APPLICATION FORM

DOCTORAL STUDENT RESEARCH SCHOLARSHIPS

Name of Applicant: Simon Heuberger

AU ID#: 4006943 U.S. Citizen: Yes ___ No X

Department: Government

Date of admission to doctoral candidacy: Not admitted yet, will happen before May 1st

Date of approved dissertation proposal: Proposal not defended yet, will happen before May 1st

Address for correspondence: 4020 Calvert Street NW, Apartment 4

Telephone number: 202-763-2301

E-mail address: sh6943a@american.edu

Name of Dissertation Supervisor: Jeff Gill

Daytime telephone number: 202-702-1234

E-mail address: jgill@american.edu

Title of the Project:

Improving Treatment Randomization in Online Survey Experiments: An Analysis of the Power of Moral Frames

Funding Requested: $4,830

Does the proposal involve:	**Yes**	**No**
Research with human participants?	☑	☐
If yes, has the protocol been submitted with IRB?	☑	☐
If the protocol has been approved or exempt, list the protocol number: IRB-2018-315		
Research with animals	☐	☑
If yes, has the protocol been submitted with IACUC?	☐	☐
If the protocol has been approved or exempt, list the protocol number:		
Research with rDNA	☐	☑
If yes, has the protocol been submitted with IBC?	☐	☐
If the protocol has been approved or exempt, list the protocol number:		

PROJECT ABSTRACT
DOCTORAL STUDENT RESEARCH SCHOLARSHIP

Do not exceed 1500 characters. Please use the narrative form.

Applicant's Name: Simon Heuberger

Title of Project: Improving Treatment Randomization in Online Survey Experiments: An Analysis of the Power of Moral Frames

My dissertation will make vital contributions in the fields of American Politics and Quantitative Methods: (1) It improves treatment randomization in online survey experiments; (2) it uncovers the source of framing effects in public opinion surveys.
(1) Survey experiments are increasingly conducted online. Most of these experiments are designed with Qualtrics. This can be hugely problematic for small samples, as Qualtrics does not offer a sophisticated method of randomization. I will build a software tool that makes this possible. The tool feeds an advanced randomization method called sequential blocking into the Qualtrics computational environment. This enables researchers to field methodologically sound small-sample online survey experiments.
(2) I will employ my method in an online survey experiment on the source of frame strength. Previous literature has shown that framing affects individuals' opinions. We nonetheless know very little about the particular factors that make a frame elicit large effects. Applying theoretical moralization claims to framing research, I will design a survey that investigates whether moral frames elicit larger framing effects than pragmatic frames.
This survey will be fielded twice: Once with Qualtrics' basic randomization, and once using sequential blocking. I will demonstrate the randomization improvements produced by my method by comparing the balance achieved in the two otherwise identical surveys. I will then analyze the experimental results on moral frames from the sequentially blocked survey. This will shed much needed light on the relevance of moral arguments in influencing how people form their opinion. My dissertation thus makes far-reaching contributions to experimental survey methodology and to research on a central component of human behavior.

PROJECT DESCRIPTION
DOCTORAL STUDENT RESEARCH SCHOLARSHIP

1 Overall Objectives of the Dissertation

I am a student of American Politics and Quantitative Methods. My dissertation will make a vital contribution in both fields. It thus has two overall objectives:

I. Improve treatment randomization in online survey experiments
II. Uncover the source of framing effects in public opinion surveys

These objectives are intertwined. First, I will build a software tool using the statistical software R. This tool applies a sophisticated randomization method to online survey experiments that greatly improves the method provided by the popular online survey design platform Qualtrics. Second, I will design a questionnaire for an online survey experiment that investigates the source of framing effects in public opinion. Research has shown that some frames influence how people see issues, but we do not know why these frames are influential. I hypothesize that moralization, i.e. presenting an issue in moral frames, is at the heart of these framing effects. To test this hypothesis, I will field the designed survey twice: Once with Qualtrics' basic randomization, and once using the sophisticated randomization tool I developed. I will then examine the balances in both surveys, thereby demonstrating the quality of my tool, and analyze the substantive results on the importance of moral frames. Section 2 will provide further details.

