Questions in Politics

OFFICIAL JOURNAL OF THE

Georgia Political Science Association

Volume VII 2020

Questions in Politics Editorial Team

About the Georgia Political Science Association

Georgia Political Science Association

Founded in 1968, the Georgia Political Science Association (GPSA) is the professional association for political science practitioners and educators in Georgia. Membership is drawn from the public, private, and academic sectors. We welcome members, attendees, participants, and students from around the world.

Questions in Politics is the official journal publication of the GPSA.

Visit the GPSA website for more information visit www.gpsa-online.org.

Articles are typeset using Overleaf's *Scientific Reports* template.

Questions in Politics

Official Journal of the Georgia Political Science Association
Volume VII

Contents

Questions in Politics

OFFICIAL JOURNAL OF THE GEORGIA POLITICAL SCIENCE ASSOCIATION

Volume VII

Preface

Within these pages is the 2020 volume of *Questions in Politics* (*QiP*), the official journal for the Georgia Political Science Association. This issue marks a period of change for the journal as we, Sean Richey and Ben Taylor, transition into the editorial roles and the former *QiP* editors, Thomas Rotnem and Adam Stone, transition out. The 2020 edition contains five papers ranging the gamut of fields in political science and marking the continued trend in excellence in scholarship stemming from the Georgia Political Science Association annual meeting. However, before we discuss the issue in more depth, we think it is appropriate to thank Dr. Rotnem and Dr. Stone for their many years of service to GPSA and, more specifically, *Questions in Politics*.

In 2013, under the leadership of Dr. Rotnem and Dr. Stone, the Georgia Political Science Association formalized and inaugurated what was previously called "The Proceedings of the Georgia Political Science Association" into what is now *QiP*. Since 2013, *QiP* has published peer-reviewed, scholarly work which was presented at the annual meeting. Over the last seven years, the quality of submissions and published work has continually increased, which is a testament to the GPSA annual meeting as well as the efforts of Dr. Rotnem, Dr. Stone and the countless reviewers who served GPSA and *QiP*. In short, we are thrilled to carry on the legacy of *QiP*, but we could not do so without the tremendous efforts already made by Tom and Adam. To honor their efforts, Dr. Rotnem and Dr. Stone are instituted as editors emeritus for *QiP*.

About the Issue

The first paper, winner of the 2020 McBreyer Award, is entitled "Keeping the Rascals In: How Unproductive Projects Help Reelect Kenyan Incumbents," and is authored by Nathan Combes. This paper asks: why do politicians not do the right thing? Using original data and interviews with Kenyan politicians, Combes explores the ways elections can create perverse incentives causing politicians to not solve some problems in favor of putting efforts in more electorally relevant policy areas. Using a mix of original data and interviews, Combes demonstrates that even objectively "good" policy outcomes are neglected because of their relative low salience in favor of higher profile policies on which politicians may credit claim in future elections.

The second paper is "Civil Death And Resurrection: What Factors Are Associated With Felony Disenfranchisement?" by John A. Tures, Mia Braxton, Melanie Chambers, Natalie Glass, Porter Law, Jaydon Parrish, Elijah Robertson, Payton Smith, Jason Timms, Caleb Tyler, Andrew Valbuena, and Ben Womack. This project explores the predictors of "civil death," or losing the right to vote, at the state level. This paper examines a series of crime-based, political and demographic factors, finding that the minority population of a state and state support for President Trump is more likely to be associated with civil death policies among the states than most crime-based factors, across a series of bivariate and multivariate models. Little evidence exists for claiming that more punitive measures toward former felons will somehow reduce crime, corruption, voter fraud, or recidivism.

The third paper is entitled, "What Does This Meme To You?: A Test of a Critical Thinking Exercise for the American Government Classroom," by Dominic D. Wells, Joshua R. Meddaugh, and David Peña. This paper presents an activity where students generated political memes and then wrote short essays explaining and defending the position they had taken in the meme. Students were assigned either the political meme activity or a traditional argumentative essay. This innovative scholarship of teaching and learning demonstrates that memes can be an impactful pedagogical tool. Their results demonstrate the quality of the argumentative essays for the meme-focused students were as good as the students with the traditional assignment. These findings will help anyone looking for a new classroom assignment add tools to their pedagogy repertoire.

The fourth paper is "Show Me the Money: An Analysis of Georgia's State Film Tax Credit Program," by Wesley Meares, Aaron Hutton, Savannah Brown, and Rachel Morris. This project takes on an increasingly important aspect of Georgia's economy: the film industry. Using a case study approach to film incentives and tax credits across the country, Meares et al. examine the effectiveness of such policies for generating economic

activity. Overall, the authors find that Georgia did see gains in employment, wages, capital investment, and business establishments in the wake of establishing tax credits and incentives. However, the program did not meet the lofty goals policymakers and industry analysts expected at their outset. Overall, the authors make the case that work needs to continue to assess the effectiveness of these programs.

The fifth and final paper is "Opioids in the United States: What factors predict opioid death rates across the 50 states?," by Jessie Kalinowski. Kalinowski's paper is the Pajabi Award winner for best undergraduate paper award at the 2019 annual meeting as voted on by the Pajabi committee. Using a variety of methods, Kalinowski investigates the predictors of opioid-related death rates across the United States in 2015. Overall, this paper finds that unemployment, population density, and a state's white population percentage are positive and significant correlates of opioid-related deaths in 2015. Kalinowski concludes her paper with several ways researchers may investigate the phenomenon in the future.

Thanks to the Reviewers

We are deeply indebted to our reviewers for Volume VII. We received an excellent slate of papers for this volume, which—of course—required us to find an excellent slate of reviewers. In addition to ourselves, each paper received a peer review from a scholar whose expertise could speak to the quality and significance of the submitted manuscript. Our reviewers' expertise and suggested edits and revisions certainly increased the quality of the work you see in this journal. Being a journal reviewer is often a thankless task, and—while it may not be much—we want to extend our heartiest "thank you" to our reviewers. For those who were not asked to review in 2019 and 2020, do not fear: your time will come.

The reviewers and their affiliation for Volume VII of *Questions in Politics* are as follows:

Jonathan Boyd
Kennesaw State University

Steve Collins
Kennesaw State University

Jeffrey Dorfman
University of Georgia

Bailey Fairbanks
Georgia State University

Jeffrey Glas
University of Georgia

Matthew Hipps
Dalton State College

Carrie Manning
Georgia State University

David Sjoquist
Georgia State University

John Tures
LaGrange College

Brian Webb
Gordon State College

To close, though the 2020 conference will be a remote, digital affair, we encourage anyone who presents to consider *QiP* as an outlet for their work. To find more information about submitting to *QiP*, please consult the GPSA website. The deadline for submissions for Volume VIII is December 31, 2020.

Sean Richey & Ben Taylor

Keeping the Rascals In: How Unproductive Projects Help Reelect Kenyan Incumbents

Nathan J. Combes[1]

[1]Assistant Professor of Political Science, Columbus State University
[*]2020 McBreyer Award for best paper at 2019 GPSA Annual Meeting.

ABSTRACT

Why don't politicians do the right thing? Why would politicians fail to solve a problem in which they have the capacity and social support to do so? I suggest that the electoral mechanism creates perverse incentives for politicians to focus on electability rather than proper governance. Every year in Kenya, more than 100,000 children under the age of five die. 90 percent of these deaths can be avoided via the administration of basic essential medicines. Diarrhea is one illness that is easily and cheaply treated, yet more than 5,400 Kenyan children die from it every year. Proper use of oral rehydration solution (ORS) prevents mortality in 93 percent of diarrheal cases, and the average daily dose costs only 15 US cents. Children are dying because they are not receiving this effective and affordable treatment. I will show that a demand exists for ORS in Kenya, and that voters are likely to change their vote to a politician who promises to address child health in Kenya. I will then show that despite these demands, ORS is completely out of stock in 40% of dispensaries in Kenya's western regions. I offer suggestive evidence of what is causing this lack of supply: politicians in Kenya are more incentivized to provide highly visible projects rather than high-impact, low-cost solutions. Lastly, I use 2017 election results to provide evidence that politicians who provided medicines to their local dispensaries performed worse in their subsequent election.

Introduction

Diarrhea kills more than 5,400 Kenyan children under the age of five annually (World Health Organization 2016a).[1] The conventional treatment for the condition — oral rehydration solution (ORS) — is both highly effective and inexpensive. Proper use of ORS prevents death in 93 percent of cases (Munos et al. 2010). The average daily dose costs only 15 US cents (Kenya Medical Supplies Authority, 2013). Why, then, are Kenya's children not receiving this life-saving treatment?

Conventional wisdom and contemporary research argue that democracies tend to produce more and higher quality public services than non-democracies. This is especially true when citizens believe the service is necessary and electorally salient. These conditions appear to fit the case of diarrheal disease in Kenya well. Kenya is a functioning democracy with a Polity score of 8[2] and boasts an 86 percent voter turnout rate (International Institute for Democracy and Electoral Assistance 2011).

In this paper, I will show that Kenyans believe that ORS is necessary, the government is responsible for providing it, and child mortality is an electorally salient issue. However, while recent trends show a decline in Kenya's diarrheal mortality rate, it remains stubbornly high.[3] Specific studies exploring Kenya's mortality rate argue that parents do not demand ORS, leading to low ORS uptake and subsequent deaths of children (Goel et al. 1996; Omore et al. 2013; Othero et al. 2008). These studies suggest that the solution to diarrheal mortality is behavioral change. In contrast, I argue that the low uptake of ORS and its consequences for child mortality is caused by a lack of supply from the government, not a failure of citizen demand. To support my assertion, this paper answers five related questions. First, do Kenyans demand ORS and administer it to their children when it is available? Second, does the government stock ORS in Ministry of Health dispensaries? Third, is this issue electorally salient and do voters reward politicians for successful outcomes? Fourth, how do politicians respond to these incentives? Fifth, how do these responses impact the politicians' odds of reelection?

In this paper, I show that Kenyans use ORS when it is available to them, and are highly knowledgeable of diarrheal diseases, as well as their causes, and treatments. Furthermore, I show that Kenyans are likely to reward the politicians whom they believe will address the issue of child health. Unfortunately, this incentivizes politicians to fund projects that influence people's *perceptions* of their dedication to health, rather than to fund projects that directly impact health outcomes. Specifically,

[1]This is a conservative estimate. Estimates of the annual number of deaths caused by diarrhea in Kenya range from 5,400 (World Health Organization 2016a) to 38,800, which is cited by the Government of Kenya (Ministry of Public Health and Sanitation 2011) and USAID (Abt Associates and the United States Agency for International Development 2011). I have chosen to use the most conservative estimate throughout this paper.

[2]43 percent of countries had a Polity score of 8 or higher in 2010.

[3]Kenya's child mortality rate from diarrhea is higher than 70 percent of countries that are in the same quintile of purchasing power parity (World Health Organization 2016a; World Bank 2016)

politicians spend discretionary funding on constructing new health dispensaries (which they will never complete), rather than supply essential medicines to existing dispensaries. The results are chronic stockouts of essential medicines throughout Kenya. Lastly, politicians and parties who choose to provide essential medicines to their dispensaries fare worse in subsequent elections.

Demand for ORS

Previous scholarship claims that Kenyans do not realize how severe a burden diarrhea poses. Date et al. (2013) claim that "awareness of the need to seek care immediately for severe diarrhea was relatively low" in western Kenya. Date and coauthors state that their results "may indicate that the disease is viewed as a routine occurrence in the population" suggesting that some Kenyans feel that diarrhea is an expected part of everyday life for which treatment is unnecessary. If this is true, politicians face no incentive to provide diarrheal treatments because they will go unused.[4] Other scholars claim that Kenyans lack knowledge of the causes of diarrhea; claiming that many consider the illness to result from evil eye, witchcraft, false teeth, or bad breast milk (Othero et al. 2008 and Blum et al. 2011). Othero et al. (2008) claim that the percentage of Kenyans who believe that these are the causes of diarrhea is high: "perceived causes of diarrhea were: 'unclean water 524 (54.9 percent), bad eye 464 (50.0 percent), false teeth 423 (45.6 percent) and breast milk 331(35.8 percent).

Reports that Kenyans believe in such false causes of disease inadvertently promote a stereotype of Africans as ignorant or "backward". Sadly, many politicians believe these stereotypes about their rural constituents, which could explain a belief that not providing access to treatments is justified. One example of a politician believing that child mortality is the result of parental ignorance comes from Dennis Ombache, MCA from the Marani district of Kisii, who told me that:

> The death of the children is [first] and mostly an issue of ignorance. [Secondly it is an issue of] lack of hygienic environments... and then you have lack of nourishment with a lot of underweight children. [Lastly], antenatal services, where they are available the mothers don't take them seriously. (Dennis Ombache)

The Hon. Ward Rep clearly links child mortality to ignorance and states that parents do not take advantage of available health services.

Reports on the frequency of Kenyans that use ORS vary by author, but all report less than 59 percent uptake (most under 43 percent). It is important to note that all of these sources asked respondents if they gave their child ORS *during their last bout of diarrhea*. One 2013 article (Omore et al. 2013) reports Kenyan ORS usage as low as 23 percent. The lowest rate of usage (13 percent) comes from Othero et al. (2008), however they asked their respondents if the child had received ORS before visiting a medical facility. Olson et al. (2011) states that "in Kenya, where diarrhea remains the third leading cause of childhood mortality, we found that household case management of diarrhea (ORS, ORT, or continued feeding) is inadequate for a substantial proportion of children".

While the reports on usage of ORS are varied, reports are even more varied on how knowledgeable Kenyans are about ORS. Omore et al. (2013) report that 89.5 percent of Kenyans know that ORS works well for treating diarrhea. Blum et al. (2011) write that Kenyans are knowledgeable about ORS; specifically questioning a puzzle of a decrease in uptake despite a simultaneous increase in knowledge. Date et al. (2013) report that there is high knowledge of the need to treat water before drinking (though a gap between that knowledge and practice), but also report a low knowledge of ORS. Othero et al. (2008) note that mothers in Kenya "lacked adequate knowledge on the management of diarrhea".

That these authors believe that Kenyans are engaging in adverse behaviors is evidenced by the fact that all of them except one (Olson et al. (2011)) call for behavioral changes to improve child health in Kenya. These beliefs validate politicians' decision to not expend resources towards providing the services that enable proper prevention and treatment, as those services would necessarily go unused. Barnes (2007) explains that politicians seize the opportunity to promote behavioral interventions, as it takes the blame off of them. Proposing that a change in citizens' behavior is the solution to the problem implies that the cause of the problem is related to the citizens' behavior. The results from my original survey will show that demand for ORS in Kenya is significantly higher than reported by these sources.

Survey of Kenyan Citizens

In the summer of 2014, I conducted a survey of 1,006 Kenyan parents to elicit their attitudes and beliefs regarding diarrheal diseases. The survey was conducted between August 20th and September 3rd, 2014 in eight Kenyan counties in the former provinces of Nyanza and Western. A nationally representative sample was not feasible due to budget constraints; these two provinces were purposively chosen as the ideal location to study the topic of child mortality in Kenya. Nyanza is the region of the country with the direst health outcomes. I chose to study the most afflicted province because that is where health is most likely to take priority in the political preference structure. Studying a province where health takes high priority will allow me to investigate how politicians address the issue of health. This creates a potential threat to my findings that health is important in

[4] Date and coauthors are careful to note at the end of their article that their results are not representative or generalizable to the broader Kenyan public.

the Kenyan political scene. I address this threat by also conducting my survey in Western, a region with significantly better health prospects.

Western is an ideal comparison region because it is similar in many regards (including political allegiances) and borders Nyanza. But Western has fared better in terms of overall health. Eight counties were included in the survey – four of six from the Nyanza region and four (of four) from the Western region. The number of surveys in each county were proportional to their population.

Five hundred six of the surveys were conducted in former Nyanza, and the other 500 were conducted in former Western. Within each county, sublocations were randomly chosen for 20 surveys to take place in each. All respondents were parents or legal guardians of children under the age of five. Because women are generally responsible for child rearing in Kenya, I decided that 70 percent of respondents would be female, while 30 percent were male. The 30 percent male were left in the survey because it is important for us to know if appeals by politicians affect men and women differently. Respondents were allowed to choose either English or Swahili for the interview: 48.2 percent chose English and 51.8 percent chose Swahili. Approximately three-fifths of respondents in Nyanza chose English and approximately three-fifths in Western chose Swahili.

Individual respondents were chosen by Ipsos Limited's standard practice procedures. Interviewers were instructed to conduct a random walk; the instructions differed for urban and rural. In urban areas, they first found and recorded a permanent structure (such as a school or a church). They then calculated a "date score" by adding the digits of that day's date: if it were the 15th, the date score would be 6 (1+5). They would then proceed to the sixth house on their left (based on the dates score). If they did not record a successful interview at that home, they moved to the next immediate home on their left. When a successful interview was recorded, they skipped four homes (on their left) and approached the fifth home. In rural areas, interviewers still begin by finding and recording a permanent structure. They then searched for a homestead (a small gathering of homes) that was at least 200 meters away. They first approached the main home in that homestead (which is almost always the one straight across from the gate). If they did not record a successful interview at the main home, they then approached other homes within that same homestead. Once a successful interview had been completed, the interviewers left that homestead and moved to another homestead that was at least 200 meters away. No two interviews were conducted in the same homestead

The following table shows how many interviews took place in each county.[5]

Table 1. Surveyed Counties in Surveys of Individuals

Nyanza		Western	
County	**N**	**County**	**N**
Homa Bay	120	Bungoma	144
Siaya	120	Busia	100
Migori	122	Kakamega	155
Kisumu	144	Vihiga	101

Methodological Differences from Previous Publications

My research adopted a different sampling strategy from the other works mentioned in the "Demand for ORS" section above. My survey, as well of those of the cited authors, were conducted in the areas of Nyanza and Western Provinces. I surveyed a wide range of Kenyans from eight counties; whereas the cited articles were based mostly in smaller geographic units.[6]

My research pinpoints a more specific problem than previous literature, and thus allows for a better understanding of the causal mechanism of diarrheal mortality. The previous literature shows a gap between knowledge and administration of ORS. They show that Kenyans are knowledgeable of ORS (knowledge) and that they frequently have not administered ORS during their child's most recent bout of diarrhea (administration). Demand for ORS (the desire to use it), lies somewhere in the middle of knowledge (simply knowing that you should use it) and administration (actually using it). The previous publications use their results to interpolate a claim that demand for ORS is low in Kenya. My research investigates this postulation in a meaningful way and shows that the previous literature is misleading; demand for ORS is high in Kenya. The key question then becomes why there is a gap between demand for ORS and uptake.

[5]Each interviewer was told how many interviews to conduct each day (five or six maximum). They were also given a quota of male or female surveys to be completed. On a typical day, they were told that they were to interview one male and four females. The interviewer was allowed to choose when to conduct a survey with the male (so it could be the first of their day or the last, at their discretion).

[6]Three of the cited articles (Blum et al. 2011; Omore et al. 2013; Olson et al. 2011}conducted research in Asembo, a village in Nyanza Province. Othero et al. (2008) surveyed 927 respondents exclusively in Nyando (where some of my surveys also took place). Simpson et al (2013) sampled only in Bungoma (where some of my surveys also took place). Date et al. (2013) conducted their research in 12 areas of Nyanza and Western Provinces, and is thus more similar to my sample. Zwisler et al. (2013) do not report which villages their surveys took place in. The DHS are nationally representative.

The majority of the articles cited asked their respondents if they administered ORS to their child during their child's *most recent bout of diarrhea*. My survey, on the other hand, asks respondents if they give their children ORS when their child is sick with diarrhea. The differences in wording give us some insights into general practices in Kenya. My results will show that Kenyans *sometimes* administer ORS to their children. The only above article that asks about general ORS use is Zwisler et al. (2013) who report that about 50 percent of respondents in Kenya were "ever-users" of ORS. From the other cited articles, we know that Kenyans do not *always* administer ORS. However, both my research and the cited publications acknowledge (for the most part) that Kenyans are highly knowledgeable of ORS. What explains the gap between knowledge and administration?

The articles cited above either imply or explicitly state that lack of administration of ORS is one of willful inaction (a lack of demand) – that agency-slack allows parents not to do the right thing even though they know better. However, few of these articles explicitly ask respondents why they did not use ORS. My survey, on the other hand, explicitly asks respondents why they do not use ORS.

Survey Results

Kenyans are aware of the risks that diarrhea poses. Whereas Date et al. (2013) write that Kenyans express little knowledge that childhood diarrhea required immediate care, and other scholars imply that diarrhea is seen as a non-serious event in Kenya, I find the opposite. 68.3 percent of respondents indicate that diarrhea is a potentially deadly illness in children and another 16.1 percent indicate that it is harmful, but not deadly. In response to a question asking if treatment is necessary, 97.3 percent of respondents indicate that diarrheal illness requires medical treatment.

Furthermore, Kenyans know the causes of diarrhea. The public health literature portrays a figure of Kenyans as ignorant of the causes of diarrhea. They highlight that many people in rural Kenya believe that witchcraft causes diarrhea. Respondents in my survey were asked to list causes of diarrhea in an open-ended fashion, and were allowed to mention up to three responses. The results show that only 0.3 percent of respondents suggest that any form of taboo causes childhood diarrhea. Rather, 78.1 percent of people indicate poor hygiene, 46.4 percent indicate contaminated food, and 42.0 percent indicate unclean water as one of their three responses (Table 2). My survey indicates that the citizens of western Kenya recognize modern medical practices and nearly none of them attribute poor health to taboos such as witchcraft. The open-ended method of asking this question strengthens the validity of my results; respondents were able to identify the correct causes of diarrhea from memory, rather than picking them from a multiple-choice list. One may question why each of these three things was not mentioned at a 100 percent rate. The less than unanimous responses are mitigated by the fact that many respondents listed only one cause; and that their one mention was one of the three leading causes of diarrhea.

Table 2. Perceived Causes of Diarrhea

		Frequency	Percentage
1	Poor Hygiene	786	78.1
2	Contaminated Food	467	46.4
3	Unclean Water	422	42
	Taboos	3	0.3
		n = 1,006	

Not only are respondents aware that unclean water causes diarrhea, but they accurately identify lack of clean water and diseases as major problems in their locality. The first question of the survey (after screening questions) asked respondents to list up to three of the most serious problems facing their locality. The question was open-ended to give the respondents freedom to state whatever they felt. 32.9 percent list clean water as one of their three responses (the most frequent response), and 16.1 percent of people indicate diseases or epidemics (the fourth most frequent response). Poor sanitation and insufficient health services are each one of the eight most common responses. The top eight responses can be seen in Table 3.

The first question about ORS in my survey was "have you ever heard of oral rehydration solution (ORS) that you can get for the treatment of diarrhea?" 91.4 percent of respondents are aware that ORS is a treatment for diarrhea. This is consistent with the 2014 DHS results in Kenya that 93 percent of Kenyans are knowledgeable of ORS.

All of the other articles that report ORS use find that a minority of respondents use ORS. In my survey, 83 percent of respondents report that they give their child ORS when suffering from diarrhea, doubling and quadrupling the percentages reported by the other scholars. However, the wording of my question is substantially different from the other surveys. The previous scholars ask if the respondent had administered ORS to their child during his most recent bout of diarrhea. My survey asks if the respondent administers ORS more generally.

What explains the gap between demand for ORS and universal administration? I asked respondents if they had ever experienced a stockout of ORS, asking "have you ever arrived at a dispensary or health facility and found out that they are out

Table 3. Most Serious Problems in Locality

		Frequency	Percentage
1	Lack of Clean Water	331	32.9
2	Poverty	167	16.6
3	Insecurity	166	16.5
4	Diseases/Epidemics	162	16.1
5	High Cost of Living	138	13.7
6	Poor Sanitation	113	11.2
7	Unemployment	112	11.1
8	Insufficient Health Services	101	10
		n = 1,006	

of stock of ORS?" One-third of respondents who have ever attempted to receive ORS have personally experienced a time when they went to a dispensary and were told that no ORS was available. In the next section, I will show that stockouts of ORS are a prevalent problem in western Kenya. Of the literature that I am comparing my results to, the mechanism of stockouts is intimated only by Olson et al. (2011), who report that "a minority of caregivers reported that ORS is available in nearby shops". However, Olson and colleagues did not systematically measure ORS availability in their study area.

One positive note is that Kenyan parents are aware that ORS is the gold standard of treatment for diarrhea. Three times as many respondents indicate that ORS is "the best treatment for diarrhea in a child" than indicate that antidiarrheals are the best (64% compared to 21%), a stark contrast from Zwisler et al. (2013) who report that nearly twice as many Kenyans believe that antidiarrheals are a better treatment than ORS. Simpson et al. (2013) note that only six percent of respondents believe that ORS is their preferred treatment for diarrhea.

Supply of ORS and other Essential Medicines

In 2015, I returned to Kenya to measure the availability of ORS in Ministry of Health (MoH) dispensaries via an audit. The audit was conducted between July 20th and July 30th of 2015 in nine Kenyan counties of former Nyanza and Western provinces. Eight of the counties match the survey of Kenyan constituents and Kisii was added to collect information on one of the counties where I interviewed politicians (the interviews are discussed in a later section).

The goal was to audit 50 dispensaries in each of the counties. Because I already had data from constituents in many sublocations, I wanted to compare the constituent survey results with the dispensary audit results. Since I did not have precise data on which dispensary each constituent respondent was likely to visit, I targeted every dispensary within each selected sublocation. First, all sublocations that were surveyed in my 2014 survey were selected into the 2015 sample (in 2014, these sublocations where chosen at random, excluding those in deep rural areas). I then included every dispensary from those sublocations in the sample. Next, I generated a list of all the remaining sublocations from that county (once again excluding deep rural sublocations) in random order. All dispensaries from each sublocation were added into the sampling frame in that order, until the total number of surveyed dispensaries in that county reached 50. In Vihiga and Busia, there were less than 50 dispensaries that met the inclusion criteria. As a result, I targeted every dispensary of interest in each of those counties (successfully surveying every functioning MoH dispensary in Vihiga County).[7]

Enumerators[8] interviewed the highest-ranking employee present at the dispensary. By far the modal job title of respondents was "nurse", which is frequently the highest-ranking individual working at a Kenyan dispensary. 335 of the 402 respondents were nurses. The second most frequently interviewed level of employment was "clinical officer", which ranks higher than a nurse, but not all dispensaries employ a clinical officer. A clinical officer represented 45 of the 402 dispensaries in the survey. The response rate was exceptionally high, with very few dispensaries refusing to participate.

Results

This audit confirms stockouts as a major obstacle to preventing child mortality in Kenya. As discussed in the previous section, Kenyan constituents report that a lack of supply is their main roadblock to preventing childhood mortality from diarrhea. To

[7]Table 4 shows how many dispensaries were surveyed in each county, ranging from 20 in Vihiga to 51 in Kisumu. In the parentheses is the percentage of functioning Ministry of Health owned dispensaries surveyed in each county, ranging from 52.6 percent in Homa Bay to 100 percent in Vihiga. In total, this project audited 64 percent of the functioning MoH dispensaries in these nine counties, marking a major audit of the health system in this region of the country.

[8]Survey enumerators were employees of Ipsos Limited, a leading market research firm in Kenya. The survey instrument was uploaded into a smartphone app called Survey2Go.

Table 4. Surveyed Counties in Surveys of Dispensaries

Nyanza		Western	
County	N (%)	**County**	**N (%)**
Homa Bay	50 (52.6)	Bungoma	50 (73.5)
Siaya	50 (58.8)	Busia	32 (76.2)
Migori	48 (59.3)	Kakamega	50 (58.1)
Kisumu	51 (64.6)	Vihiga	20 (100.0)
Kisii	48 (65.8)		

gauge if dispensary workers have the same impression, I asked them what the biggest obstacle to preventing childhood mortality from diarrhea was. The surveyed health professionals indicate that a "lack of ORS" is the single biggest problem they face in preventing childhood mortality from diarrhea; confirming the impressions of the parents in their region.

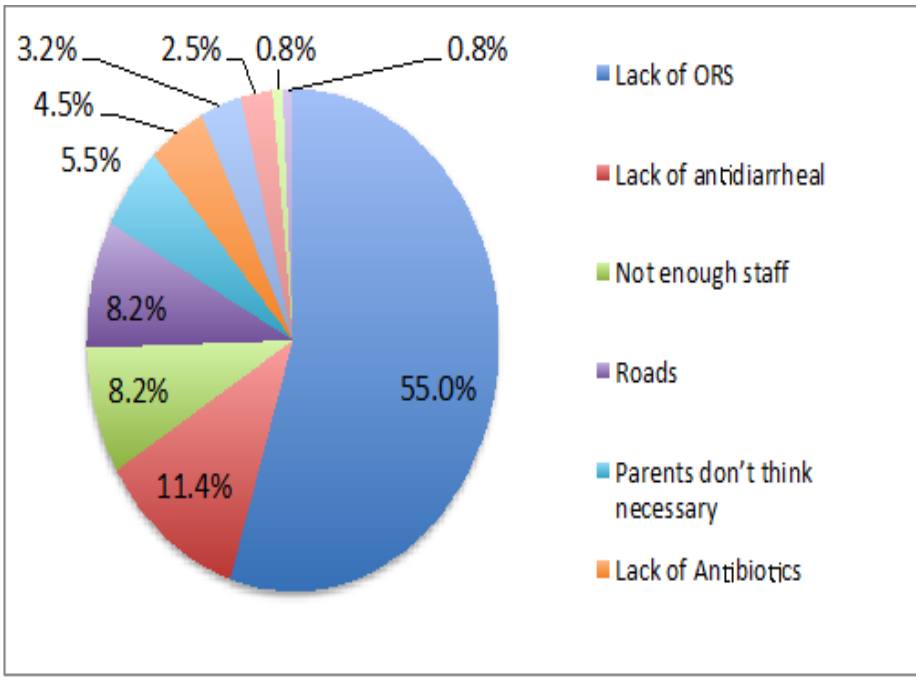


Figure 1. Biggest Challenge in Preventing Diarrheal Mortality in Kenya

A key motivation of this survey was to identify the proportion of dispensaries that had ORS and the proportion that did not. To address the concern that workers might falsely claim to have ORS, each enumerator asked to be shown a sachet of ORS and to take a picture. I believe the percentage of dispensaries that could not produce a sachet of ORS is a better indicator of stockouts than the percentage of dispensaries that initially admitted to not having any. Only 60 percent of dispensaries were able to show the enumerator that they had ORS.[9] I received no reports that the reason it was not shown was anything other than they simply did not have it in stock. In theory, a dispensary worker could have claimed to not have the time to retrieve it or not had the key to a cabinet where it was stored. To the best of my knowledge, this was never reported. Rather, 40 percent of dispensaries in my sample sincerely did not have any ORS.

