2017, 2016). Whether registration should be open to women is also to be explored (NDAA for FY2017, 2016).[1]

[1] The NCMNPS mandate is in fact much broader than as described above. The Commission is also tasked with exploring means by which the government can increase Americans' propensity to participate in military, national, and public service. Furthermore, the Commission is tasked with determining whether or not the Military Selective Service Act is even still relevant to the country. For the purposes of this report, the author is making the assumption that the Commission will recommend to Congress, the President, and the American public that the SSS remain a functional agency of the federal government. These additional elements of the Commission's mandate are beyond the scope of the author's report.

The Commission was born out of this question of women registering (O'Brien, 2018). When the issue came before the Senate Armed Services Committee, Senators Jack Reed and the late John McCain proposed the creation of the Commission to expand the scope of the inquiry ("Statement by the Chairman on the Passing of Senator John McCain," 2018).

The creation of the NCMNPS is recognition of the fact that warfare is not what is once was. Should a draft be necessary, we cannot expect the armed services to rely solely on masses of combat troops if they are to win a war. It may be necessary to conscript health care personnel, engineers, linguists, and others based on their professional skillsets. This report analyzes policy options the SSS can implement in order to create a database of skilled individuals that goes beyond just those outlined in the 2017 NDAA.

Selective Service System

Conscription has existed in the United States in some form or another dating back to the Civil War. The SSS came about during World War I and has operated differently throughout the decades. The Military Selective Service Act (MSSA) is the authorizing legislation responsible for the SSS, although the name of the legislation has changed over time. Until President Gerald Ford suspended the registration requirement in 1975, the SSS operated largely during wartime. The SSS began to take its current form after President Jimmy Carter reinstated the draft registration requirement at the end of his term in 1980; the SSS has remained active since (Kamarck, 2019).

Consistent throughout this history has been the requirement that *only* men register for a potential military draft (Kamarck, 2019). At present, all men within 30 days of their 18th birthday, but before their 26th birthday, must register with the SSS. This includes immigrants (documented and undocumented), handicapped individuals (physically and mentally), and transgender females who were assigned male at birth, among others ("Who Must Register," n.d.). Few exceptions exist.

Discussion of SSS registration is often mistakenly conflated with an actual military draft. The two are intimately related, but key distinctions between the two must be understood. Registering with the SSS does not guarantee that a man will be conscripted into the military. However, registration does represent the possibility that were Congress to authorize the President to institute a draft that a man *could* be conscripted into the armed services.

Current Events

During a period of two weeks in February and March 2019, two federal judges, in two separate cases, both ruled the male-only draft registration requirement of the MSSA unconstitutional. It is pure coincidence that these rulings came about while the NCMNPS is operational. Neither ruling will have an immediate impact on the functioning of the SSS; for the time being only men are required to register (Korte, 2019b; Pager, 2019). Regardless, these cases will likely change the status quo, a sentiment shared by NCMNPS Chairman Joseph Heck (Korte, 2019a).

Note: Analysis of policy options presented in this report are based on the assumption that all persons, regardless of gender assigned at birth, will be required to register with the SSS.

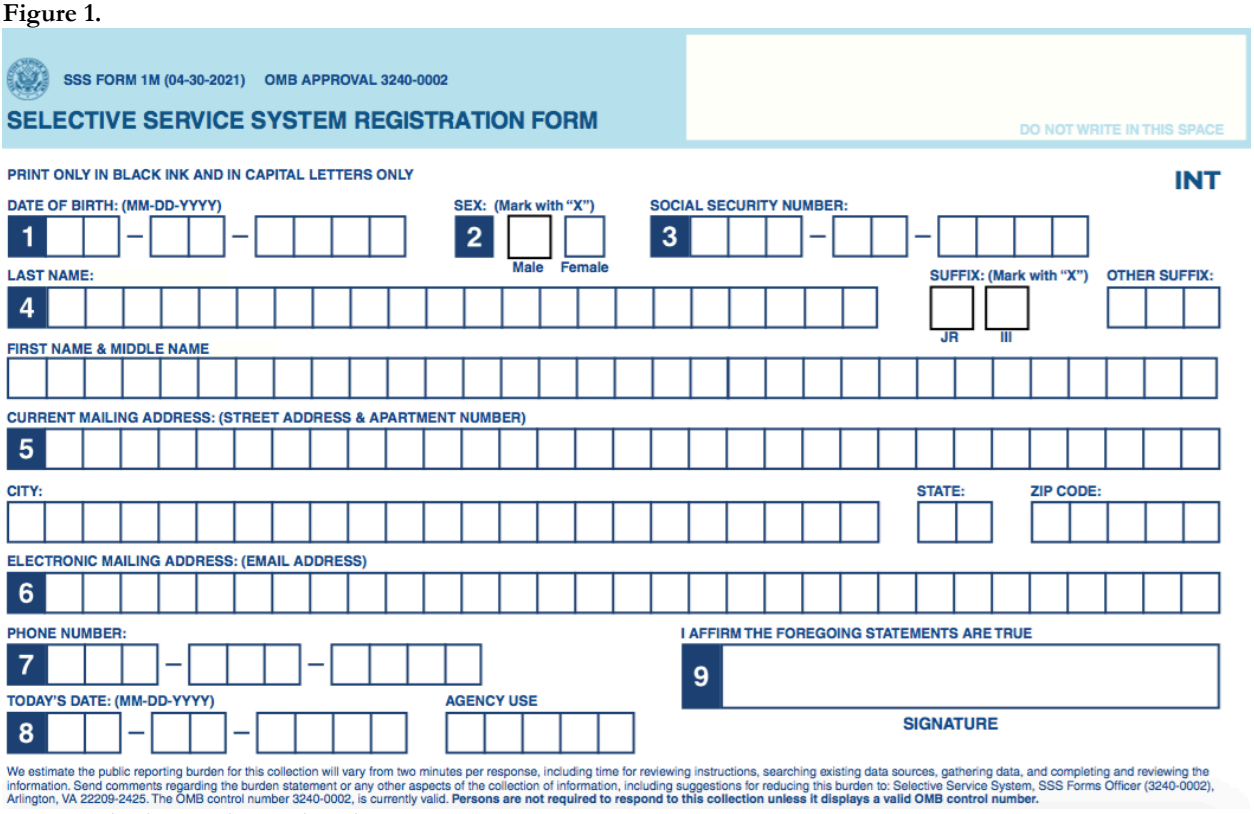
Ways to Register

Young men can register on the SSS website, at all U.S. Post Offices, via a post card sent by SSS, when filling out the Free Application for Federal Student Aid (FAFSA), and in the majority of high schools. Driver's License Legislation (DLL) passed by states allows young men to register at their state department of motor vehicles (DMV) ("How to Register," n.d.). The plurality of young men register through DLL (Office of Public and Intergovernmental Affairs, 2018).

Information Collection

Young men must provide the SSS with their name, date of birth, gender, current mailing address, and social security number, if they have one ("Register Now," n.d.). Recently, the SSS has also been collecting respondents' email addresses and telephone numbers. This information is collected when registering on the SSS website as well as the paper version of the Selective Service Registration Form found at all post offices (see **Figure 1** below). The SSS believes these additional data points will allow for more rapid mobilization should a draft occur (Office of Public and Intergovernmental Affairs, 2019). Registrants are further required to update the SSS of an address change within ten days of moving. This additional requirement ends in the year a registrant turns 26 years old (Selective Service System, n.d.-a).

Figure 1.



SSS FORM 1M (04-30-2021) OMB APPROVAL 3240-0002

SELECTIVE SERVICE SYSTEM REGISTRATION FORM

DO NOT WRITE IN THIS SPACE

PRINT ONLY IN BLACK INK AND IN CAPITAL LETTERS ONLY

INT

1 DATE OF BIRTH: (MM-DD-YYYY) – –

2 SEX: (Mark with "X") Male Female

3 SOCIAL SECURITY NUMBER: – –

4 LAST NAME:

SUFFIX: (Mark with "X") JR III

OTHER SUFFIX:

FIRST NAME & MIDDLE NAME

5 CURRENT MAILING ADDRESS: (STREET ADDRESS & APARTMENT NUMBER)

CITY:

STATE:

ZIP CODE:

6 ELECTRONIC MAILING ADDRESS: (EMAIL ADDRESS)

7 PHONE NUMBER: – –

8 TODAY'S DATE: (MM-DD-YYYY) – –

AGENCY USE

9 I AFFIRM THE FOREGOING STATEMENTS ARE TRUE

SIGNATURE

We estimate the public reporting burden for this collection will vary from two minutes per response, including time for reviewing instructions, searching existing data sources, gathering data, and completing and reviewing the information. Send comments regarding the burden statement or any other aspects of the collection of information, including suggestions for reducing this burden to: Selective Service System, SSS Forms Officer (3240-0002), Arlington, VA 22209-2425. The OMB control number 3240-0002, is currently valid. **Persons are not required to respond to this collection unless it displays a valid OMB control number.**

Source: Selective Service Registration Form

Government Benefits & Noncompliance

The Reagan administration tied SSS registration to government benefits and in the case of immigrants arriving before their 26th birthday, citizenship (Kamarck, 2019). Eligibility for federal student aid, federal job training, and federal employment is tied to successful registration with the Selective Service System. ("Benefits and Penalties," n.d.). Many states have also independently

passed legislation requiring residents to be in compliance with the SSS registration requirement in order to receive student aid from or be employed by the state ("Other Legislations by States, Territories, and the District of Columbia," n.d.)

After a man's 26th birthday, it is no longer possible to register with the SSS and the aforementioned government benefits will no longer be accessible. It is possible for an individual to retroactively register if he can prove with overwhelming evidence to the benefit-denying agency/department that he did not knowingly and willfully fail to register ("Men 26 and Older," n.d.). It is not clear how often these exemptions are filed or with what frequency they are approved/denied.

The Washington Post reported that in California alone during a period from 2007 to 2014 nearly $100 million in federal and state benefits were denied to those men who were noncompliant with the SSS registration requirement. Similarly, during 2011 to 2014 a combined total of $35 million was denied to residents of Massachusetts, New Jersey, and Pennsylvania (Griego, 2014). Notably, none of these states have passed DLL ("State/Commonwealth and Territory Legislation," n.d.).

Noncompliance also comes with the possibility of a potential felony charge that carries a $250,000 fine and/or five years in prison. A list of suspected non-registrants is forwarded to the Department of Justice (DOJ) for "possible investigation and prosecution" ("Benefits and Penalties," n.d.). Importantly, the DOJ has not prosecuted a single person for noncompliance since 1986 (Selective Service System, 1988).