2 Project Design and Procedures

The majority of online surveys use Qualtrics, a service to design questionnaires (Boas and Hidalgo, 2013). Qualtrics also offers the option to randomize assignment to treatment groups through flip-a-coin randomization (Urdan, 2010). For each respondent, the computer flips a coin to decide which treatment group to assign her to. The goal of randomization is to make all treatment groups look the same on average. This is called balance. Using flip-a-coin for large samples results in balance based on the law of large numbers. Using it for small samples, however, can result in serious imbalance. It can easily be that the treatment groups will not look the same. This can render experimental results useless (Imai, 2018; King et al., 1994; Fox, 2015) Large samples can be hard to get because they cost a lot of money. These financial constraints are exacerbated in survey experiments, where the overall sample size is split across several treatment groups. Researchers with limited funds can often only conduct small-sample online experiments. Because of Qualtrics' insufficient randomization, these experiments can produce substantively useless results. This is hugely problematic. I develop a software tool that fills this gap by employing a sophisticated method of randomization called sequential blocking. Sequential blocking assigns each respondent based on information from previously assigned respondents. Research has shown that this method greatly improves balance (Moore and Moore, 2013). There is currently no way to incorporate this method into online surveys. My tool changes that. By directly feeding sequential blocking into Qualtrics, it enables researchers to field statistically sound small-sample online survey experiments, which they would not be able to achieve otherwise.

Once I have developed this tool, I will design a questionnaire to examine the effect of moral arguments, particularly moral framing, on public opinion. Framing is the practice of presenting an issue to affect people's support for it (Druckman, 2001; Gross, 2008). Presenting Obama's health care reform as an invasion of privacy achieves less support for it than presenting it as help

for millions of uninsured Americans, for instance. Research has shown that frames influence how people view issues (Iyengar, 1996; Tversky and Kahneman, 1981). But what are the factors that make frames so influential? Research does not have an answer to this question (Ryan, 2014). I address this gap by investigating whether moralization, i.e. presenting an issue in moral terms, lies at the bottom of frame strength. Theoretical moralization literature claims that moral arguments (based on fairness) are more powerful than pragmatic arguments (based on financial aspects) (Tatalovich and Daynes, 2011). I apply this claim to framing and investigate whether moral frames elicit larger effects than pragmatic frames. I will design a survey questionnaire with five treatment groups on the issues of minimum wage, healthcare, housing, and eminent domain. The treatment groups will contain supporting and opposing moral and pragmatic frames. The questionnaire will also collect standard demographic information. I will pre-test the questionnaire to ensure that the frames correspond with people's views on what constitutes a moral and a pragmatic argument. Such a pre-test is required practice in political science survey experiments.

I will field the pre-tested questionnaire online twice: Once with Qualtrics' flip-a-coin randomization, and once with sequential blocking provided by my tool. I will use Amazon's online platform MTurk to recruit respondents for the pre-test and for the surveys. MTurk is a service where researchers can host tasks to be completed by anonymous respondents. Respondents receive financial compensation for their work and Amazon collects a commission. MTurk samples have been shown to be internally valid in survey experiments (Hauser and Schwarz, 2016). The use of MTurk in political science experiments has increased dramatically over the past decade and is now common practice (Berinsky et al., 2012). After I have collected the responses, I will demonstrate the improvements produced by my method by comparing the balances achieved in the two otherwise identical surveys. I will also analyze the results of the sophistically randomized survey on the importance of moral frames.

3 The Role of this Project to Completing the Dissertation

Conducting these two surveys is crucial to completing the dissertation. Without original experimental survey data, I am unable to demonstrate the quality of my randomization method. Providing empirical proof with original data is key to publishing statistical procedures in academia. My contribution to statistical survey methods would be stuck in the development phase and I would not be able to present my method to the academic community. Without original experimental survey data, I am also unable to empirically analyze the importance of moral arguments in political discourse. My substantive contribution to political science would be reduced to mere theoretical musings about the influence of moral frames, without any form of causal inference.