A lack of supply of ORS has been an ongoing problem in Kenya. To verify that deficiencies in the supply of ORS were occurring before this audit, I asked all the dispensary workers what proportion of the previous 12 months they had been out of stock. Thirty-eight percent of respondents informed me that they had been out of stock of ORS for at least half of the previous year, suggesting that this is an ongoing problem. Twenty-two percent of dispensaries had been out of stock of ORS for half of the previous year, thirteen percent for more than half, and four percent for the entire year.

The problem of stockouts is not isolated to ORS. In fact, it is occurring with most essential medicines in Kenya. The

[9] 76 percent claimed to have ORS in stock.

Kenyan Ministry of Health produces a list of essential medicines that all medical facilities are required to have on hand at all times. Dispensary workers were asked to look at a list of essential medicines, and estimate if they had all, more than half, about half, less than half, or none of the medicines on the list. Their responses indicate that access to essential medicines is low. Sixty-one percent of respondents indicate that they have less than half of the essential medicines, and nineteen percent of respondents report that they have about half. This means that four out of five dispensaries in the sample have only half or less of the medicines that they are required to have on hand by the Ministry of Health.

I also asked dispensary workers to tell me if the supply of essential medicines had improved or gotten worse over the previous two years. The intention of this question was to gauge if this particular level of service delivery has improved since the 2013 devolution, when many powers, responsibilities, and resources of the government were transferred from the national level to the county level in an attempt to improve service delivery. More than half of respondents indicate that the supply of medications has gotten worse in the previous two years; suggesting that devolution is not having the intended impact on the delivery of health services.

I have given evidence of a systematic lack of medicines in Kenyan dispensaries. This problem exists despite a high (or at least adequate) level of competence of the employees that run these facilities. Why are medicines not being delivered to the workers who order them? I asked dispensary workers why stockouts occurred in an open-ended question. They were allowed to state whatever they wanted and could list up to three reasons. When totaling the number of times that each response was mentioned, the majority of dispensary workers believe that "poor supply" is the primary reason that stockouts occur. Many of the dispensary workers report that they receive fewer units of essential medicines than they request when they submit orders to KEMSA.[10]

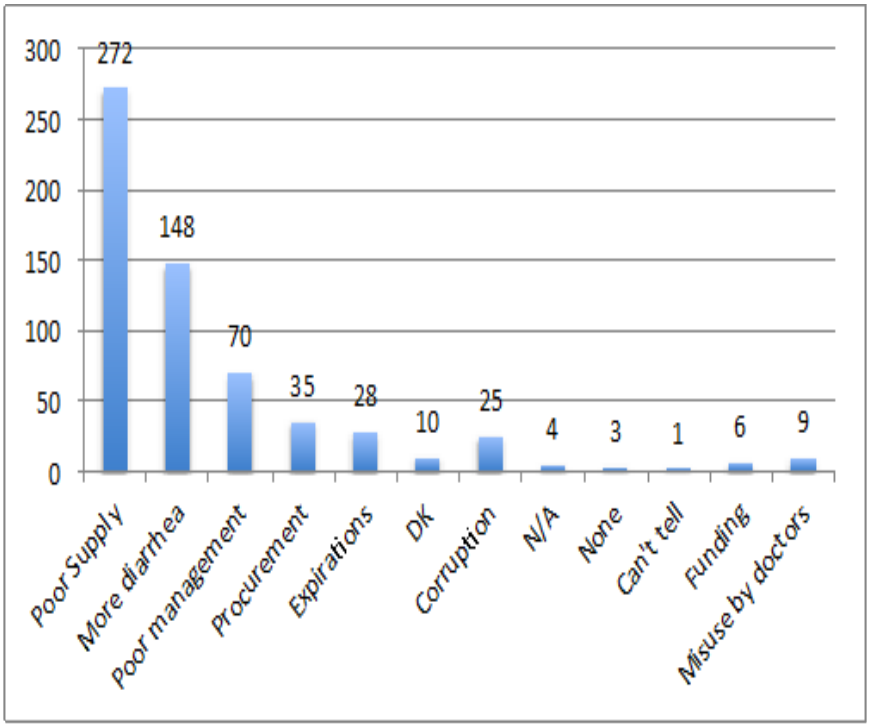


Figure 2. ORS Stockout Explanations: Total Mentions

The primary conclusion of this section is that there is a systematic failure in supplying ORS to dispensaries in western Kenya. This systematic failure is not a result of dispensary insubordination, as dispensary workers do submit orders for new

[10]More than half of respondents believe that there is a problem with the supply of medication in the country. They note that they send in requests for more medications but do not always receive what they request. I asked dispensary workers what proportion of their order they normally receive when they request more ORS. Thirty Five percent or respondents report that they receive about half, 22 percent receive less than half, and 1 percent receive none of their ORS orders. Summing these responses, nearly 60 percent receive half or less of their orders. This means that if a dispensary orders 1,000 sachets of ORS, they expect to receive about 500 or fewer. I asked if this was typical for all medicines; questioning how confident each dispensary worker was that they would receive the full amount that they ordered. 47.6 percent of respondents are in the "doubtful" category, answering either "very doubtful" or "somewhat doubtful". Because dispensary workers believe that they will not receive the full amount of their orders, I anticipated that they would intentionally order more ORS than they need. Keeping with the same hypothetical, if a dispensary needs 1,000 sachets of ORS, it is rational to order 2,000 in hopes that at least 1,000 arrive. One-third of respondents admit that they (or their dispensary) have intentionally over-ordered ORS in the past. This practice creates a logistical problem for Kenya's medical supply chain. If one-third of dispensaries over-order drugs, it creates an environment in which supplies could run out before every dispensary gets a shipment.

medication as is required in the pull system of distribution. The failure of supply is happening at a level above the dispensary– 61.2 percent report having less than half of essential medicines in stock, 19.4 percent have about half of the list in stock. The summation tells us that less than 20 percent of dispensaries have the majority of essential medicines in stock. Less than 6 percent report having every medicine on the list in stock. Dispensaries order more medications from their county ministries of health, but do not receive the amount they request. What is causing this failure of delivery?

The problem is particularly severe for diarrhea's gold standard of treatment (ORS). Forty percent of the audited dispensaries were completely out of stock of ORS at the time of the study. Thirty- eight percent of dispensaries had been out of stock of ORS for at least half of the previous 12 months, suggesting that this is a pervasive problem. Fifty-five percent of surveyed dispensary workers believe that the primary challenge to preventing diarrheal mortality in Kenya is the lack of supply of ORS. When asked about the poor supply of ORS, 307 respondents state that these occur because of some failure in the supply chain. Two hundred seventy two of these suggested that the break in the supply chain is happening *after* KEMSA had procured the stocks. Thus, the prevailing belief is that ORS is in stock at KEMSA, but is not finding its way to local dispensaries.

Explanations for Stockouts of Essential Medicines

Government Capacity

The government of Kenya has both the responsibility and the capacity to supply essential medicines. The 2010 Constitution mandates that all health services for children under the age of five be provided for free. This includes the receipt of medication. Thus, any family should be able to take their child to any government health facility (including dispensaries) and receive ORS free of charge.[11]

Kenya has the financial capacity to provide ORS in its dispensaries. While Kenya is not a wealthy nation, it is one of the strongest and fastest growing economies in Africa.[12] While it spends far less of its budget on the health sector than it pledges under the Abuja Accords (6 percent instead of 15 percent), it allocates enough funding to procure essential medicines. Furthermore, each ward representative (the local representative in the county legislature) is given a certain amount of Ward Development Funds for health (WDF). These funds are an annual fund of discretionary money to use on health services in the ward. WDF range from $10,000 to $30,000 depending on the county.

Political Demand for Child Health Services

Kenyans' concern about the problem of childhood diarrhea does not imply that people recognize it as a government failure. Thus, I asked respondents if they believed that the "government should be responsible for ensuring the health of Kenyan children". An overwhelming majority (97.6%) of respondents believe that ensuring health of Kenyan children is the responsibility of their government. Ensuring the health of Kenyan children is mandated in the 2010 Constitution; while my survey does not directly ask respondents if they know this, my personal interactions with citizens and the Kenyan media lead me to believe that this is relatively common knowledge.

However, this does not necessarily imply that voters prefer their politicians to provide health services relative to other options. I asked respondents which of five options they preferred the government to provide. In an attempt to minimize priming effects, this was the third substantive question of the survey and was asked before the majority of questions about health, children's health, and the healthcare system in general. Where does healthcare stack up in the preference structure of Kenyan parents?

The modal response is that constituents want the government to address healthcare, with nearly half of the respondents selecting that choice. This suggests that healthcare is an important topic, even relative to other issues that the government is responsible for. The results of this question surprised me, as most literature led me to assume that the economy would be respondents' top choice (Bratton et al. 2011; Lewis-Beck and Stegmaier 2000). This result also comes in a context when the security situation in Kenya was a highly salient issue. Sporadic electoral clashes had occurred throughout the 2012/2013 campaign cycle as had a number of clashes with the Mombasa Republican Council (MRC) (Long et al. 2013). The survey also took place less than one year after Al-Shabaab took 67 lives and injured 175 at Westgate Mall (Stewart 2015).

I also asked respondents to give the most serious problem facing their locality in both an open-ended and multiple-choice fashion. The most common open-ended responses were water shortage, poverty, insecurity, diseases/epidemics, and high cost

[11] The Kenyan health system has six tiers. Dispensaries are intended to be the first facility that families go to for illnesses. Dispensaries are equipped to deal with common illnesses for which diarrhea is a perfect example. If a patient's symptoms are very severe (such as cancer or an illness that will not respond to typical treatment), the dispensary refers him to the nearest health center (level 3). If the illness is too advanced for the health center, they refer the patient to the level 4 hospital. The fifth tier of the health system is a county hospital (the top hospital in the county) and the sixth and highest tier of the health system are the two national hospitals (Kenyatta National Hospital in Nairobi and Moi Teaching and Referral Hospital in Eldoret). This tiered system is intended to prevent delays at higher levels and allow specialized doctors to spend their time on specialized illnesses. However, patients can legally go to a higher tier of care as their first point of contact. Despite this legality, my paper focuses on dispensaries as the intended first point of contact for children with diarrhea.

[12] Kenya has the sixth highest GDP in Sub-Saharan Africa (CIA World Factbook).

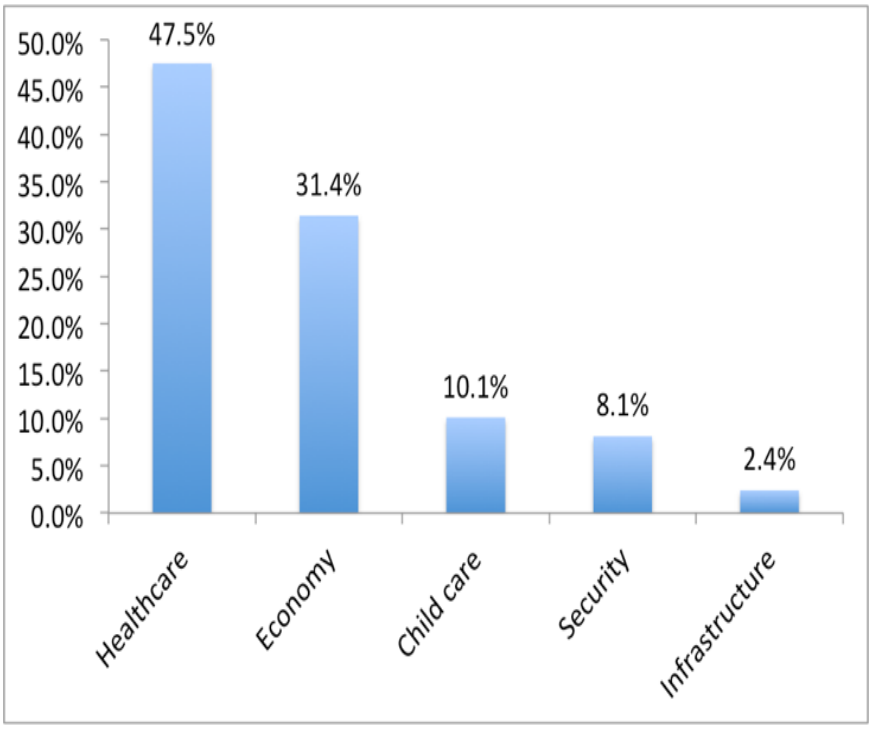


Figure 3. Desired Government Services by Category

of living. In the multiple-choice version of the question, the most common first responses were high cost of living, poverty, poor health of our children, lack of clean water, and poor healthcare.

As a robustness check, I compare the results of this survey question to results of a similar question in Afrobarometer. My result that Kenyans want their government to address health differs, but is not wholly inconsistent with data from the Afrobarometer. In Round 6 of the Kenyan sample of the Afrobarometer, respondents were asked "in your opinion, what are the most important problems facing this country that the government should address?" and were allowed to give three responses. 22 percent of Afrobarometer respondents answered "health" as one of their three responses. Health was the fifth most common response (when summing the three responses). The four most common responses were "Crime and Security" (40.1 percent), "Unemployment" (31 percent), "Education" (24.8 percent), and "Infrastructure/Roads" (23.1 percent).

Should politicians fear losing reelection if they do not deliver positive health outcomes? While Kenyans clearly link the responsibility of improving healthcare to the government, and wish that the government would address health over other important issues, it does not necessarily imply that constituents factor healthcare into their voting calculus. If Kenyans do not factor the health of their children into their voting calculus, the incentives of politicians would continue to rest with other issues. Via a survey experiment, I show that voters prefer to vote for candidates who pledge to decrease child mortality. Each respondent received the following prompt:

In the following scenario, I will present you with two hypothetical candidates who are running against each other in an election for political office. I want you to listen to what issues they support, and tell me which candidate you would vote for:

Then, each respondent received one of three randomly selected pairs of candidates as options:

- Version 1: Baseline
  - Candidate 1 pledges to create jobs and end corruption.
  - Candidate 2 pledges to decrease the cost of living and build more roads in your local area.
- Version 2: Plus Health
  - Candidate 1 pledges to create jobs, end corruption, and decrease child mortality.

  - Candidate 2 pledges to decrease the cost of living and build more roads in your local area.

- Version 3: Third Control
  - Candidate 1 pledges to create jobs, end corruption, and decrease tribalism.
  - Candidate 2 pledges to decrease the cost of living and build more roads in your local area.

The treatment arms of the experiment were designed to isolate the effect of campaigning on decreasing child mortality. The third version was given to control for the possibility that respondents of Version 2 voted for Candidate 1 simply because they campaigned on three issues versus two.

The results show that Kenyan voters prefer candidates who pledge to decrease child mortality, even when controlling for the addition of a third issue. Figure 4 shows the voteshare that Candidate 1 received in each version.

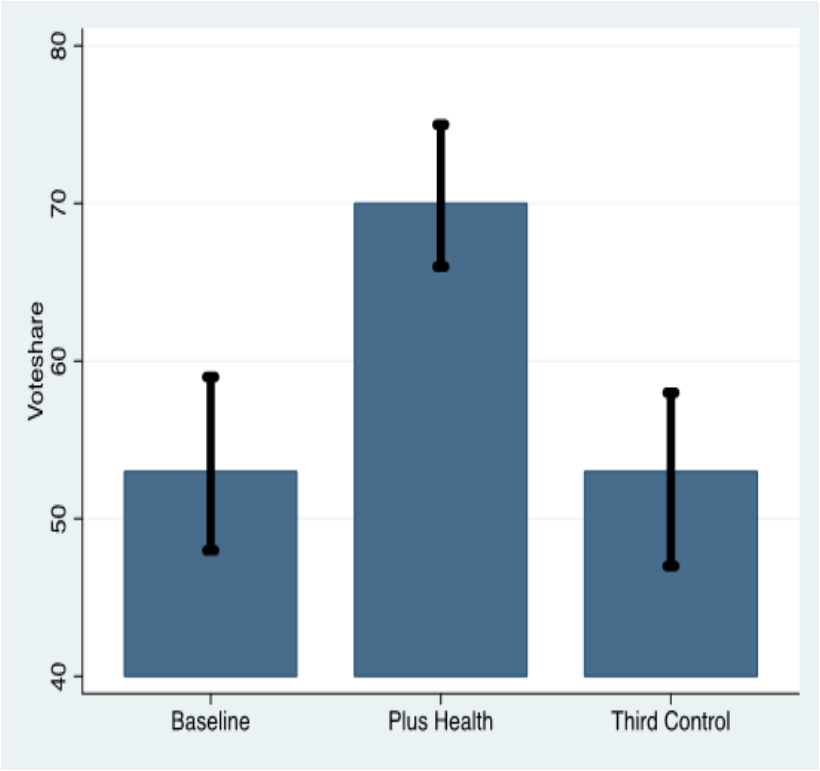


Figure 4. Voteshare for Candidate 1

In Version 1, the baseline version, the hypothetical candidates each received close to 50 percent of the votes. In Version 3, the results match the baseline, even after adding the issue of "tribalism" to Candidate 1's platform (tribalism is an important political issue in Kenya, particularly in the western counties where this survey experiment took place). Merely adding a third issue failed to bring more votes to Candidate 1. The results of Version 2 show that adding a pledge to decrease child mortality increases Candidates 1's voteshare by 17 percentage points from the baseline version. An unpaired T-test shows that the difference in means between Version 2 and Version 1 is significant beyond the 99 percent confidence level; and shows that adding a pledge to decrease child mortality will increase a candidate's voteshare between 10.0 and 24.2 percentage points (95 percent confidence interval). This shows that child healthcare is an issue for which candidates could be rewarded or punished in Kenya. However, these results are subject to a number of threats.

My findings are particularly susceptible to an external validity threat. In an article that challenges the external validity of survey experiments,[13] Barabas and Jerit (2010) found that results generally only hold when real-world populations are exposed

[13] Survey experiments are successful research tools that have been utilized by other scholars in the field. Aguilar (2015) and Cunow (2015) use experiments to show that Brazilian voters rely more heavily on racial cues when more candidates appear on the ballot. Adida et al. (2016) use a survey experiment in Benin to show that cueing on the first lady's ethnicity elicits a higher vote-share from her coethnics.

to information by mass media. I argue that the mass media in Kenya regularly delivers information about the health sector. Kenyan newspapers publicize politicians delivering health services on a daily basis.

Barabas and Jerit (2010) also argue that even within population subsets that receive the treatment, effects in the real world are smaller than in a survey experiment because of the noisiness of real-world politics. There is certainly a high degree of noise in the Kenyan campaign process, with politicians pointing to problems in education, development, and corruption in addition to healthcare. I acknowledge that a real candidate would not likely yield a 17 percentage point bump simply from pledging to decrease child mortality. I do, however, believe that a positive and significant bump would occur in a real campaign environment. Furthermore, an incumbent politician who does manage to significantly decrease child mortality will likely campaign heavily on that success. This research suggests that such a politician would benefit from that strategy.

A second threat is that survey experiments do not exactly replicate real elections. However, I believe that a survey experiment was the best tool to use because it allowed me to isolate the effect of campaigning on child mortality. Research during election cycles poses other obstacles as well. In particular a potential confounding effect is that respondents may confuse hypothetical candidates with real candidates who seem similar. I have little reason to believe that the respondents of my survey believed either candidate was modeled on a real person.

I addressed all of these threats by interviewing local politicians. The results of those interviews cross-validated my findings that health is an important electoral issue in Kenya. In the next section, I will show that politicians confirm that campaigning on health is vital for winning reelection. These statements from politicians demonstrate that voters consider health in real elections, that they care about health in an environment where many issues are campaign topics, and that enough voters care about health that it is a vital electoral issue in Kenya.

White Elephants and Visibility

In June and July 2015, I conducted semi-structured interviews in Kenya with 16 local politicians (12 Ward Representatives, 3 MCAs, and 1 MP).[14] In this section, I provide evidence from politicians that health is a salient electoral issue in Kenya. I then describe what kinds of health services politicians provide to win votes.

I interviewed politicians serving Kisii, Homa Bay, Kisumu, and Nairobi. In Kisii, I interviewed seven Ward Representatives. In Homa Bay, I interviewed four Ward Representatives. In Kisumu, I interviewed three unelected MCAs. In Nairobi, I interviewed one Member of Parliament and one Ward Representative.

I directly asked politicians what issues were most important for them to provide, and if pledging to promise health could bolster electoral prospects. Every politician agreed that health was one of the most essential services to deliver. I asked thirteen Ward Representatives what the most important services for them to provide were, and all thirteen included health in their response. Seven of the thirteen gave three responses: health, education, and infrastructure[15]. As the chair of the health services committee in the County Assembly, Hon. Godfrey Osoo is particularly concerned about the health indicators in Homa Bay County. In particular, he highlighted the 25.7 percent HIV infection rate in his county, stating that it was the "worst globally." Hon. Godfrey Juma, representative from Kabondo West and chair of the county's finance committee, agreed that improving health outcomes in Homa Bay was a priority:

> Getting health care services such as ambulances.... Six women have lost lives in pregnancy in this ward in the past two years. Health centers and dispensaries are too far away for people to access. There are only two dispensaries for 35,300 people. (Godfrey Juma)

The politicians unanimously agreed that health was something that was essential for them to deliver to their people. The question then becomes, does that necessarily make it a viable issue in elections? In responding to a direct question about the value of pledging to improve health for a campaign, the politicians conveyed that it is a necessary strategy for winning re-election. . Hon. George Bibao best sums up the opinion of the majority of politicians:

> You have to, or you are not even in the election. Education, infrastructure (roads), and health are the big three. (George Bibao)

In Hon. Bibao's opinion, failing to campaign on health eliminates a candidate's possibility of winning the election. The sentiment that most politicians conveyed is that it is necessary to *at least make promises* to improve health. Most politicians agreed that *actually improving* health indicators would likely not influence election results. Rather, they stress that it is far

[14] In 2013, Kenya devolved into 47 counties, with each chttps://www.overleaf.com/project/5f241beb137f300001ca7012ounty having their own County Assembly. Each county is divided into wards, with a representative of each ward (Ward Representative) sitting in the assembly as elected Members of the County Assembly (MCAs). The 2010 Constitution mandated that every governing body in Kenya have one-third female representation. As a result, counties that failed to elect women to one-third of their County Assembly seats in the 2013 election were allowed to appoint women as MCAs to create that proportion. While these women have voting rights in the County Assembly, they do not represent specific wards.

[15] The politicians clarified (without prompting) that "infrastructure" means "roads."

more valuable to *appear* that one is improving the status of the county; according to them, this can be done by building visible development projects or through direct handouts to the voters.

The politicians were keenly aware of the necessity to signal their dedication to health in order to win reelection. I asked them what kinds of services they provided in order to send this signal. They repeatedly told me that they had built new facilities for their people. I was surprised to learn how few of the politicians had completed construction on the facilities that they were building. When one drives through Kenya, they can readily see half constructed brick buildings on which construction has halted; these are commonly referred to as "white elephants". White elephants are government projects on which construction has begun, but are never completed.

How common are white elephants in Kenya? Data from my small sample of politicians suggest that white elephants are far from rare. I asked four Kisii Ward Representatives what they did with their WDF for health. In total, the four Kisii Ward Representatives had spent 7 million shillings ($70,000) on a total of four white elephants and 2 million shillings ($20,000) improving two existing facilities. Individually, Ronald Onduso spent 1 million shillings completing a maternity ward that was started by the constituency's Member of Parliament. It had already been functioning and is still functioning. He also spent 2 million shillings building two brand new dispensaries; neither is finished or functional. Timothy Myarango spent his 3 million shillings on two new dispensaries, neither is complete or functional. Charles Maina invested 2 million shillings on a new health center, which is not close to being finished nor functional. Hon. Maina also spent 1 million shillings providing electricity and a gate for an existing dispensary. Hon. Maina's dispensary was functioning before electricity and is still functional today.

I also asked four Ward Representatives in Homa Bay what they did with their 1 million shilling Ward Development Funds for health. In total, they spent 3 million shillings ($30,000) on three white elephants and 1 million shillings ($10,000) renovating an existing maternity ward. Hon. Godfrey Juma invested 1 million shillings on a new dispensary that is neither completed nor functional. Hon. Sia Oyoo started construction on a maternity wing, which is neither completed nor functional. Hon. Godfrey Osoo began construction on a health center that is neither finished nor functional. Hon. Patrick Odwalo invested 1 million shillings to renovate a maternity wing. The maternity wing was functioning before renovations and is still providing services today.

Combining the projects being provided by Ward Development Funds of the eight politicians in Kisii and Homa Bay that were interviewed, 10 million Kenyan shillings were spent on seven white elephants. This represents about $100,000 that failed to produce any of their intended services (in this case, public health).

In Nairobi, I asked MP George Theuri what he has done with his Constituency Development Funds (which for that year was 85 million shillings):

> In terms of health, I have four public health centers. Every health center we have [constructed] a doctor's quarter. We want to have a resident doctor in every facility. It is upon the health center if they want the doctor to come and reside there. If they want to use that room for different purposes, as long as it is for health, it's up to them. (George Theuri)

I learned from Ward Representative Hon. George Maina (who serves a subset of the same constituency as Hon. Theuri), that none of the four dispensaries wish to have a resident doctor, and the doctor's quarters remain unused. Both Hon. Maina and Hon. Theuri's names were painted on the outside of the Doctors Quarters.

It was extremely evident that politicians preferred to deliver infrastructure to other forms of health services. However, it is obvious that many of these projects are not close to completion. Why are these politicians not fearful of being punished for providing white elephants? Are constituents not angry when their elected representatives spend funds on projects that do not provide any actual services? When directly asked these questions, politicians explained their capacity to avoid blame for lack of project completion:

> People will partially vote for you because they can see the construction, and see that you brought them some development.... [As far as lack of completion], you tell them that it's not your fault, that you brought what you could but them you were victimized by other areas of government or the contractor. (Timothy Myarango)

Hon. Myarango explained that a politician has plenty of plausible deniability when it comes to why construction stalled. Therefore, a politician can claim credit for fighting for his people so long as enough construction exists to be a visible sign of his efforts.

Member of Parliament, Hon George Theuri from Nairobi explicitly talked about white elephants being better politically than other of the more efficient services that a politician could provide:

> It's politics. It's politics. Everybody, in Kenya, politicians, our rating to the public, it's all about development. For me, I'm a policymaker. But people do not judge me because of my bills, my policies that I've put into place. They judge me according to what I have done on the ground that is directly reflecting to their lives. Because of that, it

> is better for somebody to start a project which will not complete, because when they go back to the public they can say 'you see, I've started'. Then they will judge him because of what he has started, not what he has done. They will rate him 'he is doing something'. You say we need to pay health workers better, we need to look at the welfare, that won't count. So we prefer making many white elephants, so that people will see. [For the welfare of our people, it's better to pay our workers and make sure that facilities are stocked] but for us, we prefer to make big hospitals with just one doctor. (George Theuri)

Both Hon. Myarango and Hon. Theuri's points provide evidence for Keefer and Khemani's (2005) assertion that "politicians prefer to expend resources on constructing and staffing schools and clinics, even if they remain empty and unused, for example, than on improving the quality of services. Politicians get some credit for easy-to-observe buildings and jobs but little or no credit (or blame) for the quality of services available." As I wrote above, a constituent who sees a half-built dispensary is likely to say that his politician delivered on half of his promise, which might be more than the alternative politician would have delivered. It is worth noting that white elephants are not entirely without merit. The construction effort creates jobs and likely purchases supplies from nearby quarries. While white elephants may not deliver any health services whatsoever, their construction creates some development for an area. In fact, not completing the construction of a white elephant may actually *help* a politician in their next election. Locals living near white elephants might be more inclined to vote for the reelection of their incumbent if they expect to be hired for the rest of the construction project.

The politicians made it clear that appearing to improve health in their wards was essential for reelection; but how do they achieve that and why? Why did Hon. Bibao spend 3 million shillings to construct a white elephant when he could have spent only a fraction of it fully stocking the existing dispensary in his constituency? In Hon. Bibao's own words, it is because "people are interested in what they see":

> People are interested with what they see. If you can bring up a structure, people will vote for you. They don't see the medicine, unless they are sick. They can say 'our MCA has brought development'.... We built it, we equip it, we hire a nurse, then they start to receive services. They used to walk 10k to the dispensary, now the services are more near to those people, they will appreciate. At meetings, they will say 'we have been helped, because during the old days, there wasn't such a facility, now you have brought it.' They can see with their own eyes. (George Bibao)

The factor of "visibility", of "seeing the service with their own eyes" was repeated by a number of politicians. In fact, many of them emphasized the point with a hand gesture pointing to their eyes. Each politician who brought up visibility did so on his own accord; they were not prompted to discuss visibility. I argue that this emphasizes that politicians recognize the importance of their projects' visibility.

Why would guaranteeing access to medication not be rewarded in a similar fashion? Hon. Philip Motonu explained that using funds to eliminate stockouts would not win an incumbent the election:

> If you spent all the money on 'no stockouts' that cannot help with reelection. It means that you should not have given services to the people. If you don't give services to your people, they will not reelected you. There are those that don't understand, whether there is money, or no money. (Philip Motonu)

In Hon. Motonu's opinion, supplying existing dispensaries with medicine would not even be considered a service to the people. Visible development is the only thing that counts in an election according to him, because voters only take into account what they see. When pressed further, he said that delivering medicines would matter only after constituents have called to complain about it, which does happen; though it only matters for those constituents who were previously aggrieved about the stockout. However, to those individuals, supplying the medicines would matter as much as the new structure.

Constituents regularly call us when there is a stockout. That is politically valuable, that helps with reelection. That is as valuable to reelection as new structures. (Kathryn Manzi)

I asked Hon. Kathryn Manzi (the only elected woman in her county besides the Women's Representative) what services were most likely to convince her constituents to vote for her in the next election. To avoid priming, I asked this before we had specifically discussed the health sector. She said that building maternity wings, staff quarters, and mortuaries would be the most influential services for winning votes.

Hon. George Maina in Nairobi also emphasized that voters want services that they can see, and acknowledged that funding existing facilities is likely better for the people.

> You see, this is Africa, we have a problem. People want to 'see something'. They want to 'see'. It may not even be a lot of money, but once they see that, they will say that you are doing a lot of development, but in a real sense, you are wasting a lot of money on those things. In fact, if I was to be asked, funding and equipping the hospitals in

> terms of drugs and equipment, is a lot better, because it is affecting the people direct. Opposed to building a new building that will not be through by the end of your term. People need to rethink some of these decisions. (George Maina)

To be clear, I visited the local dispensary with Hon. Maina, and it was fully stocked as far as I could tell (which also had ORS and zinc in stock, zinc being very uncommon in Kenya). Hon. Maina explained that at one point that dispensary had suffered stockouts of medications, and he personally went to the Kenyan Medical Supplies Agency and argued until they guaranteed an expedient delivery. Of all the politicians I met, Hon. Maina seemed be the one that was most concerned with providing basic services (supplying existing facilities) and uninterested in building new structures.