Despite its century-long history, the SSS reported that in 2018, roughly 9% of young men aged 18 to 25 were not in compliance with the requirement to register (Office of Public and Intergovernmental Affairs, 2019). Furthermore, the SSS self-reports that in 2018 they turned over to the DOJ the names and addresses of 112,051 suspected non-registrants; however, it is not clear if this list includes only those young men still eligible to register or if it also included men aged 26 and older (Office of Public and Intergovernmental Affairs, 2019). Regardless, no direct literature exists that would shed light on why these men fail to register (e.g. defiance or lack of information).

Conscientious Objectors & SSS Alternative Service

Conscientious objectors (COs) factor heavily into the SSS mission. Importantly, COs must still register with the SSS, despite whatever religious, moral, or ethical objections they may have. It is not until an actual draft is in effect that COs will be able to make their case to local draft boards regarding their objections ("Conscientious Objection and Alternative Service," n.d.).

COs may ultimately participate in the armed services, but not in combat roles. Alternatively, if a CO is opposed to any form of participation in the armed services, the CO will be referred to the domestically focused Alternative Service (AS), coordinated by the SSS ("Conscientious Objection and Alternative Service," n.d.). Even during peacetime, the SSS establishes relationships with private employers to participate in the Alternative Service Employer Network (ASEN). Should conscription go into effect, the SSS will match COs with ASEN participants. These COs may work in elder care, child care, education, conservation, agriculture, or other form of civilian service ("Alternative Service Employer Network," n.d.).

Despite the option for COs to participate in the AS, some activists and critics of the military and the SSS encourage young men not to register. One of the most vocal critics of the SSS, Edward

Hasbrouck, is one of the last men to be imprisoned for refusing to register. Hasbrouck operates an independent website where he writes prolifically about the draft, the SSS, and draft resistance. He encourages young men to wait to register until just before their 26th birthdays so as to avoid potential conscription during draft eligible ages of 18 to 25, but not lose out on government benefits after turning 26 (Hasbrouck, n.d.). Others, like the Church of the Brethren encourage young men to register, but to submit supplementary documentation to the SSS so as to establish one's objections to war prior to standing before a local draft board (Kauffman, 2014).

Military Recruiting Leads

Joint Advertising Market Research and Studies (JAMRS), a program within the DOD, is responsible for researching factors that affect the All-Volunteer Force ("Joint Advertising Market Research & Studies (JAMRS)," n.d.). JAMRS utilizes the SSS database for recruiting leads (Office of the Under Secretary of Defense for Personnel and Readiness, 2017). Created in the early 2000s, JAMRS was controversial at the outset, with the New York Civil Liberties Union filing a lawsuit against DOD over privacy concerns ("Information about the JAMRS Database," n.d.; Krim, 2005; Prah, 2005).

According to DOD's own reporting, on an annual basis the SSS affords the armed services roughly 75,000 to 80,000 young men in recruiting leads. DOD further estimates that if females are required to register with the SSS, they will be afforded an additional 35,000 to 40,000 young women on an annual basis for recruiting leads (Office of the Under Secretary of Defense for Personnel and Readiness, 2017). Data has not been made available suggesting how many of these leads are for skilled individuals. It is not clear how DOD produced these estimates and what compliance rates they assumed.

Health Care Personnel Delivery System

In 1987, Congress ordered the SSS create the Health Care Personnel Delivery System (HCPDS) (Office of the Under Secretary of Defense for Personnel and Readiness, 2017). The HCPDS serves as a "standby plan" that will allow for the conscription of healthcare professionals into the armed services should there be a shortage in the military's existing capabilities. The plan includes males *and* females ages 20 to 45. Like traditional military conscription, it will take an act of Congress and the President in order to authorize the program. Unlike the SSS registration requirement though, the HCPDS is not intended for peacetime. Thus, registration of skilled healthcare professionals will only occur after an emergency has already begun and mobilization is required. As the HCPDS standby plan was being created, the SSS estimated that delivery of the first physician, post-mobilization, would happen in a matter of weeks. Without the HCPDS, SSS estimated this number would be more like seven to twelve months (Selective Service System, 1988). The SSS currently estimates that the HCPDS will afford the military a pool of some 3.4 million health care professionals from which to pull ("Medical Draft in Standby Mode," n.d.). Like the traditional SSS draft process, the HCPDS standby plan includes measures to allow health care professionals to serve as COs in the armed services or in the AS (Lalich, 2004).

In a survey of medical students across the U.S. (n=1,756), researchers found that awareness of the HCPDS was strikingly low, 3.5%. While former, current, and future military personnel were significantly more likely to be aware of the HCPDS than other medical students, the overwhelming majority of both population were still unaware of the program, roughly 84% and 97% respectively (Boyd et al., 2007). A follow up survey (n=185) conducted by the same researchers found that psychology graduate students were similarly unaware of the HCPDS, roughly 5.1% awareness,

despite the fact that there is the potential for them to be conscripted as say military psychologists (Boyd, LoCicero, Malowney, Aldis, & Marlin, 2014).

There is some historical precedent at the foundation of the HCPDS. The Doctor's Draft Law was enacted in 1950 and expired in 1973 along with the broader Vietnam draft. During that time period the legislation led to the conscription of 30,000 health care professionals (Lalich, 2004; Selective Service System, 1988).

The SSS has long recognized that it may eventually be tasked with conscripting not only a large number of health care professionals, but specially skilled individuals from other domains as well (Office of Public and Congressional Affairs, 2003).[2] Unlike the HCPDS's ability to conscript health care professionals, no such delivery system currently exists to conscript other specially skilled individuals (cyber, language, STEM, etc.). However, the SSS acknowledges that the HCPDS plan could be "expanded" to include other skills (Office of Public and Congressional Affairs, 2003). The HCPDS serves as the model for three novel policy options discussed later in this report. These policy options call for the creation of a Skilled Personnel Delivery System. Like the HCPDS uses medical licensure and other databases to obtain skilled health care personnel, this new system will use educational attainment more broadly as a proxy for skills beyond just health care.

[2] To the best of the author's knowledge, the SSS's Annual Report to Congress for Fiscal Year 2002 is the first time the agency publicly acknowledged the potential for a broader skills-based draft that is currently beyond the scope of the agency's responsibilities.

INSIGHTS FROM BEHAVIORAL SCIENCE

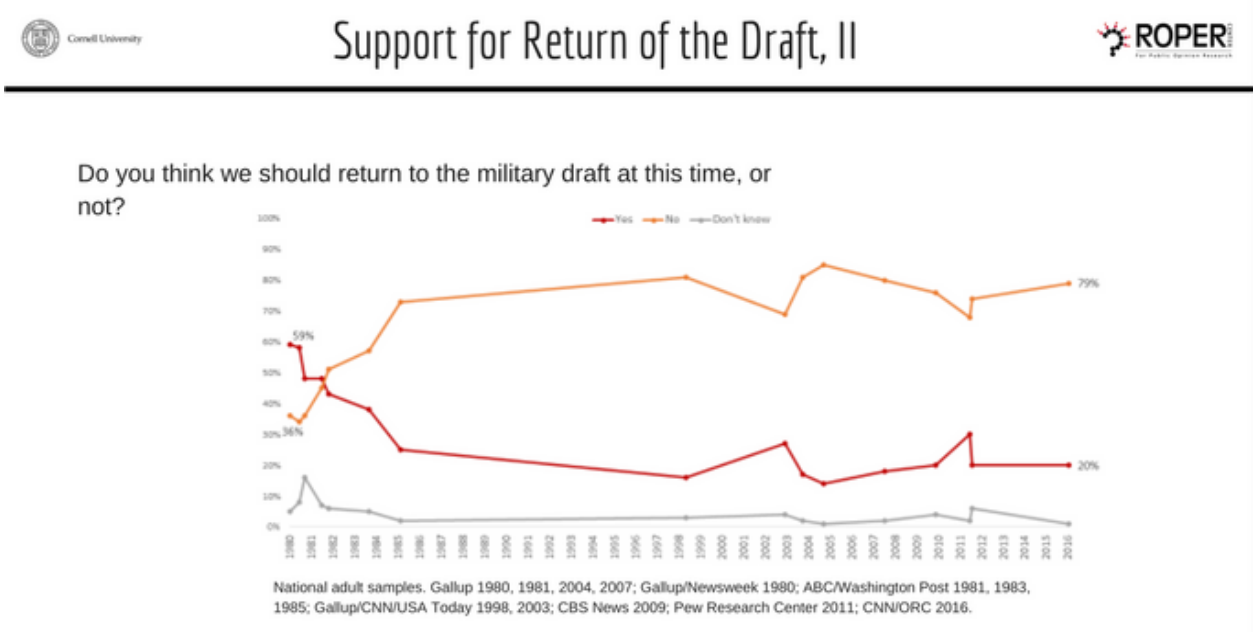
Previous analyses and government reports have examined a number of alternatives with regard to the Selective Service System (SSS). Costs were projected for complete disestablishment of the agency, suspension of active registration, and deep standby (U.S. Government Accountability Office, 1997; Farrell, 2012). In public hearings, the Commissioners at the National Commission on Military, National, and Public Service have consistently held that conscious decision-making is of great importance in their considerations (*Military and Public Service Policy Forum, Day 2, Part 2*, 2019). Accordingly, insights from the fields of behavioral science and social psychology serve to inspire policy options not previously considered in potential reforms to the SSS.

Opt-In & Opt-Out

Organ donation, a well-studied practice, can serve to illuminate how choice architecture may affect registration with the SSS. Most states rely on an opt-in system for organ transplantation, which requires explicit consent from a potential donor. Few people register to become donors under an opt-in scheme. Even when a person consents to donate their organs, family members of the deceased will usually have the last say (Spital, 1996). Most donated organs come from young people that die unexpectedly. This puts the family of the deceased in the position of having to make a significant decision in a profoundly stressful situation. The majority of families will decline to have their loved one's organs donated, harming public health. This is surprising given the strong stated public support for organ donation. Reducing or eliminating the stress associated with the decision to donate may increase the rate of donation (Spital, 1996).

There is some uncertainty regarding what this says about SSS. Compliance rates are consistently high with the selective service system, despite the general public opposition (see **Figure 2** below) to the return of the military draft ("Suppose They Gave a War and Nobody Came: Changing Opinions on the Draft," 2017).

Figure 2.



Source: Roper Center for Public Opinion Research

Many European countries operate an opt-out organ donation scheme, otherwise known as "presumed consent." An opt-out system increases organ donation to a rate that more accurately reflects public support for the practice (Johnson & Goldstein, 2003). However, under presumed consent, there still exists the possibility that family and loved ones may override the deceased's wishes.

Active Choice

Some US states recently implemented an active choice framework for organ donation. In Illinois, one must answer the question, "Do you wish to be an organ donor?" when renewing a driver's license (Thaler, 2009). California also passed a similar law, creating a legally binding organ donation contract upon renewing a driver's license (Carlson, 2010).