4 Project Timeline

Timeline for Grant Period May 2018 – April 2019

June	Computational development of sophisticated randomization tool using R
October	Design survey questionnaire and pre-test on MTurk
January	Field survey with Qualtrics flip-a-coin randomization on MTurk Field survey with sequential blocking on MTurk
February	Demonstrate balance improvements of sequential blocking Analyze substantive survey results on the power of moral frames

5 The Importance of these Funds to the Completion of the Dissertation

There are no costs involved in the development of the software. I will compute the sophisticated randomization method entirely with open source resources. I am applying for this scholarship to raise the funds to cover the costs of pre-testing the survey questionnaire and of fielding the survey online twice. These costs amount to $4,830 and are detailed in the Budget Justification.

Without the pre-test, we would not know whether some frames are potentially flawed and could not address this before fielding the actual survey. Without the necessary funds, I could not conduct this pre-test, which in turn could invalidate the quality of the questionnaire, which in turn would jeopardize any causal inference I intend to make in this dissertation. Furthermore, without the funds to subsequently field the survey, there simply would not be a dissertation. Both the improvement of online survey experimental methodology and the substantive investigation of the power of moral arguments in political discourse depend crucially on the fielding of this survey. Without the funds to do so, I could not complete my dissertation. I am also seeking external funding to cover these costs, for instance through the NSF Dissertation Improvement Grant.

6 The Significance or Expected Impact of the Dissertation

An ever-increasing number of survey experiments are conducted online (Mutz, 2011). At the moment, however, it is very difficult for researchers to field online survey experiments with sophisticated randomization if they do not have a substantial amount of money to purchase large samples. This is hugely problematic as it prevents particularly junior researchers with little money from conducting methodologically sound experiments and advancing knowledge. Currently, online survey experiments with small to medium sample sizes suffer from serious randomization bias, which can render their results meaningless. My method fills this gap. It enables researchers with little money to field small-sample online survey experiments and still get methodologically sound, meaningful results, which they otherwise would not be able to achieve. This is an important contribution to political science experimentation and to survey experimentation overall.

We know that some frames influence people's issue positioning. However, we do not know why this is the case. We do not know the underlying source behind these framing effects. Why is it possible to shift people's opinions with frames? I attempt to answer this question by applying theoretical moralization claims to empirical framing research. Moralization literature asserts that moral arguments are essential to how people make sense of the world around them (Mooney, 2001). Moral arguments are seen as fair, near-universal standards of truth. This stands in contrast to pragmatic arguments, which are considered much less influential and of a financially pragmatic nature. Scholars further argue that moral arguments trump pragmatic arguments in persuasive power because they achieve a higher emotional connection (Haidt, 2003). Following this argument, I hypothesize that moralization, i.e. giving moral arguments, lies at the heart of frame strength. My survey experiment tests this hypothesis. It thus sheds much needed light on a very important question: Are moral arguments as powerful as the literature suggests? Scholars tend to convene that moral conviction represents an important force that guides the development of public opinion (Skitka et al., 2005; Skitka and Wisneski, 2011), but this has not been extensively tested. If my experiment reveals stronger moral frames, it provides statistically sound empirical proof for the power of moral arguments. If my experiment reveals stronger pragmatic frames, it raises doubts over the claimed importance of moral conviction. My experiment thus makes an important contribution to research on a central component of human behavior.

References

Berinsky, A. J., G. A. Huber, and G. S. Lenz (2012). Evaluating Online Labor Markets for Experimental Research: Amazon.com's Mechanical Turk. *Political Analysis 20*(3), 351–368.

Boas, T. C. and F. D. Hidalgo (2013). Fielding Complex Online Surveys Using rApache and Qualtrics. *The Political Methodologist 20*(2), 21–26.

Druckman, J. (2001). Evaluating Framing Effects. *Journal of Economic Psychology 22*, 91–101.

Fox, J. (2015). *Applied Regression Analysis and Generalized Linear Models*. Washington, DC: Sage.

Gross, K. (2008). Framing Persuasive Appeals: Episodic and Thematic Framing, Emotional Response, and Policy Opinion. *Political Psychology 29*(2), 169–192.