I specifically asked two politicians in Homa Bay to tell me which service they would rather promise in the next campaign: medicines or new structures. Godfrey Juma and Godfrey Osoo explained that structures would matter more in terms of electability because of their visibility to voters:

> Physical Infrastructure. What they see. We didn't have this here. Now we have this here. (Godfrey Juma)

> From a mere perspective of [the voters], they will consider what they see. But an expert [will look at it and see] many structures but no services... Why would [politicians] build new infrastructures [despite this]? Because the people who are thinking about reelection want to see what has been done. (Godfrey Osoo)

The politicians interviewed reiterated several times that new infrastructure (particularly buildings) were the most valuable services to deliver for their reelection hopes. The following is one depiction of this phenomenon from my interview with Hon. George Bibao, the chair of the health committee in Kisii County. Hon. Bibao repeatedly highlighted that "new infrastructure" was the most important sign of "improving health services". He was extremely proud of the new dispensary that he had built for his ward and invited me to see it. After some insistence on his part, I agreed to visit his dispensary so long as he dropped his request that we be accompanied by members of the local media. Upon arriving at the site, I was surprised to learn that construction for the dispensary he was referring to was nowhere near completed. Hon. Bibao exclaimed that he "was only given 3 million shillings. What can you do with 3 million shillings?"

To further my surprise, the site of this construction was mere inches from a second white elephant health dispensary and 50 meters from a third white elephant dispensary. Construction on the second white elephant had started in 2013 and stalled in 2014. Funding for this other dispensary was provided by the current Member of Parliament's Constituency Development Funds. When asked why he did not simply add his 3 million shillings to the construction of this previous project, Hon. Bibao explained that it would not be "his project" to give to his people. In fact, "FUND: CDF" and the dates of construction were painted on the first building. In visiting multiple health facilities, I would come to learn that painting the name of the politician who funded the project on the exterior wall of the building is common practice.

Hon. Bibao made it clear that he wanted a dispensary that *he* had provided for his people. His primary reason for spending his Ward Development Funds on new construction was so his people would not have to walk so far to the receive health services. This was a common reason provided by the politicians who were interviewed, and they echoed the Ministry of Health's objective to place a health facility within 5km of every Kenyan household. This made Hon. Bibao's prized project particularly surprising because we visited a functioning dispensary less than 200 meters from this location, and a functioning level 4 hospital less than 2 kilometers away. While at the existing dispensary, the health worker noted that his dispensary had not contained medications (of any kind) for over four months, and he did not expect a shipment to arrive any time soon. While at the existing Level 4 hospital, a doctor told me that they had nearly none of the required essential medicines, including ORS and anti-malarial drugs. At each of these statements, Hon. Bibao rushed to explain that this is why "western donors need to increase their funds to Kenya", shirking any unspoken accusation that he should have spent his health budget supplying existing facilities rather than building half of a new one.

The results from the described survey strongly suggest that the scenario in Hon. Bibao's ward is not unique. Stockouts of essential medicines prevail in this region of Kenya, and 40 percent of surveyed dispensaries lacked any ORS.

Alternate Explanation: Corruption

It is possible that the prevalence of stockouts is the result of corruption: that medicines are being sold for profit by the doctors to patients directly or via private clinics. While this is possible, the evidence I provide suggests that this is not the case.

I investigated the possibility of corruption in two ways via the survey of dispensaries. First, I asked "how many health workers in Kenya do you think have sold any medicines at least one time to increase their personal income?" Seventeen percent of respondents responded that "it never occurs", and 43 percent of respondents answered that "a small amount of health workers in Kenya have done this at least once". Fourteen percent believed that about half of health workers in Kenya have done this,

and an additional 9 percent believe that most health workers have done this. Fewer than one percent believe that every health worker in Kenya has illegally sold medicines at least once.

I also utilized a list experiment to elicit aggregate data regarding the percentage of respondents in my survey that have personally sold medicine for profit. For the list experiment, every respondent was randomly assigned to one of two versions of the survey. In Version 1, the respondents saw a list of three items, and they were asked to respond with the count of how many they have engaged in (but were instructed not to specify the items that they had engaged in). In Version 2, respondents were given four items; the same three as version 1, plus an additional item that respondents may not readily admit to, due to social desirability bias. The general idea of a list experiment is that respondents will be willing to honestly acknowledge participating in *x number* of the activities, as there is plausible deniability that they did not engage in the one undesirable activity. The researcher then compares the means of the two groups. A mean from Version 2 being significantly higher than in Version 1 would serve as evidence that the undesirable activity is occurring.

For this survey, Version 1 asked respondents how many of the following they had ever engaged in: assisted in the birth of a child, attended a conference for health workers, or received medical training in the United States. Version 2 gives the exact same options, but additionally asks if they had ever sold medication for personal profit. On average, respondents to Version 1 had engaged in 1.25 of the three activities; whereas respondents to Version 2 had engaged in an average of 1.21 of the four activities (not statistically significant). The fact that the means from our two groups are essentially identical provide some evidence that the practice of selling medication for personal profit is either non-existent or very rare in these regions of Kenya.

2017 Election Results

Are these local politicians correct in their assertion that essential medicines simply are not visible enough to boost their chances of winning reelection? I match my dispensary audit to 2017 election results to answer this question.

During the 2015 dispensary audit, enumerators were able to capture the exact latitude and longitude for most dispensaries (the technology failed for about 80 dispensaries). I then determined the proportion of essential medicines that was in stock for each ward (some wards had multiple operating dispensaries. The metric is a mean of "proportion of essential medicines in stock" for all dispensaries in a ward. The "proportion of essential medicines in stock" question measured if a dispensary had none, less than half, about half, more than half, or all the essential medicines that are required by the Ministry of Health.

I then used the results of the 2017 ward representative elections as the dependent variable to see the effect of well-stocked dispensaries on election results. Wards that had more essential medicines in stock were significantly less likely to see the incumbent party win reelection for ward representative. This was a logistic regression with county fixed effects. Similarly (not shown in a table), the incumbent candidates in wards with better stocked dispensaries were less likely to win reelection. This suggests that in actual elections, devoting more resources to stocking dispensaries reduces a representative's chances of reelection.

Table 5. Logistic Regression of 2017 Ward Representative Elections

DV: Party Reelected		
Variable	**Coefficient**	**(S.E.)**
Essential Medicines in Stock	-0.8249**	-0.31

Note: With County Fixed Effects

Conclusion

This paper highlights a scenario in which democratic elections might actually reduce to likelihood of public service provisions. Politicians recognize that they must be responsive to issues that their voters care about most (in this case, child healthcare). However, they face a tradeoff between providing services that actually address that issue (essential medicines) and services that better signal their dedication to that issue (white elephants). In interviews, local politicians highlight that their reelection relies on them choosing the service that signals their dedication to service provision. Evidence from the 2017 elections provides evidence that this belief is correct; politicians/parties whose dispensaries are better stocked with essential medicines were less likely to win reelection in 2017.

References

Abt Associates and United States Agency for International Development. Scale Up of Zinc Sulfate Use through the Private Sector in Kenya. Technical report, USAID, 2011.

Adida, Claire L, Nathan Combes, Adeline Lo, and Alex Verink. The Spousal Bump Do Cross-Ethnic Marriages Increase Political Support in Multiethnic Democracies? Comparative Political Studies, 49(5):635–661, April 2016.

Aguilar. Rosario, Saul Cunow, Scott Desposato, and Leonardo Sangali Barone. Ballot Structure, Candidate Race, and Vote Choice in Brazil. Latin American Research Review, 50, 2015.

Barabas, Jason and Jennifer Jerit. Are Survey Experiments Externally Valid. American Political Science Review, 104(2), 2010.

Barnes. Brendon R.. The Politics of Behavioural Change for Environmental Health Promotion in Developing Countries. Journal of Health Psychology, 12(3):531–538, May 2007.

Blum, Laura S, Prisca A Olson, Christine K Breiman, Robert F Ram, and K Pavani. Examining the Use of Oral Rehydration Salts and Other Oral Rehydration Ther- apy for Childhood Diarrhea in Kenya. American Journal of Tropical Medicine and Hygiene, 85(6):1126–1133, 2011.

Bratton , Michael, Ravi Bhavnani, Chen Tse-Hsin, and Institute for Democracy in South Africa. Voting Intentions in Africa, 2011.

CIA World Factbook. GDP (Purchasing Power Parity). Technical report, Central Intelligence Agency, 2016.

Saul Cunow. Vote Choice in Challenging Electoral Environments. PhD thesis, Uni- versity of California, San Diego, 2015.

Date. Kashmira, Bobbie Person, Benjamin Nygren, Vincent Were, Steve Kola, Tracy Ayers, and Robert Quick. Evaluation of a Rapid Cholera Response Activity - Nyanza Province, Kenya, 2008. The Journal of Infectious Diseases, 208(S1):S62 – S68, 2013.

Goel, Pradeep K, Dennis Ross-Degnan, Thomas J Mclaughlin, and Stephen B Soumerai. Influence of Location and Staff Knowledge on Quality of Retail Pharmacy Prescribing for Childhood Diarrhea in Kenya. International Journal for Quality of Health Care, 8(6):519–526, 1996.

Harding, Robin. Attribution and Accountability: Voting for Roads in Ghana. World Politics, 67(04):656–689, 2015.

Harding, Robin and David Stasavage. What Democracy Does (and Doesn't Do) for Basic Services: School Fees, School Inputs, and African Elections. The Journal of Politics, 76(01):229–245, 2014.

International Institute for Democracy and Electoral Assistance. Voter Turnout Data for Kenya, 2011. URL http://www.idea.int/vt/countryview.cf CountryCode=KE.

Keefer, Philip and Stuti Khemani. Democracy, Public Expenditures, and the Poor: Understanding Political Incentives for Providing Public Services. The World Bank Research Observer, 20(1):1–27, March 2005.

Kenya Medical Supplies Authority. KEMSA Medicines and Medical Supplies Price List, 2013.

Lewis-Beck, Michael S and Mary Stegmaier. Economic Determinants of Electoral Out- comes. Annual Review of Political Science, 3, 2000.

Long, James D, Karuti Kanyinga, Karen E Ferree, and Clark Gibson. Choosing Peace over Democracy. Journal of Democracy, 24(3):140–155, 2013.

Ministry of Public Health and Sanitation. Policy Guidelines on Control and Man- agement of Diarrhoeal Diseases in Children Below Five Years in Kenya. Technical report, Ministry of Public Health and Sanitation, March 2010.

Ministry of Public Health and Sanitation. Scaling Up Strategy for Essential Treatments in Children Under Five Years in Kenya: Diarrhea and Pneumonia, 2011.

National Council for Population and Development and ICF MACRO. Policy Brief 24: A Look at the Child Health Services in Kenya, 2012.

Olson, Christine K, Lauren S Blum, Kinnery N Patel, Prisca A Oria, Daniel R Feikin, Kayla F Laserson, Annah W Wamae, Alfred V Bartlett, Robert F Breiman, and Pavani K Ram. Community Case Management of Childhood Diarrhea in a Setting with Declining Use of Oral Rehydration Therapy: Findings from Cross-Sectional Studies among Primary Household Caregivers, Kenya, 2007. American Journal of Tropical Medicine and Hygiene, 85(6):1134–1140, 2011.

Omore, Richard, Ciara E O'Reilly, John Williamson, Fenny Moke, Vincent Were, Tamer H. Farag, Anna Maria van Eijk, Karen L. Kotloff, Myron M. Levin, David Obor, Frank Odhiambo, John Vulule, Kayla F Laserson, Eric D Mintz, and Robert F Breiman. Health Care-Seeking Behavior During Childhood Diarrheal Illness: Re- sults of Health Care Utilization and Attitudes Surveys of Caretakers in Western Kenya, 2007-2010. American Journal of Tropical Medicine and Hygiene, 89(S1): 29–40, 2013.

Othero, Doreen M, Alloys SS Orago, Ted Groenewegen, Dan O Kaseje, and PA Oten- gah. Home Management of Diarrhea Among Underfives in a Rural Community in Kenya: Household Perceptions and Practices. East African Journal of Public Health, 5(3), 2008.

Simpson, Evan, Greg Zwisler, and Melissa Moodley. Survey of Caregivers in Kenya to Assess Perceptions of Zinc as a Treatment for Diarrhea in Young Children and Adherence to Recommended Treatment Behaviors. Journal of Global Health, 3(1), 2013.

Stewart, Catrina. Nairobi Westgate Mall Attack: Shopping Centre Re-Opens Two Years After Terror Siege Where al-Shabaab Killed 67 People. Independent, 2015.

World Bank. GDP, PPP (Current International Dollars). Technical report, World Bank, 2016.

World Health Organization. WHO Data, 2016a. http://www.who.int/research/en/.

World Health Organization. WHO Position Paper on Oral Rehydration Salts to Reduce Mortality from Cholera. Technical report, World Health Organization, 2016b.

World Health Organization, Ministry of Medical Services, and Ministry of Public Health and Sanitation. Kenya Essential Medicines List 2010 (KEML). Technical report, World Health Organization, Ministry of Medical, Ministry of Public Health and Sanitation, 2010.

Zwisler, Greg, Evan Simpson, and Melissa Moodley. Treatment of Diarrhea in Young Children: Results from Surveys on the Perceptions and Use of Oral Rehydration Solutions, Antibiotics, and Other Therapies in India and Kenya. Journal of Global Health, 3(1), 2013.

Civil Death And Resurrection: What Factors Are Associated With Felony Disenfranchisement?

John A. Tures[1] **and Tia Braxton, Melanie Chambers, Natalie Glass, Porter Law, Jaydon Parrish, Elijah Robertson, Payton Smith, Jason Timms, Caleb Tyler, Andrew Valbuena, Ben Womack**[2]

[1]Professor of Political Science, LaGrange College
[2]Undergraduate Students, LaGrange College

ABSTRACT

"Civil Death" or denying felons the right to vote, even upon release, has its origins in the Greco-Roman Era, though the United States is considered unique among democracies for its particularly punitive policies. This comes not from the U.S. Constitution or Federal statute, but is left up to the states. These state policies range from permanent disenfranchisement to allowing felons to vote, in prison. This paper examines a series of crime-based, political and demographic factors, finding that the minority population of a state and state support for President Trump is more likely to be associated with civil death policies among the states than most crime-based factors, across a series of bivariate and multivariate models. Little evidence exists for claiming that more punitive measures toward former felons will somehow reduce crime, corruption, voter fraud, or recidivism.

Introduction

"Civil Death" or denying felons the right to vote, even upon release, has its origins in the Greco-Roman Era, though the United States is considered unique among democracies for its particularly punitive policies.[1] This comes not from the U.S. Constitution or Federal statute, but is left up to the states. These state policies range from permanent disenfranchisement to allowing felons to vote, in prison. This paper examines a series of crime-based, political and demographic factors, finding that the minority population of a state and state support for President Trump is more likely to be associated with civil death policies among the states than most crime-based factors, across a series of bivariate and multivariate models. Little evidence exists for claiming that more punitive measures toward former felons will somehow reduce crime, corruption, voter fraud, or recidivism.

Shortly after the 2019 election, new Kentucky Governor Andy Beshear signed an executive order that restored voting rights to more than 100,000 felons who had completed their sentence (Wilson 2019). It capped a landmark year for ex-felons and voting rights. In 2018, a strong majority of Floridians voted for Amendment 4 to reenfranchise felons who had lost their rights (Wilson 2019) when prior Florida Governor Rick Scott overturned a policy by his predecessor to restore those civil rights (Frazier, 2011). The GOP governor of Iowa, Kim Reynolds, lobbied for a constitutional amendment to end such barriers. "Iowans believe in second chances and we should help those individuals who want to re-enter society by restoring their voting rights," she said. Nevada, Louisiana, and Virginia also took steps to end felony disenfranchisement (Wilson, 2019).

Yet there were signs of a push-back. Florida Republican Governor Ron DeSantis and GOP allies sought "implementation literature" curtailing the rights of those eligible to get their suffrage back. These opponents of Amendment 4 offered language calling for court fees to be repaid and generated other barriers to get the vote back (Sneed 2019).

There are two schools of thought on the subject of civil death, also known as felony disenfranchisement. One contends that the rationale for such a measure has an explanation in the world of law enforcement. Taking away the vote from ex-felons is about having a harsh sanction that would reduce the number of felons, cut the crime rate, limit voter fraud and political corruption. Supporters of reforming this practice, on the other hand, have argued that doing away with felony disenfranchisement would reduce recidivism. States adopting such a policy may also cut lengthy background checks, to give ex-felons "a second chance." Reformers hope that restoring such voting rights would help rehabilitate former felons, reducing the crime rate overall, lowering corruption, even ending voter fraud.

The other school of thought focuses on political explanations. Here, civil death is not about reducing crime, or rehabilitating former felons, but scoring electoral victories. Harsh treatment of current and former criminals plays well into the conservative

[1]This paper was originally presented at the State Senate Study Committee on Revising Voting Rights for Nonviolent Felony Offenders in October of 2019, at the Georgia Political Science Association in Savannah the following month, and at the Georgia Capitol for legislators and the GURC Conference attendees. The authors would like to thank Senate Committee Chairman Randy Robertson for inviting us to present, as well as Senators Harold Jones, Mike Dugan, Michael Rhett and Burt Jones, as well as Tarika Jackson, Beth Vaughn, Doreen (Dee) Sams, Robin Lewis, Sonya Hill-White, and Dr. Christi Hu, LaGrange College Director of Undergraduate Research.

ideology, boosting turnout of angry "law-abiding" citizens with "get tough on crime" policies, and possibly using such sanctions against felons to keep potential opponents away on Election Day. Conversely, policies based on rehabilitation could appeal to liberal voters.

Two other demographic factors, religion and race may also have an impact on policy preference. Do religious voters have a unified preference for lenient or severe treatment of those convicted of a felony? What influence does the minority population exert, particularly if they believe justice system is disproportionately more likely to see minorities punished by the court system?

Before we address the current controvery, in the next section, we examine the origins of such civil death policies, how they came to America, and how they have been utilized today in the U.S. and around the world.

Literature Review

The Origins of Civil Death

Judge Henry Wingate, ruling in a federal case in the 1950s, felt that civil death was "the harshest civil sanction imposed by civil society. When brought beneath the axe, the disenfranchised is severed from the body politic and condemned to the lowest form of citizenship (Hull 2006, 5)." Civil death is not a new idea. The origins of such a policy go back to Greek and Roman civilizations, where those guilty of certain infractions could not participate in leadership selection, court cases, or even military service (Hull 2006, 16). This was supported by philosophers like Aristotle, who felt that certain crimes reflected a breach of the "social contract (Padraic Hamilton-Smith and Vogel 2012, 411)."

Such policies persisted through English Common Law policies. Hull (2006, 16) contends that such citizens suffered not only a loss of civil rights upon conviction, but also forfeited all holdings, and became unable to inherit anything. As with the Greeks and Romans, such thinking was influenced by the philosophers of the day, like Thomas Hobbes and John Locke, who contend that criminals did not deserve citizenship because their actions violated the fundamental contract between citizens and the state (Padraic Hamilton-Smith and Vogel 2012, 411-412).

The English practice was exported to the United States via colonial law. Yet it is significant to note that the United States Founding Fathers did not incorporate such language into the Constitution, or national law.[2] Such matters, like most electoral politics, were left to the states and their legislatures (Padraic Hamilton-Smith and Vogel 2012, 407). Even then, only a third chose to keep disenfranchisement for felony crimes around early in American history.

Perhaps these states were influenced by philosophers like John Stuart Mill (in *Considerations on Representative Government*) who argued "Whoever, in an otherwise popular government, has no vote, and no prospect of obtaining it, will either be a permanent malcontent, or will feel as one whom the general affairs of society do not concern, for whom they are to be managed by others," and who has "no business with the laws except to obey them (Brenner and Caste 2003)."

After the Civil War, the number of states adopting such severe penalties jumped to 75% (Hull 2006, 22). In the 1950s and 1960s some liberalizing attitudes toward prisoners emerged, but the following decades, saw a return to "law and order" policies. As a result, today "The US prison population continues to rise despite the significant decrease in crime rates (Mayba 2015)."

In response to the recent reformers who would do away with felony disenfranchisement, former Alabama Senator Jeff Sessions, a Republican, argued that to do so would go against the democratic origins of America. He points to the presence of such a policy since the founding of the United States (Manza and Uggen 2008).

What Other Democracies Are Doing

Despite sharing the heritage of Greek, Roman and English Civilization, the United States is considered unique among democracies for taking the vote away from ex-felons (Chiricos et.al. 2012). Other democratic countries find felony disenfranchisement in America as unfair and too harsh a penalty (Hull 2006, 9; Heath 2017). Some other democratic countries even allow the incarcerated to vote (Paikowsky 2019). In a survey of nearly 20 democracies (BBC 2012), three countries (Australia, New Zealand, Taiwan) 15.8 percent of our survey strictly enforce disenfranchisement laws. There were four countries (U.K. Italy, France Netherlands), which have partial voting disenfranchisement (21.1 percent of the total of our survey), and twelve countries (Ireland, Germany, Croatia, Czech Republic, Denmark, Finland, Latvia, Lithuania, Montenegro, Spain, Switzerland, Canada) that enforce no voting disenfranchisement, making up 63.2 percent of our survey.

Theories and Hypotheses

Crime Factors

It should be noted that while there are a number of studies of civil death, few have employed quantitative measures examining the statistical relationship between crime-based, political and demographic factors and the disenfranchisement of former felons. Yet as this section shows, despite the dearth of prior studies on the matter, we can construct theoretical arguments concerning the potential relationships between the crime-based, politics-based, and demographic-based factors upon ex-felon voting rights.

[2]Only the harshest of penalties ("corruption of the blood") were kept, and for matters involving high treason (Hull 2016, 17).

The first set of potential independent variables that could impact whether states adopt civil death for ex-felons are crime-based. The general argument here is that this is a law enforcement issue, and has more to do with stopping crime or serving as a powerful deterrent to bad behavior.

The sheer volume of felons in a state could influence how its citizens feel about them. The number affected are quite staggering. "To grasp how many 'fellow citizens' are unable to vote because of a felony conviction, imagine this. If all of them congregated in a single geographical area, it would become the nation's second largest city, right behind New York. It would be larger than Los Angeles or Chicago. If those deprived of their suffrage lived in a single state, it would be the country's twenty-sixth most populous—right after Kentucky, right before South Carolina (Hull 2006, 1)."

Fears about such a large number of ex-felons in general would be enough to scare people in a state. The prospects of these numbers of former felons voting might induce voters to support measures to take away their right to vote, hoping that the threat of a such sanction might induce better behavior among the members of the community. Sheffield (2019) claims that most respondents in polls are opposed to having criminals vote in a Hill-HarrisX poll, though Holtfreter et.al. (2008) discover that different attitudes toward criminals depends upon the type of arrest.

But not all who view the felony disenfranchisement issue from a crime-based perspective favor taking those rights away. Gerber et. al. (2017) finds that those affected by the criminal justice system have a decrease in trust in the government. That is why Shineman (2018) claims that one of the benefits of Virginia restoring voting rights could be restoring that trust in ex-felons, as well as possibly lower the crime rate.[3] In their focus on the Vermont case, White and Nguyen (2019) note that the state, which allows prisoners to vote from jail, has a low crime rate, and a small prison population as well.

One of the reasons given for this potential connection between a lower crime rate and rehabilitative efforts is the attempt to reduce recidivism, or repeat offenses. Van Den Haag (1982) takes a cynical view of such a connection, claiming that "although recidivists, including career criminals, undoubtedly commit a disproportionate number of many crimes, they do not commit most crimes in most categories. . . total rehabilitation would make only a modest dent in the crime rate." But Kirby (2009) contends that rehabilitation does not just help the criminal, but also the quality of the community. And Frazier (2011) finds in Florida that the recidivism rate for ex-felons who did not get their voting rights back was 33%. That percentage of repeat offenders fell to 11% among those who had their voting rights restored (Frazier, 2011).

Conservative columnist George Will (2018) provided even stronger evidence connecting the reestablishment of voting rights for ex-felons, and reduced repeat offenses. "Recidivism among Florida's released felons has been approximately 30 percent for the five years 2011-2015. Of the 1,952 persons whose civil rights were restored, five committed new offenses, a recidivism rate of 0.4 percent."

Other factors are linked to law enforcement explanations for curtailing voting rights. Miller and Spillane (2012) show that criminal background checks are conducted when someone wants to reestablish their voting rights. Purnell (2013) focuses on the impact of ex-felon disenfranchisement and the conduct of criminal background checks on subjects such as housing. Pinedo (2017) calls for reform, documenting how victims of civil death are further hampered by the general use of background checks, making it more difficult for societal reentry and rehabilitation, as well as employment. While fears of hiring or working aside an ex-felon are certainly understandable, making it nearly impossible for former felons to find meaningful employment might generate a different, more desperate sort of encounter, via crime. Blumstein and Nakamura (2009) write about a "'point of redemption,' –the tipping point at which an ex-offender becomes increasingly less likely to offend after being released from prison," in their analysis of widespread criminal background checks. Beety, Aloi and John (2015) cited a study that between two identical resumes, one with a criminal record reduced the chances of a white job candidate getting the position by 50%, and an African-American applicant being employed by 67%. The authors noted the role of these background checks (enhanced by Internet searches) in their study of the debilitating effects of civil death.

Will (2018) adds "What compelling government interest is served by felon disenfranchisement? Enhanced public safety? How? Is it to fine-tune the quality of the electorate? This is not a legitimate government objective for elected officials to pursue. A felony conviction is an indelible stain: What intelligent purpose is served by reminding felons, who really do not require reminding, of their past, and by advertising it to their community? The rule of law requires punishments, but it is not served by punishments that never end and that perpetuate a social stigma and a sense of never fully re-entering the community."

In critiquing Will, Clegg and Von Spakovsky (2018) of the Heritage Foundation contend "If you're not willing to follow the law, then you should not have a role in making the law for everyone else, which is what you do when you vote — either directly (in the case of a referendum or ballot initiative) or indirectly (by choosing lawmakers and law enforcers)." They also criticize the notion that we should cut non-violent felons a break at the ballot box, pointing out that treason, espionage, public corruption, and voter fraud are "non-violent"– ex-felons guilty of these should not get their voting rights restored.

[3] Such progressive views as part of rehabilitation could not only depress the crime rate, but save the taxpayers money (Dawson-Edwards 2008). Scholars have claimed that lower crime rates can not only help potential victims, but taxpayers as well (Cocklin 1977).

Political and Demographic Factors

Another view contends that felony disenfranchisement is not about crime, but about politics, as well as the demographic composition of states. Here, politicians have used civil death for an electoral advantage. It becomes a means to depress turnout for rivals, and perhaps to appeal to voters based on religion. There is less of an emphasis on t rehabilitation, recidivism, or even punishing a person for committing a serious crime. It is about winning contests at the ballot box.

On December 20, 2019, the *Associated Press* broke the story that Trump reelection adviser Justin Clark admitted that voter suppression was a Republican tactic (Bauer 2019). "Traditionally, it's always been Republicans suppressing votes in place," Clark stated. The recording of Clark speaking at the Wisconsin Chapter of the Republican National Lawyers Association, in front of many leading members of the state GOP was obtained by a liberal group (Bauer 2019).

Just as the GOP has wrapped itself in keeping people away from the ballot box, Democrats have embraced the idea of ending civil death. Vermont Senator Bernie Sanders aggressively targeted felon disenfranchisement in his 2020 campaign (Sheffield 2019). It is not hard to see why. An examination of the Florida election shows that had the state voters passed Amendment 4 in 2016, Democratic Party Senator Bill Nelson would have won reelection in 2018 instead of suffering a loss by the narrowest of margins (Grant 2019). The party nominee for governor, Andrew Gillum, might have even been the first African-American governor of Florida (Grant 2019).

Such arguments are not limited to the era of Trump. As Manza and Uggen (2008) contend, felony disenfranchisement helped elect GOP candidate George W. Bush in 2000. Democratic state legislator Daryl Jones told the story of Republican lawmakers changing the policy of having those guilty of cashing two welfare checks illegally moved from 365 to 366 days, so it could be considered a felony by state law, taking the vote away from even more voters (Hull 2006, 6). Ghosh and Rockey (2019) reveal that more African Americans would be elected to the House of Representatives if felony disenfranchisement were ended.

The issue is more than just a battle of political parties. It has an ideological component as well. Poama and Theuns (2019) point out that "expressive disenfranchisement" has been justified justified because it is the will of the voters, expressed in democratic fashion. The Heritage Foundation argues that ex-felons may vote against stronger law enforcement protections (Hull 2006, 28). Many Southern states, which tend to be more conservative, have adopted such laws (Uggen et.al. 2003; Webster, 2007; Bryant and de la Cruz 2016). Finally, Ghosh and Rockey (2019) contend that more relaxed felony disenfranchisement can also lead to more state policy liberalism.

But perhaps the issue is not painted in partisan or ideological colors. Zeitlin (2018) claims that ex-felons do not always necessarily vote for one political party; even though African-Americans make up a disproportionate number of former felons, whites make up the biggest bloc of this group. And Mayba (2015, 54) points out that while the "tough on crime" movement was bipartisan, the criminal justice reform movement has also been bipartisan (Mayba 2015, 68).

Hull (2006) also finds that liberal and conservative states have reestablished voting rights. And Beauchamp (2013) reveals that Southern states are more likely to target African-Americans, this may be changing, as Alabama passed House Bill 282 to reform which crimes are listed as felonies, leading to the reenfranchisement of many ex-felons previously barred from voting (Beauchamp 2013). Beauchamp (2013) speculates that Georgia might be next, and with the State Senate Study Committee meeting to examine restoring voting rights to nonviolent felony offenders, he might be right.

Research Design

The Dependent Variable: Felony Disenfranchisement Data

To determine which states deprive ex-felons of the right to vote, we gathered data from the National Conference on State Legislatures (2018). We discovered that two states (Maine and Vermont) even allow felons to vote in prison. NCSL data (2018) also reveals that another 15 states allow former felons to vote immediately upon release. Another 22 states only allow felons to vote after parole and/or probation. The remaining states require parole, a probationary period (often the duration of the original sentence, not the reduced time served), and a special application to a higher institution, one that seems rarely likely to succeed.

Independent Variables

Measuring Crime-Based Factors

For this data on felons as a percentage of each state, we gathered our cases from the Sentencing Project (2019). Our categories for this variable are as such: 0-1.99%, 2-3.99%, 4-5.99%, 6-7.99%, 8-9.99% and 10%+. Our crime rate data comes from the FBI data (2018) on state crime rates. We compare the states located in the top half of 2018 state crime rates with those making up the bottom half, those with lower crime rates, We also measure these variables in quartiles.[4]

The data on recidivism was retrieved from Prison Policy Initiative 2018-2019 annual report (2019). Data was only available for 34 states, thanks to missing data and inconsistent reporting for the most contemporary cases. We compared the top half of

[4]For nearly every variable measured in binary form, we also measure the same variable in quartiles as well.

states for recidivism to the bottom-half of states for repeat offenders, as well as breaking the data down into quartiles. Data on voter fraud comes from the Heritage Foundation (2018) list of cases per state. We divided the cases by the population, comparing the states in the top 25 for voting fraud to those bottom 25 states for voting fraud episodes, looking at these as quartiles as well.