Harvard Law professor Cass Sunstein (2013) states that, under active choice, "people are required to make an actual choice among various options; they are not defaulted into any particular alternative" (p.119). Active choice, sometimes referred to as mandated or forced choice, is distinct from opt-in and opt-out strategies (Keller, Harlam, Loewenstein, & Volpp, 2011; Thaler, 2009). Researchers demonstrated active choice is a distinct category from opt-in frameworks because active choice participants were significantly more likely to accept HIV testing than the opt-in group. However, the opt-out approach to HIV testing yielded a much higher acceptance rate than both active choice and opt-in, which could have wide-ranging public health implications (Montoy, Dow, & Kaplan, 2016).

Sunstein (2013) notes that active choice "increases the likelihood that people will end up with their preferred outcomes," by not setting a default, so long as respondents provide truthful answers (p. 119; Goldin, 2015). The framework is also able to accommodate diverse, heterogeneous populations (Sunstein, 2013). In general, active choice is best employed when there does not exist one optimal choice for those required to make a choice (Carroll, Choi, Laibson, Madrian, & Metrick, 2009). For example, if the government is hesitant to automatically register all eligible individuals for military service when clearly many conscientious objectors would disapprove, an active choice framework might be preferable. Before Germany suspended all compulsory service in 2011, conscripts were in essence given a choice between military or civilian service. However, it is not known how many conscripts totally objected to both military and civilian service (Kuhlmann, 1992; Kuhlmann & Lippert, 1990).

Active choice helps to combat mistrust people may have in the institution requiring them to make a choice because the framework affords people a certain degree of autonomy. In placing the decision in the hands of the affected people, active choice may serve to foster trust with the institution, as it conveys that the institution does not assume to know what is best for each individual (Sunstein, 2013; Sunstein, 2014). It is conceivable that many would cry foul play or incompetence were the government to default all citizens into registering with the SSS. The key is that an active choice framework would not default people into Selective Service but would rather require citizens choose between options. Auto-enrollment into a retirement savings fund, an opt-out behavioral nudge, may be great for the whole of society. However, in certain policy domains, organ donation for one, some individuals may not be comfortable with such a default. Placing the choice in the hands of the individual creates more institutional trust (Steyer, 2017).

While active choice may protect against making mistakes in some cases, there are scenarios where active choice may increase errors. In instances where people may be unfamiliar with the subject

matter for which they are being asked to make a choice, people may erroneously classify themselves (Sunstein, 2013). With active choice, question askers run the risk of forcing a decision even if people do not understand the question or the consequences of their options (Sunstein & Thaler, 2003).

Active choice also imposes burdens on both the entity asking the question and the people responding to the question. Question askers devote time and resources to thoroughly explaining options and respondents devote time and resources to weighing their options (Sunstein, 2013; Sunstein, 2014).

It is also incumbent upon the party asking the question to consider possible penalties for respondents' inaction (Sunstein, 2013). In the states utilizing active choice for organ donation, state DMVs will refuse to issue licenses if respondents fail to respond to the organ donation question (Thaler, 2009). If the SSS is to introduce a new skills component, the agency will need to propose clear sanctions for implementation of an active choice framework to be successful (Sunstein, 2013). Two policy options proposed by the author (discussed later in this report) tie an individual's ability to earn a degree, and other educational certificates below the associate's degree level, with the successful response to a registration prompt.

Enhanced Active Choice

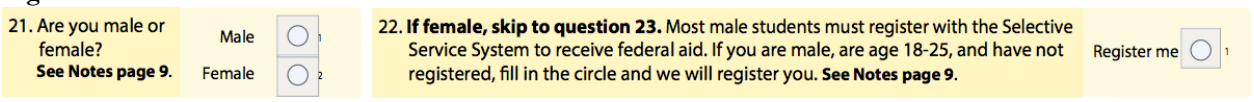
An individual must make a choice in an active choice framework. Enhanced active choice differs in that individuals are still required to make a choice, but questioners frame one of the options advantageously (Keller, Harlam, Loewenstein, & Volpp, 2011). Enhanced active choice weights possible options differently, potentially swaying decisions, whereas active choice weights all choices evenly. One common method of advantaging a choice is to list its benefits alongside the option (Blanding, 2011). For instance, researchers studied enhanced active choice in the context of willingness to get flu shots. Choices were framed as follows: "I will get a Flu Shot this Fall to reduce my risk of getting the flu and I want to save $50 or, I will not get a Flu Shot this Fall even if it means I may increase my risk of getting the flu and I don't want to save $50" (Keller et al., 2011). Enhanced active choice increased compliance rates as compared to active choice (Keller et al., 2011).

At present, the SSS operates in what might loosely be a hybrid between opt-in and enhanced active choice. Although males upon turning 18 are required by law to register with the SSS or face financial penalties plus potential prison time, it is incumbent upon these individuals to put forth the initial effort to register. They must visit a post office, the SSS website, or a state's DMV (where available), among many other options, to start the process. In Virginia, for example, 18-year-old men will not be issued a license or identification card should they refuse to register with the SSS ("Virginia Department of Motor Vehicles," n.d.).[3] If a young man visits a post office, he will face no such similar restriction, like an inability to send mail without first registering with the SSS; here it is opt-in.

While DLL differs from state to state, the physical FAFSA form offers the clearest example of an enhanced active choice framework in action with regard to SSS registration (see **Figure 3** below). Males filing for federal student aid must register with the SSS in order to receive said aid. Because receiving federal student aid is tied to registering with the SSS, the option of registering is advantaged over not registering.

[3] It is not clear that data exists indicating the number of young men that fail to receive their license due to their refusal to register with the SSS. Similarly, it is not clear that data exists indicating the number of young men that fail to complete their FAFSA applications due to their refusal to register with the SSS.

Figure 3.



Source: 2019-2020 FAFSA

In the context of a SSS intent on introducing skills into the military conscription process, policymakers can alter how a choice to register is framed to great effect, especially by focusing more on what is to be lost rather than gained (Kahneman & Tversky, 1981).

Automatic Registration

Still in its early stages is research surrounding the opt-out scheme involved in Automatic Voter Registration (AVR). Much like how young men in most states can register with the SSS while at a DMV location, so too have Americans been able to register to vote ("Automatic Voter Registration," n.d.). Oregon was the first state to have implemented this opt-out system with regard to voter registration at DMVs back in 2016 (Griffin, Gronke, Wang, & Kennedy, 2017). As these programs are still in their infancy, their effectiveness is not yet clear, but early research is promising. The Center for American Progress, a notably progressive organization, conducted an impact evaluation focusing on the first year of Oregon's AVR program. Their findings suggest that AVR is particularly effective at capturing younger individuals, indigent populations, and the less educated (Griffin et al., 2017). With regard to the SSS, this may be particularly useful information in that the agency's target audience is only young men aged 18 to 25.

One of the lists the SSS keeps, the Suspected Violator Inventory System, consists of men in the SSS database who are suspected of not having registered (Seago, 2009). That the SSS is already in possession of the information necessary for these individuals to be registered indicates that coming into the possession of identifying information may not be a problem for the SSS. Furthermore, that the SSS is already in possession of the data of unregistered individuals indicates that additional cost of acquiring information for this class of people may be minimal.

Beyond maintaining a list of unregistered people, the SSS also engages in efforts to keep its records of registered individuals up to date. The agency collects only four data points on individual registrants: name, address, date of birth, and social security number. Maintaining accurate information can be done with relative ease (Seago, 2009).

The majority of young men are "automatically" registered with SSS (Seago, 2009). Automatic, as the word is used by the SSS, has a very specific meaning, and one that may be cause for confusion. Twenty-seven state DMVs have a data sharing agreement with the SSS such that when a young man applies for identification or a license, his information is automatically sent to SSS ("State/Commonwealth and Territory Legislation," n.d.). Yet, automatic here requires that a person first interact with a government agency.

Not all Americans will end up interacting with their state's DMV. A report from the Brennan Center for Justice in 2006 estimated that nearly 11 percent of Americans did not have a government-issued photo ID (Brennan Center for Justice at NYU School of Law, 2006). Simply automating the SSS registration process, if framed similarly to that of Oregon's AVR law, may not be the cure-all for SSS registration compliance.

EVALUATIVE CRITERIA

The following criteria will be used to analyze policy options:

Cost

Cost to Federal Government

This criterion will measure the costs to the Federal Government associated with implementing each option. For example, the introduction of a new SSS registration system for skilled individuals will require changes to SSS software and the hiring of additional full-time employees.

Cost to Respondents

This criterion will measure the opportunity cost to respondents that is associated with the act of registering with the SSS. The financial burden will be calculated by estimating the amount of time a person spends when registering and multiplying by average hourly earnings. Not accounted for will be the cost of foregone government benefits because there is not a reliable means by which to make this calculation based on publicly available data. Using the example of Active Choice, some of the cost may come down to the American people in that they will have to spend time to decide the best option for themselves.

Additional Implementation Costs

This criterion will measure additional costs associated with implementing a policy option. For example, Policy Options #2-4 require that individuals not directly employed by the federal government, i.e., school administrators, administer registration questionnaires to students.

Effectiveness

This criterion will measure the number of *skilled individuals* that each policy option will provide the SSS. For example, having all young persons register, not just young men, will hypothetically double the number of registrants in a relatively short period of time. However, this differs from a targeted conscription effort focusing on one's skills.

Cost-Effectiveness

This criterion will measure the per capita cost to acquire a skilled individual. To calculate this criterion, the total cost of a policy option will be divided by its effectiveness.

Conscious Decision-Making

This criterion will measure the level of engagement an individual respondent has with the registration process, i.e., conscious decision-making. For example, a registration process utilizing an active choice framework will require more input from an individual respondent than would a purely automatic system requiring none.

Political Feasibility

This criterion will measure the political feasibility of implementing a policy option. For example, requiring everyone to register with SSS, not just young men, may not go over well with some members of Congress, members of the Trump Administration, or the public.

POLICY OPTIONS

Note: Analysis of policy options are based on the assumption that all persons, regardless of gender assigned at birth, will be required to register with the SSS. The author is making this assumption due to current events, i.e., federal judicial rulings.

Policy Option #1 represents what the author anticipates will become the new status quo. Policy Options #2-4 will see the creation of a Skilled Personnel Delivery System (SPDS). The SPDS is loosely modeled on the Health Care Personnel Delivery System developed by the SSS in 1987. However, unlike the HCPDS, the SPDS is intended for premobilization, peacetime registration of skilled individuals. Postsecondary educational attainment will be used as a proxy for skill. Conferral of postsecondary certificates and degrees will be tied to registration with the SPDS. Policy Options #2-4 range on a spectrum of conscious decision-making, from high to low. The effectiveness of these policy options will be evaluated by utilizing insights from behavioral science.

All cost projections are estimated for the first five years of implementation. Costs are presented in 2019 USD. Cost projections are discounted at a conventional rate of five percent. All projections and policy options assume implementation will begin immediately. See **Appendix A** for cost projection methodology. See **Appendix B** for effectiveness projection methodology.

