

**UVA IRB-SBS**  
iProtocol

Current User: **Shipp, Stephanie (sss5sc)**

**Protocol Type:** Prospective Research Protocol

**Protocol Number:** 2590

**Title:** ARI – Towards an Integrated Data Approach

**Descriptive Title:** Developing an Integrated Data Framework for Understanding the Context of Military Environments

**Previous IRB-SBS Protocol Number:** 2018-0531-00

DATE APPROVED: **2019-06-06**

THIS PROTOCOL RECORD WAS ELECTRONICALLY APPROVED ON 2019-06-06

**THIS PROTOCOL RECORD IS CURRENTLY APPROVED.**

## Personnel

**Principal Investigator:** Keller, Sallie (sak9tr) - Status: Faculty

Department: E0:MD-PBHS Public Health Sciences Admin

Title: E0:Professor

CITI Training:

2018-10-02 - Conflicts of Interest - Stage 1

2019-06-10 - IRB for Health Sciences Research (IRB-HSR): ALL RESEARCH - Basic Course

2018-11-02 - IRB for Social/Behavior/Education Research (IRB-SBS): RESEARCH THAT DOES NOT INVOLVE PRISONERS - Basic Course

2019-06-09 - Responsible Conduct of Research - Basic Course

**Contact Person:** Thurston, Joel (jt9sz)

**Research Team (Sub-Investigators):**

Goldstein, Joshua (jrg3bs)

Department: E0:HS-Biocomplexity Initiative

Title: E0:Research Assistant Professor

CITI Training:

2018-10-29 - Conflicts of Interest - Stage 1

2018-11-06 - IRB for Social/Behavior/Education Research (IRB-SBS): RESEARCH THAT DOES NOT INVOLVE PRISONERS - Basic Course

Kattampallil, Neil (nak3t)

Department: No Data in UVa LDAP

Title: No Data in UVa LDAP

CITI Training:

2019-06-12 - Conflicts of Interest - Stage 1

2019-06-05 - IRB for Social/Behavior/Education Research (IRB-SBS): RESEARCH THAT DOES NOT INVOLVE PRISONERS - Basic Course

2019-06-12 - Responsible Conduct of Research - Basic Course

Korkmaz, Gizem (gk8yj)

Department: E0:HS-Biocomplexity Initiative

Title: E0:Research Associate Professor

CITI Training:

2018-10-29 - Conflicts of Interest - Stage 1

2018-10-29 - IRB for Social/Behavior/Education Research (IRB-SBS): RESEARCH THAT DOES NOT INVOLVE PRISONERS - Basic Course

Lancaster, Vicki (val7zv)

Department: E0:HS-Biocomplexity Initiative

Title: E0:Principal Scientist

## CITI Training:

2018-10-31 - Conflicts of Interest - Stage 1

2018-12-12 - IRB for Social/Behavior/Education Research (IRB-SBS): RESEARCH THAT DOES NOT INVOLVE PRISONERS - Basic Course

Nair, Devika (dtn2ep)

Department: E0:HS-Biocomplexity Initiative

Title: E0:Research Scientist

## CITI Training:

2018-11-15 - Conflicts of Interest - Stage 1

2019-04-04 - IRB for Health Sciences Research (IRB-HSR): ALL RESEARCH - Basic Course

2018-12-12 - IRB for Social/Behavior/Education Research (IRB-SBS): RESEARCH THAT DOES NOT INVOLVE PRISONERS - Basic Course

Pristavec, Teja (tp2sk)

Department: E0:HS-Biocomplexity Initiative

Title: E0:Research Associate

## CITI Training:

2018-10-18 - Conflicts of Interest - Stage 1

2018-07-12 - Export Controls Course - Stage 1

2019-03-28 - IRB for Health Sciences Research (IRB-HSR): ALL RESEARCH - Basic Course

2018-10-18 - IRB for Social/Behavior/Education Research (IRB-SBS): RESEARCH THAT DOES NOT INVOLVE PRISONERS - Basic Course

2019-05-28 - Responsible Conduct of Research - Basic Course

Ratcliff, Nathaniel (nr3xe)