Data on state corruption comes from Enten (2015). He ranks the states from 1-50 on the number of public officials convicted of corruption, with 1 being the most corrupt and 50 being the least corrupt, and similarly ranks states on a corruption per capita basis. The data Enten provides (2015) also ranks states from 1-50 based upon the "State Integrity Investigation," site, which rated each state by their anti-corruption laws with journalist rankings. A similar measure of reporter assessments covers how well such laws are enforced. All of these are measured in binary and quartile measures.

Our information on background checks by state came from (Scott 2019). The Federal Fair Credit Reporting Act (FCRA) may require background checks, but as Scott writes "According to the FCRA, felony convictions can be reported on background checks for seven years after being released from prison... However, several states have legislated restrictions for how long in the past background check information can be referenced and recorded into background check final reports. No criminal convictions older than seven years can be looked at." We compare these states that have limited background checks to those which follow the longer FCRA background checks.

Measuring Politics-Based Factors

For political factors, we look at how the states voted in the 2016 election, with data on the voter percentage for Trump coming from CNN (2016). We look at the top 50% of states that voted for the Republican candidate in 2016, and compare them to bottom 50% of states for gave Trump the least support in their vote percentage. The raw data is also measured by quartiles.

In studying how states voted over the last five elections, we looked at the U.S. Election Project (McDonald 2019). We compared states which voted for Republicans all five times to those that voted for the Democratic Party all five times, and a middle category for those states that split their votes in the Electoral College.

Information on voting barriers has been made available by the Brennan Center (2018). States that have passed voting restrictions from 2010 to 2018 are compared with states that did not. We found data on the cases of state voter turnout at the United States Elections Project (McDonald 2019) and Ballotpedia (2019). States in the top half of voting turnout in 2018 are compared to those with lower voting percentages in a binary measure, as well as a quartile measure. We also examine changes in voter turnout between 2010 and 2018 from the same data source, cutting the measure in half and into quarters.

Measuring Demographic Factors

Data on religious beliefs per state comes from the Pew Research Center (Lipka and Wormald 2016). As with several other measures, we look at differences between the states, comparing the most religious (top 50% of states) to the least religious (bottom 50% of states), as well as breaking down the measure into quartiles. Data on race and ethnicity comes from the U.S. Census Bureau (2018), which is the total population minus the non-Latino white population, with all states above the median scoring a one and those below receiving a zero. Such a measure is also broken down into quartiles, with each receiving a score of 1, 2, 3 or 4 based on the size of the minority population.

Empirical Analysis

To test the arguments, we look at the effects of these crime-based factors, political factors, and demographic factors in a series of tests. For this, we use the chi-square tests in our bivariate measure (Brians et.al. 2010). There are advantages to using this particular measure. "Like all non-parametric statistics, the chi-square is robust with respect to the distribution of the data. Specifically, it does not require equality of variances among the study groups or homoscedasticity in the data. It permits evaluation of both dichotomous independent variables, and of multiple group studies (McHugh 2013)."

But there are other advantages to using a chi-square analysis, most specifically the provision of details comparing the individual groupings of results to a randomly-generated "expected model," to help us understand when observations within categories can generate meaningful differences against a null hypothesis.

"Unlike many other non-parametric and some parametric statistics, the calculations needed to compute the Chi-square provide considerable information about how each of the groups performed in the study. This richness of detail allows the researcher to understand the results and thus to derive more detailed information from this statistic than from many others (McHugh 2013)."

In the first case, we utilize bivariate measures to gauge the effect of each factor independently on a state policy concerning ex-felons. We do this measuring each independent variable in a binary fashion (two categories) and via quartiles, thanks to a reviewer request.[5]

[5]The authors thanks the anonymous reviewer for the suggestion.

It is also important to assess not only the separate effect of each variable upon civil death, but also their combined effect as well upon the voting rights of former felons. To accomplish this, we use OLS Regression[6] to gauge the slope coefficients as well as positive or negative relationships upon the dependent variable of former felon political rights, measured two different ways (Brians et.al. 2010).[7] In one regression equation, we examine all five categories of civil death policies. In the second, we employ a binary measure of the variable to be explained, looking at states that allow those convicted of a felony to vote in prison or upon release, and those that make it difficult or impossible to regain those democratic rights again.

Statistical Findings

Bivariate Results

In this section, we examine a series of crime-based and politics-based factors and their possible connection to a state policy toward the political participation of former felons. In addition to breaking down many of the tests of the independent variables upon dependent variables when the former is categorized by quartiles (four categories) or binary measures (two categories) in Table 1,[8] we also provide information about how the significant explanatory factors are specifically related to the voting rights of ex-felons in Table 2.

Table 1. Summary: Chi-Square Analyses of Crime-Based Factors, Political Factors and Demographic Factors Upon State Policies Concerning Ex-Felon Voting Rights By State

Independent Variables	Quartiles	Binary
Crime-Based Factors		
Corruption	5.96	0
Corruption Convictions	1.95	0.37
Reporter Grades Corruption	2.01	0.26
Lack of Stringent Laws Measure	0.29	0.15
Prisoner %	13.01**	17.18**
Vote Fraud Per Capita	4.94	4.06**
Background Check	0.00	0
Recidivism	4.95	2.33
Crime Rates	4.52	4.37**
Felony Disenfranchisement	12.12**	12.12**
Political Factors		
Trump Vote 2016	9.99**	5.67**
Voting Patterns		7.776**
Other Voter Barriers		0.37
Vote 2018	4.05	1.98
Vote % Change 2010-2018	2.13	0.96
Demographic Factors		
Religion %	6.36**	4.75**
Minority %	5.34**	4.75**

* $p < 0.10$; ** $p < 0.05$

Crime-Based Factors

When analyzing the impact of several crime-based factors upon states and their policies on whether ex-felons get the right to vote or not, we find that a variety of crime measures are not what drives punitive sanctions against former felons in our chi-square tests. Recidivism does not influence tougher policies against the voting rights of ex-felons. Nor are states associated

[6] "A hypothesis test weighs the evidence against the hypothesis that a given parameter takes a particular value in the population. In this context, we are interested in testing whether particular β coefficients have a value of 0: or in other words, whether particular variables have no association with Y, the outcome variable (Lunt 2015)."

[7] Ibid.

[8] It is important to note that for a binary independent variable with a binary dependent variable, the threshold for statistical significance is 3.841 ($p<.05$), while the threshold for a quartile explanatory variable with a binary dependent variable to be statistically significant is 7.81 ($p<.05$).

Table 2. Summary Of Significant Bivariate Findings Significant Explanatory Factors Impact Upon Ex-Felon Voting Rights Laws

Crime-Based Factors
Lower Prison Percentage Per State = More Rights For Ex-Felons Than Expected
Lower Vote Fraud Per Capita Per State = More Rights For Ex-Felons Than Expected
Lower Crime Rate Per State = More Rights For Ex-Felons Than Expected
Lower Number Of Felons Disenfranchised = More Rights For Ex-Felons Than Expected
Political Factors
More Trump Voters In A State = Fewer Rights For Ex-Felons Than Expected
More State History Of Voting G.O.P. = Fewer Rights For Ex-Felons Than Expected
Demographic Factors
Religious People In A State = Fewer Rights For Ex-Felons Than Expected
More Minorities In A State = Fewer Rights For Ex-Felons Than Expected

with tougher background checks more likely to be among the states with less voting rights for former felons. None of our measures of corruption (overall state corruption, convictions for corruption, reporter grades for the state, or an assessment of the lack of stringent laws against public malfeasance) make a state more likely, or less likely, to disenfranchise ex-felons.

When crime does play a statistically significant role, those states with fewer problems are more likely to give former felons back their vote sooner, rather than later. We found states with a lower prisoner percentage of the overall population are also more likely to give the vote back to former felons. We also found that states with a smaller percentage of felons were also more likely to have lenient policies about giving these felons their ballot access back. States with lower crime rates are also more likely than expected to allow felons the right to vote in prison, or give the vote back once the prisoner has been released. And states where vote fraud per capita is lower are also more likely to restore voting rights to former felons than an expected model would project.

Politics-Based Factors

Politics-based factors are quite likely to play a role in a civil death, according to our chi-square tests. In particular, partisanship seems to be a strong motivator for states. States which gave a larger share of the vote to Donald Trump in 2016 were also more likely to prevent or make it a lot harder for ex-felons to vote again. The same result occurred for states which have a longer history voting for the Republican Party (over the last five years).

Voting measures not associated with partisanship did not play a role in our bivariate tests. The presence of other voting barriers was not a statistically significant factor in state policies toward the voting rights of felons who had served their time in prison.[9] The vote percentage of a state in the most recent election of our study (2018) was not a factor either in state laws toward former felons at the ballot box. Finally, we did not find the change in state voting rates between the mid-term elections of 2010 and 2018 to be connected to whether or not a former felon could vote sooner or later after being released, if at all, in our chi-square tests.

Demographics-Based Factors

Both demographics-based factors we analyzed played a significant role in a state policy toward the political participation of former felons. Our chi-square analyses show that an increase in the state percentage of self-identified religious people is associated with a decrease in the likelihood that an ex-felon will ever get to vote again.

States with larger minority populations are more likely (than an expected model) to have policies that keep former felons from ever voting again, or put a number of restrictions on former felons (finish parole, finish probationary period, pay additional fines, apply to be reenfranchised, etc.).

Multivariate Regression

In addition to examining the separate relationship between the independent variables and the dependent variable, we also test the combination of all of these crime-based, political and demographic factors upon the states policies on ex-felon voting rights, using OLS Regression. Table 3 displays the results, both when we look at all categories of state policies on former felons and voting, as well as the binary measure of state ex-felon voting rights. The beta coefficients (standardized regression coefficients) are reported here, as well as the level of statistical significance in the relationship, if applicable.

[9]There is no measure of quartiles for voting barriers or patterns of GOP voting, based upon the way the measures are coded.

Table 3. OLS Regression Analysis of Crime-Based Factors, Political Factors and Demographic Factors Upon State Policies Concerning Ex-Felon Voting Rights By State

Independent Variables	**Model 1: All Categories,** Ex-Felon Voting Rights by State	**Model 2: Binary Measure** Ex-Felon Voting Rights by State
	Crime-Based Factors	
Corruption	-0.33	-0.04
Corruption Convictions	-0.37	-0.35
Reporter Grades Corruption	0.21	-0.15
Lack of Stringent Laws Measure	-0.12	-0.08
Prisoner %	-0.2	-0.47
Vote Fraud Per Capita	0.3	0.16
Background Check	-0.11	-0.09
Recidivism	.27	0.16
Crime Rates	.40	0.4
Felony Disenfranchisement	-0.03	0.41
	Political Factors	
Trump Vote 2016	-1.00**	-0.79
Voting Patterns	.16	0.04
Other Voter Barriers	.10	0.14
Vote 2018	-.73**	-.54*
Vote % Change 2010-2018	.44*	.49*
	Demographic Factors	
Religion %	-0.16	-0.1
Minority %	-1.10**	-1.26**
F Score	2.6**	2.01*
R-Square	0.75	0.69
Adjusted R-Square	0.46	0.35

Notes: Cell entries are standardized regression coefficients; * $p < 0.10$, ** $p < .05$.

Results from the crime-based factors show that none of these factors have a statistically-significant relationship with a state policy toward granting or withholding access to the ballot box for former felons. None of our measures concerning corruption, the prison population percentage or percentage of ex-felons disenfranchised, voter fraud or background checks, crime rates or even recidivism are even related to a state policy on whether a prior felon can vote again or not.

It is a different story when it comes to the relationship between civil death and politics. Once again, the percentage of the vote for Donald Trump in 2016 in a state has a negative relationship with re-enfranchising former felons; more votes for Trump lead to less democratic rights for someone convicted of a felon.[10] States with higher voter turnout in 2018 also display a negative relationship with the chances of an ex-felon voting again in that state, while increases in voter turnout in 2018 over 2010 election numbers are actually more likely in states where former convicted felons can vote again after leaving prison, or even while in prison.

As with the bivariate results, we find that the larger the minority population of a state, the lower the likelihood that a former felon will get to vote again soon, if ever, in our regression analysis. Yet unlike our chi-square tests, we find that religion is no longer a factor in a state policy toward whether those convicted of a felon can vote in prison or out of prison.

Conclusion

One might suspect that a law enforcement solution might be driven by a crime problem. Depriving an ex-felon of the vote would be conducted as a means of keeping the peace. As philosophers from Aristotle to Hobbes and Locke reasoned, a serious crime would be a breach of the social contract, and would require what an American judge would consider the most severe of sanctions.

But the civil death penalty does not seem to have had an impact upon a number of crime-based factors in our multivariate studies. Punitive sanctions against the vote of a person after a severe crime does not seem to have led to lower voting fraud, less corruption, smaller crime rates, or reduced recidivism. In fact, in our bivariate studies, states which have rolled back civil death tend to have smaller prison populations as a percentage of the state population, fewer felons among the population, less voter fraud and lower crime rates.

However, we have seen that voter disenfranchisement has been used as a political tool. And taking the right to vote away from ex-felons is strongly supported by states that (a) gave more votes to Donald Trump, and (b) have a larger minority population, in our multivariate studies. These applied in our bivariate tests as well, along with the finding that states with a history of voting for the GOP and state that had more religious believers enacted tougher measures against ex-felons in our chi-square tests than turnout numbers (which were inconsistent in our measures) and even the presence or absence of other barriers to voting.

If former felons are to get the vote, it is more likely to come from a change in partisan composition of the state branches of government. And a more effective means of promoting that measure may come from the findings of this analysis, which demonstrates that states eliminating the civil death penalty are more likely to have less crime and corruption and fewer cases of repeat offenses and voter fraud, not more. Enabling a former felon to rejoin society with "civil resurrection" may be more effective than the harsh sanction of taking that individual right to be part of that society away.

References

Ballotpedia. 2019. "Voter Turnout In United States Elections." Ballotpedia. https://ballotpedia.org/Voter_turnout_in_United_States_elections (accessed December 25, 2019).

Bauer, Scott. 2019. "Trump Adviser: Expect More Aggressive Poll Watching In 2020." *Associated Press*. December 20. https://apnews.com/af2f0ede054d8baebbe1bb6ca47b4895 (accessed December 28, 2019).

Beauchamp, Zach. 2013. "Yes, The South Really is Different and it's Because of Race". *Think Progress* https://thinkprogress.org/yes-the-south-really-is-different-and-its-because-of-race-40f7de085908/ (accessed October 15, 2019).

Beety, Valena E., Judge Michael Aloi and Evan John. 2015. "Emergence from Civil Death: The Evolution of Expungement in West Virginia." *West Virginia Law Review Online*. Vol. 117. No. 63: 72.

Berry, Mary Frances. 2016. *Five Dollars and a Pork Chop Sandwich: Vote Buying and the Corruption of Democracy*. Boston, MA: Beacon Press.

[10]This finding is not supported when there is a binary measure of ex-felon voting rights at the state level.

Blumstein, Alfred and Kiminori Nakamura. 2009. "'Redemption in an Era of Widespread Criminal Background Checks." *National Institute of Justice*. 263. 10: 10-17. Brennan Center for Justice. 2018. "New Voting Restrictions in America." Brennan Center for Justice. https://www.brennancenter.org/our-work/research-reports/new-voting-restrictions-america

Brenner, Saul and Nicholas J. Caste. 2003. "Granting the Suffrage to Felons in Prison." *Journal of Social Philosophy*. Vol. 34, No. 2 (June): 228-243. https://onlinelibrary.wiley.com/doi/abs/10.1111/1467-9833.00177 (accessed December 20, 2019).

Brians, Craig Leonard, Lars Willnat, Jarol B. Manheim, and Richard C. Rich. 2010. *Empirical Political Analysis, 8th Edition*. London: Pearson Higher Education. *BBC*. 2012. "Prisoner Votes by European Country." *BBC News*, November 22. www.bbc.com/news/uk-20447504 (accessed October 15. 2019).

CNN. 2016. "Presidential Results." *CNN*. November 9. https://www.cnn.com/election/2016/results/president (accessed December 25, 2019).

Caldwell, Leigh Ann and Rich Gardella. 2018. "North Carolina Election Fraud Allegations: Investigators Zero In On Absentee Ballots In Bladen County." *NBC News* December 6. https://www.nbcnews.com/politics/elections/north-carolina-investigators-zero-absentee-ballots-unresolved-house-race-n944731 (accessed October 09, 2019).

Census Bureau. 2017. "State Population By Race, Ethnicity Data." Governing. Census Bureau. ttps://www.governing.com/gov-data/census/state-minority-population-data-estimates.html (accessed May 06, 2020).

Chiricos, Ted. et.al. 2012. "Racial Threat and Opposition to the Re-Enfranchisement of Ex-Felons." *International Journal of Criminology and Sociology*. 1, 12-28. http://www.lifescienceglobal.com/pms/index.php/ijcs/article/view/344 (accessed December 20, 2019).

Clegg, Roger and Hans A. Von Spakovsky. 2018. "There Are Good Reasons For Felons To Lose The Right To Vote." Heritage Foundation. April 10. https://www.heritage.org/election-integrity/commentary/there-are-good-reasons-felons-lose-the-right-vote (accessed by May 15, 2020).

Cocklin, K. R. 1977. "Functions of Criminal Justice: Procedures, Tasks, and Personnel." In *Fundamentals of Criminal Justice—A Syllabus and Workbook, 2nd Edition*, Dae H. Chang, ed.). Geneva, IL: Paladin House of Publishers.

Dawson-Edwards, Cherie. 2008. "Enfranchising Convicted Felons: Current Research on Opinions Towards Felon Voting Rights." *Journal of Offender Rehabilitation*. Vol. 46, No. 3-4: 13-29. https://eric.ed.gov/?id= EJ841678 (accessed October 11, 2019).

DeLoretto-Chudy, Sophia. 2018. "The Institutional Disaffiliates: Understanding Why Millennials Did Not Vote In 2016." University of Oregon Paper.

Eggers, Eric. 2018. "5 Voter Fraud Facts That Could Determine The Midterm Elections." *Breitbart*. August 7. https://www.breitbart.com/politics/2018/08/07/5-voter-fraud-facts-that-could-determine-the-midterm-elections/ (accessed May 15, 2020).

Enten, Harry. 2015. "Ranking The States From Most To Least Corrupt." 538.com. January 23.

Federal Bureau of Investigation. 2018. "Uniform Crime Reporting Statistics." U.S. Department Of Justice. https://www.ucrdatatool.gov/Search/Crime/Local/LocalCrime.cfm (accessed December 25, 2019).

Ferguson, Charles H. 2012. *Predator Nation: Corporate Criminals, Political Corruption, and the Hijacking of America*. 2012. NY: Crown Business.

Frazier, Mansfield. 2011. "A Solution to Recidivism: Let Ex-Offenders Vote." *The Crime*.

August 9, 2011. https://thecrimereport.org/2011/08/09/2011-08-a-solution-to-recidivism-let-ex-offenders-vote/ (accessed De-

cember 20, 2019)..

Gallup Polling. 2018. “Ideologies by State.” Gallup Polling..

Gerber, Alan S. et. al. 2017. “Does Incarceration Reduce Voting? Evidence about the Political Consequences of Spending Time in Prison.” *The Journal of Politics,* Vo. 79, No. 4. .

Ghosh, Arpita and James Rockey. 2019. “On the Political Economy of Felon Disenfranchisement.” SSRN. February 7. .

Grant, Keneshia. 2019. “Restoration of Voting Rights: Returning Citizens and the Florida Electorate” In *Prisoner Reentry in the 21st Century: Critical Perspectives of Returning*. Keesha M. Middlemass and Calvin John Smiley, eds. New York: Routledge..

Heath, Amy. 2017. “Cruel and Unusual Punishment: Denying Ex-Felons the Right to Vote After Serving Their Sentences.” *American University Journal of Gender, Social Policy & the Law*, Vol.25, No. 3: 327–358..

The Heritage Foundation. 2018. “Election Fraud Cases.” The Heritage Foundation..

Holtfreter, Kristy et.al. 2008. “Public Perceptions of White-Collar Crime and Punishment.” *Journal of Criminal Justice*, 36 (1): 50-60..

Hull, Elizabeth. 2006. *The Disenfranchisement of Ex-Felons*. Philadelphia, PA: Temple University Press..

Interpol. 2015. “Crimes & Corruption.” https://www.interpol.int/Crimes/Corruption (accessed December 20, 2019)..

Kirby, Terry. 2009. “Why Rehabilitation Matters to Us All.” *The Guardian*, October 28..

Kostodinova, Tatiana. 2009. “Abstain or Rebel: Corruption Perceptions and Voting in East European Elections.” *Politics & Policy*. Vol. 37, No 4 (August): 691-714 (accessed October 14, 2019)..

Lipka, Michael and Benjamin Wormald. 2016. “How Religious Is Your State.” *Pew Research Center*. February 29. .

Lunt, Mark. 2015. “Introduction to Statistical Modelling: Linear Regression.” *Rheumatology*. 54, No. 7 (July): 1137-1140..

Manza, Jeff L. and Christopher Uggen.. 2008. *Locked out*. New York: Oxford University Press..

Mayba, Yevgeniy. 2015. “Justice Reform: Who’s Go The Power?” *Themis: Research Journal of Justice Studies and Forensic Science*. Vol. 3. No. 3 (Spring). (accessed December 20, 2019)..

McDonald, Michael. 2019. “Voter Turnout: National Turnout Rates, 1787-2016.” United States.

McHugh, M. L. 2013. “The Chi-Square Test of Independence.” National Center for Biotechnology Information. Vol. 23, No. 2: 143-149..

Miller, Bryan Lee and Joseph F. Spillane. 2012. “Governing the Restoration of Civil Rights for Ex-Felons: An Evaluation of the Executive Clemency Board in Florida.” *Contemporary Justice Review*. Vol. 15, No. 4 (Dec)..

National Conference of State Legislatures. 2018. “Felon Voting Rights”. December 21..

Padraic Hamilton-Smith, Guy and Matt Vogel. 2012. “The Violence of Voicelessness: The Impact of Felony Disenfranchisement on Recidivism.” *Berkeley La Raza Law Journal* 22, 2: 407-432..

Paikowsky, Dana. 2019. “Jails as Polling Places: Living Up to the Obligation to Enfranchise the Voters We Jail.” *Harvard Civil Rights-Civil Liberties Law Review*, Vol. 54, No. 2:. 829–873. .

Pinedo, Victor J. 2017. "Let's Keep It Civil: An Evaluation of Civil Disabilities, a Call for Reform, and Recommendations to Reduce Recidivism," *Cornell Law Review* 102, No. 2 (January): 513-546..

Poama, Andrei and Tom Theuns. 2019. "Making Offenders Vote: Democratic Expressivism and Compulsory Criminal Voting. *American Political Science Review*. Vol. 113, No. 3 (August): 796-809.

Politico. 2019. "2016 Election Results." *Politico*. https://www.politico.com/2016-election/results/map/president/ (accessed October 15, 2019).

Prison Policy Initiative. 2019. "Mass Incarceration, State By State." Prison Policy Initiative 2018-2019 Annual Report. October.

Purnell, Derecka. 2013. "Examining Disparate Impact Discrimination on Ex-Offenders of Color Across Voting, Government Policy and Aid Receipt, Employment, and Housing." *Harvard Journal of African American Public Policy*: 1-15.

Rapoport, Miles. 2018. "Movement in the Fight for Voting Rights Restoration." *The American Prospect*. February 5.

Scott, Ray. 2019. "Does a Felony Go Away After 7 Years." FelonsGetHired.com. May 16.

The Sentencing Project. 2019. "State-By-State Data." The Sentencing Projec.

Sheffield, Matthew (2019). "Poll: 69 Percent of Americans Say Prisoners Shouldn't Be Allowed To Vote." *The Hill*, May 3.

Shineman, Victoria. 2018. "Florida Restores Voting Rights to 1.5 Million Citizens, Which Might Also Decrease Crime". *TCPalm.* November 8.

Smith, Daniel E. 2018. "Voter Suppression Policies in the 2016 Campaign Cycle." *Roads to Congress 2016*: 27-42.

Sneed, Tierney. 2019. "This Week: A Mixed Bag For Ex-Felon Voting Rights." *Talking Points Memo*. December 16.

270towin. 2019. Customizable Electoral Map. https://www.270towin.com/ (accessed October 17, 2019).

UNODC. 2015. "'It's a Crime' Corruption." United Nations Office on Drugs and Crime. Feb.

U.S. Census Bureau. 2018. "Quick Facts: United States: White Alone, Not Hispanic or Latino." U.S. Census Bureau. https://www.census.gov/quickfacts/geo/chart/US/RHI825218 (accessed December 28, 2019).

Van Den Haag, Ernest. 1982. "Could Successful Rehabilitation Reduce the Crime Rate?" *The Journal of Criminal Law and Criminology* Vol. 73, No. 3:1022-1035.

White, Ariel and Avery Nguyen. 2019. "Locking Up The Vote? Evidence From Vermont On Voting From Prison." MIT. June 25.

Will, George. 2018. "What Government Interest Is Served By Disenfranchising Felons?" *National Review*. April 8.

Wilson, Reid. 2019. "Kentucky Governor to Restore Ex-Felon Rights." *The Hill*. December 11.

Zeitlin, D. J. 2018. "Revisting Richardson v. Ramirez.: The Constitutional Bounds of Ex-Felon Disenfranchisement." *Alabama Law Review*.

What Does This Meme To You?: A Test of a Critical Thinking Exercise for the American Government Classroom

Dominic D. Wells[1], Joshua R. Meddaugh[2], and David Peña[3]

[1]Assistant Professor of Political Science, Bowling Green State University
[2]Associate Professor of Political Science, Clayton State University
[3]Lecturer of Political Science, Clayton State University

ABSTRACT

Previous research establishes that active learning and writing assignments help students develop critical thinking skills. This paper presents an activity where students generated political memes and then wrote short essays explaining and defending the position they had taken in the meme. Students were assigned either the political meme activity or a traditional argumentative essay. Following the completion of the assignment, students participated in a classroom activity where the memes were interpreted and discussed. To encourage students to consider all sides of an argument, students were then asked to argue how someone from the opposite side of the political spectrum would interpret the same meme. Lastly, the students were given a survey designed to measure their perceptions of the assignments and their critical thinking skills. The results show that students generating the political meme performed similarly on the critical thinking survey to those writing the traditional argumentative essay and that the open forum made them consider the many opinions besides their own. This paper concludes with a discussion of the implications of these finding and suggestions for future implementation of the political meme activity.

Introduction

Richard Dawkins first coined the term "meme" in his book *The Selfish Gene* (1976) as a term that refers to something that spreads throughout a culture. In the age of the internet, information can be shared very quickly, creating an environment that allows for the creation of internet memes. Internet memes can take the form of video or images. Websites allow individuals to generate memes on their own and share them (Borzsei 2013). As a formal definition, the internet meme is, "a piece of culture, typically a joke, which gains influence through online transmission" (Davison 2012, p.122).

Internet memes often provide information and commentary related to current affairs. They are particularly significant today because many Americans receive their news through the internet, especially on social media websites. An estimated 62% of Americans receive their news from social media (Gottfried and Shearer 2016), making it increasingly important that people think critically about the information that is shared with them. Internet memes are usually generated by individuals and can easily contain false information. There is strong evidence that millions of Americans were exposed to false information about the presidential candidates in the 2016 election (Allcott and Gentzkow 2017). The amount of "fake news" on the internet is increasing and it can influence the agendas of partisan news media (Vargo, Guo, and Amazeen 2018). The power of the information shared on the internet, often through memes, is growing and it is becoming increasingly important for educators to integrate cultural internet phenomena into their classrooms.

The purpose of the political meme activity is to help students build critical thinking skills. By improving their critical thinking skills, students will be able to recognize faulty arguments that are shared through internet memes. Additionally, by having students take a political stance in a meme and provide evidence for the stance they have taken, students can create and share factually accurate information. If students can recognize faulty arguments and build arguments supported by evidence, they will be less likely to share misinformation on the internet and more likely to generate and share accurate political information.

This research tests the effectiveness of a political meme activity in developing critical thinking skills in students. Building upon previous scholarship suggesting political memes could be useful in the classroom (Wells 2018), this research measures the perceptions and critical thinking skills of students developing political memes and compares the performance of those students with students writing a traditional argumentative essay. First, this paper discusses critical thinking skills and the use of writing assignments in developing critical thinking skills. Second, this paper explains the research design and critical thinking survey used to test the effectiveness of political memes versus a traditional argumentative essay. Third, this paper presents the results of the analysis, which show that students completing the political meme activity perceived the activity to be just as helpful in

developing critical thinking skills as those students who completed the argumentative essay. Further, students completing the political meme activity performed similarly on critical thinking questions as those completing the argumentative essay. Finally, this paper concludes with a discussion of how instructors can implement political memes into their course instruction.

Critical Thinking and Writing Assignments

Critical thinking involves the recognition of faulty arguments, reckless generalizations, claims that are based on unreliable authority, and claims that are made without evidence (Burbles and Berk 1999; Fitzgerald and Baird 2011). Understanding complex ideas and using evidence to make reasoned arguments is also a key component of critical thinking (Moon 2008). Although evaluating evidence of critical thinking is a challenge for educators, Fitzgerald and Baird (2011, p.620) ascertain four types of informational statements that require critical thinking skills to accurately identify. These statements include factual statements, normative statements, interpretive statements, and causal statements. Factual statements are verifiably true or false. Normative statements express values of good or bad. Interpretive statements are derived from textual materials and determine an intended meaning. Finally, causal statements observe a cause and effect relationship between two things (Fitzgerald and Baird 2011).

There are several tests used by educators to measure critical thinking. This evaluation of critical thinking skills uses an abbreviated version of the Watson-Glaser Critical Thinking Appraisal. Watson and Glaser (1952) identify five levels of intellectual activity including, inference, recognition of assumptions, deductions, interpretation, and evaluation of arguments. Questions on the Watson-Glaser Critical Thinking Appraisal are constructed to test these levels of thinking. Previous research has confirmed the reliability of the Watson-Glaser Critical Thinking Appraisal (Hassan and Madhum 2007). The appraisal is used by scholars exploring a number of different topics such as priming (Howard, Tang, and Austin 2015), the flipped classroom (Wei and Sukavatee 2019), and the class performance of nursing students (Pitt et al. 2015). In short, the Watson-Glaser Critical Thinking Appraisal is an appropriate tool for assessing the critical thinking skills of students.

Active learning techniques help students learn (Frederking 2005; Shellman and Turan 2006) and help develop critical thinking skills (Damron and Mott 2005; Pleschova 2007; Oros 2007). Further, writing assignments can aid critical thinking when done right. Condon and Kelly-Riley (2004) conclude that "critical thinking is a value that all disciplines want to promote, and it can be promoted through writing, but such promotion needs to be done overtly" (p.69). Other scholarship suggests that writing may be the best way to develop and practice critical thinking skills (Brent and Felder 1992).