A scoring table accompanies each policy option. Options earn a score of 1-3 for each criterion. Each criterion is weighted according to its importance. Conscious decision-making is weighted heaviest of all evaluative criterion.

Option #1: All young persons must register with the SSS, not just young men

This option will require that all young persons, regardless of sex, register with the SSS upon turning 18. By virtue of current events, this option is the stand-in for the status quo.

Cost to Federal Government

Documents recently made available by the SSS via the Freedom of Information Act (FOIA) are used to project cost estimates to the Federal Government. The documents outline the SSS's own 2016 cost projections for registering women, roughly $40 million (2019 USD). A significant portion of the costs are in hiring new full-time employees, software updates, and training of personnel. Adjusting for inflation, I add the SSS estimates to the present value of the SSS congressional appropriations for this year and the next four, roughly $104 million. I project this option will cost the Federal Government approximately **$144,318,922**. This is the least costly option of those considered.

Cost to Respondents

I project that the opportunity cost to respondents for this option will be **no more than $11,068,797.36**. This assumes that all respondents will take roughly two minutes to register.

Additional Implementation Costs

For this criterion, I am assuming that any additional implementation costs are already incorporated into the SSS cost projections for registering women. I am projecting no additional implementation costs for this policy option.

Effectiveness
As the current structure of the SSS is not designed to capture skills, the effectiveness of this policy option is rather poor. I project that over a five-year period, this option will provide military recruiters **no more than 75,000 skilled individuals**.

Cost-Effectiveness
Dividing total costs of this policy option by the measure of effectiveness, I project that the minimum per capita cost to acquire a skilled individual over a five-year period will be **more than $2,071.84**. This is the least cost-effective policy considered.

Conscious Decision-Making
While registration with the SSS under the current scheme is mandatory, there is some modicum of conscious decision-making. Individuals must first interact with a government entity at the state or federal level. On average, individual respondents can be expected to have anywhere from moderate levels of conscious decision-making when registering (DLL, FAFSA, etc.) to somewhat higher levels of engagement (respondents registering with SSS Form 1 at a U.S. Post Office). On average, it can be expected that the status quo option produces **moderate levels of conscious decision-making**.

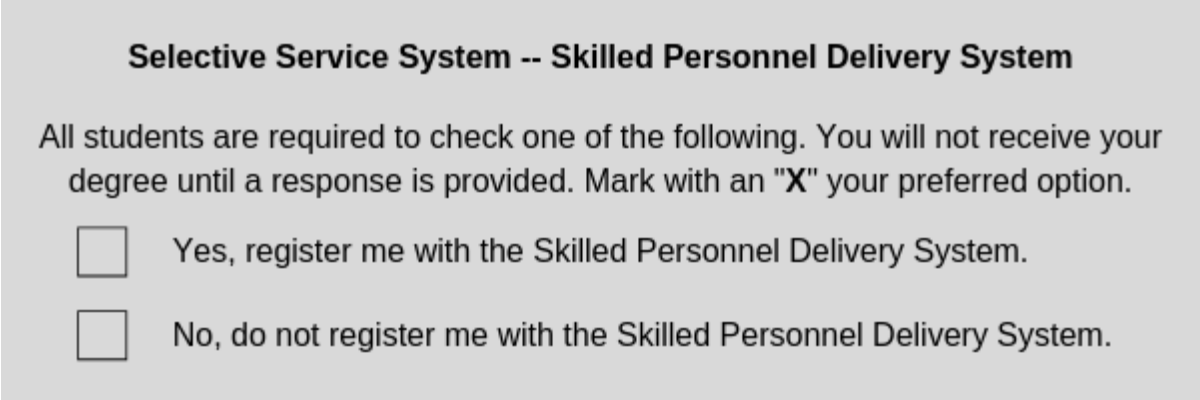
Political Feasibility
Given current events, I believe that this option **scores highly on political feasibility**. Based on recent court rulings, I think it is highly likely that the status quo will change without necessitating intervention from either Congress or the President.

Scoring Policy Option #1	Weight	Score (1-3)	Weighted Score
Cost to Federal Government	10%	3	0.3
Cost to Respondents	5%	2	0.1
Additional Implementation Costs	5%	3	0.15
Effectiveness	20%	1	0.2
Cost-Effectiveness	5%	1	0.05
Conscious Decision-Making	40%	2	0.8
Political Feasibility	15%	3	0.45
Total Score	100%	71.43	68.33

Option #2: All students must indicate their preference to register with SPDS in order to earn post-secondary degree (Active Choice)
This option will see the creation of a supplementary registration system, the SPDS, that is in essence an expansion of the current registration requirement, constituting a "second round" of SSS registration. All post-secondary certificate- and degree-conferring institutions receiving any federal funding, before conferring a degree, must present would-be graduates with a choice to register with this new system. The choice will be presented much like active choice organ donation legislation at states' DMVs.

This option presents no loss of government benefits for not registering (no loss to individual other than time to make a choice), but *certificate- and degree-conferral is contingent upon a choice being made*. **Figure 4** (below) offers sample language that could be presented to students.

Figure 4.



Cost to Federal Government

I estimate the cost to the federal government based on the expected cost to upgrade software, train employees, and the number of full-time employees (FTE) that the SSS will need to hire in order to maintain and operate the new SPDS database. I use previous cost estimates generated when SSS projected estimates for registering women.

One-time, upfront costs and the cost of new FTE for five years are together estimated to cost $6,038,022.87. By adding this to the baseline estimate projected for Policy Option #1, I project that the cost to the Federal Government for this option will total **$150,356,944.90 (2019 USD)**.

Cost to Respondents

To project Cost to Respondents for this policy option I will use the same average burden per response (in hours) from Policy Option #1 and multiply it by Census data on the average hourly earnings for those with associate's, bachelor's, and master's degrees. The eligible population here is defined as the number of certificate- and degree-earning individuals over the next five years (see **Appendix B**). I will omit compliance rate from this calculation. With this policy option, regardless of a respondent's choice, they will still be faced with the prompt, which imposes an opportunity cost to the respondent. Discounting for future earnings, I project that Cost to Respondents for this policy option will total **no more than $14,936,424.51 (2019 USD)**. This option is only moderately costlier to respondents than the status quo.

Additional Implementation Costs

Here I project the total opportunity cost to all university registrars across the country over the following five academic years beginning with 2018 to 2019. I assume that university registrars will largely be responsible for implementing this policy option. I assume the same average burden per response (in hours) that was used to calculate Cost to Respondents will be mirrored in the time it takes to implement/administer the registration prompt. I use the Bureau of Labor Statistics (BLS) estimate for median hourly wage of education administrators (May 2018) to inform this projection. I project that Additional Implementation Costs for this policy option will total **no more than $28,629,799.94 (2019 USD)**.

Effectiveness
I use Department of Education data projections on the likely number of post-secondary certificates and degrees that will be conferred over the next five academic years to estimate size of the respondent pool. I then use JAMRS data to on the likelihood of an individual to serve in the military to estimate the overall compliance with this policy option. Together they allow me to project that this option will afford the SSS **no more than 3,394,538 skilled individuals** over a five-year period.

Cost-Effectiveness
I project that the minimum per capita cost to acquire a skilled individual over a five-year period for this option will be **approximately $57.13**. This option is moderately cost-effective at obtaining skilled individuals. This option is significantly more cost-effective than the status quo.

Conscious Decision-Making
This option scores best among all options on this criterion, **scoring high on conscious decision-making**. There is no default option for students. They must actively decide between to two choices in order to be conferred a degree. There is no coercive nature to this option and it does not utilize loss aversion to advantage one option over another. It will be incumbent upon students to truly think about their choice.

Political Feasibility
I project that this option **scores moderately with regard to political feasibility**. Respondents that choose "Yes" will likely be more invested in their choice. It is likely that there will be relatively little political resistance if there were a draft call by virtue of how this option scores on conscious decision-making.

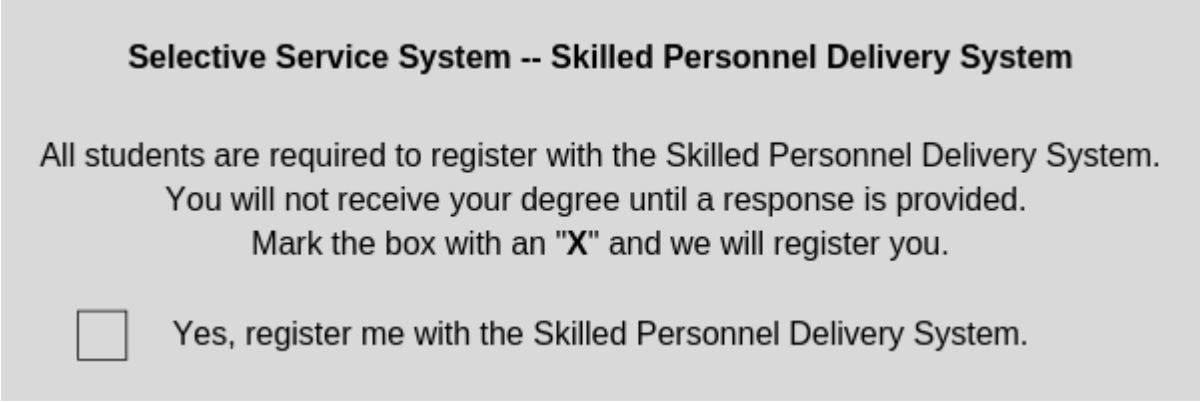
Scoring Policy Option #2	Weight	Score (1-3)	Weighted Score
Cost to Federal Government	10%	2	0.2
Cost to Respondents	5%	1	0.05
Additional Implementation Costs	5%	1	0.05
Effectiveness	20%	2	0.4
Cost-Effectiveness	5%	2	0.1
Conscious Decision-Making	40%	3	1.2
Political Feasibility	15%	2	0.3
Total Score	100%	61.90	76.67

Option #3: All students must register with SPDS in order to earn post-secondary degree (Enhanced Active Choice)
This option will see the creation of the SPDS. All post-secondary certificate- and degree-conferring institutions receiving any federal funding, before conferring a degree, must present would-be graduates with a choice to register with this new system. The choice will be presented much like it is on the FAFSA.

The option presents no loss of government benefits for not registering (no loss to individual other than time to make a choice), but *certificate- and degree-conferral is contingent upon registration with the SPDS*.

Figure 5 (below) offers sample language that could be presented to students. The difference between Policy Option #2 is subtle, but significant. Policy Option #3 advantages one option over the other. Saying, "Yes" is the advantaged choice. The question is framed with loss aversion in mind with the expectation that it will lead to relatively high compliance rates, the loss here being the inability to be conferred a degree.

Figure 5.



Cost to Federal Government

I project that this option will impose identical costs to the Federal Government to that of Policy Option #2. I project that the cost to the Federal Government for this option will total **$150,356,944.90 (2019 USD)**.