Haidt, J. (2003). The Moral Emotions. In R. J. Davidson, K. R. Scherer, and H. H. Goldsmith (Eds.), *Handbook of Affective Sciences*, pp. 852–870. New York, NY: Oxford University Press.

Hauser, D. J. and N. Schwarz (2016). Attentive Turkers: MTurk Participations Perform Better On Online Attention Checks Than Do Subject Pool Participants. *Behavior Research Methods 48*(1), 400–407.

Imai, K. (2018). *Quantitative Social Science*. Princeton, NJ: Princeton University Press.

Iyengar, S. (1996). Framing Responsibility for Political Issues. *The ANNALS of the American Academy of Political and Social Science 546*(59-70).

King, G., R. Keohane, and S. Verba (1994). *Designing Social Inquiry: Scientific Inference in Qualitative Research*. Princeton, NJ: Princeton University Press.

Mooney, C. Z. (2001). *The Public Clash of Private Values: The Politics of Morality Policy*. Washington, DC: CQ Press.

Moore, R. T. and S. A. Moore (2013). Blocking for Sequential Political Experiments. *Political Analysis 21*(4), 507–523.

Mutz, D. C. (2011). *Population-Based Survey Experiments*. New York, NY: Princeton University Press.

Ryan, T. J. (2014). Reconsidering Moral Issues in Politics. *Journal of Politics 76*(2), 380–397.

Skitka, L. J., C. W. Bauman, and E. G. Sargis (2005). Moral Conviction: Another Contributor to Attitude Strength or Something More? *Journal of Personality and Social Psychology 88*(6), 895–917.

Skitka, L. J. and D. C. Wisneski (2011). Moral Conviction and Emotion. *Emotion Review 3*(3), 328–330.

Tatalovich, R. and B. W. Daynes (2011). *Moral Controversies in American Politics* (4th ed.). Armonk, NY: M.E. Sharpe.

Tversky, A. and D. Kahneman (1981). The Framing of Decisions and the Psychology of Choice. *Science 211*, 453–458.

Urdan, T. C. (2010). *Statistics in Plain English*. New York, NY: Routledge.

PROGRESS FORM
DOCTORAL STUDENT RESEARCH
SCHOLARSHIP

(Must be completed and signed by the Dissertation Chair)

Date admitted to American University 22 March 2015

Date (or anticipated date) course work completed 09 May 2017

Date(s) comprehensive exam(s) passed American Politics: 08/23/2017; Comparative Politics: 12/12/2017; Quantitative Methods as third voluntary field to be taken in August 2018

Date dissertation proposal defended successfully Proposal not defended yet, will happen before May 1st

Names, departments of committee members from AU

Name	Department
Ryan T. Moore	Government
Jan E. Leighley	Government
Matthew Wright	Government

Name, affiliation of committee members external to AU

Name	Department
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Signed by Dissertation Chair

Signature — Date 3/7/18

Jeff Gill

Printed Name

ITEMIZED BUDGET FORM
DOCTORAL STUDENT
RESEARCH SCHOLARSHIP

Item	Amount	Awarded
Personnel (wages paid in support of project, include fringe benefits if needed)	_____	
Supplies and Materials (including, software, data sets, chemicals, films, tapes or DVDs, photocopying, printing, art materials, scientific and laboratory supplies)	$4,830	
Travel necessary to conduct your project (use current AU guidelines for mileage and per diem; include dates, destinations, and purposes of all travel in budget narrative)	_____	
Purchased Services (including printing and binding, freight, advertising)	_____	
Other Expenses (non-cash incentives to research participants, refreshments for focus groups, parking fees for research participants)	_____	
Total Requested/Awarded	$4,830	

Note: Any changes to the budget of an approved project must be approved in writing by the Vice Provost for Research and Dean of Graduate Studies.