Political Meme Activity and Traditional Argumentative Essay

This research builds off of previous scholarship that presents political memes as a tool for helping engage students and develop critical thinking skills (Wells 2018). This research builds on previous scholarship by comparing the critical thinking skills of students completing the political meme activity with students completing a traditional argumentative essay assignment. Given that argumentative essays encourage students to make inferences, recognize assumptions, make deductions, interpret statements, and evaluate arguments, an argumentative essay assignment is a fair assignment to use as a comparison to the political meme activity.

During the spring semester of 2019, students in sections of POLS 1101 American Government were assigned either the political meme activity or the traditional argumentative essay. The political meme activity asked students to generate a political meme that took a stance related to American politics or public policy, broadly defined. The students were allowed to caption images of their own or use popular memes from the internet (e.g. Mocking SpongeBob; Philosoraptor). In addition to creating a meme, they were asked to write an essay explaining their stance and providing evidence for their position. The full instructions for the activity are included in Appendix A. Students assigned the traditional argumentative essay were allowed less flexibility than those assigned the political meme. While students assigned the meme could form any political argument of their choosing, students assigned the argumentative essay were given five options. They could build an argument about the Constitution and government control, immigration laws and federalism, civil rights and voter turnout, political socialization and public opinion, or politics and Supreme Court nominations. The traditional argumentative essay instructions were adopted from the course supplementary materials provided to instructors using *The Logic of American Politics* (Kernell et al. 2015). Students chose one of the five options and wrote a three to five page argumentative essay defending their position. The complete instructions for the argumentative essay are included in Appendix B.

Three sections of POLS 1101 were assigned the political meme and two sections were assigned the traditional argumentative essay. Two sections assigned the meme were seated and one was an online section. One section assigned the traditional argumentative essay was seated and one was an online section. Ideally, a roughly even number of students would have been given each assignment. However, instructor course schedules and section enrollment ultimately played a role in determining the number of students completing each assignment. Though the students were not randomly assigned to an activity, the students had no way of knowing which sections would complete each assignment and therefore could not self-select into a group based

on their assignment preference. Of 209 students in various sections, 135 were assigned the political meme activity and 74 were assigned the traditional argumentative essay. A total of 81 students completed the survey. Of those students, 75% were traditional college age students (18-24), 68% were female, and 66% were black.

The students were provided instructions for the assignment and the instructors of the sections clarified any questions they had. Following the completion of the assignment, all students were asked to complete a survey. No extra credit was given to the students and no identifying information was collected. Instructors did allow students to complete the survey in-class if they chose. Student participation was completely voluntary and did not influence their final course grade. The response rate for the survey (38.76%) is modest, but instructors were sure to not offer any incentives like extra credit for completing the survey in order to encourage students to be honest when providing answers and feedback.

The survey students were asked to complete had three substantive parts. First, students were asked about their perceptions of the assignment. They were asked if they believed the assignment helped improve their ability to recognize factual statements, normative statements, interpretive statements, and causal statements. They were also asked if they believed the assignment improved their ability to make inferences, recognize assumptions, make deductions, and evaluate arguments. Second, students were tested on each of these items. They were given statements to recognize as one of the four informational statement types identified Fitzgerald and Baird (2011). Third, they were given a number of questions adopted from the Watson-Glaser Critical Thinking Appraisal designed to measure the various levels of critical thinking. The full set of survey questions is presented in Appendix C. Once the surveys were completed, difference of means tests were performed on the data to determine if students perceived the political meme activity similarly to the traditional argumentative essay in regards to critical thinking skills and to see if students who completed the political meme activity performed similarly to those who completed the argumentative essay on questions designed to measure critical thinking skills.

Results

Student memes demonstrated their knowledge and understanding of American politics and public policy. For example, one student submitted a meme where a group of people are sitting around a conference table. One person in the meme asks what needs to be done to control illegal immigration. Two people at the table recommend “build a wall” and “separate children from parents.” The third person suggests, “how about making citizenship easier?” The third person is then seen being thrown out the window of the conference room. The student used this meme to make a statement and demonstrate their knowledge of proposed immigration policies and to offer a solution that is often not well-received. Their essay builds the argument in favor of easier immigration standards as a solution to the problem of illegal immigration.

Another similar meme regarding immigration policy shows a mother being frisked by a border patrol agent while her toddler cries. The upper caption of the meme reads “pursuit of happiness” and the bottom caption simply reads “where?” This student chose to criticize immigration policy by pointing out the hypocrisy of the child separation policy of the Trump Administration in the United States where people are supposed to have the right to “life, liberty, and the pursuit of happiness” as stated in the Declaration of Independence.

The content of the memes demonstrated that students had a basic knowledge of politics. However, the primary purpose of the researchwas to evaluate the impact of the exercise on the development of critical thinking skills. We administered a survey that comprised eight questions that measured the perceptions of students regarding how much they believed the assignments helped develop their critical thinking skills. Students were asked to select an answer on a scale ranging from “strongly agree” to “strongly disagree.” These questions were combined to measure the overall perceptions of students, resulting in a scale ranging from 0 to 32. High scores represent strong agreement that the assignment helped develop critical thinking skills and low scores represent strong disagreement that the assignments helped critical thinking skills. The results presented in Table 1 show that students assigned the political meme activity perceived the activity to be helpful to developing their critical thinking skills similarly to those assigned the traditional argumentative essay.

Table 1. Student Perceptions of Assignments

Assignment	Observations	Mean	Standard Deviation
Political Meme	63	25.02	6.39
Argumentative Essay	18	25.5	4.37
Combined	81	25.12	5.98
$Pr(\|T\| > \|t\|) = 0.76$			

Note: Difference of Means performed between Political Meme group and Argumentative Essay group.

The second part of the survey asked students to identify different types of informational statements including factual, causal, normative, and interpretive statements. These questions were combined to create a scale of 0 to 4, where 4 represents correctly identifying all informational statements. Students who completed the political meme activity performed similarly to those who completed the traditional argumentative essay. Table 2 presents the results for students identifying informational statements.

Table 2. Student Identification of Informational Statements

Assignment	Observations	Mean	Standard Deviation
Political Meme	63	1.86	1.03
Argumentative Essay	18	1.88	1.23
Combined	81	1.86	1.07
Pr(|T| > |t|) = 0.91			

Note: Difference of Means performed between Political Meme group and Argumentative Essay group.

Finally, students were asked to answer selected questions from the Glaser-Watson Critical Thinking Appraisal. The specific sample of questions were borrowed from a freely available critical thinking test developed by Assessment Day (2013). The questions were combined to create a scale from 0 to 5, where 0 indicates that the student answered all five questions incorrectly and 5 indicates that the student answered all five questions correctly. Students who completed the political meme activity performed similarly to those who completed the traditional argumentative essay. Table 3 presents the results for the evaluative questions on the survey.

Table 3. Student Performance on Evaluative Questions

Assignment	Observations	Mean	Standard Deviation
Political Meme	63	3.25	0.98
Argumentative Essay	18	3.44	1.34
Combined	81	3.3	1.07
Pr(|T| > |t|) = 0.51			

Note: Difference of Means performed between Political Meme group and Argumentative Essay group.

Taken together, the results show that the political meme activity is a legitimate alternative to a traditional writing assignment for aiding critical thinking skills. Students were enthusiastic about this innovative assignment and performed similarly to those who completed a traditional writing assignment on a critical thinking assessment.

Implementation of the Political Meme Activity

Establishing that the political meme activity is a useful tool for helping students develop critical thinking skills is one step. However, it is also important to consider how else the students can benefit from the activity. One instructor encouraged their students to present their memes to the class and had the students discuss their memes. Specifically, the instructor encouraged the student to explain the ideological position they took when creating the meme and asked the students to discuss if they felt the meme actually represented that stance. The instructor then encouraged the students to consider the response to the meme from the opposite end of the political spectrum and discuss that reaction. This was done to encourage students to consider the importance of messaging and civility when discussing political issues. Overall, the students enjoyed this discussion and collectively stated that considering the other side helped them strengthen their own arguments about their meme. This discussion also led one student to recreate their meme and resubmit it because the original message failed to resonate with their peers. Overall, the peer-review of memes strengthened the critical thinking of the students and helped them develop their own arguments.

Given the amount of false information spread on the internet, the political meme activity gives students a great opportunity to think critically about the content they see on social media, often presented in memes. Students may leave the classroom with a better understanding of the importance of verifying the items they read on the internet because they often present incomplete or false information.

Students can benefit from deconstructing their own memes too. Instructors may want to challenge the students following completion of the assignment to think about the weaknesses of their own argument and consider how someone with the opposing view would criticize their argument. Students can further develop their critical thinking skills by forming a counterargument against a position they already hold.

Conclusion

Although not directly asked about how much they enjoyed the political meme activity, students did express that they enjoyed the assignment on instructor evaluations. When asked on the evaluation to explain the highlights of the class, some wrote that the political meme activity was a highlight. For example, one student responded, "I consider the political meme essay a strong point." Another student wrote, "the project where we had to create a meme was enjoyable." Finally, one student wrote that they appreciated the incorporation of a recent cultural element into the class, referring to the increased presence of internet memes.

Political memes have become a dominant part of the social media age. False information can be spread quickly, and it is important for students to develop strong critical thinking skills, so they know when to be skeptical of the things they read on the internet. The political meme activity engages students, allows them to express themselves, but also serves several educational purposes. It allows students to recognize the difficulty of presenting complete factual information in a single meme. It challenges students to build an argument based on a single statement made in a meme. Finally, it helps students develop critical thinking skills similarly to that of the traditional argumentative essay. Instructors should strongly consider implementing the political meme activity as a fun and educational assignment.

References

Allcott, Hunt, and Matthew Gentzkow. 2017. "Social Media and Fake News in the 2016 Election." *Journal of Economic Perspectives* 31, no.2: 211-236.

Assessment Day. 2013. "Watson Glaser Critical Thinking Appraisal." Accessed February 5, 2018. https://www.assessmentday.co.uk/watson-glaser-critical-thinking.htm.

Borzsei, Linda K. 2013. "Makes a Meme Instead: A Concise History of Internet Memes." *New Media Studies Magazine* 7: 2-28.

Brent, Rebecca and Richard M. Felder. 1992. "Writing Assignments: Pathways to Connections, Clarity, and Creativity." *College Teaching* 40, no.2: 43-47.

Burbules, Nicholas C., and Rupert Berk. 1999. "Critical Thinking and Critical Pedagogy: Relations, Differences, and Limits." In *Critical Theories in Education: Changing Terrains of Knowledge and Politics,* ed. Thomas S. Popkewitz and Lynn Fendler, 45-66. New York: Routledge.

Condon, William and Diane Kelley-Riley. 2004. "Assessing and Teaching What We Value: The Relationship Between College-Level Writing and Critical Thinking Abilities." *Assessing Writing* 9: 56-75.

Damron, Danny, and Jonathan Mott. 2005. "Creating an Interactive Classroom: Enhancing Student Engagement and Learning in Political Science Courses." *Journal of Political Science Education* 1, no.3: 367-383.

Davison, Patrick. 2012. "The Language of Internet Memes." In *The Social Media Reader*, ed. Michael Maniberg. New York: New York University Press.

Dawkins, Richard. 1976. *The Selfish Gene*. Oxford: Oxford University Press.

Frederking, Brian. 2005. "Simulations and Student Learning." *Journal of Political Science Education* 1: 385-393.

Fitzgerald, Jennifer, and Vanessa A. Baird. 2011. "Taking a Step Back: Teaching Critical Thinking by Distinguishing Appropriate Types of Evidence." *PS: Political Science & Politics* 44, no.3: 619-624.

Gottfried, Jeffrey, and Elisa Shearer. 2016. "News Use Across Social Media Platforms 2016." Pew Research Center, May 26. http://www.journalism.org/2016/05/26/news-use-across social-media-platforms-2016/

Hassan, Karma El and Ghida Madhum. 2007. "Validating the Watson Glaser Critical Thinking Appraisal." *Higher Education* 54, n.3: 361-383.

Howard, Larry W., Thomas Li-Ping Tang, and M. Jill Austin. 2015. "Teaching Critical Thinking Skills: Ability, Motivation, Intervention, and the Pygmalion Effect." *Journal of Business Ethics* 128, no.1: 133-147.

Kernell, Samuel H., Gary C. Jacobson, Thad Kousser, and Lynn Vavreck. 2015. *The Logic of American Politics 7th Edition.* Thousand Oaks, CA: CQ Press.

Moon, Jennifer A. 2008. *Critical Thinking: An Exploration of Theory and Practice.* London, UK: Routledge.

Oros, Andrew L. 2007. "Let's Debate: Active Learning Encourages Student Participation and Critical Thinking." *Journal of Political Science Education* 3, no.3: 293-311.

Pitt, Victoria, David Powis, Tracy Levett-Jones, and Sharyn Hunter. 2015. "The Influence of Critical Thinking Skills on Performance and Progression in a Pre-Registration Nursing Program." *Nurse Education Today* 35: 125-131.

Pleschova, Gabriela. 2007. "Unusual Assignments as a Motivational Tool." Paper presented at the conference on Creativity or Conformity? Building Cultures of Creativity in Higher Education, University of Wales Institute, Cardiff, U.K.

Shellman, Stephen M. and Kursad Turan. 2006. "Do Simulations Enhance Student Learning? An Empirical Evaluation of an IR Simulation." *Journal of Political Science Education* 2: 19- 32.

Vargo, Chris J., Lei Guo, and Michelle A. Amazeen. 2018. "The Agenda-Setting Power of Fake News: A Big Data Analysis of the Online Media Landscape from 2014 to 2016." *New Media & Society* 20, no.5: 2028-2049.

Watson, Goodwin, and Edward Maynard Glaser. 1952. *Watson-Glaser Critical Thinking Appraisal.* Yonkers, NY: World Book Company.

Wei Liu I. and Pornpimol Sukavatee. 2019. "The Effects of Debate Instruction Through a Flipped Learning Environment on Critical Thinking Skills of Thai High School Students." *Scholar: Human Sciences* 11, no.1: 239-247.

Wells, Dominic D. 2018. "You All Made Dank Memes: Using Internet Memes to Promote Critical Thinking." *Journal of Political Science Education* 14, no.2: 240-248.

Appendix A

Political Meme Activity Instructions

Students will generate an original meme related to U.S. politics and/or U.S. public policy. Students are encouraged to caption their meme using Meme Generator (https://imgflip.com/memegenerator) or Quick Meme (http://www.quickmeme.com/caption). However, they may also choose to caption their image in a Word document. The caption must be an original caption written by the student. Students who turn in a popular meme from social media with an unoriginal caption will not receive credit. Though the caption must be the original work of the student, students may choose to use a popular meme image (e.g. socially awkward penguin; Futurama Fry; Philosoraptor; Lazy College Senior; Captain Hindsight). Students may caption their own image (e.g. a personal photo). Meme content must be appropriate for Academic work. Students will write a short essay 3 to 5 double-spaced pages in length (not counting the meme) of how the meme is relevant to U.S. politics or U.S. public policy and defending the position they take in the meme. Students will upload a Word document with the meme, their essay, and a reference page to D2L.

The first page of the assignment should feature the political meme. The following pages should include their essay. The essay should cover any personal relevance (if any) and explain how the meme relates to American politics and/or American public policy. The essay should also defend the position taken in the meme with evidence. At least three credible sources should be cited in support of the position taken by the meme. Academic studies and peer-reviewed journal articles are ideal, but credible news sources (e.g. New York Times; Wall Street Journal) or reports from credible research firms (e.g. Pew Research Center) are also acceptable. Essays should be double-spaced and written in 12-point Times New Roman font with 1-inch margins. Sources should be cited according to APSA style guidelines with a references page and in-text citations. The completed assignment must be uploaded to D2L by 11:59pm on [enter due date].

Appendix B

American Politics Essay Instructions

A list of questions related to topics covered in class is presented below. Please select one question to address in a 3 to 5-page essay. You will be graded on the content of your answer, but there are no "right" or "wrong" answers. You will be graded based on how well you defend your position. You will also be graded on the structure of your essay, including grammar and spelling. Be sure to proof-read your papers prior to turning them in. The essay must be uploaded to D2L by the essay due date. The essay is due on [enter due date] at 11:59pm. Late assignments will be penalized 10% for each day they are late not including weekends. The essay must be typed, double spaced, with one-inch margins, using Times or Times New Roman 12-point font. The essay must contain three sources and one of the sources must be the course textbook. In-text citations must be used in the body of the essay and a references page must be attached to the back of the essay. Citations should be in APSA format. Students may use academic and non-academic sources. Mainstream news sources such as the New York Times, Wall Street Journal, or major news networks are acceptable, but students should avoid sources such as Wikipedia or personal blogs. Please indicate which question you are answering at the top of the first page of your essay (list the question or include the number of the question you have decided to answer).

1. How well did the Framers succeed in creating a constitution that forces the government to control itself?
2. Research recent immigration laws passed by one of the following states: Arizona, Georgia, or Alabama. Then, make a case for whether immigration policy is an area better left to the federal government, to individual states, or to both as a part of shared federalism.
3. Describe the struggles faced by two of the following groups in securing the right to vote: African Americans, women, and Hispanics. Then, research and identify what percentages of these two groups were registered to vote in 2016 and what percentage actually voted in the 2016 presidential election. Given the struggles these groups have faced in securing the right to vote, why do you think voting rates are at this level? What might this suggest about the current status of civil rights in this country?
4. Identify the biggest differences in public opinion between younger generations (e.g. post-Millenials; Millenials) and older generations (e.g. Baby Boomers). What factors help explain these differences? How do socialization and opinion leaders play a role?
5. Examine how the members of the Senate have voted on recent nominations to the Supreme Court, available here: http://www.judiciary.senate.gov/nominations/supreme-court/committee-votes What evidence is there that partisanship influences confirmation votes? Why should these Senators care about justices' political views?

Appendix C

Critical Thinking Survey

Informed Consent

In sections of POLS 1101 American National Government, Dr. Wells, Dr. Meddaugh, and Mr. Pena are investigating the effectiveness of two writing assignments in developing critical thinking skills. Some sections of POLS 1101 are assigned the Political Meme Argumentative Essay activity and others are assigned the traditional Argumentative Essay. Completion of the activity assigned to the course is part of the course requirement and grades are awarded for each activity as noted in your syllabus.

However, you have the option of completing a survey regarding the effectiveness of the activity regarding the development of critical thinking skills. The survey is designed to measure your perceptions of the activity and your critical thinking. If you consent, you will complete a survey as part of our research. This survey has no impact on your grade for the assignment and no identifying information will be connected to your survey answers. Once the surveys are completed, results will be analyzed to compare the effectiveness of the Political Meme Argumentative Essay to that of the traditional Argumentative Essay.

It is expected that this survey will take approximately 30 minutes to complete.

Your participation in this research is confidential. Data collection methods do not ask for any information that would identify your responses. In the event of any publication or presentation resulting from this research, no personally identifiable information will be shared because your name is in no way linked to your responses.

Please contact Dr. Dominic D. Wells at (678) 466-4613 or dominicwells@clayton.edu with questions or concerns about this study. If you have questions about your rights as a participant in this research, please contact Dr. Jill Lane, Associate Provost, at (678) 466-4100 or JillLane@clayton.edu.

Students who choose to participate will not be compensated.

1. Your decision to be in this research is voluntary. You can stop at any time. You do no have to answer any questions you do not want to answer. You must be 18 years of age or older to take part in this research study. Do you wish to participate?

Yes

No

2. Which activity were you assigned?

a. Political Meme Essay

b. Argumentative Essay (without a meme)

3. What type of American National Government course did you attend?

a. Seated

b. Online

4. *Factual statements* are statements that can be verified as true or false. How much do you agree with the following statement: The essay assignment improved my ability to recognize factual statements.

a. Strongly Disagree

b. Somewhat Disagree

c. Neither Agree nor Disagree

d. Somewhat Agree

e. Strongly Agree

5. *Normative statements* are statements that express values of right and wrong, good and bad. How much do you agree with the following statement: The essay assignment improved my ability to recognize normative statements.

a. Strongly Disagree

b. Somewhat Disagree

c. Neither Agree nor Disagree

d. Somewhat Agree

e. Strongly Agree

6. *Interpretive statements* are statements that derive from textual materials to establish intended meaning of the author. Arguments made from the text can be advanced or countered using the same text. How much do you agree with the following statement: The essay assignment improved my ability to recognize interpretive statements.

a. Strongly Disagree

b. Somewhat Disagree

c. Neither Agree nor Disagree

d. Somewhat Agree

e. Strongly Agree

7. *Causal statements* are statements that make an observable argument of cause and effect between two concepts. How much do you agree with the following statement: The essay assignment improved my ability to recognize causal statements.
a. Strongly Disagree
b. Somewhat Disagree
c. Neither Agree nor Disagree
d. Somewhat Agree
e. Strongly Agree

8. *Inference* is the ability to derive logical conclusions from premises of varied approaches. How much do you agree with the following statement: The essay assignment improved my ability to make inferences.
a. Strongly Disagree
b. Somewhat Disagree
c. Neither Agree nor Disagree
d. Somewhat Agree
e. Strongly Agree

9. *Recognition of assumptions* involves the ability to recognize assumption in presuppositions implicit in approaches. How much do you agree with the following statement: The essay assignment improved my ability to recognize assumptions.
a. Strongly Disagree
b. Somewhat Disagree
c. Neither Agree nor Disagree
d. Somewhat Agree
e. Strongly Agree

10. *Deductions* involve the ability to judge whether propositions made can be logically drawn from evidence. How much do you agree with the following statement: The essay assignment improved my ability to make deductions.
a. Strongly Disagree
b. Somewhat Disagree
c. Neither Agree nor Disagree
d. Somewhat Agree
e. Strongly Agree

11. *Evaluation of arguments* involves the ability to distinguish relevant, strong, and weak arguments. How much do you agree with the following statement: The essay assignment improved my ability to evaluate arguments.
a. Strongly Disagree
b. Somewhat Disagree
c. Neither Agree nor Disagree
d. Somewhat Agree
e. Strongly Agree

12. The statement, "Economic anxiety and racial tensions led to the election of President Donald Trump" is an example of which of the following?
a. Factual Statement
b. Normative Statement
c. Interpretive Statement
d. **Causal Statement**

13. The statement, "Well-funded public schools are good for society" is an example of which of the following?
a. Factual Statement
b. **Normative Statement**
c. Interpretive Statement
d. Causal Statement

14. The statement, "Barack Obama served two terms as President of the United States" is an example of which of the following?
a. **Factual Statement**
b. Normative Statement
c. Interpretive Statement
d. Causal Statement

15. The statement, "According to the Constitution of the United States, all citizens have the right to keep and bear arms" is an example of which of the following?
a. Factual Statement

b. Normative Statement
c. **Interpretive Statement**
d. Causal Statement

16. Despite the economic downturn, Germany's GDP has risen more since 2002 than any other European country. In addition to this, Germany's unemployment rate in 2012 was at a record low. The Social-Democrat government has implemented several successful reforms since 2003, resulting in the reduction of its budget deficit and liberalizing labor market rules. In addition, their German system of apprenticeships and training has helped to reduce youth unemployment; a common problem throughout Europe.

According to the paragraph above, *statistics suggest that in 2012 Germany had the lowest unemployment rate in history.*

a. **True**
b. Probably True
c. More Information is Needed
d. Probably False
e. False

17. Public sector organizations undergo organizational changes more often than private sector organizations. This change may cause a drop in employee satisfaction rates and an increase in staff turnover in public sector organizations.

According to the paragraph above, *the mood of public sector staff is affected by organizational change.*

a. **Assumption Made**
b. Assumption Not Made

18. A poll held in May 2012 noted that the British government were trusted by only two thirds of the British population. There were three reasons for this. Firstly, the government were blamed for a return to recession. Secondly, the Prime Minister was seen as out of touch. Finally, all governments face midterm slumps in popularity.

According to the paragraph above, *all Prime Ministers are out of touch.*

a. Conclusion Follows
b. **Conclusion Does Not Follow**

19. Elaine is an events planner for a company called Top London Events. She specializes in themed parties and caters to London's young professionals. Elaine is also the most popular member of staff at Top London Events.

According to the paragraph above, *people at Top London events are more likely to want to work with Elaine than other employees.*

a. **Conclusion Follows**
b. Conclusion Does Not Follow

20. Should employers be bound by law to encourage diversity in the workplace? Analyze the following argument: *Yes, encouraging diversity in the workplace will ensure a variety of opinions, promoting creativity and innovation.* Is this a strong argument or a weak argument?

a. **Strong Argument**
b. Weak Argument

21. What is your age?
a. 18 to 24 years old
b. 25 to 34 years old
c. 35 to 44 years
d. 45 or older

22. What is your gender?
a. Male
b. Female
c. Other (please specify)
d. Prefer not to say

23. What is your ethnicity?
a. White
b. Hispanic or Latino
c. Black or African American
d. Native American or American Indian
e. Asian/Pacific Islander
f. Other

Show Me the Money: An Analysis of Georgia's State Film Tax Credit Program

Wesley Meares[1] **and Aaron Hutton, Savannah Brown, and Rachel Morris**[2]

[1]Associate Professor of Political Science and Public Administration, Augusta University
[2]Graduate Students, Masters of Public Administration, Augusta University

ABSTRACT

Incentives for the motion picture industry are relatively new and popular among U.S. states. Due to the relative age of state film incentives, little research has been performed concerning the effectiveness of these programs and of the studies that exist; their findings are mixed. We seek to add this literature by conducting a case study of Georgia's film tax credit program. The State of Georgia has one of the most generous state film incentive programs in the country (Trubey 2016). Yet, little is known about the effectiveness of this program, because the state lacks a process for evaluating the incentive program (Pew 2017). The purpose of this study is to examine the ability of Georgia's film tax credit program at attracting film production and creating industry jobs. The findings help to better understand the outcomes of the program for the state and add to the discourse on targeted economic development programs for the motion picture industry.

Introduction

Targeted economic development programs are a common tool of state and local governments to attract specific industries to their region in hopes of driving economic development. There are a various number of strategies found in these programs, such as enterprise zones, empowerment zones, tax credits (both transferable and nontransferable), grants, hiring incentives and tax increment financing (Leigh and Blakely 2017). Overall, the number of total incentives being offered to firms has grown significantly over the past three decades. In 2015, it was estimated that state and local governments' incentive programs cost $45 billion dollars (Bartik 2017). Despite questions regarding their efficacy and the mixed results in the literature (Button 2018; Swenson 2017; Taylor 2012; Zhang 2015), targeted incentive programs have been more heavily applied by states. One of the more recent popular targets of state incentive programs is the film industry. State film incentives (SFI) were first adopted by Louisiana in 1992. In 2005 only five states offered SFI, now 45 states are offering some type of SFI. According to Button (2018), SFIs on average reduce the cost of qualifying expense by 20%. Due to the popularity and size of these programs it is important to understand what, if any, impact they are having on the local economy. A survey of the literature shows that few academic studies have been conducted on targeted economic development programs that focus on the film and television industry (Bradbury 2019; Button 2018, 2019; O'Brien and Lane 2017; Thom 2018; Swenson 2017). While target economic development programs focusing on other industries have been examined, a majority of the research focuses on immobile industries that are unable to quickly relocate in response to changes in incentive structures (Thom 2018). This leaves a gap in the literature concerning mobile industries that can more easily react to incentive structures.

Our intention with this research is to address this void and advance the literature on target economic development programs by analyzing the State of Georgia's SFI program. In 2005 the State of Georgia created its own SFI program, which was later revised in 2008 and again in 2012 (Small and Wheeler 2016). Georgia has been recognized by other states and the movie industry as having one of the largest and most successful tax incentive programs, with up to a 30% reduction in qualifying expenses. The film tax credit is Georgia's single largest tax credit (Georgia Department of Audits and Accounts 2020). Georgia provides an excellent case study due to the age of the program and the profile of the state's SFI. Furthermore, little is known about the effectiveness of Georgia's SFI program. Our intention is to examine the effect of Georgia's SFI on production spending, employment, wages, and business establishments in the state's motion picture industry. Business attraction, film and television attractions, and employment gains are all critical goals of the program. In order to quantify filming occurring in the state, we used Internet Movie Database (IMDb) Pro database. To quantify employment, wages and business establishments we used the Quarterly Census of Employment and Wages (QCEW). To quantify Georgia's SFI investment, we used the Georgia Department of Revenue's yearly tax data and the Georgia Office of Planning and Budgeting. Furthermore, to better gauge the SFI program in Georgia, we compare Georgia to Alabama, Louisiana, North Carolina, and Vermont.

The rest of this article is organized as follows. First, we give an overview of relative literature. This is followed by a summary of Georgia's SFI. Then we describe the data and the methodology used. Next, we analyze how Georgia SFI performed

compared to control cases. Then we conclude with a discussion of our findings.

Background

There are two mainstreams of literature that are related to SFI programs. The first related stream of literature concerns the film industry, including an overview of the industry and a discussion of how it has become more mobile and more easily able to respond to SFI. The second related stream of literature is state film incentives and their use as economic development tools.

Film Industry

The film industry is known for clustering production companies and workers in particular areas, most notably Los Angles and New York City (Florida, Mellander, and Stolarick 2011; Miller 2017). Historically, it was economically necessary for this industry to have significant agglomeration. There are still many benefits from clustering, including: cost savings by sharing and renting needed space, such as sound stages; creating markets with more buyers and sellers (Christopherson and Rightor 2010); creating a specialized labor pool (Florida, Mellander, and Stolarick 2011); and knowledge spillovers in which individuals more easily share ideas and best practices (Florida 2014; Glaeser 2011). Current data still supports the notion of significant agglomerations. Additionally, a significant portion of feature films and occupations are still shot in established agglomerations such as Los Angeles and New York, but these established clusters share of these films has been shrinking over the last two decades.

In the 1980s, the film industry shifted away from established clusters. This was due in part to technological advances in filming, particularly the newfound mobility of production equipment, as well as pioneering developments in data storage and film transmission.

As a result, the film industry has become more mobile outside of established clusters and has led to some decentralization of the industry (Miller 2017; Sewordor and Sjoquist 2016). Now production companies that are geographically mobile can more easily film on location instead of being confined to a stage. This allowed filming to be more insensitive to location. While iconic landmarks and certain identifiers are needs for a film, these can easily be reproduced by one of three common methods: props or set construction to disguise a location, computer graphic post-production, or an establishing shot. Therefore, if it is more cost efficient to film in Atlanta than New York, a filmmaker can fake the location to make Atlanta look like New York in the film instead of going to New York. Another reason for the semi-migration out of established clusters was the growth of independent production companies and the growing demand of home video and cable television movies. Currently, this trend is being accelerated with the growth of broadband internet and streaming services like Netflix and Hulu. The independent companies seeking new ways to save costs did not have as strong a geographically-restricted affinity toward established agglomerations as their blockbuster counterparts (Sewordor and Sjoquist 2016). For their part states, like Louisiana and New Mexico, capitalized on this newfound demand for filming on location and began to open film offices to help attract and promote filming in their borders in hopes of revitalizing their struggling economies and attempting to grow their service industry (Miller 2017; Sewordor and Sjoquist 2016; Webb 2015). As some states became more popular, they were able to develop local concentration of workers, businesses and services that were important to film production thus becoming more attractive as on-site locations.