Department: E0:MD-PBHS Public Health Sciences Admin

Title: E0:Research Assistant Professor

## CITI Training:

2019-04-04 - Conflicts of Interest - Stage 1

2019-04-04 - Export Controls Course - Stage 1

2019-04-04 - IRB for Health Sciences Research (IRB-HSR): ALL RESEARCH - Basic Course

2019-04-04 - IRB for Social/Behavior/Education Research (IRB-SBS): RESEARCH THAT DOES NOT INVOLVE PRISONERS - Basic Course

2019-04-12 - IRB for Social/Behavior/Education Research (IRB-SBS): RESEARCH THAT INVOLVES PRISONERS - Basic Course

Santiago Calderón, José (jbs3hp)

Department: E0:HS-Biocomplexity Initiative

Title: E0:Research Associate - 12 Month

## CITI Training:

2019-05-14 - Conflicts of Interest - Stage 1

2019-05-14 - IRB for Social/Behavior/Education Research (IRB-SBS): RESEARCH THAT DOES NOT INVOLVE PRISONERS - Basic Course

2015-04-10 - IRB for Social/Behavior/Education Research (IRB-SBS): RESEARCH THAT DOES NOT INVOLVE PRISONERS - Basic Course

2019-05-15 - Responsible Conduct of Research - Basic Course

Schroeder, Aaron (ads7fg)

Department: E0:HS-Biocomplexity Initiative

Title: E0:Research Associate Professor

## CITI Training:

2018-10-29 - Conflicts of Interest - Stage 1

2018-11-09 - IRB for Social/Behavior/Education Research (IRB-SBS): RESEARCH THAT DOES NOT INVOLVE PRISONERS - Basic Course

Shipp, Stephanie (sss5sc)

Department: E0:HS-Biocomplexity Initiative

Title: E0:Research Professor

## CITI Training:

2018-10-02 - Conflicts of Interest - Stage 1

2016-09-14 - Export Controls Course - Stage 1

2019-04-01 - IRB for Health Sciences Research (IRB-HSR): ALL RESEARCH - Basic Course

2018-10-31 - IRB for Social/Behavior/Education Research (IRB-SBS): RESEARCH THAT DOES NOT INVOLVE PRISONERS - Basic Course

2019-06-12 - Responsible Conduct of Research - Basic Course

2018-10-31 - Social and Behavioral Responsible Conduct of Research

Thurston, Joel (jt9sz)

Department: E0:HS-Biocomplexity Initiative

Title: E0:Senior Scientist

CITI Training:

2019-06-03 - IRB for Health Sciences Research (IRB-HSR): ALL RESEARCH - Basic Course

2017-12-20 - IRB for Social/Behavior/Education Research (IRB-SBS): RESEARCH THAT INVOLVES PRISONERS - Basic Course

2019-06-13 - Responsible Conduct of Research - Basic Course

**Department Chair:** Coble, Lauren (ljc4yj)

## Study Overview

**Anticipated end date for collecting data:** 2022-12-16

**Anticipated end date for analyzing data:** 2022-12-16

**Is this research funded?** Yes

**Funding Source(s):** Department of Defense

**Research includes an independent medical monitor?** No

**Study does NOT involves prisoners of war (studying prisoners of war is prohibited)?** No

**Participants will have a legally authorized representative as the subjects lack capacity to consent due to age, condition, or other reason?** No

**Study involves US Military Personnel?** Yes

**Research is classified?** If yes, prior approval from the Secretary of Defense is required (upload in the "Proof of Permission" section of protocol). No

**Research involves international research?** If yes, approval from local IRB and permission of the host country are required (upload in the "Proof of Permission" section of the protocol). No

**Study is funded by the Department of the Navy and includes surveys performed on Department of Defense personnel?** If yes, approval from Department of Defense is required as well as a data and safety monitoring plan that includes a procedure for notifying the Department of Navy Human Research Protection Program of serious adverse events (upload in the "Proof of Permission" section of the protocol). No

**Supply all Agency Grant Numbers & Titles currently associated with this protocol:**

Funding Source: U.S. Army Research Institute for the Behavioral and Social Sciences

1. Towards an Integrated Data Framework for Understanding the Context of Military Environments – 1- year extension to the original grant. Contract Number: W911NF-17-2-0116;  
U.S. Army Research Institute for the Behavioral and Social Sciences Foundational Science Research Unit (FSRU), 6000 6th Street (Bldg. 1464/Mail Stop: 5586) FT Belvoir, VA 22060-5586. Original cooperative agreement was from September 2015 to September 2018. We have a 1-year extension that is in process of being put in place..