BRIEF BUDGET JUSTIFICATION
DOCTORAL STUDENT RESEARCH SCHOLARSHIP

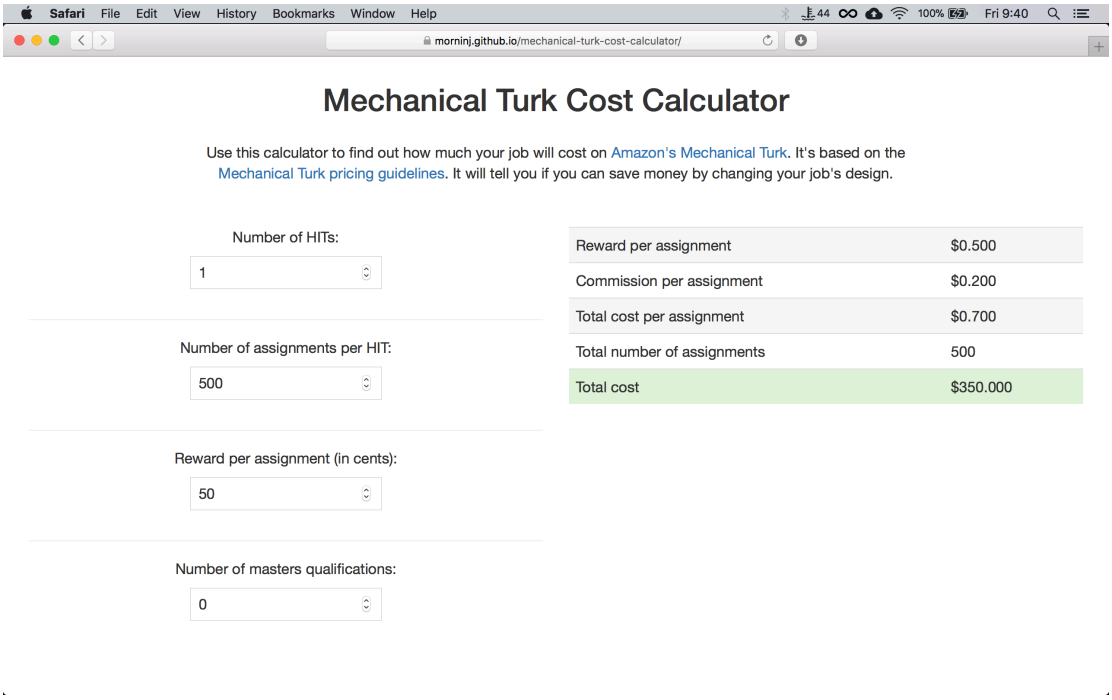
I am applying for this scholarship to raise the funds to cover the costs of pre-testing the survey questionnaire and fielding the survey twice online on MTurk. Under the definition of the Itemized Budget Form, these costs fall under the item heading "Supplies and Materials". They amount to a total of $4,830 and are itemized below. Two screenshots show the origin of the budget calculations.

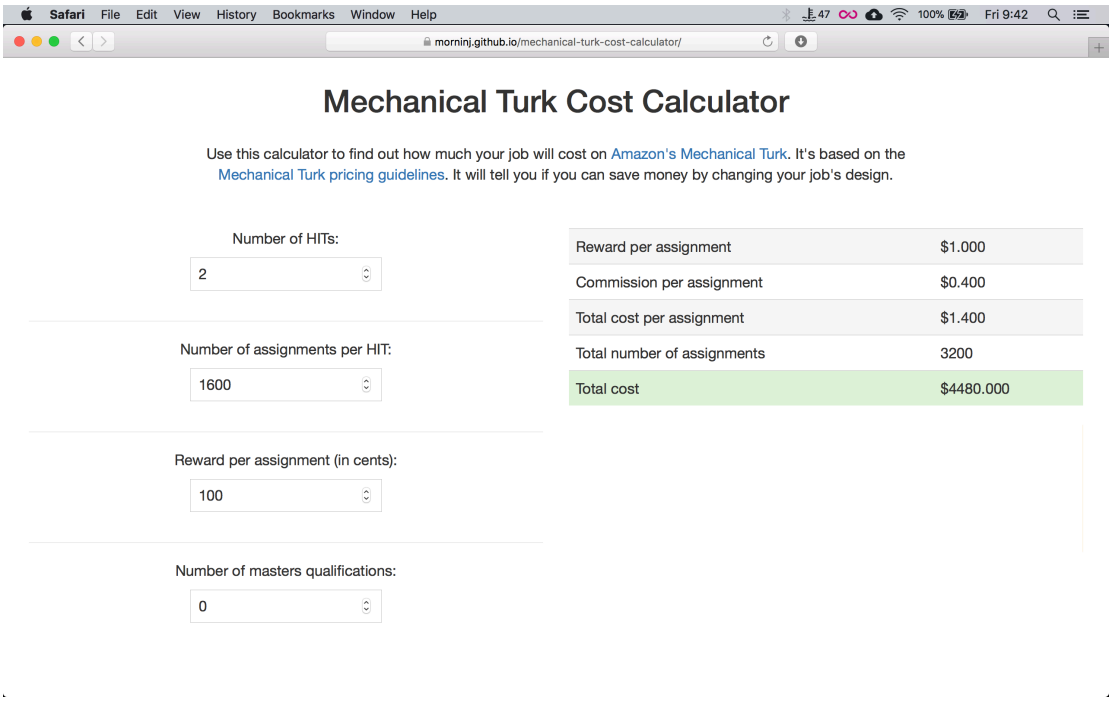
Requested Funds for Supplies and Materials: Data Sets