Studios seek to reduce costs as much as possible since film production and development is a high-risk business, which explains the boom of utilizing state film incentives (Thom 2019). For wide-release blockbuster flicks, budgets will regularly be in the $100 to $200 million range. Then there are marketing costs, which quickly add to that total. While the cost of equipment may have gone down, marketing and labor costs have only increased. As far as success at the box office goes, star power, film making, and especially advertising are considered the biggest predictors of success (Feng and Liu 2018). Yet, it is an investment at the end of the day since consumer reception is prone to change. Additionally, political instability in overseas markets, currency changes, and various counterfeiting, black-market industries represent challenges and liabilities for any given film's success at the box office. Therefore, film producers, who have high risk and a large investment, seek ways to reduce risk, and film incentives which lower costs are a major method of risk reduction (Thom 2019).

State Film Incentives

Through film incentives, state governments seek to spur economic development by attracting films to create jobs, attract new industry and to create a local film industry, in addition to branding their region as a tourism destination where people will subsequently spend money and states will benefit from tax revenue growth (Button 2018; Thom 2018; Miller 2017). Film incentives can take the form of tax incentives, grants, tax credits, cash rebates, sales tax exemptions, lodging cost exemptions, and favorable tax structures (Button 2018; Thom 2019; Small and Wheeler 2016; Swenson 2017). In 1992, Louisiana became the first state to offer film incentives and by 2010, 44 states had followed their lead (Adkisson 2013). The surge in the number of states offering film credits represents a policy convergence effect as states have aligned in their mission to attract Hollywood into their borders, competing with each other to score the coveted films (Adkisson 2013; Sewordor and Sjoquist 2016; Leiser 2017). During this timeframe an assortment of incentives were made available by states. Tennessee, Virginia, and Texas offered

tax grants of up to 17% of costs; 28 states provided sales tax exemptions; 27 offered tax credits (sometimes transferable); 17 gave out cash rebates for approved purchases, and a few provided postproduction grants (Swenson 2017). These incentives are often made up primarily of various subsidies, which vary widely from state to state. The subsidies correspond to film input costs and include categories such as: non-labor expenditures (excluding marketing, advertising), payroll of nonresidents, and payroll of residents (Button 2019; Thom 2018). Additionally, these subsidies may be transferable, meaning the film's tax credits received may be sold to third party bidders through brokers (Wright, Karlinsky, and Tarantino 2009; Button 2019). Moreover, they can be nontransferable but refundable, allowing the filmmakers to receive money back from the state upon selling it to them (Button 2019).

There are a number of studies conducted on targeted economic incentive programs. Bartik (2017), Blakely and Leigh (2017), Rickman and Wang (2018) and Buss (2001) synthesized the literature and have found that tax incentives have mixed impacts. Proponents argue these incentives generate revenue, expand their economic bases, increase jobs, as well as result in various spillover effects (Adkisson 2013; Button 2019; O'Brien and Lane 2017; Tannenwald 2010). There are studies that found evidence to support these arguments (for example Lee 2008; Strauss-Kahn and Vives 2009; Wilson 2009). Critics of these incentives point to other studies that have little to no effect these programs have on business location and job creation (for example Calcagno and Thompson 2004; Freedman 2013; Thom 2018).

When it comes to specifically SFI programs the findings have also been mixed, but most studies that do show benefits also point to a cost-benefit ratio and many lack the promised economic spillover effects (Button 2018, 2019; Dabney 1991; Luther 2010; Miller 2017; Swenson 2017). In 2015, Louisiana reported a return on investment of roughly 18 cents and New Mexico 14 cents on the dollar (Miller 2017). McHugh (2013) stated North Carolina spent $30 million to create 50-75 jobs. Massachusetts reported that between 2006 and 2012 the state has spent $118,857 per job created for a state resident (Massachusetts Department of Revenue 2014). Button (2018) argued that New Mexico and Louisiana, two early adapters of SFI, have seen little economic impact since implementing these generous programs. The main benefit the states have seen has been the statistically significant increase in feature films shot within the state. However, this did not translate into economic benefit (Button, 2018). As Button (2018) and Thom (2018) showed: the data does not support SFIs alone as a sustainable solution to create local film industries, which are characterized by wage growth, industry concentration, gross state product, or employment increases. A recent Florida Office Economic and Demographic Research (2018) study examined Florida's former film incentive program and found the state's program consisting of tax credits and exemptions to be positively associated with economic benefit of creating jobs, increases in state gross domestic product, but the study also found the tax generation did not pay for the cost of the incentive programs. Thom (2018) looked at over 40 states and their incentive packages from the years 1998 to 2013 only to find that the incentives' benefits were limited. For instance, lodging and sales tax waivers boasted no economic benefit, while refundable tax credits had temporary wage effects without influence on employment; transferable tax credits did not have an influence on employment but did have a temporary effect on wages (Thom, 2018). Others cite incentives as having modest to sizable economic benefits (Button 2019; Bartik 1985; Freedman 2013; O'Brein and Lane 2017). Miller (2017) posited television shows offer far more benefit to a specific region considering the longer period of time the industry will be in town offering employment opportunities and that states should seek these opportunities over films.

While there has been increased competition over the past two decades, the effectiveness of the incentive structures themselves began to be called into question (Small and Wheeler 2016; Miller 2017). Thom (2018) and Button (2018) both found evidence suggesting that the average state cannot create a sustainable local film industry using SFIs. In 2015, Louisiana scaled back its SFI program, while states like Alaska and Michigan completely abandoned their film incentive programs (Small and Wheeler 2016). Other states, such as Georgia and New York, have expanded their programs.

Case Study: GA Film Incentives

A number of large budget movies and television series have been recently filmed in Georgia (Bradbury 2019; Mays 2017). In a report that analyzed the top 100 best box office-performing films in 2017 and their respective filming locations, Canada came in first with 20 of these films shot within its borders, while Georgia came in second with 15 (Film L.A. 2016). Georgia has been given the highest rating from industry rankings, including Film Production Capital, and has been dubbed the Hollywood of the South. One of the main reasons behind this rating and high praise from the industry is Georgia's uncapped 20 percent base transferable tax credit for productions that spend a minimum of $500,000 in the state with the ability to apply for an additional 10 percent to embed a Georgia logo[1].

While Georgia did have a film commission office to help promote filming in the state, Georgia did not start offering film tax incentives until 2005 when The Georgia Entertainment and Industry Investment Act (GEIIA)[2] was passed. GEIIA was designed to entice productions to the state (Mays 2017; Meeks 2019; Small and Wheeler 2016). The 2005 GEIIA required that

[1] As Sewordor and Sjoquist (2016) state this additional 10% is relatively easy to obtain, thus the tax credit should be considered 30%.
[2] Georgia House Bill 539 (HB 539).

a production company must invest at least $500,000 in order to be eligible for a nine percent transferable tax credit (Small and Wheeler 2016). Furthermore, the GEIIA provided the following complementary transferable tax credits: three percent for the employment of Georgia residents, three percent credit for investments in certain counties that met the qualifications of being economically-disadvantaged, and two percent for expenditures of at least $20 million in the state (Small and Wheeler 2016). In 2008, GEIIA was redesigned as an attempt to attract even more productions to the state. The update eliminated the complementary credits, but it otherwise expanded the nine percent credit to 20 percent for productions that spend at least $500,000 in Georgia. It also included an additional incentive of 10 percent for the Georgia Entertainment Promotion (GEP) uplift for projects approved by the Georgia Department of Economic Development (Small and Wheeler 2016). The GEP approved projects must include an embedded logo advertising the product was made, or at least a portion was made, in Georgia.

In 2012, more amendments came to the Georgia SFI program. In addition to minor changes regarding the Georgia promotion, the credit was extended to apply to gaming companies (Small and Wheeler 2016). It still allows credits to be transferred, and there is no cap in place for film or television productions but there is one for the video game industry (Small and Wheeler 2016). Outside of the state tax incentives, the state has established other programs to enhance the industry locally, such as: Camera Ready Communities, a program launched by the state to train and certify local film liaisons for GA counties; and the Georgia Film Academy, which trains people to work in the film industry by partnering with the University System of Georgia and the Technical College System of Georgia to offer classes.

Methodology and Data

For the purpose of this study, we employed a case study of the State of Georgia. We develop a pre-posttest design comparing data prior to the state film incentive adaptation to data from post adaptation (Schutt 2010). Additionally, we compared the findings from the State of Georgia to other states to better understand how the Georgia program performed in attracting productions, businesses, and jobs. For developing an understanding of whether or not Georgia's state film incentive has created jobs and attracted businesses a case study is most appropriate. As Thom (2018) and Button (2018) stated an average state cannot just create an SFI program alone and expect it to be effective. By examining what has been deemed by the motion picture industry and others as a successful film location (Dockterman 2018; Film L.A. 2016; Trubey 2016), we can provide more context to the literature about whether SFIs are effective. We also compared the data for Georgia to four control states, three of which did have film tax incentives during this time period: Alabama, North Carolina, Louisiana and one that did not have such a program, Vermont. Table 1 lists the details of the states' SFI programs.

To quantify Georgia's investment in attracting the industry, we used the Georgia Department of Revenue's yearly tax data and information from the Georgia Office of Planning and Budgeting. The Georgia Department of Revenue collects data on the amount of tax credits claimed for offsetting taxes each year. These data were available from 2005 through 2016. This data provided some insight, but because there is a 5-year period to use tax credits once they are issued this measure is not as accurate as a year to year measure of investment. A more accurate measurement is the amount of tax credits issued during a given year. This data was provided by the Georgia Office of Planning and Budgeting but is only available from 2009 to 2018. Additionally, in order to track the film industries direct spending in the state we relied on data from the Georgia Department of Economic Development.

In order to quantify the number of productions in Georgia and the control states we used the Internet Movie Database (IMDb) Pro. IMDb is an online database with information concerning film and television productions. It contains information on over 4 million productions. IMDb Pro allows users to search titles based upon a number of features including film location, type of production (TV series, TV Movie, Feature Film, etc.) and year of release. Since we were unable to access the year of production, we assume it was filmed one year prior to the release date[3]. Data is presented from 2002 to 2017. Additionally, some productions were filmed in multiple states, therefore if a film was shot partially in Georgia or one of the control cases we counted that production as occurring in the state.

To quantify employment, wages, and business establishments, we used the Quarterly Census Employment and Wages (QCEW). QCEW is collected by the Bureau of Labor statistics for the years 2002-2017. For the purpose of this study we used the specific North American Industry Classification Codes (NAICS) of 5122110, "motion picture and video production." The QCEW will only capture the workers and establishments that are classified as motion picture and video production. While the QCEW data are seen as valid, these do not include employees that are in contract positions and thus receive a 1099 tax form rather than a W-2. While these jobs do occur in the motion picture industry, these tend to be for individuals in "above the line" positions (writers, producers, directors, and the main cast) and these jobs are less likely to be given to locals. As Button (2019) states, the contract jobs are a very tiny portion of the total possible employment effects in the motion picture industry and these contract jobs are more likely going to be filled by individuals outside of the state in already existing film clusters. Additionally, the QCEW reports full time and part time employment together and does not allow the user to separate it.

[3]This method was also used by Button (2018, 2019).

Table 1. Film Incentive Program by State

State	Film Incentive Program
Georgia	The Entertainment Industry Investment Act offers a one-time tax credit of 20% with a minimum investment of $500,000. An added 10% credit can be earned by using a fixed animated Georgia logo on approved projects. Georgia also offers a sales and use tax exemption that allows qualified organizations to get up to 8% on below-the-line materials and resources. There is no annual program cap for the film incentives and no sunset date.
Alabama	This state has an annual cap of $20 million. Qualified production organizations are allowed 25% credit on all state expenditures and a 35% rebate on payroll paid to Alabama residents for the production. The state offers sales tax and lodging tax exemptions, but an in-state audit must take place before incentives are awarded.
Louisiana	The new incentive program offers up to a 40% tax credit met with specific criteria. They have a minimum $50,000 expenditure requirement for screenplay productions and $300,000 for all other productions. Credits issued cannot exceed $150 million per fiscal year. The state also offers refundable tax credit for other digital interactive media and software development, such as games, mobile applications, etc. An in-state audit of production activities must also be performed to receive the tax incentives.
North Carolina	The incentive program was replaced with the North Caroline Film and Entertainment Grant Program in January of 2015. It offers a 25% rebate on certain expense or production purchases. The minimum expenditure to meet depends on the type of production: $1 million per television episode, $5 million for feature length films, and $250,000 for commercials. The state has no sunset date and requires an in-state audit to be awarded tax incentives.
Vermont	No program existing during the time period under examination.

Source: National Conference of State Legislatures.

Furthermore, the QCEW data understates employment due to the presence of the motion picture and film industry because it does not include data for employment and establishments that are subcontracted by the motion picture and video industry, such as caterers and electricians. Despite these limitations, QCEW is seen as an appropriate data source to capture employment and business establishments.

Analysis

Tax Credits and Film Investments in Georgia

The State of Georgia has invested heavily into its tax credit program. Figure 1 details the amount of tax credits used to offset tax liability from 2005 to 2016.[4] This is not the total value of tax credits generated in a year, but the amount of taxes offset by film tax credits in a given year.[5] This is an indication of the amount of tax credits that have been issued and used to offset tax liability in the State of Georgia. As one can see in the Figure 1, in 2005 less than $5 million worth of film tax credits were used to offset tax liability, but in 2016 this number was substantially more, over $283 million. From 2005 to 2016, the tax liability offset from tax film credits used was over $1.8 billion.

Figure 2 offers a perspective of the amount of film tax credits that were certified or issued to the industry by the states between 2009 and 2018.[6,7] Since 2009, there has been a steady increase in the amount of film tax credits certified by the Georgia Department of Economic Development. According to the Governor's Office of Planning and Budget, in 2009 $89 million of tax credits were certified and in 2018, $801 million of tax credits were certified. From 2009 to 2018, there were over $4 billion in tax credits issued. This was a significant increase in the amount of tax credits, which indicates that there was growth in the amount of money that productions were spending in the State of Georgia. Furthermore, when compared to the other states, the Georgia tax credits issued were significantly higher. In 2018, Georgia issued roughly $650 million more in tax credits than the second highest state, Louisiana. After 2013 when Alabama, North Carolina, and Louisiana seemed to offer fewer tax incentives, Georgia rapidly increased the number of tax credits issued.

Since the introduction of the film tax credits, the film industry has significantly increased its spending in Georgia from 2005 to 2018, as depicted in Figure 3. The data shows that in 2005 the new direct investment into the state from the film industry was $78 million. This increased considerably, in 2018 the new direct investment into the state was $2.7 billion. The growth of production spending in the state coincides with the introduction and revision made to the film tax credit program, with the largest increases in spending following the 2008 revision.

Figure 4 reports the number of movies, television series, television specials and television miniseries filmed in Georgia between 2002 and 2017. Prior to the introduction of film tax credits few were productions in the state. The number of movies, including TV movies, ranged from 14-29, TV series ranged from 3-14, and TV specials and miniseries ranged from 2-4. However, after tax credits were introduced, the number of productions noticeably increased. The number of films ranged between 38-153, TV series 15-70, and TV specials and miniseries 3-21. When looking at the data, with the exception of the years 2006 and 2013, there was steady growth every year in the total number of productions in the state.

Furthermore, we compared Georgia's film and television productions to other states, three with SFI programs (Alabama, North Carolina, and Louisiana) and one without SFI (Vermont) from 2002 to 2017. Figure 5 details the number of movies and television productions shot in each state during this time period. Georgia saw an increase in the number of productions almost every year, with the exception of 2006 and 2013, with the largest increase between 2009 and 2010. Interestingly between 2003 and 2009 Louisiana, with the exception of 2004, had more productions than Georgia. After 2009, the year after the first amendment to the Georgia film tax credits, the State of Georgia surpassed Louisiana. Louisiana's peak in productions was in 2012. This was followed by a steady decline in productions from 2015 to 2017. North Carolina, with a few exceptions, saw steady growth in movie productions but experienced a decline in 2016 and 2017. Over this time period Alabama experienced slow, steady growth, and Vermont's film and television industry remained relatively flat.

Additionally, we compared the efficiency of the program in terms of movies and television productions per dollars of tax credits issued. During the time period under examination, Georgia experienced a steady increase in the amount of tax credits per production per year, with the exception of 2012. In 2009 Georgia averaged $864,000 per production and in 2017 this increased to nearly $3.3 million per production. However, Georgia only averaged the highest per production cost in 2010, 2014 and 2017. In all other years Louisiana outspent Georgia per production, the lowest average for Louisiana was in 2013 which was $1.07 million per production and the most spent by Louisiana was in 2016 when they spent nearly $3.2 million per production. North

[4] According to the GA Department of Revenue, for year 2005-2014 this was calculated using Schedule 2 from the GA 500 firm and years 2005-2008 were calculated manually. In 2015 the Department Business Credit manager was introduced and improved the reliability of the data from 2015 forward.

[5] This information provides an insight into the tax credits, but since a company has five years from date of issue to use them this will not accurately reflect the amount of tax credits issued each year.

[6] While this is the preferred measure, the data is only available from 2009 forward.

[7] These number are reported on Georgia's fiscal year budget that runs from July 1 to June 30. The fiscal year date denotes the actual year the budget cycle ends (e.g., fiscal year 2017 extends from July 1, 2016 through June 30, 2017).

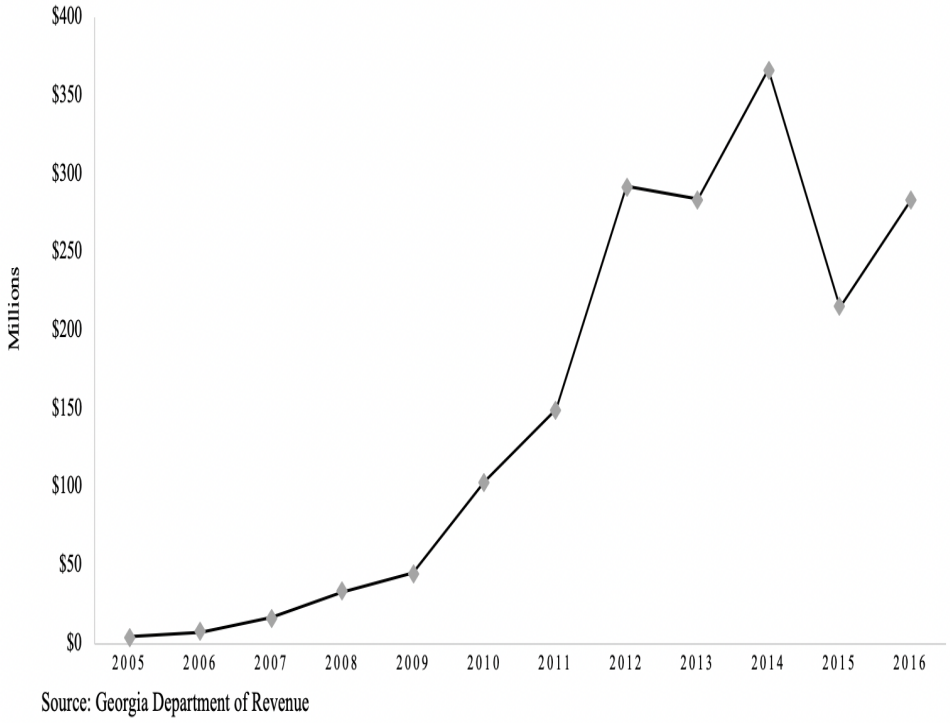


Figure 1. Film Tax Credit Utilized GA Department of Revenue

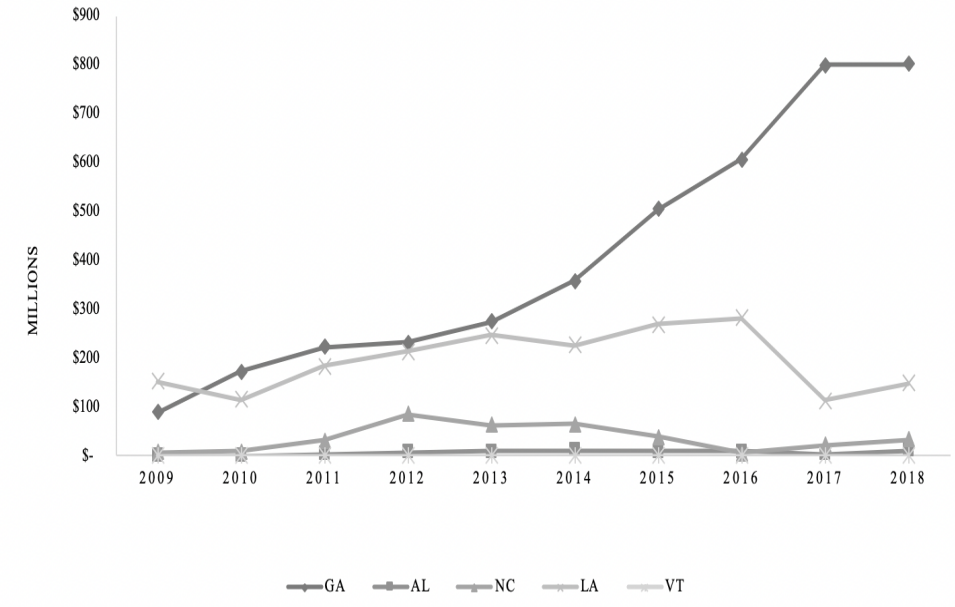
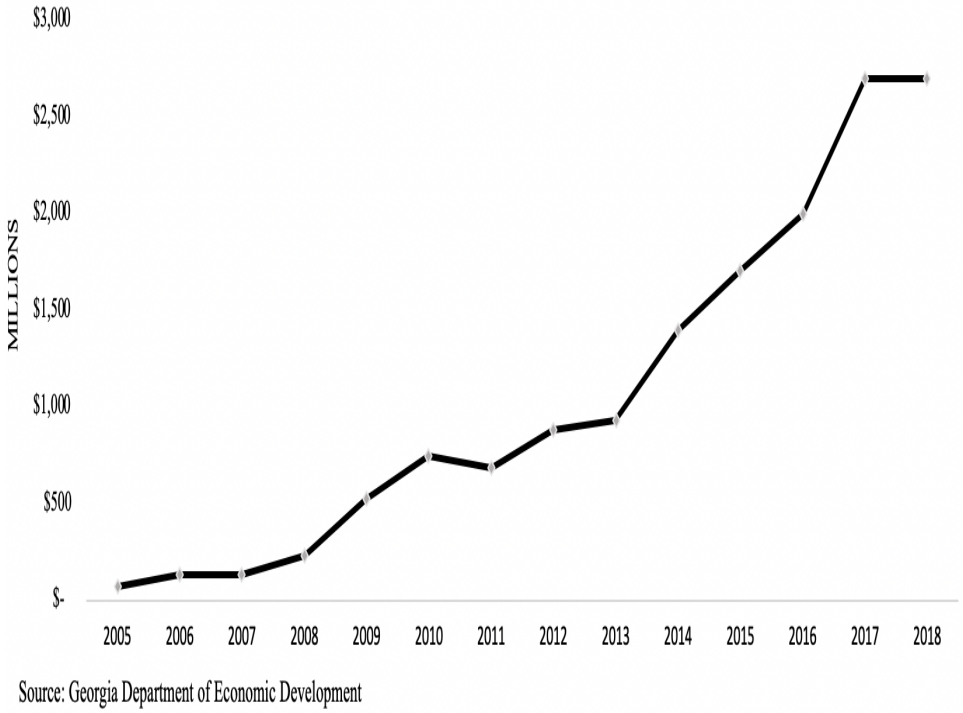
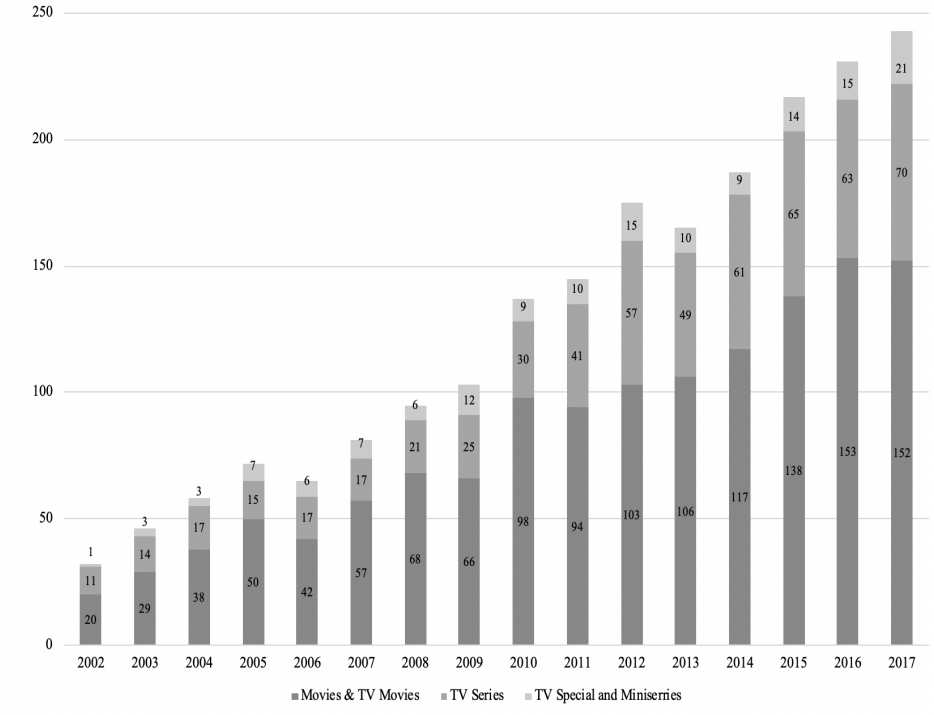


Figure 2. Tax Credits Certified



Source: Georgia Department of Economic Development

Figure 3. Film Industry New Direct Spending in GA



Source: IMDb Pro

Figure 4. Movie and Television Productions in the State of Georgia

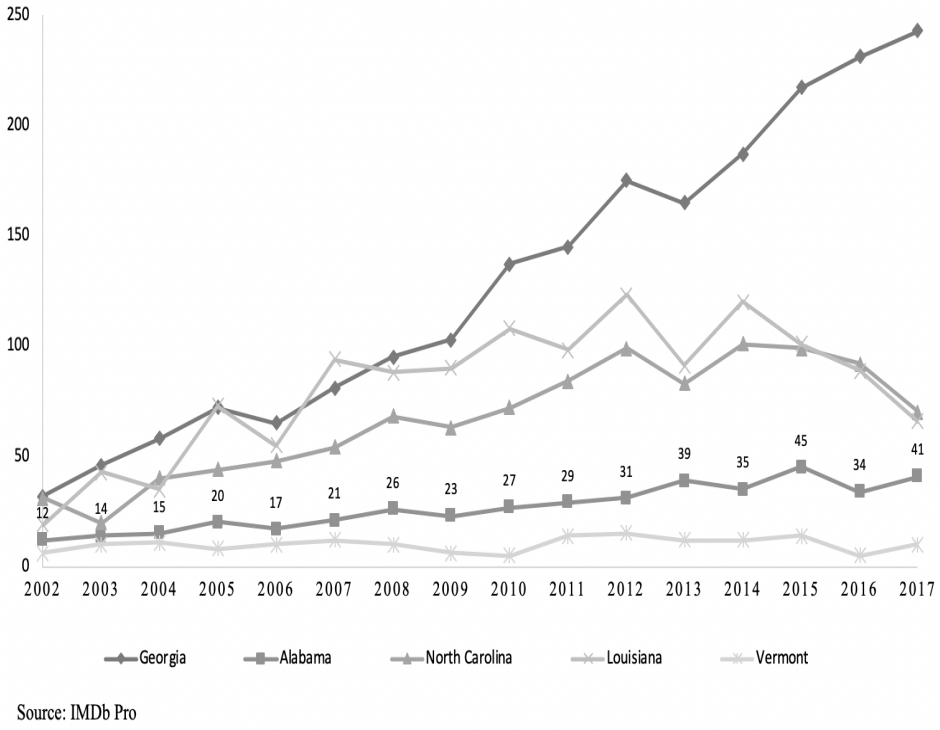


Figure 5. Number Movie and Television Productions by State

Carolina and Alabama comparatively had a lower ratio, never exceeding $857,000. North Carolina's tax credit per production was the highest in 2012, but following 2012 North Carolina had a steady decrease in the average cost of production. Alabama saw a relative growth in the tax credits issued per film from 2009-2014 but saw a decrease in 2015 and 2017.

Based upon the data, it appears that the film tax credits have contributed to the growth in the number of productions and the direct spending of the productions in Georgia. With this growth, there were large increases in the amount of tax credits Georgia was issuing and that are being used to offset liability. Furthermore, when compared to other states in this study Georgia was able to attract a larger number of productions to the state and spent significantly more in tax incentives. In order to understand this growth in Georgia, it is important that we examine employment in the film and movie industry.

Employment, Wages and Establishments

In addition to attracting more films into the state, SFI programs also have goals related to job creation. Table 2 lists the states and the employment per year in the motion picture and video production. Georgia had the largest number of employees in 2002 and in 2017. However, Georgia did not always lead the states under examination in the number of employees in this sector. Louisiana was the leader of employment in this sector when compared to the other states from 2006-2008 and 2012-2014. Georgia eventually surpassed Louisiana and in 2017, Georgia had roughly five times employment of Louisiana in this industry. From 2002 to 2017 Georgia experienced a 482% growth in the number of jobs in motion picture and video production, one of the fastest growing sectors for jobs in the State of Georgia during this time period. This was the second highest percentage of growth out of the states under examination behind Louisiana, which had the highest percentage of growth at 504%.

Furthermore, we compared the efficiency of the program in terms of jobs per dollars of tax credits issued. From 2009-2017 Georgia ranged between $34,178.19 and $85,293.42. Out of the states under examination Georgia had the highest ratio in four out of the nine years (2010, 2014, 2015 and 2017). Louisiana's ratio ranged from $36,300.58 to $101,635.64. Louisiana had the highest ratio in 2009, 2011, and 2016. North Carolina had a steady increase the ratio of credits per job between 2009 and 2012. However, from 2013 to 2017 the ratio tended to decrease. North Carolina ranged between $3,086.42 and $107,045.13. In 2012, North Carolina had the highest ratio of tax credits per job than any other state under examination in this time period. Alabama's ratio ranged from $535.97 to $42,140.71. Alabama experienced a steady increase in the ratio from 2009 to 2014, after 2014 the ratio tended to decrease.