Cost to Respondents

I project that this option will impose identical opportunity costs to respondents to that of Policy Option #2. I project that the cost to respondents for this option will total **$14,936,424.51 (2019 USD)**.

Additional Implementation Costs

I project that this option will impose identical additional implementation costs to that of Policy Option #2. I project that Additional Implementation Costs for this policy option will total **no more than $28,629,799.94 (2019 USD)**.

Effectiveness

I use Department of Education data projections on the likely number of post-secondary certificates and degrees that will be conferred over the next five academic years to estimate size of the respondent pool. I then use the fact that the SSS consistently meets its compliance goal of 90% to produce a lower bound for effectiveness for this option. I assume that there will be some people that refuse to register with the SPDS, but that they will be in the significant minority. I assume an upper bound compliance rate of 99%. I project that this option will afford the SSS **no more than 21,822,030 to 24,004,233 skilled individuals** over a five-year period.

Cost-Effectiveness

I project that the minimum per capita cost to acquire a skilled individual over a five-year period for this option will be **approximately $8.08 to $8.89**. This option is significantly more cost-effective at

obtaining skilled individuals as compared to the status quo and a moderate improvement when compared to Policy Option #2.

Conscious Decision-Making

This option produces **moderate levels of conscious decision-making**. While there is no default option for students, the coercive nature to this option makes it more likely than not that students will simply say "Yes" in order to earn their degree. Like the FAFSA, it can be seen more as civil obligation rather someone coming to their own conclusion that they would like to serve the public if called. Further, this option utilizes loss aversion to advantage one option over another. It is likely that utilizing enhanced active choice "tips the scales" in a sense away from having students make a fully conscious decision.

Political Feasibility

The political feasibility of this option is helped significantly by its cost-effectiveness. I anticipate that policymakers in Congress, the White House, and JAMRS will value the relative cost-savings over the current scheme or say Policy Option #2. Despite this, I suspect that the coercive nature of this potion will also somewhat harm the option's political feasibility. On average, I project that this option **scores moderately with regard to political feasibility**.

Scoring Policy Option #3	Weight	Score (1-3)	Weighted Score
Cost to Federal Government	10%	2	0.2
Cost to Respondents	5%	1	0.05
Additional Implementation Costs	5%	1	0.05
Effectiveness	20%	3	0.6
Cost-Effectiveness	5%	3	0.15
Conscious Decision-Making	40%	2	0.8
Political Feasibility	15%	2	0.3
Total Score	100%	66.67	71.67

Option #4: Automatically register students with SPDS upon earning post-secondary degree (Presumed Consent)

This option will see the creation of the SPDS. The Federal Government will automatically register students when they are conferred a post-secondary certificate/degree. This option will rely on extant data sharing agreements between the SSS, the Department of Education, and other government sources in order to keep the SPDS database current.[4] As this will be a purely passive process, with no obligation on the individual to register with the SPDS, the SSS will not need to consider possible penalties for students that do not comply. All students will be conferred their certificates/degrees.

[4] Other government sources include the Social Security Administration, state DMVs, the Department of Labor, Customs and Immigration, the IRS, the Census Bureau, etc.

Cost to Federal Government

The costs associated with extant data sharing agreements are already accounted for in the current Congressional appropriations. One time, upfront software upgrades and training of employees will need to occur. Additional full-time employees will need to be hired, but not in areas like public outreach. One-time, upfront costs and the cost of new employees for five years are together estimated to cost $5,460,273.48. By adding this to the baseline estimate projected for Policy Option #1, I project that the cost to the Federal Government for this option will total **$149,779,195.50 (2019 USD)**.

Cost to Respondents

There will be no role for students in this policy option. All costs in this option fall on the SSS. I am projecting no costs to respondents for this policy option.

Additional Implementation Costs

There will be no role for university registrars in this policy option. All costs in this option fall on the SSS. I am projecting no additional implementation costs for this policy option.

Effectiveness

This option requires no input from an individual. I will assume a 100% compliance rate. I project that this option will afford the SSS **no more than 24,246,700 skilled individuals** over a five-year period. This is the most effective option of all considered.

Cost-Effectiveness

I project that the minimum per capita cost to acquire a skilled individual over a five-year period for this option will be **approximately $6.18**. This option is significantly more cost-effective at obtaining skilled individuals as compared to the status quo and a moderate improvement when compared to Policy Option #2. This is the most cost-effective of all options considered.

Conscious Decision-Making

This option requires no conscious decision-making on the part of the student. Students are not required to make any decision whatsoever. As conscious-decision making is weighted heavily in this analysis, **this options scores low** on this criterion. This option performs most poorly on this criterion of the options considered

Political Feasibility

While this is the most effective and cost-effective of all options considered, this option may stir up debate about trust in government institutions. People are generally quite weary about the government creating lists. Furthermore, GAO had at one point considered investigating the costs associated with a similarly passive SSS process, but ultimately decided against it. GAO dismissed even considering passive registration as an option for fear that it might possibly raise constitutional concerns if enacted (U.S. Government Accountability Office, 1997). It is unclear what specific constitutional concerns GAO had. That said, high-level defense officials see merit in simply conscripting into the armed services software engineers from the likes of Google, Facebook, and other Silicon Valley technology firms. Former Under Secretary of Defense for Personnel and Readiness Brad Carson is one of these officials (Carson, 2019). Because of the uncertainty surrounding constitutional matters and that this option scores relatively poorly on conscious decision-making, I project that this option **scores low with regard to political feasibility**.

Scoring Policy Option #4	Weight	Score (1-3)	Weighted Score
Cost to Federal Government	10%	2	0.2
Cost to Respondents	5%	3	0.15
Additional Implementation Costs	5%	3	0.15
Effectiveness	20%	3	0.6
Cost-Effectiveness	5%	3	0.15
Conscious Decision-Making	40%	1	0.4
Political Feasibility	15%	1	0.15
Total Score	100%	76.19	60.00

OUTCOMES MATRIX

Figure 6. Outcomes Matrix

	Evaluative Criteria						
	Cost						
Policy Options	Cost to Federal Government	Cost to Respondents	Additional Implementation Costs	Maximum number of skilled individuals added to the SSS database over 5 years (Effectiveness)	Minimum per capita cost to acquire skilled individual (Cost-Effectiveness)	Conscious decision-making	Political Feasibility
1. New Status Quo	$144,318,922.04	$11,068,797.36	-	75,000*	$2,071.84**	Moderate	High
2. Students indicate preference to register with SPDS (Active Choice)	$150,356,944.90	$14,936,424.51	$28,629,799.94	3,394,538†	$57.13	High	Moderate
3. Students must register with SPDS (Enhanced Active Choice)	$150,356,944.90	$14,936,424.51	$28,629,799.94	21,822,030 to 24,004,233†	$8.08 to $8.89	Moderate	Moderate
4. Government automatically registers students with SPDS (Presumed Consent)	$149,779,195.50	-	-	24,246,700†	$6.18	Low	Low

Note: All estimates of effectiveness and cost are calculated for the first five years of implementation. Costs are presented in 2019 USD. Cost projections are discounted at conventional rate of 5%.

* These individuals do no not necessarily possess desired skills.

** True value is likely to be significantly greater as Effectiveness for this policy option is likely inflated.

† Projection artificially inflated (See Appendix C).

RECOMMENDATION

I recommend that the SSS utilize an active choice framework (Policy Option 2) in the creation of a Skilled Personnel Delivery System. This framework will provide students earning postsecondary certificates and degrees the choice to register with the SPDS. A response will be necessary in order for a certificate/degree to be conferred, but students are not required to register. I estimate that this option will cost the Federal Government approximately $6 million in additional appropriations to the SSS over the first five years. I estimate the opportunity cost to respondents over those five years to be approximately $15 million. I estimate additional implementation costs over those five years to be approximately $29 million. This option will afford the SSS no more than 3.4 million skilled individuals in the first five years at a per capita cost to acquire each individual of roughly $60. I believe the political feasibility of this option is moderate. Despite being the most expensive option of those considered, this option scores highest of all with regard to conscious decision-making.

The status quo (Policy Option #1), registering all persons, as opposed to just males, simply will not deliver an adequate number of skilled individuals to the SSS should the country need to mobilize for war. Requiring that all students earning a post-secondary degree register with the SPDS, whether achieved through enhanced active choice or presumed consent (Policy Options #3 and #4 respectively), will afford the SSS far greater numbers of skilled individuals than Policy Option #2. Furthermore, both Policy Options #3 and #4 will achieve this in a more cost-effective manner than Policy Option #2.

That said, Policy Options #3 and #4 perform relatively poorly with regard to conscious decision-making. Policy Option #3 is intended to mimic the most effective registration schemes in place for the current SSS registration requirement, i.e., DLL and other forms of passive registration. This approach is meant to lend credibility to the political feasibility of Policy Options #3. While cost-effective, I suspect that many students will not truly engage with the registration process under the scheme established in Policy Option #3. I suspect that students will simply check the box in order to earn their degree, regardless of a sense of civic obligations. I similarly suspect that a great number prospective students check the SSS box on the FAFSA because they need federal student aid, not because they feel a sense of civic duty to register with the SSS. The coercive nature of tying government benefits or earning a degree to one's successful registration with the SSS or the SPDS reflects poorly on the current SSS registration requirements, as well as Policy Option #3.

While Policy Option #4 is not coercive in nature and is the most cost-effective approach presented in this analysis, Policy Option #4 fares even worse with regard to conscious decision-making than Policy Option #3. Policy Option #4 requires no input at all from individuals. The SSS has long argued that the registration requirement helps to bridge the Civilian-Military Divide. The SSS will not be able to make the same argument for Policy Option #4.

Because Policy Option #2 requires individual respondents to self-select into the SPDS, there is no guarantee that enough specially-skilled individuals will be present in the SPDS database to meet DOD needs. That said, there were less than 2 million men inducted into the armed services throughout the whole of the Vietnam War (Selective Service System, n.d.-b). This self-selection concern may be insignificant. Further, we are concerned with obtaining skilled individuals. Only 30,000 health care professionals were drafted from the war in Korea through Vietnam (Lalich,

2004). The number of skilled individuals needed for conscription is likely to be less than combat troops. This option scores far better on effectiveness than the status quo option.

IMPLEMENTATION

Successful implementation will require the drafting of new legislation or amending the MSSA to expand the scope of SSS to include skills. It was to be expected at the time the NCMNPS was created that this was a likely outcome. Congress and the President will need to call on the SSS to further develop SPDS plans. That there is some historical precedent in the Doctor's Draft Law and HCPDS is encouraging.

Further administrative action will also be necessary from the Executive branch. Policy Option #2 will require a rule change in Department of Education regulations. The rules will need to specify that any educational institution conferring postsecondary certificates and degrees that is receiving federal money (research grants, tuition payments from federal student aid etc.) will be required to administer to students the SPDS registration prompt.