$350 **Pre-testing the survey questionnaire online on MTurk**
500 respondents
Compensation per respondent: $0.50
Amazon commission per respondent: $0.20

$2,240 **Fielding the survey with flip-a-coin randomization on MTurk**
1,600 respondents
Compensation per respondent: $1.00
Amazon commission per respondent: $0.40

$2,240 **Fielding the survey with sequential blocking on MTurk**
1,600 respondents
Compensation per respondent: $1.00
Amazon commission per respondent: $0.40




Safari File Edit View History Bookmarks Window Help
Fri 9:42
mornin.github.io/mechanical-turk-cost-calculator/
Mechanical Turk Cost Calculator
Use this calculator to find out how much your job will cost on Amazon's Mechanical Turk. It's based on the Mechanical Turk pricing guidelines. It will tell you if you can save money by changing your job's design.
Number of HITs:
2
Number of assignments per HIT:
1600
Reward per assignment (in cents):
100
Number of masters qualifications:
0
Reward per assignment $1.000
Commission per assignment $0.400
Total cost per assignment $1.400
Total number of assignments 3200
Total cost $4480.000

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Education

PH.D., **Political Science**. American University, Washington, D.C., 2020 (expected)

Fields: American Politics, Quantitative Methods, Comparative Politics
Dissertation: "Improving Treatment Randomization in Online Survey Experiments: An Analysis of the Power of Moral Frames"
Chair: Jeff Gill

M.A., **Social and Political Thought**, *magna cum laude*. University of Warwick, Coventry, UK, 2014

Dissertation: "Fighting 'Socialism': The Koch Brothers, the Tea Party, and Obamacare" (15,000 words), *magna cum laude*

MAGISTER, **English Linguistics, Communication, Business.** University of Munich, Germany, 2011

Dissertation: "From Candidate to President: The Use of Metaphors and Pronouns in Speeches by Barack Obama" (40,000 words), *magna cum laude*

Research Interests

Political Behavior, Public Opinion, Political Communication, Political Psychology, Media and Politics, Polarisation, Ideology, Political Polling, Elections and Campaigns, Political Leadership

Research Experience

Editorial Assistant 2017-Present
Political Analysis Journal (Jeff Gill, R. Michael Alvarez, Jonathan Katz)

Data Replication of Journal Submissions
Code Debugging and Quality Control in R, Python, Stata
Dataverse Organizational Management

Research Assistant 2015-2017
American University (Matthew Wright, Ryan T. Moore)

Strength and Effectiveness of Framing Measures in Political Behavior
Public Opinion of President Obama's Executive Order on Immigration
Immigration as a Focal Aspect of the 2016 Presidential Race
List Experiments on Social Desirability Bias
Development of Aptitude Tests for Data Scientist Positions at The Lab @ DC
Enhancement of R package `blockTools`