Another consideration for the program is the type of income that employees will receive in these jobs. Table 3 lists each state along with the average annual wage for employees in motion picture and video production. In 2002 and 2017, Georgia

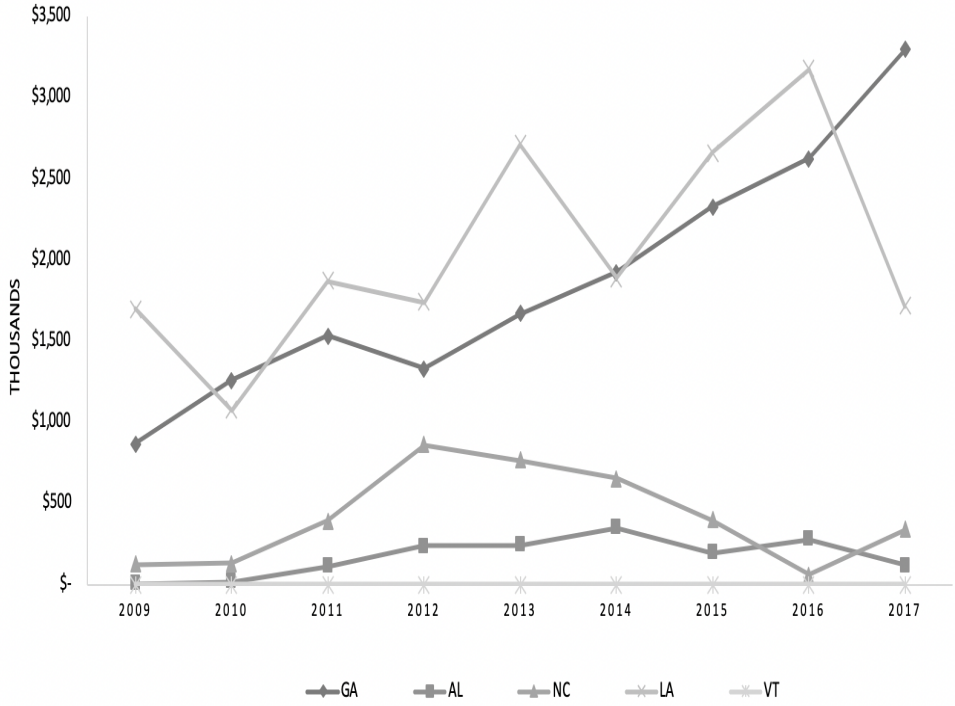


Figure 6. Tax Credits Dollars per Movie and Television Production

Table 2. Employment in Motion Picture and Video Production

	GA		AL		NC		LA		VT	
Year	#	% Change	#	% Change	#	% Change	#	% Change	#	% Change
2002	2638		258		995		516		58	
2003	2038	-23%	248	-4%	929	-7%	993	92%	72	24%
2004	1936	-5%	255	3%	850	-9%	1281	29%	85	18%
2005	1976	2%	254	0%	673	-21%	1971	54%	83	-2%
2006	1834	-7%	268	6%	632	-6%	1875	-5%	79	-5%
2007	1867	2%	303	13%	693	10%	2737	46%	76	-4%
2008	1935	4%	299	-1%	772	11%	3005	10%	83	9%
2009	2604	35%	269	-10%	747	-3%	1504	-50%	82	-1%
2010	2486	-5%	261	-3%	767	3%	2334	55%	114	39%
2011	2701	9%	250	-4%	821	7%	2221	-5%	126	11%
2012	3125	16%	276	10%	792	-4%	3610	63%	106	-16%
2013	3864	24%	262	-5%	847	7%	5513	53%	77	-27%
2014	4209	9%	291	11%	882	4%	4945	-10%	88	14%
2015	8380	99%	446	53%	1133	28%	5948	20%	102	16%
2016	10919	30%	383	-14%	1620	43%	3732	-37%	98	-4%
2017	15341	40%	409	7%	1448	-11%	3118	-16%	92	-6%

Source: Bureau of Labor Statics, QWEC

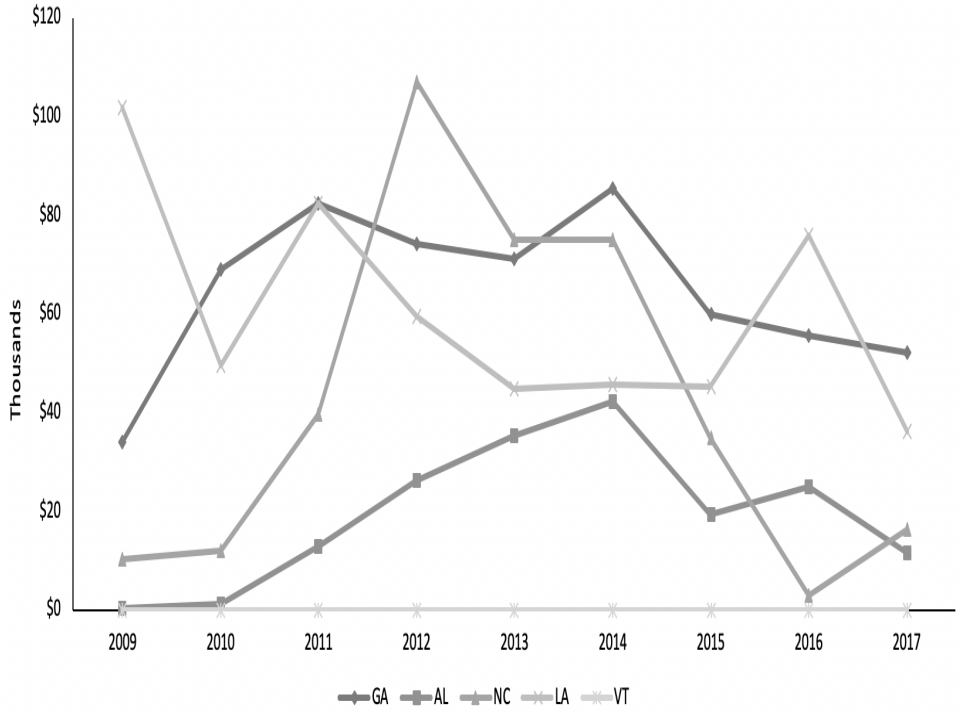


Figure 7. Tax Credits Dollars per Motion Picture and Television Production Job

employees had the highest average annual wage when compared to the other states. In 2017, Georgia was paying almost $12,000 more than the next highest state, North Carolina. The average annual salary for motion picture and video production employee in Georgia during 2017 was roughly $13,000 higher than the average annual wage for employees across all sectors, which was $52,189. During this time-frame the average annual wage for employees in Georgia increased 95%, however two states in this study, North Carolina and Louisiana, experienced larger percent increases from 2002 to 2017, 120% and 104% respectively. Georgia also did not have the highest average annual wage every year. The highest annual wage recorded during this time frame was North Carolina in 2015 with an annual average wage of $72,244.

The last consideration for the film incentive program was the number of motion picture and video production establishments in each state. Table 4 contains the number of motion picture and video establishments in each of the states under examination from 2002 to 2017. During the time period under examination, Georgia had more motion picture and video production establishments compared to the other states every year. In 2017, Georgia had 492 establishments which was 157 more than North Carolina, the state with the second most establishments. However, North Carolina (77%) and Louisiana (65%) experienced higher percentage of growth in motion picture and video production establishments than Georgia (46%).

When examining the effect of film tax incentives in Georgia, one can see the growth of film industry in Georgia in terms of employment, number of films and television shows, establishments and wages. The growth of the industry does coincide with the high cost of film tax credits. From 2009 to 2018, Georgia spent more than any other state in this study in film tax credits, over $4 billion. Furthermore, when examining the cost per job in 2017, Georgia spent $52,216.86 per position in motion picture and video production. The cost per job figure does not differentiate between full and part time workers and whether or not the worker is a citizen of Georgia.

It is important to note that this examination looked at the direct benefits and not indirect or induced benefits of the film industry. It does not account for job and establishment creation outside of the motion picture and video production or jobs and establishments created to service the film industry's presence. Additionally, a limitation of this type of analysis is that we are unable to indicate what percentage of film and motion picture productions produced are due to the SFI. However, a number of reports indicate that the film tax credits are an inducement for a number of film and motion picture productions in the state (Bradbury, 2019; East 2019). Still, one must consider the efficiency of the program as it relates to the direct benefits of the program. As the evidence demonstrates, the state did perform well on attracting the industry and creating jobs. However, the cost of the program raises questions about return on investment, which is relatively low, and the sustainability of a high cost program.

Table 3. Average Annual Wage for Employees in Motion Picture and Video Production

	GA		AL		NC		LA		VT	
Year	$ in 1000s	% Change	$ in 1000s	% Change	$ in 1000s	% Change	$ in 1000s	% Change	$ in 1000s	% Change
2002	33,305		37,958		24,121		23,350		35,607	
2003	39,411	18%	47,209	24%	25,959	8%	16,114	-31%	34,502	-3%
2004	44,061	12%	33,711	-29%	30,085	16%	14,827	-8%	33,964	-2%
2005	44,681	1%	36,803	9%	41,692	39%	37,092	150%	37,615	11%
2006	54,709	22%	40,758	11%	47,727	14%	32,462	-12%	43,510	16%
2007	60,625	11%	38,552	-5%	52,502	10%	38,582	19%	46,042	6%
2008	64,896	7%	39,834	3%	58,772	12%	41,086	6%	36,876	-20%
2009	61,544	-5%	39,026	-2%	55,852	-5%	62,825	53%	35,948	-3%
2010	60,001	-3%	41,429	6%	62,439	12%	65,809	5%	32,194	-10%
2011	3,041	5%	45,194	9%	59,833	-4%	70,598	7%	28,066	-13%
2012	66,487	5%	39,421	-13%	64,262	7%	48,047	-32%	28,232	1%
2013	69,587	5%	37,946	-4%	63,887	-1%	38,559	-20%	32,770	16%
2014	41,588	-40%	48,445	28%	67,490	6%	48,579	26%	34,761	6%
2015	46,161	11%	42,986	-11%	72,244	7%	47,590	-2%	39,170	13%
2016	65,352	42%	46,604	8%	55,110	-24%	43,277	-9%	41,549	6%
2017	65,014	-1%	46,738	0%	53,115	-4%	47,669	10%	34,709	-16%

Source: Bureau of Labor Statics, QWEC

Table 4. Establishments in Motion Picture and Video Production

	GA		AL		NC		LA		VT	
Year	#	% Change	#	% Change	#	% Change	#	% Change	#	% Change
2002	331		79		189		96		37	
2003	325	-2%	79	0%	171	-10%	88	-8%	35	-5%
2004	296	-9%	88	11%	176	3%	84	-5%	36	3%
2005	314	6%	87	-1%	161	-9%	123	46%	35	-3%
2006	329	5%	86	-1%	165	2%	139	13%	32	-9%
2007	347	5%	93	8%	175	6%	161	16%	34	6%
2008	364	5%	98	5%	178	2%	170	6%	36	6%
2009	399	10%	92	-6%	188	6%	172	1%	35	-3%
2010	394	-1%	94	2%	211	12%	181	5%	35	0%
2011	401	2%	92	-2%	225	7%	186	3%	32	-9%
2012	402	0%	93	1%	245	9%	195	5%	31	-3%
2013	416	3%	92	-1%	257	5%	197	1%	28	-10%
2014	450	8%	132	43%	278	8%	193	-2%	30	7%
2015	494	10%	159	20%	310	12%	205	6%	33	10%
2016	545	10%	130	-18%	348	12%	175	-15%	32	-3%
2017	492	-10%	115	-12%	335	-4%	158	-10%	33	3%

Source: Bureau of Labor Statics, QWEC

Conclusion

The intention of our research was to address the void in understanding SFI programs and advance the research on target incentive programs by examining Georgia's film tax incentives. Prior to this study little work had been done to understand the impact of Georgia's SFI program, which is one of the more revered programs by film industry stakeholders. After reviewing the literature, we examined Georgia's program and compared it to Alabama's, North Carolina's, Louisiana's, and Vermont's. We found that after adopting film tax incentives Georgia saw increases in terms of employment gains, wages for employees, the number of productions as well as the amount of money productions spent in the state, and in industry business establishments. This growth accelerated rapidly after Georgia revised the SFI program in 2008. As detailed above, Georgia also enacted a number of programs to bolster its efforts to attract and retain the film industry, such as Camera Ready Communities and the Georgia Film Academy. The evidence presented demonstrates Georgia's film tax incentive program was associated with benefits for the state. Comparatively, Georgia funds a larger amount of tax credits and has a larger film industry. Additionally, Georgia has consistently been ranked as one of the top sites in the world for blockbuster productions, these types of productions are associated with larger budgets and spending (Bradbury 2019; Dennis 2020; Film L.A. 2016). More tax credits issued in the state are associated with more films and employment in the film industry. Albeit those benefits were costly and not at the level claimed by others. The SFI program did not generate the level of benefits that was touted by the Motion Picture Association of America's report claiming that Georgia's film industry has generated 92,000 jobs and had a $9.5 billion dollar impact on the economy.

Georgia's program does raise questions concerning cost-effectiveness. In 2017, Georgia spent $801 million on tax credits, which translates to $52,216.86 for every job in motion picture and video production. From 2009 to 2018 Georgia spent over $4 billion on tax film incentives. This is a significant transfer of resource from taxpayers to the film industry, with large opportunity cost. Overall, the Georgia program does produce direct benefits, though the direct benefits do come at a high cost. As East (2019) noted, the film industry in Georgia seems reliant on these incentives. Thus, the loss or alteration of the incentives could lead to a significant decline of this industry considering its mobility. This leads to more questions about the sustainability of such a high-cost program to retain this highly mobile industry. In 2015, Louisiana had to cap its program due to the rising costs compared to the generated benefits, and while this appears to have negatively impacted the film industry in Louisiana the film industry is still present. In a recent report the Georgia Department of Audits and Accounts (2020) recommended that the state explores caps to reduce the financial risk of the state. It would be beneficial for future research to focus on the impact of caps, such as Louisiana's, on the local film industry to understand the effects of capping SFI on the industry's presence.

This research contributes to the broader literature on targets economic development incentives. Specifically, targeted incentives, such as Georgia's SFI program, may have costly benefits. Which leads to the larger question, even if SFI programs do meet the goals of creating jobs, attracting business, improving wages and increasing film production, is the cost worth the benefit? Proponents of film tax incentives argue that the incentives stimulate the economy more broadly, and spillover effects can be found in local services. However, Button (2018) estimates that the spillover effects from SFI programs are relatively small. In order to answer the question, one must consider the opportunity costs for pursuing these incentives. Instead of investing in other industries, public education, infrastructure, or cutting taxes, this money is disbursed to the film industry. Evaluating the competing priorities of states, it is imperative to understand the full impact of these programs. As with any program that is requiring a large amount of limited resources, it is important for states, including Georgia, to frequently evaluate the effectiveness and efficiency of SFI and other targeted economic development incentive programs.

References

Adkisson, R. V. (2013). Policy Convergence, State Film-Production Incentives, and Employment: A Brief Case Study. *Journal of Economic Issues (Taylor and Francis Ltd)*, *47*(2), 445–454.

Bartik, T. J. (2017). A new panel database on business incentives for economic development offered by state and local governments in the United States. *W.E. Upjohn Institute for Employment Research Report*. Retrieved from: http://research.upjohn.org//reports/225

Bartik, T. J. (1985) Business Location Decisions in the United States: Estimates of the Effects of Unionization, Taxes, and Other Characteristics of States. *Journal of Business and Economic Statistics, 3*(1), 14-22.

Blakely, E. J., and N. G. Leigh. (2017). *Planning local economic development*. Thousand Oaks, CA: Sage.

Bradbury, J.C. (2019) "Film Tax Credits and the Economic Impact of the Film Industry on Georgia's Economy". Bagwell Center for the Study of Markets and Economic Opportunity. Kennesaw State University. Retrieved from:

https://coles.kennesaw.edu/econopp/docs/GA 1-1.pdf

Button, P. (2018). Can tax incentives create a local film industry? Evidence from Louisiana and New Mexico. *Journal of Urban Affairs*. DOI: https://doi.org/10.1080/073 52166.2018.1530570

Button, P. (2019). Do tax incentives affect business location and economic development? Evidence from state film incentives. *Regional Science and Urban Economics*.
DOI: https://doi-org.ezproxy.augusta.edu/10.1016/j.regsciurbeco.2019.06.002

Buss, T. F. (2001). The effect of state tax incentives on economic growth and firm location decisions: An overview of the literature. *Economic Development Quarterly*, *15*(1), 90-105.

Calcagno, P. T., and H. Thompson. (2004). State economic incentives: Stimulus or reallocation?. *Public Finance Review*, *32*(6), 651-665.

Dabney, D. Y. (1991), Do enterprise zone incentives affect business location decisions? *Economic Development Quarterly*, 5 (4), 325-334.

Dennis, R. (2020 March 11^{th}). Georgia is the number one location for filming blockbusters. *11 Alive*.

Dockterman, E. (2018, July 26). "How Georgia Became the Hollywood of the South: TIME Goes Behind the Scenes". *TIME.* Retrieved from: https://time.com/longform/hollywood-in-georgia/

East, M. (2019). An Examination of Georgia's Film Tax Incentive: Is There No Business-like Show Business in Georgia? *Mercer Law Review*, *70*(3), 749–781. Retrieved from:
http://search.ebscohost.com.ezproxy.augusta.edu/login.aspx?direct=true&db=a9h&AN=136195946&site=eds-live&scope=site

Feng, J., and B. Liu. (2018). Goodwill and System Dynamics Modeling for Film Investment Decision by Interactive Efforts. *Discrete Dynamics in Nature and Society*, 1–10. https://doi-org.ezproxy.augusta.edu/10.1155/2018/7521689

Film L.A., (2016). 2016 Feature Film Study 5. Retrieved from: https://www.filmla.com/wp-content/uploads/2017/05/2016_film_study

Florida, R. (2014). *The rise of the creative class–revisited: Revised and expanded*. New York: Basic Books.

Florida, R., C. Mellander, and K. Stolarick. (2011). Geographies of scope: An empirical analysis of entertainment. *Journal of Economic Geography*, 12 (1), 1–22.

Freedman, M (2013). Targeted business incentives and local labor markets. *Journal of Human Resources*, 48 (2), 311-344.

Georgia Department of Audits and Accounts. (2020). Impact of the Georgia Film Tax Credit. *Georgia Department of Audits and Accounts*.
Retrieved from: https://www.audits.ga.gov/rsaAudits/report/index

Georgia Department of Economic Development. (2018). Fiscal Year 2018 in Review. *Georgia Department of Economic Development*. Retrieved from: https://online. lowpaper.com/79590748/FYl7GeorgiaYearInReview/.

Georgia Department of Economic Development. (2019). "Incentives and Applications". *Georgia Department of Economic Development.* Retrieved from:
https://www.georgia.org/industries/film-entertainment/georgia-film-tv-production/production-incentives

Glaeser, E. L. (2011). *Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier*. New York: Penguin.

Lee, Y. (2008). Geographic redistribution of US manufacturing and the role of state development policy. *Journal of Urban Economics*, 64, 436–450.

Leiser, S. (2017). The Diffusion of State Film Incentives: A Mixed-Methods Case Study. *Economic Development Quarterly*, *31*(3), 255–267.

Luther, W. (2010) "Movie Production Incentives: Blockbuster Support for Lackluster Policy." Tax Foundation Special Report no. 173.

Massachusetts Department of Revenue. (2014). "Report on the Impact of the Massachusetts Film Industry Tax Incentives Through Calendar Year 2012". Retrieved from: https://archives.lib.state.ma.us/bitstream/handle/2452/217709/ocn898214406-2012.pdf?sequence=3&isAllowed=y

Mays, S. (2017). What Sustains Georgia's Film Industry? *U.S. News - The Report*, C16–C21. Retrieved from: http://search.ebscohost.com.ezproxy.augusta.edu/login.aspx?direct= true&db=fth&AN=125960529&site=eds-live&scope=site

McHugh, P. (2013). "Film Tax Credits." Fiscal Research Division, North Carolina General Assembly. Retrieved from: http://wwwcache.wral.com/asset/news/state/nccapitol/2013/08/16/12784762/201308161256.pdf

Meeks, A. (2019). The Economic Impact of the Film Industry in Georgia. Center for Economic Development Research.

Miller, J. L. (2017). Louisiana Disguised: Film Tax Incentives and Location Representation in Contemporary Hollywood Films. *Journal of Popular Culture*, 50 (3), 466-489.

National Conference of State Legislatures. (2018). State Film Production Incentives and Programs. Retrieved From: http://www.ncsl.org/research/fiscal-policy/state-film-production-incentives-and-programs.aspx

O'Brien, N.F., and C.J. Lane. (2018). Effects of Economic Incentives in the American Film Industry: An Ecological Approach. *Regional Studies*, *52*(6), 865–875.

Pew (2017). "Georgia Tax Incentive Evaluation Ratings". The Pew Charitable Trust. Retrieved from: https://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2017/05/state-tax-incentive-evaluation-ratings-georgia

Rickman, D., & Wang, H. (2018). US State and Local Fiscal Policy and Economic Activity: Do We Know More Now?. *Journal of Economic Surveys*, 34 (2), 424-465.

Schutt, R.K. (2011). *Investigating the social world: The process and practice of research*. Pine Thousand Oaks, CA: Forge Press.

Sewordor, E., and D.L. Sjoquist. (2016). Lights, camera, action: The adoption of state film tax credits. *Public Budgeting and Finance*, 36(2), 5-25.

Small, O., and L. Wheeler. (2016). A Description of the Film Tax Credit and Film Industry in Georgia. Fiscal Research Center. Retrieved from: https://frc.gsu.edu/files/2016/02/ Georgia-Film-Tax-Credit-February-2016.pdf

Strauss-Kahn, V., and X. Vives. (2009). Why and where do headquarters move? *Regional Science and Urban Economics*, 39(2), 168-186.

Swenson, C. W. (2017). Preliminary Evidence on Film Production and State Incentives. *Economic Development Quarterly*, *31*(1), 65–80.

Tannenwald, R. (2010). State film subsidies: Not much bang for too many bucks. *Center on Budget and Policy Priorities*. Retrieved from: https://www.cbpp.org/research/state-film-subsidies-not-much-bang-for-too-many-bucks

Taylor, C. D. (2012). Conservation easement tax credits: A viable policy for stimulating donations? *State and Local Government*

Review, 44, 101-112.

Thom, M. (2018). Lights, camera, but no action? Tax and economic development lessons from state motion picture incentive programs. *The American Review of Public Administration*, 48(1), 33-51.

Trubey, S. (2016) "Georgia's Movie Industry Surges in 2016," The Atlanta Journal-Constitution. Retrieved from: http://www.myajc.com/news/local/georgia-movie-industry-surges-2016/ jnZPM97YDdRsz70rzXl7pO

Webb, L. (2015). *The Cinema of Urban Crisis: Seventies Film and the Reinvention of the City*. Amsterdam UP.

Wilson, D. J. (2009). Beggar thy neighbor? The in-state, out-of-state, and aggregate effects of R and D tax credits. *The Review of Economics and Statistics*, 91(2), 431-436.

Wright, K. K., S.S. Karlinsky, and K.A. Tarantino. (2009). Lord of the Rings Impact on Federal and State Film Industry Tax Incentives and Their Tax Treatment. *ATA Journal of Legal Tax Research*, *7*, 57–75.

Zhang, S. (2015). Impacts of enterprise zone policy on industry growth: New evidence from the Louisville program. *Economic Development Quarterly*, 29, 347-362.

Opioids in the United States: What Factors Predict Opioid Death Rates across the 50 States?

Jessie Kalinowski[1]

[1]Undergraduate Student, Valdosta State University
[*]2019 GPSA Pajari Award for best undergraduate paper.

ABSTRACT

The purpose of this quantitative study is to examine the factors that led to the opioid epidemic across each of the 50 states. Many solutions have been suggested and implemented in recent years with the intent of reducing the number of opioid related deaths, yet it is not clear whether these measures have been successful. This study analyzes thirteen independent variables: per capita income, unemployment rate, percent uninsured, marijuana laws, population density, race (white), race (African American), race (Hispanic), age (35-54), age (55- 64), age (65+), education (bachelor's degree) and region. The impact of these variables on the opioid death rate is measured in this study using correlation analysis, scatterplot analysis, and an AVONA for the region variable. Seven variables were found to be statistically significant at the bivariate level: percent uninsured, marijuana laws, population density, race (white), age (35-54), age (55- 64) and age (65+). Regional differences are evident, with opioid death rates highest in the Northeast followed by the South and the North Central regions. Contrary to previous research, states with relaxed marijuana laws do not have lower opioid death rates. The results of this study suggest that education level, per capita income and unemployment do not really influence the opioid death rate, however, the impact of age (ranging from 35 to 65+), population density, race (white) and marijuana laws are variables that should be further examined as they may lead to an answer in solving this crisis.

Introduction

The United States is grappling with one of its worst-ever drug crises. More than eight hundred people a week die from opioid-related overdoses, and some experts say the death toll may not peak for years (Council on Foreign Relation 2018). Opioids became popular and remain prevalent because they are the most effective drugs for the treatment of pain (Rosenblum, Marsch, Joseph and Portenoy, 2008). However, they are widely feared compounds, which are associated with abuse, dependence and the dire consequences of diversion; they are also essential medications, the most effective drugs for the relief of pain and suffering (Portenoy et al, 2004).

Millions of Americans suffer from opioid addiction. The crisis has reached such a scale that, beyond the risks it poses to public health, it is becoming a drag on the economy and a threat to national security. Analysts say the problem started with the over prescription of legal pain medications, like oxycodone (Oxycontin), but note that it has intensified in recent years with an influx of cheap heroin and synthetic opioids, like fentanyl, supplied by foreign-based drug cartels. OxyContin was approved by the Food and Drug Administration (FDA) in 1995 as a sustained-release preparation of oxycodone hydrochloride and was thought to have much lower abuse potential than immediate-release oxycodone because of its slow-release properties. However, beginning in 2000, widespread reports of OxyContin abuse surfaced (Cicero, Inciardi and Muñoz 2005). In recent years, the U.S. government has ramped up efforts to cut both the foreign and domestic supply of opioids, limiting the number of prescriptions in the United States while providing counter narcotics assistance to countries including Mexico and China. Meanwhile, federal and state officials have attempted to reduce demand by focusing less on punishing drug users and more on treating them (Council on Foreign Relations 2018).

Recently, given the scale and importance of this issue, researchers and politicians have increased efforts to study the crisis. Knowledge of the crisis is what will benefit the U.S. citizens. This study will attempt to define and answer the research question, "What factors predict opioid death rates across the 50 states?" This paper will break down the opioid crisis in four different sections, each section will cover a different aspect of the opioid crisis and what seems to be key factors within the crisis. The sections of this paper are as follows: a literature review, a data and methods section, a findings section and a conclusion. The first section of this paper will contain the literature review. The second section will be the data and methods section, throughout this section the dependent and independent variables will be clearly stated, a relationship between the dependent variable and each independent variable be articulated with each hypothesis. A summary of the data source and the unit of analysis will be examined. The findings section will provide and explain the outcome of each independent variable in relation to the dependent variable. Correlation and regression analysis as well as an ANOVA will help show the results of the relationships between the

variables. Ultimately, this section will either reject or fail to reject the hypotheses provided in the second section of this paper. Finally, a conclusion section will summarize this study and give advice or ideas on how to further study the opioid crisis.

Literature Review

Paola Scommegna (2018) noted in her research that the prescription opioid painkillers which helped fuel the surge in U.S. drug overdose deaths were first approved by the Federal Drug Administration in late 1995. The before-and-after fatality rates tell a shocking story: In 1994, the age-adjusted drug overdose death rate was 4.8 deaths per 100,000 people; by 2015, the rate had more than tripled to 16.3 per 100,000. Since then, the overdose death rate has continued to climb. Provisional estimates for 2016 suggest it reached 19.8 deaths per 100,000, more than quadrupling since 1994. While prescription opioids fueled the initial surge in overdose deaths after 1995, heroin and fentanyl-type compounds, which tend to be illicitly produced, are the main drivers now (Scommegna 2018).

Amy Bedingfield (2018) reports in her article that in January 2017, the CDC reported more than 64,000 annual deaths related to drug overdose, a 21 percent increase from 2016 alone. To put this statistic into perspective, the number of drug overdose related deaths has now surpassed the peak of deaths from the AIDS epidemic, fatal car crashes and gun violence. Emergency departments and hospitals are being overloaded, with visits for opioid overdoses in EDs rising 30 percent in all parts of the U.S (Bedingfield 2018).

Bedingfield (2018) also reported that on October 26, 2017, the Trump Administration declared the opioid crisis a National Public Health Emergency. The economic impact of the opioid epidemic is also staggering. A 2016 study put the estimated total cost of prescription opioid addiction and overdose at $78.5 billion for 2013, with costs associated with lost productivity, criminal justice, substance abuse treatment, health insurance and fatalities (Bedingfield 2018). More recently Altarum, a healthcare research organization, reported the cost of the opioid epidemic to be $95 billion for 2016 (Bedingfield 2018). When faced with the evidence, it is nearly impossible to disagree on one critical point: the opioid epidemic is real and it is sweeping the nation at an alarming rate, destroying families and communities in the process (Bedingfield 2018).

According to the article published in *The Atlantic* in 2015 by Olga Khazan, more Americans died from drug overdoses than from car accidents and gun homicides combined. That's according to a startling interactive story published by *The New York Times* recently, which also noted that since 1990, drug-overdose deaths have increased by 500 percent (Khazan 2017).

Khazan (2017) stated that a new study suggests unemployment might be one of the factors behind that dramatic rise. The paper, published by NBER (National Bureau of Economic Research) last week, finds that as the unemployment rate increases by one percentage point in a given county, the opioid-death-rate rises by 3.6 percent, and emergency-room visits rise by 7 percent (Khazan 2017).

Rather than more people getting injured when jobs are scarce, the authors suspect that the increased use of painkillers is a "physical manifestation of mental-health problems that have long been known to rise during periods of economic decline" (NBER as cited in Khazan 2017). Depression and pain are twin agonies, in other words: Not only does depression make people more sensitive to pain, they note, opioids have been shown to help relieve depressive symptoms (Khazan 2017).

This is not the only study that has linked joblessness with painkiller use. In another recent paper, the Princeton University labor economist Alan Krueger found that nearly half of "prime age" men who are not in the labor force take pain medication daily. And past studies have found that the unemployed are more likely to use illegal drugs than full-time workers. A large share of American men between the ages of 25 and 54 who are not in the labor force may suffer from serious health conditions that are "a barrier to work" and suffer physical pain, sadness, and stress in their daily lives, according to research presented by Princeton University labor economist Alan Krueger (Alan Krueger as cited in Coy 2018). These studies lend support to the idea that many opioid overdoses are "deaths of despair," as the Princeton economists Anne Case and Angus Deaton call them—deaths brought on by joblessness, hopelessness, and both physical and emotional pain (Khazan 2018).