Successful implementation will also depend on the accuracy of the extant data in the SSS database in order to properly associate a person's initial registration with the SSS and their registration with the supplementary system. People will need to be matched in the database on their name, address, date of birth, and social security numbers.

Some legal concerns exist. The HCPDS, on which the SPDS is based, is not permitted to register people during peacetime. The SPDS will similarly require authorization by Congress and the President. Additional appropriations for the SSS will also be required.

By virtue of current events, all proposed options have an inflated political feasibility in the short term. Congress mandated that NCMNPS deliver its final written report in 2020. It is pure coincidence that while NCMNPS is operational two federal judges, in two separate cases, both ruled male-only draft registration unconstitutional. It is highly likely that *all* young people, regardless of their assigned gender at birth, will be required to register with the SSS (Policy Option #1) regardless of the final recommendations produced by NCMNPS. If NCMNPS is to recommend to Congress and the President options two, three, or four, implementation should be swift.

For example, if the Supreme Court of the United States agrees with the lower courts, overnight the SSS might look like policy option one. The eligible registrant population will double in an instant. Those individuals who were not previously mandated to register with the SSS will need to familiarize themselves with their new civic obligation. There is potential for significant public outcry if Congress and the President are then to implement policy options two, three, or four at some later date. Two significant change to the SSS in a relatively brief window of time is preferable to two significant changes over say 10 years. Hence, it would behoove policymakers to implement any proposed alternative in the immediate future.

Education Campaigns

If we are to assume that the recent rulings in the federal courts hold, not only men will be required to register with the selective service system. At a minimum, it will be necessary for the SSS to run a public education campaign to update the public on the new registration requirements. The same will likely be true for any other attempt to modernize the SSS.

Congress appropriates around $25,000,000 each year to the SSS (Webel et al., 2018). The agency reports that they engage in a number of different public outreach campaigns, ranging from radio appearances and public service announcements (PSAs) to posting on social media. The agency claims to have reached 326 million people via social media platforms like Facebook and Twitter in 2017 alone; this seems misleading as that is nearly the entirety of the US population (Office of Public and Intergovernmental Affairs, 2018). The SSS YouTube channel has only slightly more than half a million views in the decade or so that they have had a channel ("Selective Service System - YouTube," n.d.).

Previously, the SSS has hired celebrities for some of their PSAs (Selective Service System, 2018a, 2018b). Literature suggests that this may be ill-advised as celebrities may not have the credibility necessary for effective messaging (Toncar, Reid, & Anderson, 2007). Research suggests a strong correlation between message effectiveness and one's similarity to the individual delivering the message (Andsager, Bemker, Choi, & Torwel, 2006). One recent study looking at PSAs on YouTube serves to reveal what might be best practices for the platform. Researchers found that videos produced by users similar to the viewer were most effective in delivering their message (Paek, Hove, Jeong, & Kim, 2011). That is to say, it is not enough to just feature individuals that are similar, but having a similar individual actually generate the content matters.

The same study also showed that on issues where there is little involvement with the subject matter, PSAs were more effective when produced by individuals similar to the viewer (Paek et al., 2011). This second finding is of particular relevance with regard to PSAs and SSS registration in that less than one percent of the American public serves in the armed forces (Schafer, 2017). President Clinton claimed that the SSS served to bridge the armed forces and the rest of society (Associated Press, 1994).

One limiting factor in SSS's ability to run a more expansive outreach campaign is its current level of appropriations. Of the $23 million appropriation received in 2017, the majority ($13 million) went to employee salaries. About $350,000 in 2017 was spent on communications and strategic initiatives, but it cannot be determined how much of those funds were directed specifically toward public outreach and PSAs (Office of Public and Intergovernmental Affairs, 2018).

Physical v. e-Signatures

Professor Eileen Chou at the Batten school has conducted a number of studies looking at the efficacy of electronic signatures. Her findings are relevant to the implementation of my recommended policy option, as well as the SSS at large. Chou's research finds that e-signatures are inferior in many ways to that of a hand-written signature in that they invoke negativity. What's more, e-signatures might produce more contract breaches (Chou, 2015). My report focused largely on decision-making. I find Prof. Chou's research to be highly relevant to the context of the SSS and SPDS. A successful SPDS might employ strictly paper registration, needing hand-written signatures. With what is supposed to be such an intimate, personal decision of registering for a potential draft, utilizing hand-written signatures might avoid some complications down the road.

DISCUSSION

When updating HCPDS plans in the early 2000s, planners were concerned the health care community might misinterpret the update of the plan as being the beginnings of another military

draft (Pear, 2004; Windham, 2004). So as to avoid concerns about a new military draft when updating plans, I recommend the SPDS be an active registration scheme, not merely a standby plan. As we have seen with the SSS updating its forms to capture email addresses and phone numbers, minor planning updates to draft registration need not spark fear of impending war.

Limitations

With each additional certificate and/or degree conferred, a person will be presented with the SPDS prompt on numerous occasions. This presents some issues. Say an individual said "Yes" when earning a Bachelor's degree, then "No" when later earning their Master's degree. The individual will still be in the pool of skilled individuals despite their change in preference. It must be stated that I have not considered in this report the option for an Opt-Out mechanism with regard to the SSS. Data is very rarely purged from the SSS database. I would have liked to have considered Opt-Out in more depth given more time. That said, one positive externality of this option may be to chip away at the "Civilian-Military Divide" as an individual may be exposed to the registration process on multiple occasions. And if someone seeks to become a CO once mobilization has begun, the SSS will already have on file a person's skillset. The SSS will more easily assign them to working with an ASEN participant.

I had also considered including a policy option that would introduce a self-reported skills component to the registration process. While it would be advantageous for the uniformed services to have a more fine-tuned sense of a person's skillset, there is significant room for deception and inaccurate information to be input into a database.

For example, a person may indicate that they have skills in the medical field. However, it might then be incumbent upon the armed services to then cross-reference this individual's educational and professional credentials. If the person is not already a paramedic, firefighter, nurse, doctor, etc., then there is significant room for unnecessary labor on the part of a military recruiter in proving false the person's indicated skillset.

I also thought it would be important to briefly touch on the literature as it regards conscription. Research on conscription is not strictly relevant here because it mostly focuses on Vietnam and combat troops. The context of this APP is such that we would be conscripting skilled individuals. They are less likely to be combat troops. There is no research on conscription of skilled individuals as far as I know. Also, this report was not concerned about the after effects of conscription, nor did this report have concern for what DOD does with new personnel. The main focus on this report is premobilization registration.

Mobilization Time

If SSS is in deep standby, where registration is still required, the SSS database is still maintained, but local draft board volunteers and other nonessential personnel are let go, the SSS estimates that it will require 830 days to induct conscripts into the armed services. If the SSS were completely disestablished, inducting combat troops after reestablishment will require 920 days (Farrell, 2012).

This information is not provided to justify the existence of the SSS. Rather, as was discussed in the HCPDS section, depending on the current state of registration, there is a considerable difference in the amount of time it takes to get inductees into the armed services. This report does not focus on

war itself. That said, the author assumes that it is preferable to spend the least amount of time possible when attempting to induct combat troops or skilled conscripts into the armed services.

As the DOD itself has stated, "Scrambling to identify, locate, and induct experts from scratch in the middle of a crisis mobilization would take too long, at a time when every day counts" (Office of the Under Secretary of Defense for Personnel and Readiness, 2017, p. 30)

Additional Implementation Costs

It became clear while analyzing this policy problem that I would not be able to accurately project all of the costs associated with a policy option. For instance, Policy Option #1 would require projecting the costs associated with implementing the standard SSS registration requirement. It would not have been feasible to calculate implementation costs associated with say state's DMVs or U.S. Post Office employees assisting young people in the registration process. An insufficient amount of data made these outcomes near impossible to calculate.

Foregone Government Benefits

Without reliable data, I was not able to estimate the loss in government benefits associated with noncompliance as it concerns Policy Option #1. Further, as Policy Options #2 through #4 did not have any potential for loss of government benefits, focusing on the matter seemed tangential to the core analysis.

Remarks on equity as it regards the SPDS

Policy options two through four will see the creation of the SPDS. In order to populate this database, I suggest using educational attainment as a proxy for skill. As the targeted population remains unchanged across these policy options, it felt inappropriate to speak about equity in reference to who the options will affect.

In the early 2000s, the SSS commissioned a confidential report on updating the HCPDS. The author of that report raised concerns about equity with regard to targeting and conscripting only health care personnel for their special skills (Pear, 2004). One advantage of a broader skills draft is to lessen the burden on just health care professionals, making more equitable the process of conscripting individuals with special skills.

President Nixon commissioned a report on an All-Volunteer Force. Released in 1970, the commission's report found that male physicians were subject to the greatest military service demands of any class of citizen in American society (Gates et al., 1970). The overwhelming majority, 96 percent, of service-eligible male physicians under 35 had already served (Gates et al., 1970). Furthermore, the commission found that male physicians were subject to the greatest opportunity cost of service members, leading to service time in the military that is relatively short-lived (Gates et al., 1970).

It is common knowledge that software engineering and other cyber professions have become more prevalent since the time of the Gates Commission's 1970 report. It is possible that cyber professionals today might face similar issues regarding opportunity cost if there were a cyber skills-based draft today. Who will bear the most significant burden in a targeted draft is yet to be seen. There is room for further research in this regard.

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APPENDIX A – PROJECTING COST

This appendix will outline how I project costs for each of the policy options I present in this report. Projections include sourcing of data, assumptions, and actual calculations. All estimates of cost are estimated for the first five years of implementation. Costs are presented in 2019 USD. Cost projections are discounted at a conventional rate of five percent. All projections assume implementation will begin immediately.

Option #1: All young persons must register with the SSS, not just young men

Cost to Federal Government

The SSS budget has more or less remained at $22.9 million annually for the last few years, regardless of inflation. I use this same number to project the SSS annual budget for five years in 2019 USD.

$$\text{Present Value} = \text{Future Value} / (1 + r)^t$$

$$PV = \$22{,}900{,}000 + \$22{,}900{,}000/(1.05)^1 + \$22{,}900{,}000/(1.05)^2 + \$22{,}900{,}000/(1.05)^3 + \$22{,}900{,}000/(1.05)^4$$

$$PV = \$22{,}900{,}000 + \$21{,}809{,}523.81 + \$20{,}770{,}975.06 + \$19{,}781{,}881.01 + \$18{,}839{,}886.67$$

$$PV = \$104{,}102{,}266.54$$

In March 2019, documents obtained via FOIA revealed the SSS's own cost estimates for including women as part of the draft registration process. The estimates were made in June 2016. The estimates were made for a span of five years and assume that compliance rates for women will be low at the outset and reach 80% compliance by year five.[5] The SSS projects that registration of women will necessitate an additional $37,969,793 (2016 USD). The estimates include the hiring of additional full-time employees, public outreach, and expenses that will be reimbursed by JAMRS[6]. The estimates also include upfront costs for updating SSS software and training of personnel (Selective Service System, 2019). I use the Consumer Price Index for March 2019 to update the SSS's 2016 estimates.

$$\text{Price}_{2019} / \text{CPI}_{2019} = \text{Price}_{2016} / \text{CPI}_{2016}$$

$$\text{Price}_{2019} = (\text{CPI}_{2019}) \times (\text{Price}_{2016} / \text{CPI}_{2016})$$

$$\text{Price}_{2019} = (254.202) \times (\$37{,}969{,}793 / 240.0)$$

$$\text{Price}_{2019} = \$40{,}216{,}655.50$$

By adding the Present Value of the SSS annual appropriations for five years to the additional cost of registering women, I project that the cost to the Federal Government for this option will total **$144,318,922.04 (2019 USD)**.