2. The Social Component of the Human Dimension: Leveraging Existing Department of Defense (DoD) data Towards Optimized Individual and Team Performance. Contract Number: W911NF-15-2-0133 ; (DoD) data Towards Optimized Individual and Team Performance. U.S. Army Research Institute for the Behavioral and Social Sciences Foundational Science Research Unit (FSRU), 6000 6th Street (Bldg. 1464/Mail Stop: 5586) FT Belvoir, VA 22060-5586. Cooperative agreement is from June 30, 2017 to December 16, 2022

**Do any of the Funding Sources create a Conflict Of Interest for the Principal Investigator, Faculty Sponsor or Research Team (Sub-Investigators) listed on this protocol?** No

**What is the purpose in conducting this research?** How does this study contribute to the advancement of knowledge and why is it worth doing?

This IRB protocol covers two projects funded by the US Army Research Institute for Social and Behavioral Sciences (ARI). Both projects rely on access to and use of the Army Analytics Group (AAG) Research Facilitation Lab (RFL) Person Data Environment (PDE). The PDE is a secure cloud-based data enclave that we access remotely. It requires the use of a Common Access Card (CAC) which is only provided to researchers after a security clearance is conducted. The Army has allowed us to access the same data for both projects to leverage the investment in profiling, cleaning, exploring, and using the data in statistical analyses. All data work is conducted inside the PDE data enclave.

Both projects are composed of two parallel and interdependent tracks, one that focuses on creating a data framework that develops methods to access and integrate multiple sources of data and the other on a case study on (1) military attrition and (2) performance. The primary data to be used is collected by DOD and the US Army for operational purposes. Current data files and descriptions are attached. Additional data sources may be added and/or current sources updated over time. All data, current and future, follow the data use agreements established by AAG/RFL for inclusion in the PDE and accessed by our research project.

#### Project 1 - Towards an Integrated Data Framework for Understanding the Context of Military Environments:

The Department of Defense and each of the military services collect a vast amount of administrative and survey data about the military population, but do not readily make these data available for research or for developing standard reporting based on cross-sectional and/or longitudinal analyses. The primary objective of the research is to assess the ability to access and integrate DOD data and other data sources, opening the opportunity to expand the types of questions the data could support beyond findings obtained for operational purposes. The goal is to demonstrate the value of leveraging these data for the study of important recurring issues to the military. This will be done within the specific context of a case study on military attrition and the broader context of people analytics and human resource management, with a focus on the Army.

This project explores how data can be repurposed to study key topics of interest to the DOD such as attrition. The central motivation for using attrition as a case study is that it is a very well-studied topic. If the technical approach is valuable, it should provide new and actionable insights. Bayesian modeling approaches extends current research by incorporating social and organizational factors as drivers of both the behavior of individuals and of small military units..

The next phase of the research focuses on identification of a statistical modeling approach that best answers the research questions given the integrated data. The review of the literature shows that fairly traditional statistical methods have been used to study attrition, ones that are not well suited for inference about contextual issues. The research investigates and develops new modeling approaches, allowing richer classes of interaction between the individual and his/her command structure, family, and the local (both spatially and temporally) economic conditions, leveraging the relatively large amount of available data for this investigation.

#### Project 2 - The Social Component of the Human Dimension: Leveraging Existing Department of Defense (DoD) data Towards Optimized Individual and Team Performance:

Within the U.S. Army, there is increasing interest in understanding how physical, cognitive, and social behaviors drive Soldiers to successfully meet the challenges of a world in persistent conflict. Our research focuses on examining the social component of Soldier performance by assessing behavioral constructs that can affect performance such as adaptability, motivational traits, empathy, and commitment to Army Values and Warrior Ethos.