Research Fellow 2013-2014
British American Security Information Council, London, Washington, Cairo

Nuclear Disarmament in the UK and Middle East
Analyst for the BASIC UK Trident Commission Report (Paper)
On-site Coverage of the 2014 Egyptian Elections and Muslim Brotherhood Prosecution

Research Assistant 2012-2014
University of Warwick, University of Cambridge (Eric Jensen)

Review of Quantitative Data Management in the Department of Sociology
Political Economy of Current Face-to-Face Public Dialogue Practices in Sciencewise
Role of Social Media in Public Dialogue

Teaching Experience

Teaching Assistant in Political Methodology
American University

Introduction to Political Research (R), Ryan T. Moore (Syllabus, Guide to R) Spring 2017
Introduction to Political Research (Stata), Jan E. Leighley (Syllabus) Summer 2016

Lecturer in German 2012-2015
University of Warwick

Graduate and Undergraduate Assessments
Beginner, Intermediate and Advanced Courses at Centre for Life-Long Learning

Data Analysis

Software

R: `Script`, `Markdown`, Web Applications (`shiny`), Package Development (`devtools`)
Python, Stata, SPSS, LaTeX, GitHub
Qualtrics, NVivo, `Trados`, CAT

Statistics

Generalized Linear (OLS, MLE, Logit, Probit) and Nonlinear Regression, Causal Inference
Prediction, Probability, Uncertainty, Instrumental/Proxy Variables
Sampling, Clustering, Matching, Visualization, Game Theory
Content Analysis, Web Analytics (Scraping, Text LDA Models)
Experiment and Survey Design

Publications

Gill, Jeff and Simon Heuberger. "Informative Priors, Dirichlet Priors, & Advances in Bayesian Social Science". In Luigi Curini and Robert J. Franzese, Jr. (editors), *Handbook of Research Methods in Political Science & International Relations*. SAGE, forthcoming.

Conference Presentations

"Changing Public Opinion with Ethical Arguments", *Southern Political Science Association, New Orleans, LA & NYU-CESS, New York, NY*, 2018. (Paper)
"Framing and Its Effects", *Society for Political Methodology, Madison, WI*, 2017. (Paper)
"Us v. Them: Voter Turnout, Partisanship, and Emotional Responses to Presidential Candidates, 1980-2012" with Will Jorgeson and Jan E. Leighley, *Southern Political Science Association, New Orleans, LA*, 2017. (Paper)
"You've Been Framed: Moral v. Pragmatic Arguments and Their Effects on Public Opinion" with Morris Levy and Matthew Wright *American Political Science Association, Philadelphia, PA*, 2016. (Paper)

Working Papers

"Standard and Extended Model Comparison Tools: IC Tools and More" with Jeff Gill.
"Conjoint Analysis and Candidate Characteristics: Explorations in Causal Inference" with Ryan T. Moore.
"How Emotions Influence Voter Turnout in Presidential Elections, 1980-2016" with Will Jorgeson.
"Emotional Affect and Partisan Polarization in Presidential Elections: An Ever-Twisting Spiral" with Will Jorgeson and Jan E. Leighley.

Awards and Grants

Prestage-Cook Award, SPSA Annual Meeting New Orleans, 2018
National Science Foundation Grant, Presentation at Society for Political Methodology, 2017
Graduate Leadership Council Conference Travel Grant, 2017
Award from the Vice Provost for Research and Dean of Graduate Studies, "The Impact of Information and Emotions on Voter Turnout and Civic Engagement," with Jan E. Leighley, 2016
Department of Government Graduate Research Support, "Framing Methodologies," 2016
Graduate Assistantship 2015-2018
Best Master's Dissertation in the Fields of Sociology and Politics 2014
German Academic Exchange Service Scholarship for Study Abroad in Australia 2009

Other

Community Involvement
Rehabilitation of fear-aggressive shelter dogs in D.C.
Panel judge of undergraduate project competitions
Shark conservation lobbyism

Languages
German *(native)*
English *(bilingual proficiency)*
Spanish *(full proficiency)*
French *(full proficiency)*
Arabic *(basic proficiency)*