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[5] I chose to project outcomes across all policy options over five years so as to make the policy options easier to compare against one another.

[6] I have chosen to calculate "Cost to the Federal Government" as opposed to simply "Cost to the SSS," so as to portray how policy options will affect the whole of government and not just one agency/department.

Cost to Respondents

Cost projections for respondents are made as if every individual will register via the SSS's paper form, "SSS Form 1" (**Figure 1**). This projection is the maximum possible cost to registrants. We know that 90 percent of registration is done electronically and mostly in a passive manner, so actual costs to registrants will be significantly lower (Office of Public and Intergovernmental Affairs, 2019). I project the maximum possible cost because the SSS anticipates that many states may "restrict or rescind" the data they share with the SSS through DLL and other similar methods once women are also required to register with the SSS (Selective Service System, 2019).

The Office of Management and Budget's (OMB) Office of Information and Regulatory Affairs (OIRA) estimates that a total of 534,650 young men will use Form 1 to register with the SSS. Furthermore, OIRA estimates that the total annual burden for registrants will be 445.54 hours. This equates to an average burden per response of 0.000833 hours or roughly 3 seconds (Office of Information and Regulatory Affairs, 2018). This seems unreasonable. Using a stopwatch, I measured that it took me approximately two minutes (0.03 hours) to fill out Form 1. A classmate volunteered to do the same. It also took her approximately two minutes to fill out Form 1.

The SSS projects that the total registrant population, males and females aged 18 to 25, will be 36,734,360 people (Selective Service System, 2019). I will assume that the SSS will achieve its goal of at least 90 percent compliance. I use the Bureau of Labor Statistics' (BLS) 2018 figure for median hourly earnings for those aged 16 to 24. While the age demographic in the BLS data does not precisely match our population of interest, it is a close enough approximation to reasonably project an outcome.

$$\text{Cost to Respondents} = (\text{average burden per response in hours}) \times (\text{median hourly earnings}) \times (\text{eligible population}) \times (\text{compliance rate})$$

$$\text{Cost to Respondents} = (0.03 \text{ hours}) \times (\$11.16/\text{hour}) \times (36{,}734{,}360) \times (0.90)$$

$$\text{Cost to Respondents} = \$11{,}068{,}797.36$$

By multiplying the average burden per response (in hours) by median hourly earnings (2018) for those aged 16 to 24 and the expected number of respondents, I project that the Cost to Respondents will total **no more than $11,068,797.36 (2019 USD)**.

Additional Implementation Costs

For this criterion, I am assuming that any additional implementation costs are already incorporated into the SSS cost projections for registering women. I am not projecting costs for this criterion for Policy Option #1.

Option #2: All students must indicate their preference to register with SPDS in order to earn post-secondary degree (Active Choice)

Cost to Federal Government

I will estimate the cost to the federal government based on the expected cost to upgrade software, train employees, and the number of full-time employees (FTE) that the SSS will need to hire in order to maintain and operate the new SPDS database. I will use previous cost estimates generated when SSS projected estimates for registering women. One-time, upfront costs to the SSS's Data

Management Center (DMC), training of Human Resources Personnel, and contract support for the SSS Operations Team together totaled $634,500 (2016 USD) (Selective Service System, 2019).

$$Price_{2019} = (CPI_{2019}) \times (Price_{2016} / CPI_{2016})$$

$$Price_{2019} = (254.202) \times (\$634,500 / 240.0)$$

$$Price_{2019} = \$672,046.54$$

I will use the Office of Personnel Management's (OPM) 2019 General Schedule to estimate costs of new hires based on the likely home location of newly hired FTEs. The SSS estimates of registering women will serve as a guideline for how I estimate the number of new hires that will be needed. The DMC is based near Chicago, IL. I will use the appropriate cost of living adjustments to project DMC FTE costs. I assume the DMC will require one additional Information Technology Supervisor (GS-13), eight additional hires in Data Management (GS-8), one additional Supervisory Research Assistant (GS-9), and four additional employees for data entry (GS-4). I will assume that all new FTEs will begin as Step 1 within their respective Grade.

$$Personnel_{DMC} = (1 \times GS\text{-}13) + (8 \text{ X } GS\text{-}8) + (1 \times GS\text{-}9) + (4 \times GS\text{-}4)$$

$$Personnel_{DMC} = \$98,198 + (8 \times \$51,557) + (\$56,954) + (4 \times \$33,591)$$

$$Personnel_{DMC} = \$701,972$$

I will assume that all other new FTE will be based in Arlington, VA. I assume that Human Resources will require an additional FTE in Hiring (GS-13). Public Affairs will require one additional FTE in Exhibits (GS-11) and one additional FTE in Outreach (GS-9). Operations will require one additional Budget Analyst (GS-13) as well as one Program Analyst (GS-12). Financial Management will also require one Budget Analyst (GS-11).

$$Personnel_{VA} = (2 \times GS\text{-}13) + (2 \times GS\text{-}11) + (1 \times GS\text{-}9) + (1 \times GS\text{-}12)$$

$$Personnel_{VA} = (2 \times \$99,172) + (2 \times \$69,581) + (1 \times \$57,510) + (1 \times \$83,398)$$

$$Personnel_{VA} = \$478,414$$

Additional annual personnel costs ($Personnel_{DMC}$ + $Personnel_{VA}$) are estimated to be $1,180,386. I will discount this over a five-year period.

$$PV_{Personnel} = \$1,180,386 + \$1,180,386/(1.05)^1 + \$1,180,386/(1.05)^2 + \$1,180,386/(1.05)^3 + \$1,180,386/(1.05)^4$$

$$PV_{Personnel} = \$5,365,976.33$$

One-time, upfront costs and the cost of new FTE for five years are together estimated to cost $6,038,022.87. By adding this to the baseline estimate projected for Policy Option #1, I project that the cost to the Federal Government for this option will total **$150,356,944.90 (2019 USD)**.

Cost to Respondents

I will use the similar methodology from Policy Option #1 to project Cost to Respondents for this policy option. I will use the same average burden per response (in hours) and multiply it by Census data on the average hourly earnings for those with associate's, bachelor's, and master's degrees. The eligible population here is defined as the number of certificate- and degree-earning individuals over the next five years (see **Appendix B**). However, unlike Policy Option #1 I will omit compliance rate from this calculation. With this policy option, regardless of a respondent's choice, they will still be faced with the question, which imposes an opportunity cost to the respondent.

Cost to Respondents = (average burden per response in hours) x (average hourly earnings) x (eligible population)

$$\text{Cost to Respondents}_{2018\text{-}2019} = (0.03 \text{ hours}) \times (\$22.59/\text{hour}) \times (4{,}822{,}940)$$

$$\text{Cost to Respondents}_{2018\text{-}2019} = \$3{,}268{,}506.44$$

$$\text{Cost to Respondents}_{2019\text{-}2020} = \$3{,}282{,}060.44$$

$$\text{Cost to Respondents}_{2020\text{-}2021} = \$3{,}286{,}804.34$$

$$\text{Cost to Respondents}_{2021\text{-}2022} = \$3{,}294{,}259.04$$

$$\text{Cost to Respondents}_{2022\text{-}2023} = \$3{,}300{,}358.34$$

Next, I will adjust these estimates, discounting future values accordingly.

$$\text{Present Value} = \$3{,}268{,}506.44 + \$3{,}282{,}060.44/(1.05)^1 + \$3{,}286{,}804.34/(1.05)^2 + \$3{,}294{,}259.04/(1.05)^3 + \$3{,}300{,}358.34/(1.05)^4$$

$$\text{Present Value} = \$14{,}936{,}424.51$$

I project that Cost to Respondents for this policy option will total **no more than $14,936,424.51 (2019 USD)**.

Additional Implementation Costs

Here I will estimate the total opportunity cost to all university registrars across the country over the following five academic years beginning with 2018 to 2019. I assume that university registrars will largely be responsible for implementing this policy option. I assume the same average burden per response (in hours) that was used to calculate Cost to Respondents will be mirrored in the time it takes to implement/administer the registration prompt. The eligible population here is defined as the number of certificate- and degree-earning individuals over the next five academic years (see **Appendix B**). I will use the BLS estimate for median hourly wage of education administrators (May 2018) to inform this projection.

$$\text{Additional Implementation Costs}_{2018\text{-}2019} = (\text{average burden per response in hours}) \times (\text{median hourly earnings}) \times (\text{Certificates \& Degrees}_{2018\text{-}2019})$$

$$\text{Additional Implementation Costs}_{2018\text{-}2019} = (0.03 \text{ hours}) \times (\$43.30) \times (4{,}822{,}940)$$

$$\text{Additional Implementation Costs}_{2018\text{-}2019} = \$6{,}264{,}999.06$$

$$\text{Additional Implementation Costs}_{2019\text{-}2020} = \$6{,}290{,}979.06$$

$$\text{Additional Implementation Costs}_{2020\text{-}2021} = \$6{,}300{,}072.06$$

$$\text{Additional Implementation Costs}_{2021\text{-}2022} = \$6{,}314{,}361.06$$

$$\text{Additional Implementation Costs}_{2022\text{-}2023} = \$6{,}326{,}052.06$$

Next, I will adjust these estimates, discounting future values accordingly.

$$\text{Present Value} = \$6{,}264{,}999.06 + \$6{,}290{,}979.06/(1.05)^1 + \$6{,}300{,}072.06/(1.05)^2 + \$6{,}314{,}361.06/(1.05)^3 + \$6{,}326{,}052.06/(1.05)^4$$

$$\text{Present Value} = \$28{,}629{,}799.94$$

I project that Additional Implementation Costs for this policy option will total **no more than $28,629,799.94 (2019 USD)**.

Option #3: All students must register with SPDS in order to earn post-secondary degree (Enhanced Active Choice)

Cost to Federal Government

I will assume Cost to Federal Government for this option will be the same as Policy Option #2.

Cost to Respondents

I will assume Cost to Respondents for this option will be the same as Policy Option #2.

Additional Implementation Costs

I will assume Additional Implementation Costs for this option will be the same as Policy Option #2.