The research builds on the research of Project 1 and will define and quantify the social behaviors of Soldiers and use these as predictor constructs that capture Soldier, team, and unit performance. The research objectives are: (1) to assess constructs associated with social behaviors by leveraging the use of existing DoD and external data sources; (2) to describe and predict individual and team performance based on those constructs; (3) to develop novel measurement approaches to capture social behaviors using existing DoD data sources, methods, and approaches; and (4) to translate the findings to other social science domains. We envision that this research will provide the Army with tools to capture the social component of performance and to develop training programs and interventions that will optimize Soldier, team, and unit performance.

**What will participants do in this study?** Please provide an overall summary of the study plan. Where and when it will be conducted? What do you hope to learn from these activities? If the study has more than one phase, clearly map out the different phases. You will be required to describe the study components in more detail in later sections but use this paragraph to help your IRB reviewer to understand the general outline of the study. Other sections in the protocol form can be seen below.

Archival data will be accessed through the Department of Defense (DOD) Army Analytics Group (AAG) Person Data Environment (PDE) data enclave. The PDE is a secure cloud-based data enclave that we access remotely with the use of a DOD-issued Common Access Card (CAC). These data stay on the AAG RFL system and we run our programs within this system. The outputs of our programs are reviewed and verified by AAG RFL personnel to ensure they meet confidentiality requirements. Only AGG RFL approved analyses are exported for use in our reports.

We will also use publicly available US Census Bureau American Survey data that we have uploaded to the PDE, for use in our models. We will also upload publicly available data from the Bureau of Labor Statistics and other sources.

(optional) **Study Overview file upload:** Below you have the option to upload additional files to help the Board better understand your study. You are not required to provide any additional explanation beyond completing the text boxes provided in this Study Overview section; however, for example, if you are using a new technology or a complicated process that would be more easily demonstrated with an image or video, you can upload the file here.

## Participant Groups

**Participant Group Name:** NA - using publicly available open data

**Age Range (years):** 0-99

**Vulnerable populations:** no vulnerable population (none)

**Approximate number of participants, in this group, expected to enroll over the life of the study:** 1

**Total number of participants, in this group, ever enrolled:** 0

**Approximate number of participants, in this group, currently enrolled:** 0

**Future Enrollment:** We are performing data analysis only, in this group (i.e. we are not actively collecting data from participants in this group)

**Have participants, in this group, withdrawn from the study in the past year?** No

**Describe the participants in this group. What criteria will qualify a participant for the study? Are there exclusion criteria that will prevent someone from participating?**

NA-Using Archival Data

**Will participants in this group be compensated for taking part in your study?** No

## Participant Summary

**Participant Group Name:** NA - using publicly available open data

**Approximate number of participants, in this group, expected to enroll over the life of the study:** 1

**What special experience or knowledge does the Principal Investigator, Faculty Sponsor, and the Research Team (Sub-Investigators) have that will allow them to work productively and respectfully with the participants in this protocol and/or participant data?**

Dr. Sallie Keller is the Principle Investigator (PI). She is the Social and Decision Analytics Division (SDAD) Director and Professor of Public Health Sciences. Her PhD is in statistics. She will provide the intellectual leadership and overall supervision on this project.

Dr. Stephanie Shipp is the Social and Decision Analytics Division (SDAD) Deputy Director and Professor of Research. Her PhD is in economics. She will manage the day-to-day activities and ensure that all research is conducted, completed, and documented.

Dr. Joshua Goldstein will be responsible for the statistical modeling associated with the research and the development of presentations. He has a PhD in statistics.

Dr. Vicki Lancaster will design the composite indicators, complete the literature review, and will be responsible for the statistical modeling associated with the research and the development of presentations. She has a PhD in statistics.

Dr. Teja Pristavec will conduct the literature review, discovering data sources, profiling the data and participating in the analysis and

writing of the research. She is a post-doc in SDAD and has a PhD in sociology.

Dr. Nathaniel Ratcliff will provide subject matter expertise in social psychology. He has a PhD in Social Psychology.