The U.S. opioid epidemic has taken the lives of rising numbers of people with all levels of education. However, deaths have grown increasingly more concentrated among those with lower levels of education, particularly among non-Hispanic whites. More-educated adults in the United States tend to live longer than less-educated individuals. The differences increase in a stair-step pattern by education level, with the widest difference between college graduates and those without high school degrees. This gap has widened over the past two decades, resulting in part from steep increases in drug overdose deaths among those without college degrees (Scommegna 2018).

Jessica Ho (2017) of the University of Southern California reports that between 1992 and 2011 drug overdose deaths represented a sizable share of the widening difference in life expectancy among college graduates and those with less education. For example, among non-Hispanic whites, opioid deaths account for 99 percent of the *growth* in the life expectancy gap between men with college degrees and those without high school diplomas; among women, opioid deaths could be blamed for 42 percent of the growth in the life expectancy gap between the two education groups (Ho 2017).

Ho (2017) argues that people with low education levels often experience limited job opportunities and poor economic prospects, leaving them vulnerable to depression, despair, and drug addiction. Among the interrelated reasons for this: less-

educated individuals tend to work in settings that "increase their risk of workplace injuries, disability, and chronic health conditions, which lead to a greater likelihood of being prescribed opioid painkillers," raising their risk of addiction (Ho 2017). People with low education levels are more concentrated in rural areas, where the emergency medical response for overdose victims may be more limited. Less-educated individuals who also have limited incomes may have greater financial incentives to participate in schemes that involve reselling opioids (such as seeking prescriptions from multiple doctors), which also increase their access to these drugs and the likelihood of addiction. Compared with more-educated people, less-educated people "may have fewer resources to combat drug addiction, including financial resources, access to scarce slots in drug treatment programs, and support from social networks" (Ho 2017).

A study done by the National Institute on Drug Abuse (NIH) determined that the brain adapts and responds to the environments and conditions in which a person lives. When addiction is spoken as a chronic disorder of the brain, it includes an understanding that some individuals are more susceptible to drug use and addiction than others, not only because of genetic factors but also because of stress and a host of other environmental and social factors in their lives that have made them more vulnerable (National Institute on Drug Abuse 2018).

Opioid addiction is often described as an "equal opportunity" problem that can afflict people from all races and walks of life, but while true enough, this obscures the fact that the opioid crisis has particularly affected some of the poorest regions of the country, such as Appalachia, and that people living in poverty are especially at risk for addiction and its consequences like overdose or spread of HIV (National Institute on Drug Abuse 2018). The Centers for Disease Control and Prevention (CDC) considers people on Medicaid and other people with low-income to be at high risk for prescription drug overdose. However, there are some researchers, such as Richard Harris and W. David Bradford, a professor of public policy at the University of Georgia, that suggest medical marijuana and home cultivation of marijuana would help contain opioid addiction and manage pain in a less deadly, addictive way. THC & CBD oil extracted from marijuana is used in states with legal medical marijuana laws to help with pain and has proven over time to manage pain in a less addictive way. In fact, cannabinoids (chemicals found in cannabis) have shown significant promise in basic experiments on pain (Mack and Joy 2001). Alison Mack and Janet Joy discovered that peripheral nerves that detect pain sensations contain abundant receptors for cannabinoids, and cannabinoids appear to block peripheral nerve pain in experimental animals (Mack and Joy 2001). Even more encouraging, basic studies suggest that opiates and cannabinoids suppress pain through different mechanisms (Mack and Joy 2001).

The article published by Richard Harris suggests that some people turn to marijuana as a way to treat their pain, and by so doing, avoid more dangerous addictive drugs. The findings are the latest to lend support to the idea that some people are willing to substitute marijuana for opioids and other prescription drugs (Harris 2018).

Harris suggests that many people end up abusing opioid drugs such as oxycodone and heroin after starting off with a legitimate prescription for pain. The author argues that people who avoid that first prescription are less likely to end up as part of the opioid epidemic (Harris 2018). "We do know that cannabis is much less risky than opiates, as far as likelihood of dependency," Bradford. "And certainly, there's no mortality risk" (Harris 2018).

The National Academy of Sciences, Engineering and Medicine says there's good evidence that cannabis is effective at treating pain for some conditions. So, Bradford and three colleagues decided to see whether people who can get easy access to medical marijuana are less likely to get prescription opioids. The answer, they report in *JAMA Internal Medicine*, is yes (Harris 2018). Along with the idea that marijuana can reduce the number of prescriptions of opioids, there are other efforts being made to gain control of the opioid problem.

Lauren Brande explains in her article that efforts to curb the prescription opioid abuse problem are challenged by numerous factors that all relate to the way that these medications are perceived in the public sphere. Despite their legal status, opioid medications have a very high potential for abuse and addiction and are being overprescribed at alarming rates (Brande 2018).

The Johns Hopkins Bloomberg School of Public Health's senior author G. Caleb Alexander, MD, MS, associate professor in the Bloomberg School's Department of Epidemiology and co-director of the Johns Hopkins Center for Drug Safety and Effectiveness states that "... findings suggest that both public and private insurers, at least unwittingly, have contributed importantly to the epidemic." The study delivers one of the most comprehensive looks ever at insurers' pain coverage policies and comes as the opioid epidemic continues to devastate communities across the country (John Hopkins 2018). The U.S. Department of Health and Human Services (HHS) has estimated that in 2016, over 42,249 Americans died from opioid overdoses, the most of any year on record (John Hopkins 2018). More than 2.1 million Americans had an opioid use disorder (addiction) in 2016, with economic costs from the epidemic estimated to be as high as $504 billion dollars (John Hopkins 2018).

Fortunately, the steps that are being taken have shown promising results. With a better understanding of the underlying causes of this epidemic, both professionals and consumers will be better equipped to address the major public health concerns arising from opioid abuse. Continued determined efforts to educate society, prevent abuse and diversion, and acknowledge factors that play into opioid abuse will help expose the truth behind these powerful drugs (Brande 2018).

Data and Methods

The unit of analysis for this study is the 50 states of the United States of America and the dependent variable is the opioid death rate by 100,000 per state in 2015. Data for the opioid death rate was obtained from the Henry J. Kaiser Family Foundation (KFF) website which uses data and information collected from the Center for Disease Control (CDC). Data for the independent variable population density was gathered from statista.com which uses data from the U.S. Bureau of the Census. The independent variables per capita income, percent uninsured, unemployment rate, race, age, education and region were all retrieved from the U.S. Bureau of the Census. The data ranges from the years 2015 to 2017 with most of the data being used from the years 2015 and 2016.

Data for the independent variable "marijuana laws" was retrieved from thecannabist.com website. On this website marijuana laws are broken down per state and by the year they were voted in. The data for this website were gathered by looking at each state and taking the marijuana laws that were in effect for each state in 2015.

The dependent variable, opioid death rate per 100,000 population, ranges from 2.4 to 43.4, with a mean of 14.466 and a standard deviation of 9.006 as noted in Table 1. There were 20 states that were above the average opioid death rate and 10 that fell below the average opioid death rate. There are three states that are significantly above the national average with death rate percentages about 30 per 100,000 population: West Virginia, in the South Region, has an opioid death rate of 43.4, New Hampshire, in the Northeast region, has an opioid death rate of 35.8 and Ohio, in the North Central region, with an opioid death rate of 32.9. The states with the lowest death rates are as follows: Nebraska, in the North Central region, has the lowest opioid death rate at 2.4, Montana, in the West region, has an opioid death rate of 4.2, and California (West) and Texas (South) are tied with an opioid death rate of 4.9 per 100,000 population. California allows marijuana medically and recreationally, Montana allows medical marijuana, Texas allows limited medical marijuana and Nebraska does not allow marijuana at all.

Table 1. Variables, Characteristics and Sources

Variables	Minimum	Maximum	Mean	Std. Dev.	Sources
Opioid Death Rate per 100,000	2.4	43.4	14.466	9.006	KFF
Per Capita Income	40528	76127	56000	9183.19	U.S. Census
Unemployment Rate	2.9	6.9	4.642	0.992	U.S. Census
Marijuana Laws	1	4	2.72	0.858	The Cannabist
Population Density	1	1225	202.18	267.651	Statista
Race (White)	0.19	0.94	0.689	0.158	U.S. Census
Race (African American)	0.01	0.37	0.102	0.094	U.S. Census
Race (Hispanic)	0.01	0.46	0.12	0.101	U.S. Census
Age (35-54)	0.22	0.28	0.253	0.013	U.S. Census
Age (55-64)	0.09	0.16	0.133	0.013	U.S. Census
Age (65+)	0.11	0.19	0.158	0.017	U.S. Census
Region	1	4	2.66	1.062	U.S. Census
Education (% Bachelor's Degree)	19.2	40.5	28.976	4.962	U.S. Census
Uninsured	2.8	17.1	8.82	3.125	U.S. Census

The first independent variable per capita income ranges from $40,528 to $ 76,127 with a mean of $56,000 and a standard deviation 9183.190. The second independent variable unemployment rate ranges from 2.9% to 6.9% with a mean of 4.642% and a standard deviation of 0.992. The third independent variable, marijuana laws ranges from 1 to 4 with a mean of 2.720 and a standard deviation of 0.858. This variable is based on marijuana per state with 1=Not legal, 2=Limited Medical, 3=Legal for medical and 4=Legal. There are 4 states were marijuana is not legal at all. There are 15 states that allow marijuana in limited medical usage. There are 22 states that allow medical marijuana. There are 9 states that allow marijuana legally for medical or recreational purposes, those states are as follows: Alaska, California, Colorado, Maine, Massachusetts, Nevada, Oregon, Vermont and Washington. This variable will help determine if marijuana laws and usage affect the percentage of deaths caused from opioids.

The fourth independent variable, population density ranges, from 1 to 1225 which is the number of residents per square miles in 2017. The mean of the fourth independent variable is 202.180 with a standard deviation of 267.651. The fifth, sixth and seventh independent variables are the percentage of race per state in 2016. The fifth independent variable, race (white), ranges from 19% to 94% with a mean of 0.689 and a standard deviation of 0.158. The sixth independent variable of percentage African Americans ranges from 1% to 37% with a mean of 0.102 and a standard deviation of 0.094. The seventh independent

variable of percentage Hispanic ranges from 1% to 46% with a mean 0.120 and a standard deviation of 0.101. The next three independent variables are the percentage of age per state broken down by age groups. The eighth independent variable age (35-54) ranges from 22% to 28% with a mean of 0.253 and a standard deviation of 0.013. The ninth independent variable age (55-64) ranges from 9% to 16% with a mean of 0.133 and a standard deviation of 0.013. The tenth independent variable age (65+) ranges from 11% to 19% with a mean of 0.158 and a standard deviation of 0.017.

The independent variable region ranges from 1 to 4 with a mean of 2.660 and a standard deviation of 1.062. The region variable is coded 1 through 4 with states from the Northeast=1, North Central or Midwest=2, South=3 and West=4. The independent variable, education (percentage bachelor's degree) ranges from 19.2% to 40.5% with a mean of 28.976 and a standard deviation of 4.962.[1] The final variable, percent uninsured ranges from 2.8% to 17.1% with a mean of 8.82 and a standard deviation of 3.125.

The hypotheses that will be tested are as follows:

- H1: As per capita income increases; opioid death rates decrease.
- H2: As the unemployment rate increases, opioid death rates will increase.
- H3: As population density decreases, opioid death rates will increase.
- H4: States with more relaxed marijuana laws will have lower opioid death rates.
- H5: States with a higher percentage of whites will have higher death rates.
- H6: As the percentage of population age (35-54) increases, opioid death rates will increase.
- H7: As the percentage of population age (55-64) increases, opioid death rates will increase.
- H8: As percentage of population age (65+) increases, opioid death rates will increase.
- H9: States in the Northcentral (Midwest) region will have higher opioid death rates.
- H10: As the percentage of the population with a bachelor's degree increases, opioid death rates decrease.
- H11: As the percent of the population with no insurance increases, opioid death rate decreases.

Microcase was the data analysis software for this study. The appendix provides the data set for this paper.

Findings

The findings in this study are very surprising and reveal a great deal of insight about the factors attributing to the opioid crisis. Out of the 12 independent variables included in the correlation analysis, five of the variables were insignificant, four were significant at $p \leq 0.05$* (marijuana laws, percentage white population, percentage population 35-54, and percentage of the population 65 and older), and three were highly significant at $p \leq 0.01$** (population density, percentage of the population age 55-64 and percent uninsured). All the correlations are shown below in Table 2.

The correlation table shows that the relationship between opioid death rates and the percentage of Americans with a bachelor's degree is not statistically significant at a correlation of 0.187. Thus, H10 is rejected. Along with H10, H1 is also rejected. The correlation table shows that $r = 0.160$. The relationship between income and opioid death rate is not statistically significant. As per capita income increases, opioid deaths rates do not decrease, H1 is rejected.

As shown in the correlation table, the correlation between the opioid death rates and the unemployment rate per state are not statistically significant. Therefore, H2 is rejected. The statistically significant relationships in Table 2 are further analyzed in the following scatterplots.

As shown in Figure 1, the correlation between opioid death rates and population density is statistically significant at $p \leq 0.01$**. If a state has zero people per square mile the opioid death rate would be 11.67 and for each additional person per square mile the opioid death rate increases by 0.014. Population density explains 17% of the variance in the opioid death rate (R= 0.17). The figure shows that as population density increases the opioid death rate increases. Therefore, H3 is rejected since it hypothesized a negative relationship between the two variables. Opioid death rates do not appear to be highest in rural states but appear to be higher in more densely populated urban states.

Figure 2 shows there is a statistically significant relationship between opioid death rate and percentage of the population between 55 and 64. For every percentage increase in the age (55-64) population, the opioid death rate increases by 322.8.

[1] As a reviewer pointed out, using this as a measure of education is a fairly blunt measure. However, I use percentage of the state holding bachelor's degrees because I am using states as my unit of analysis. Future research should use more nuanced measures for this variable concept.

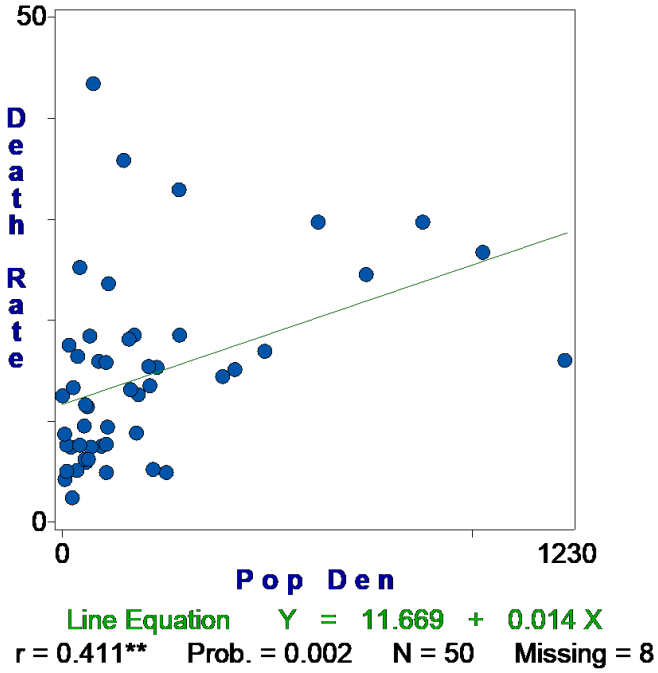


Figure 1. Population Density & Opioid Death Rate

Percentage age (55-64) population explains almost 22% (R= 0.219) of the variance in the opioid death rate. Based on the research and the data provided in the above figure, there is more of a significant relationship between these variables than the other age variables hypothesized. The correlation between the variables in Figure 2 is r = 0.468**. Therefore, H7 is accepted.

Figure 3 shows there is a statistically significant relationship between opioid death rate and percent uninsured. If a state has a higher percentage of the population that is uninsured the opioid death rate would be 25.12 and for each additional person that is uninsured the opioid death rate decreases by -1.21. Percent uninsured explains 17% (R= -0.17) of the variance in the opioid death rate. Based on the research and the data provided in the above figure, there is a significant relationship between these variables. The correlation between the variables in Figure 3 is r = -0.419**. Therefore, H11 is accepted.

The ANOVA in Figure 4 shows the opioid death rates across the regions. The Northeast has the highest opioid death rate followed by the South. In the North Central region, Ohio has the highest opioid death rate in the region at 32.9. West Virginia has the highest opioid death rate at 43.4 in the South region, and West Virginia has the highest death rate in the entire nation.

Table 2. Correlation Analysis

Independent Variable	Correlations
Per Capita Income	0.16
Unemployment	0.129
Marijuana Laws	0.249*
Population Density	**0.411****
Race (White)	0.276*
Race (African American)	-0.038
Race (Hispanic)	-0.191
Age (35-54)	0.297*
Age (55-64)	**0.468****
Age (65+)	0.245*
Education (Bachelor's)	0.187
Uninsured	**-0.419****

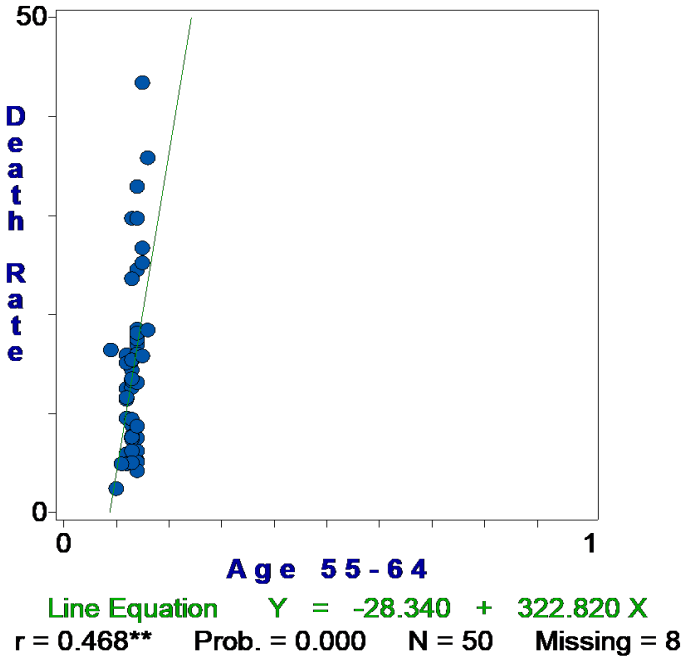


Figure 2. Age 55-64 and Opioid Death Rate

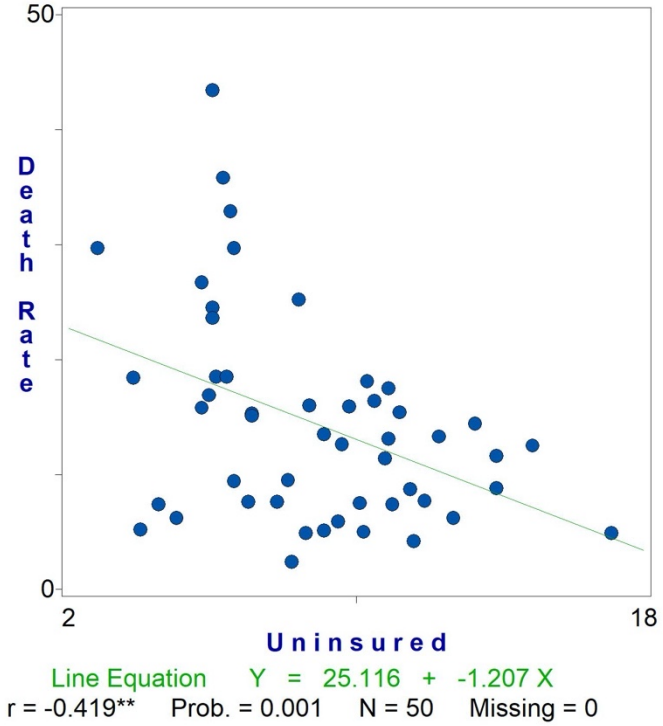


Figure 3. Percent Uninsured and Opioid Death Rate

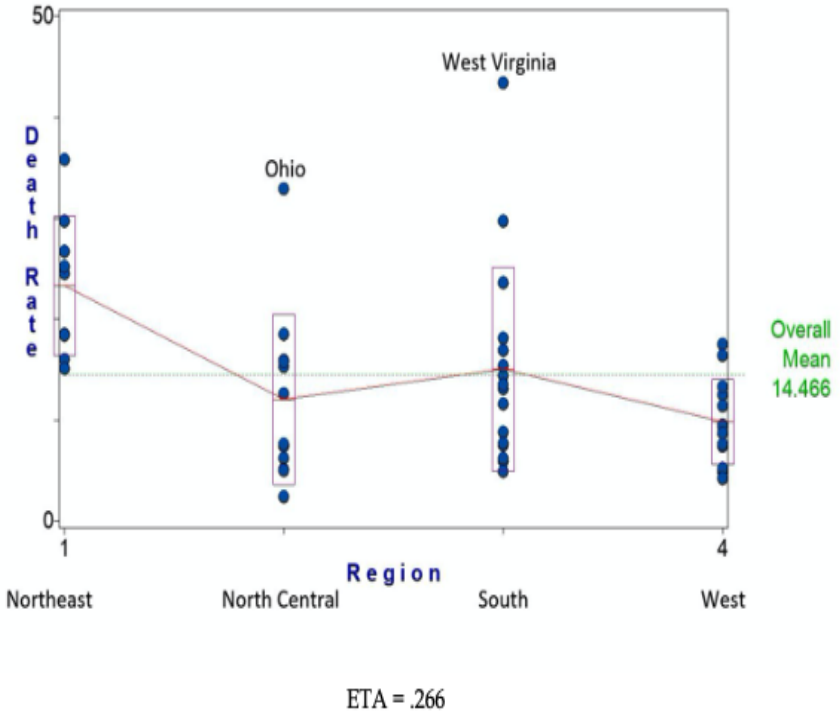


Figure 4. ANOVA of Region and Opioid Death Rate

The West has the lowest death rate of the four regions.

Table 3. Multivariate Regression Analysis

Independent Variables	*Beta Values*
Income	-0.312
Unemployment	0.317*
Population Density	0.381*
Race (White)	0.381**
Age (55-64)	0.174
Education (Bachelor's)	0.255
Uninsured	-0.194
Marijuana Laws	0.119
N = 50	R = 0.492**

*p < 0.05, **p < 0.01

As shown in the multivariate regression analysis in Table 3, there are only 3 variables that remain statistically significant: Unemployment, Population Density and Race (white). The multiple R-squared for this multivariate analysis was 0.492. This mean that these 8 independent variables help explain 49.2% of the variation in the opioid death rate. It is worth noting that race (white) is the strongest predictor with a standardized regression coefficient of 0.381. Population density the has the second largest *Beta* value of 0.381 followed by unemployment (0.317).

Conclusion

The results of this study highlight several different factors that may have contributed to the opioid crisis. The percentage white population seems to have a significant effect on the opioid crisis. In his study of white overdose deaths, Alex Berezow discovers that when divided by race, the drug-related mortality rate (per 100,000) in 2016 for whites was 8.2% higher than African

Americans and 15.8% higher than Hispanics. That means that whites were roughly 50% and 167% likelier to die from drug overdoses than African Americans and Hispanics (Berezow 2018).

First, by far, opioids are the leading cause of drug-related deaths among all races/ethnic groups. When stratified into subcategories, prescription opioids, heroin, and non-methadone synthetic opioids (such as fentanyl) all play a substantial role in the opioid crisis. The bottom line is that the drug overdose epidemic is getting worse, not better, and disproportionately affecting whites (Berezow 2018).

Lauren Branden (2018) states in her research that rates of long-standing opioid medication use without a prescription are highest among younger users between the ages of 18 and 25, yet overdose rates are highest among users between 45 and 54 years old, as shown in Figure 2. The biggest increase in non-medical use of prescription pain relievers occurred in users 50 years and older—average rates of use in this group increased by 60% between 2003 and 2010. Younger people seem to have a higher risk of abusing prescription opioids, but rates among older users who are insured are on the rise. Middle-aged users seem to have the highest risk of overdose, which may reflect more frequent, higher dosing. Studies into the age-related effects on prescription opioid addiction might aid in the prevention of over-prescribing by spotlighting the problems that cause it. Many providers have concerns about the effects of opioids in older adults or the potential for addiction or the diversion of medications. Clarification in this area can help develop proper sanctions and training interventions to improve the use of opioid analgesic therapy (Brande 2018).

Brande also states that opioid medications provide unparalleled benefits for people suffering from extreme pain which makes addressing the prescription abuse problem a tricky endeavor. On the one hand, the number of opioid prescriptions has skyrocketed, which runs directly counter to allegations that pain has been largely undertreated by the medical community. On the other hand, the over-prescribing of opioid medications to treat chronic pain has proven to be a major societal concern (Brande 2018).

According to Johns Hopkins Bloomberg School of Public Health, health care insurers including Medicare, Medicaid and major private insurers have not done enough to combat the opioid epidemic (John Hopkins 2018). The Bloomberg School researchers examined major insurers' 2017 coverage policies for drugs to treat chronic lower-back pain and concluded that these policies missed important opportunities to steer patients towards safer and more effective treatments than prescription opioids (John Hopkins 2018).

Not only do age and race seem to be a huge factor into the opioid epidemic but region and population density do as well. Figure 1 revealed that as population density increases the opioid death rate appears to increase, which suggests that the death rate is higher in more densely populated areas. Population density and the opioid death rate would need to be further studied to determine if more death rates occur due to loneliness, depression, or boredom. The same needs to be done with region. As shown in Figure 4, the overall average opioid death rate per region is 14.466 with the highest death rates in the Northeast. The South is at the national average followed by the North Central region. The lowest opioid death rates are in the West. Studies would need to be conducted to determine why some regions have higher death rates than others. The West and North Central have more relaxed marijuana laws, however the North Central falls at the national average for the opioid death rate and the West falls below the national average.

The unemployment rate, as shown in Table 2, does not seem to influence the opioid death rate. H2 was rejected because the opioid death rate did not appear to increase as unemployment increased. Although the death rate increases with greater population density and with certain age groups, unemployment does not factor into these scenarios. It was hypothesized that unemployment would affect the opioid death rate, but the research discovered that it does not.

There are several different factors and additional variables that need to be researched and studied in order to help slow and eliminate the opioid crisis. This research could be expanded upon by adding different variables and possibly a time series analysis of the epidemic. Additionally, the vast amount of literature dating back as far the late 1990s on this topic could be provide better insight to how the epidemic started and where it originated, but time restraints on this study did not allow for a more in depth study of that literature.

If research continues to be updated and released for the public to acknowledge then the dangers of opioids can be addressed. It will take many years to get the epidemic under control but there are many different studies to suggest that it is possible. With the help of research, we can determine the biggest factors in this epidemic and target them specifically. There are several more studies that need to be done over the next several years to gain a better understanding of whether they help or harm the epidemic, the marijuana laws are an example of that.

Marijuana, especially medical marijuana, has proven to reduce pain in patients that have prescriptions to use it, but there needs to be longitudinal studies done on these patients, their usage and dosage of the prescription, their types of pain and the states they live in. Studies need to be done on the percentage of people that are addicted to marijuana and that transition from marijuana to opioids, in order to find out if the risks outweigh the benefits. Additionally, the above suggested studies need to be combined to see if more people would benefit more from prescriptions of medical marijuana over prescriptions of opioids, are the long-term effects of marijuana less than the long-term effects of opioids? Do more people get addicted to

opioids than marijuana? What is the death rate of marijuana versus the death rate of opioids? There are so many unanswered questions related to the use of marijuana for pain management, but long-term research can help answer these questions. Clinical trials could determine whether THC is the sole—and, if not, the best—pain-relieving compound in marijuana (Mack and Joy 2001). Although H4 was rejected, it must be considered that the effects of the marijuana laws and marijuana usage on the opioid death rate would need a longitudinal study to get the correct analysis. However, with the education of the American people and the world, better treatments and a more proactive plan for the epidemic, the opioid crisis can be defeated.

References

"Abuse rate of opioids by area income U.S. 2015 |Statistic." 2018. *Statista*.

Ballantyne, J., 2006. "Opioids for Chronic Nonterminal Pain." *Southern Medical Journal*, 99(11), pp.1245-1255.

Bedingfield, Amy. 2018. "The opioid epidemic: How population health analytics can combat the crisis overtaking America." *Beckershospitalreview.com*.

Berezow, Alex. 2018. "White Overdose Deaths 50% Higher than Blacks, 167% Higher than Hispanics |American Council on Science and Health." *Acsh.org*.

Brande, Lauren. 2018. "Prescription Opioid Addiction: What is Causing the Epidemic? – DrugAbuse.com." *DrugAbuse.com*.

Bureau, US. 2018. "Income." *Census.gov*. https://www.census.gov/search-
Center for Disease Control (CDC) 2018. "Prescription Opioid Data |Drug Overdose |CDC Injury Center." *Cdc.gov*.

Center for Disease Control (CDC) 2018. "Prescription Painkiller Overdoses." *Centers for Disease Control and Prevention*.

Cicero, Theodore J., James A. Inciardi, and Alvaro Muñoz. 2005. "Trends in Abuse of OxyContin®and Other Opioid Analgesics in the United States: 2002-2004." *The Journal of Pain* 6(10): 662-672.

Coy, Peter. 2018. "Why are so many men not working? They're in pain." *Bloomberg.com*.

Harris, Richard. 2018. " Opioid Use Lower in States That Eased Marijuana Laws." *Npr.org*.

Ho, Jessica Y. 2017. "The Contribution of Drug Overdose to Educational Gradients in Life Expectancy in the United States, 1992–2011." *Demography* 54(3): 1175-1202.

John Hopkins Bloomberg School of Public Health. 2018. "Health Insurance Plans May Be Fueling Opioid Epidemic. "Johns Hopkins Bloomberg School of Public Health.

Kaiser Family Foundation. 2018. "Opioid Overdose Death Rates and All Drug Overdose Death Rates per 100,000 Population (Age-Adjusted)." *The Henry J. Kaiser Family Foundation*.

Khazan, Olga. 2017. "The Link Between Opioids and Unemployment." *The Atlantic*.

"List of U.S. states by educational attainment." 2018. *En.wikipedia.org*.

Mack, Alison, and Janet Joy. 2001. *Marijuana As Medicine?*. Washington, D.C.: National Academy Press.

National Institute on Drug Abuse (NIH). 2018. "Addressing the Opioid Crisis Means Confronting Socioeconomic Disparities." *Drugabuse.gov*.

"Population density in the U.S., by state 2017 |Statistic." 2018. *Statista*.

Portenoy, RK et al. 2004. 863–904 *Substance Abuse: A Comprehensive Textbook*. 4th ed. Philadelphia: Lippincott, Williams & Wilkens.

Rosenblum, A., Marsch, L., Joseph, H. and Portenoy, R., 2008. “Opioids and the treatment of chronic pain: Controversies, current status, and future directions.” *Experimental and Clinical Psychopharmacology*, 16(5), pp.405-416.

Scommegna, Paola. 2018. "Opioid Overdose Epidemic Hits Hardest for The Least Educated."

Wallace, Alicia. 2018. "Where to find legal marijuana: Map of U.S. marijuana laws by state."