Option #4: Automatically register students with SPDS upon earning post-secondary degree (Presumed Consent)

Cost to Federal Government

I assume this option will impose identical one-time, upfront costs that were estimated in Policy Option #2 ($672,046.54). I will also assume identical personnel costs for the DMC ($701,972). However, I will not be including in the hiring process individuals for Public Affairs as this policy option will not require any sort of engagement with the public.

$$\text{Personnel}_{VA} = (2 \times \text{GS-13}) + (1 \times \text{GS-11}) + (1 \times \text{GS-12})$$

$$\text{Personnel}_{VA} = (2 \times \$99{,}172) + (1 \times \$69{,}581) + (1 \times \$83{,}398)$$

$$\text{Personnel}_{VA} = \$351{,}323$$

Additional annual personnel costs ($Personnel_{DMC}$ + $Personnel_{VA}$) are estimated to be $1,053,295. I will discount this over a five-year period.

$$PV_{Personnel} = \$1,053,295 + \$1,053,295/(1.05)^1 + \$1,053,295/(1.05)^2 + \$1,053,295/(1.05)^3 + \$1,053,295/(1.05)^4$$

$$PV_{Personnel} = \$4,788,226.94$$

One-time, upfront costs and the cost of new FTE for five years are together estimated to cost $5,460,273.48. By adding this to the baseline estimate projected for Policy Option #1, I project that the cost to the Federal Government for this option will total **$149,779,195.50 (2019 USD)**.

Cost to Respondents

There are no costs to respondents associated with this policy option.

Additional Implementation Costs

There are no additional implementation costs associated with this policy option.

APPENDIX B – PROJECTING EFFECTIVENESS

Option #1: All young persons must register with the SSS, not just young men

JAMRS reports that on an annual basis the SSS affords the armed services roughly 75,000 to 80,000 young men in recruiting leads. DOD further estimates that if females are required to register with the SSS, they will be afforded an additional 35,000 to 40,000 young women on an annual basis for recruiting leads (Office of the Under Secretary of Defense for Personnel and Readiness, 2017). Data has not been made available suggesting how many of these leads are for skilled individuals. With eight age cohorts in the population of interest, ages 18-25, we can expect that DOD is afforded approximately no more than 15,000 new recruits each year. Simple multiplication will allow me to estimate the total number of potential new recruits afforded to the DOD over five years. It is not possible for me to provide a more accurate five-year estimate given the limited data.

$$\text{Effectiveness} = (15{,}000 \text{ potential recruits}) \times (5 \text{ years})$$

$$\text{Effectiveness} = 75{,}000 \text{ individuals}$$

I project that over a five-year period, this option will provide military recruiter **no more than 75,000 skilled individuals**.

Option #2: All students must indicate their preference to register with SPDS in order to earn post-secondary degree (Active Choice)

The Department of Education's National Center for Education Statistics (NCES) collects data on postsecondary certificates and degrees conferred each academic year. The 2016-2017 academic year is the most recent for which data is publicly available, but NCES offers projections through academic year 2027-2028. Across both public and private institutions, 944,940 certificates below an Associate's degree were conferred in academic year 2016-2017 (National Center for Education Statistics, 2018b). I was not able to find projections from NCES for expected conferral of certificates for academic years after 2016-2017. I will assume for my effectiveness projection that this number will remain constant for academic years 2018-2019 through 2022-2023 at 944,940 certificates conferred. I will estimate the number of individuals conferred certificates and degrees from associate's up to doctor's for each academic year from 2018-2019 through 2022-2023. Projections for associate's degrees up to doctor's degrees come from NCES's 2017 Digest of Education Statistics (National Center for Education Statistics, 2018a).

$$\text{Certificates \& Degrees}_{2018\text{-}2019} = 944{,}940 \text{ certificates} + 1{,}034{,}000 \text{ associate's} + 1{,}882{,}000 \text{ bachelor's} + 780{,}000 \text{ master's} + 182{,}000 \text{ doctor's}$$

$$\text{Certificates \& Degrees}_{2018\text{-}2019} = 4{,}822{,}940$$

$$\text{Certificates \& Degrees}_{2019\text{-}2020} = 944{,}940 \text{ certificates} + 1{,}040{,}000 \text{ associate's} + 1{,}889{,}000 \text{ bachelor's} + 786{,}000 \text{ master's} + 183{,}000 \text{ doctor's}$$

$$\text{Certificates \& Degrees}_{2019\text{-}2020} = 4{,}842{,}940$$

$$\text{Certificates \& Degrees}_{2020\text{-}2021} = 944{,}940 \text{ certificates} + 1{,}041{,}000 \text{ associate's} + 1{,}891{,}000 \text{ bachelor's} + 789{,}000 \text{ master's} + 184{,}000 \text{ doctor's}$$

$$\text{Certificates \& Degrees}_{2020\text{-}2021} = 4{,}849{,}940$$

$$\text{Certificates \& Degrees}_{2021\text{-}2022} = 944{,}940 \text{ certificates} + 1{,}043{,}000 \text{ associate's} + 1{,}893{,}000 \text{ bachelor's} + 794{,}000 \text{ master's} + 186{,}000 \text{ doctor's}$$

$$\text{Certificates \& Degrees}_{2021\text{-}2022} = 4{,}860{,}940$$

$$\text{Certificates \& Degrees}_{2022\text{-}2023} = 944{,}940 \text{ certificates} + 1{,}045{,}000 \text{ associate's} + 1{,}895{,}000 \text{ bachelor's} + 798{,}000 \text{ master's} + 187{,}000 \text{ doctor's}$$

$$\text{Certificates \& Degrees}_{2022\text{-}2023} = 4{,}869{,}940$$

I then add together the Certificates and Degrees conferred in each academic year from 2018-2019 through 2022-2023 to calculate the total number of Certificates and Degrees conferred over the five years we are interested in analyzing.

$$\text{Certificates \& Degrees}_{\text{Total}} = 4{,}822{,}940 + 4{,}842{,}940 + 4{,}849{,}940 + 4{,}860{,}940 + 4{,}869{,}940$$

$$\text{Certificates \& Degrees}_{\text{Total}} = 24{,}246{,}700$$

Similar to policy option one, there is some room here for double counting of individuals year over year. First, it is possible that an individual may have earned multiple certificates, associate's, bachelor's, or master's degrees in a single academic year. For example, it is possible that an individual graduated with two bachelor's degrees or was enrolled in a dual master's degree program. It seems less likely that an individual will be awarded multiple doctor's level degrees in a single academic year, but it cannot be ruled it out entirely. Second, it is possible that there is additional double counting of individuals in that an individual may earn an associate's degree one year, then earn their bachelor's two years later. This will serve to artificially inflate effectiveness projections for this option, as well as policy options #3 and #4. I can say with a high degree of confidence that the true value of effectiveness will be *less than* the one projected below.

Another limitation from this analysis is that I am not focusing solely on the fields of STEM, health, language, etc., and alternatively include all certificates and degrees conferred. NCES does collect and provide data on degrees conferred broken down by field of study. However, I felt it inappropriate for me to decide which fields of study were appropriate to classify as STEM or health. This task seems more appropriate for SSS and DOD personnel.

JAMRS occasionally releases data on youth propensity to serve in the military. These reports are called the Futures Survey. Included in the report are survey data of youth, ages 16 to 21, and their general military propensity. While this population may not be representative of the certificate- and degree-earning population, I will be using it as the closest approximation for what is otherwise nonexistent or not easily located data. Beginning in 2012, JAMRS conducted the survey three times annually. Taking an average of these data beginning in Summer 2012 and ending in Spring 2017, we can expect that approximately 14 percent of the population will "definitely" or "probably" have interest in serving in the military in the next few years (Office of People Analytics, 2018). I assume that this estimate will also apply to the certificate- and degree-earning population. Furthermore, I assume that this propensity will translate into willingness to register with the SPDS. Based on the behavioral science literature on active choice, this estimate might actually far underestimate the

willingness of students to register with the SPDS. To estimate effectiveness for Policy Option #2, I will multiply this propensity estimate by the total number of expected certificates and degrees conferred over five years.

$$\text{Effectiveness} < (\text{Certificates \& Degrees}_{\text{Total}}) \times (0.14)$$

$$\text{Effectiveness} < (24{,}246{,}700) \times (0.14)$$

$$\text{Effectiveness} < 3{,}394{,}538$$

I project that this option will afford the SSS **no more than 3,394,538 skilled individuals** over a five-year period.

Option #3: All students must register with SPDS in order to earn post-secondary degree (Enhanced Active Choice)

As with Policy Option #2, this option will use the same estimate for total number of certificates and degrees conferred over the next five years (Certificates & Degrees$_{\text{Total}}$). However, for this option I will assume a significantly higher compliance rate. This option frames the question to register with the SPDS similar to that of FAFSA and DLL in many states. The SSS consistently hits its target of 90% compliance. In 2018, electronic registration accounted for 90% of all registration, two thirds of which was achieved through DLL and via the Department of Education (Office of Public and Intergovernmental Affairs, 2019). By employing these proven enhanced active choice methodologies with the newly-created SPDS, I assume that this option will afford the SSS at least 90% compliance.

Compliance may in fact be higher, perhaps 99%. I know of no evidence or data collected on the number of young men that exit their state's DMV because they did not wish to register with the SSS. However, I suspect that these individuals are in the slimmest of minorities. Similarly, I do not know of any data collected on the number of young men who begin the process of applying for federal student aid, then fail to submit their application because they refuse to register with the SSS. Again, I suspect this population is relatively small.

$$(\text{Certificates \& Degrees}_{\text{Total}}) \times (0.99) > \text{Effectiveness} > (\text{Certificates \& Degrees}_{\text{Total}}) \times (0.90)$$

$$(24{,}246{,}700) \times (0.99) > \text{Effectiveness} > (24{,}246{,}700) \times (0.90)$$

$$24{,}004{,}233 > \text{Effectiveness} > 21{,}822{,}030$$

For the same reasons concerning double counting of certificate- and degree-earning individuals outlined in Policy Option #2 of this appendix, I can say with a high degree of confidence that the true value of effectiveness will be *less than* the range projected here. I project that this option will afford the SSS **no more than 21,822,030 to 24,004,233 skilled individuals** over a five-year period.

Option #4: Automatically register students with SPDS upon earning post-secondary degree (Presumed Consent)

As with Policy Option #2 and #3, this option will use the same estimate for total number of certificates and degrees conferred over the next five years (Certificates & Degrees$_{\text{Total}}$). As this option requires no input from an individual, I will assume 100% compliance rate. For the same reasons

concerning double counting of certificate- and degree-earning individuals outlined in Policy Option #2 of this appendix, I can say with a high degree of confidence that the true value of effectiveness will be *less than* the one projected here. I project that this option will afford the SSS **no more than 24,246,700 skilled individuals** over a five-year period.