Dr. Aaron Schroeder has a Ph.D. in Public Policy & Administration. He is responsible for the design, implementation, and maintenance of our data management strategy and provides guidance for our work the Person Data Environment data enclave.

Dr. Gizem Korkmaz has a PhD in economics. She will review and provide constructive input to improve the research findings and documentation.

Devika Nair has a Masters in data science. She will conduct the literature review, discovering data sources, profiling the data and participating in the analysis and writing of the research.

**What is the relationship between the participants of this study, and the Principal Investigator, Faculty Sponsor, and the Research Team (Sub-Investigators)? Does the Principal Investigator, Faculty Sponsor, or the Research Team (Sub-Investigators) know any of the participants personally or hold any position of authority over the participants (including but not limited to: grading authority, professional authority, etc.)? Do any of the researchers listed on the protocol stand to gain financially from any aspect of this research?**

None - we are using archival data. All data are stored on the Army Analytics Group (AAG) Research Facilitation Lab (RFL) Person Data Environment (PDE). Only aggregate data results can be downloaded and exported after review by AAG RFL staff.

Principal Investigator, Faculty Sponsor, or the Research Team (Sub-Investigators) do not know any of the participants personally nor hold any position of authority over the participants (including but not limited to: grading authority, professional authority, etc.).

There are no financial relationships.

## Recruitment & Consent

**How will participants be approached or contacted for recruitment into the study? Include information about how contact information will be obtained for the participant and what materials will be used to recruit participants.**

No Participants. Archival Data ONLY.

**Do participants have any limitations on their ability to consent?** No

**Describe the limitations on their ability to consent:**

**What is the consent process for this study? Who will present the consent information and how will it be presented?**

NA -Archival Data ONLY.

**Will participants be deceived and/or have information withheld from them about the study?** No

**Will participants be debriefed?** No

## Recruitment & Consent Tools

### Associate Recruitment & Consent Tools with Participant Groups

No requirements.

## Data Sources

**Data Source Name:** Department of Defense (DOD) Army Analytics Group (AAG) Person Data Environment (PDE) data enclave

**Describe this Data Source. What does/will the data consist of? If a data set will be used, include the data fields to be used**

The PDE is a secure cloud-based data enclave that we access remotely with the use of a DOD-issued Common Access Card (CAC). These data include administrative and survey data collected from US Army personnel.

These data stay on the AAG RFL system and we run our programs within this system. The outputs of our programs are reviewed and verified by AAG RFL personnel to ensure they meet confidentiality requirements. Only AGG RFL approved analyses are exported for use in our reports.

We will also use publicly available US Census Bureau American Survey data that we have uploaded to the PDE, for use in our models. We will also upload publicly available data from the Bureau of Labor Statistics and other sources.

**Are the data already collected?** Yes

**Will a recording device (e.g. audio, video, photographic) be used to collect data/materials from participants?** No

**Are the participant's identifying information included as part of the data at any time? For example, during the data collect phase or as part of the existing data set?** No

**How will you receive the data so that the data are not linked to identifying information?**

The PDE is a secure cloud-based data enclave that we access remotely with the use of a DOD-issued Common Access Card (CAC). These data stay on the Army Analytics Group's research Facilitation Lab (AAG RFL) system and we run our programs within this system. The outputs of our programs are reviewed and verified by AAG RFL personnel to ensure they meet confidentiality requirements. Only AGG RFL approved analyses are exported for use in our reports.

The AAG RFL create a Rosetta that are unique identifiers for our study that allow us to link data across files.

## Associate Data Sources with Data Sources

No requirements.

## Associate Data Sources with Participant Groups

No requirements.

## Data Sources Upload

Instrument

View File: [ARI Data Sources in the PDEAll.xlsx](#)

date uploaded: 2019-05-06, by: Shipp, Stephanie (sss5sc)

*This file is approved.*

date approved: 2019-05-07

**Instruments from the Library:**

## Proof of Permission

### Permission to Access Data Source and Participant Group

**Are there any rules or restrictions to access Data Sources and/or Participant Groups?** Yes

**Describe the rules or restrictions and how you will navigate that process:**

Data will be accessed through the Department of Defense (DOD) Army Analytics Group (AAG) Person Data Environment (PDE) data enclave. The PDE is a secure cloud-based data enclave that we access remotely with the use of a DOD-issued Common Access Card (CAC). These data stay on the AAG RFL system and we run our programs within this system. The outputs of our programs are reviewed and verified by AAG RFL personnel to ensure they meet confidentiality requirements. Only AGG RFL approved analyses are exported for use in our reports.

Participant Group Name: **NA - using publicly available open data**  
(not associated with Proof of Permission)

Data Source Name: **Department of Defense (DOD) Army Analytics Group (AAG) Person Data Environment (PDE) data enclav**  
(not associated with Proof of Permission)

## Data Reports & Storage

**How will data/materials be stored? What measures will be taken to secure these data during collection and analysis? If the data includes recordings, what will be done with the recordings? Describe the long-term plan for maintaining the data while the active research phase is completed. Please note that you may need additional "material release" consent forms if you are using recordings for purposes beyond the study.**

All data are stored on and accessed from the Army Analytics Group (AAG) Research Facilitation Lab (RFL) Person Data Environment (PDE).

AAG RFL ensures that data can only be accessed and used in research inside the data enclave. Access requires a Common Access Card (CAC) and permission by the AAG to access the data. Only aggregate data results can be downloaded and exported after review by AAG RFL staff.

The data do not include recordings.

**How will data/materials be reported for this study? Will the results be reported in aggregate or will individual data be discussed?**

Working inside the AAG RFL PDE data enclave, we are linking / merging data for Soldiers longitudinally. The data are deidentified. Only aggregate data results can be downloaded and exported for use in publications and presentations after review by AAG RFL staff. Individual data will not be included nor discussed.

**If a participant decides to withdraw from the study, how will you handle their data?**

NA - Archival Data.

We will be allowed to share our software code but not the actual data used.

**Do you plan to publish your raw data after the study is completed?** No

**Will other parties (i.e. other corporations, institutions, researchers) have access to or retain a copy of the data?** No

## Risks & Benefits

**Is loss of confidentiality and/or privacy a risk to participants?** No

**Describe any remaining potential risks to participants. For example, are any of your participants or participant groups "risk-sensitive"? Include information about the probability of harm (i.e. how likely it is that harm will occur). What will be done to reduce risk to participants? If something unexpected involving risk happens, how will you handle it?**

No participant groups are "risk-sensitive."

**Are there direct benefits to the participants in this study?** No

**Describe the overall benefit of this study.**

The research methods and analytical findings will benefit the US Army by building their capacity to use multiple sources of data to address their challenges, such as attrition and performance measurement. The outputs will inform how to best operationalize, define,



measure, and assess questions of interest not only to the Army but also to all society. We are focusing on issues of performance, attrition, and related topics that are of interest in the civilian and military context.

## Continuation

**Are you applying for a continuation of your protocol's approval?** No

## Modification

**Does this protocol version include any changes that were made to the previously approved protocol (protocol form, consent documents, etc)?** *Minor edits are considered changes!* Yes

**Has the level of risk changed (either increased or decreased) since the last submission?** No

**Provide the rationale for changing the protocol described in this study. Note that the program is able to detect changes in the text boxes so it is not necessary to report every edit.**

In early June 2019, we added the following team members:

Joel Thurston

José Bayoán Santiago Calderón

Neil Kattampallil

Earlier changes are:

We are adding IRB project # 2018-0531-0 to the new iProtocol system, we received IRB approval as exempted for the period December 17, 2018 to December 16, 2022.

Adding and Deleting Team members:

Adding Ratcliff, Nathaniel (nr3xe) who joined our staff on April 1, 2019

Deleting Chen, Daniel (dc4fj@virginia.edu), who left our staff on April 1, 2019.

## Unexpected Adverse Events

**Did a negative event associated with the research occur and does it meet one of the following conditions:**

is not described as a possibility in the previously approved protocol OR;

did not occur within the parameter described (i.e. an increase in frequency or severity)

No

**Questions:** IRB-SBS Help Desk

University of Virginia  
Office of the Vice President for Research  
Human Research Protection Program  
Institutional Review Board for Social & Behavioral Sciences



