

**UMBC REVIEW** 2020 ||| VOL. 21



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# UMBC

JOURNAL OF UNDERGRADUATE RESEARCH

# REVIEW

2020





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Welcome to the 21st volume of the *UMBC Review*! This publication has now marked the culmination of undergraduate students' intensive and interesting research for over two decades. Across many disciplines and fields, our authors have one thing in common: they ask new and exciting questions, pursuing a greater truth and understanding of the world around them in the process. We are incredibly proud to present their work and showcase the achievements of the creative thinkers, problem solvers, and investigators who call UMBC home by bringing you ten exemplary articles produced by our undergraduate researchers. This year each paper selected for publication contributes to a collective theme of building global communities. The topics our authors investigate reflect a broader interest in the betterment of communities.



**MATTHEW KANE** assesses potential predators of the Bahama Oriole, a critically endangered songbird whose cause of decline remains largely a mystery; such research sheds light on the diverse web of connections existing in ecological communities.

**KARIS BARNETT** presents an optimized analytical chemistry technique that allows not only for the “best communication between instrumentation and molecules,” but also diverse applications in forensics and biological imaging.

**ANNA GIFTY OPOKU-AGYEMAN** provides a statistical analysis of childhood malarial infection’s effect on school progression in her home country of Ghana, demonstrating the significant impact current public health crises may have on an individual’s future opportunities.

**TAREK ANTAR** examines the role of religious socialization on religious and national group identities in Muslim American Adolescents.

**MIRANDA SNYDER** explores American brinkmanship regarding Russian compliance to the INF treaty.

**CALEB CAMPBELL** looks at depictions of the Ku Klux Klan in American cinema, using film to trace the country’s perception of the hate group throughout history.

**ALISON KNOWLES** analyzes a selection of tweets from Donald Trump during historic 2016 Presidential campaign, assessing the ways in which rhetoric can divide or unite a nation.

**NIKKI VIETZ** writes of Mary Wortley Montagu, who, in the 1800s, brought the cultural knowledge of vaccination from Turkey to England, popularizing this life-saving invention in her own country.

**GABRIELA SALAS** studies the experiences of college-aged women in accessing contraception at UMBC.

Each of these authors focus in some way on diversification and social coherency, a strikingly fitting theme in an age of polarizing global and cultural divisions. While this publication is crafted entirely by undergraduate students, all articles provide important contributions to their field and are consequently held to the same standard as other research journals. A rigorous round of peer review was completed by anonymous, off-campus faculty and professionals, which allowed us to select the best articles for publication. Our student authors worked through multiple rounds of feedback from the editors, implementing it with the help of their faculty advisor in order to craft the publication-worthy articles you hold in your hands today.

## **ACKNOWLEDGMENTS**

Faculty advisors play an essential role in the process of creating ideas and publishing research at UMBC. We'd like to thank the following faculty advisors for providing guidance and support to our student authors through the publication process:

**Dr. Charissa Cheah** – Department of Psychology  
**Dr. Devin Hagerty** – Department of Political Science  
**Dr. Amy Bhatt** – Department of Gender and Women's Studies  
**Dr. Tim Gindling** – Department of Economics  
**Dr. Kevin Omland** – Department of Biological Sciences  
**Dr. Amy Froide** – Department of History  
**Dr. Anne Rubin** – Department of History  
**Dr. Rebecca Adelman** – Department of Media Communications Studies  
**Dr. William R. LaCourse** – Department of Chemistry & Biochemistry

We would also like to thank our off-campus peer reviewers. We are particularly grateful for the time they spent to review undergraduate research, and for the expertise they provided which aided us in our process.

Thank you to the following for their financial support of the *UMBC Review* and their commitment to undergraduate research:

**Dr. Freeman Hrabowski** – President  
**Dr. Katherine Cole** – Vice Provost and Dean of Undergraduate Academic Affairs  
**Dr. April Householder** – Director of Undergraduate Research and Prestigious Scholarships  
**The Office of the President**  
**The Office of the Provost**

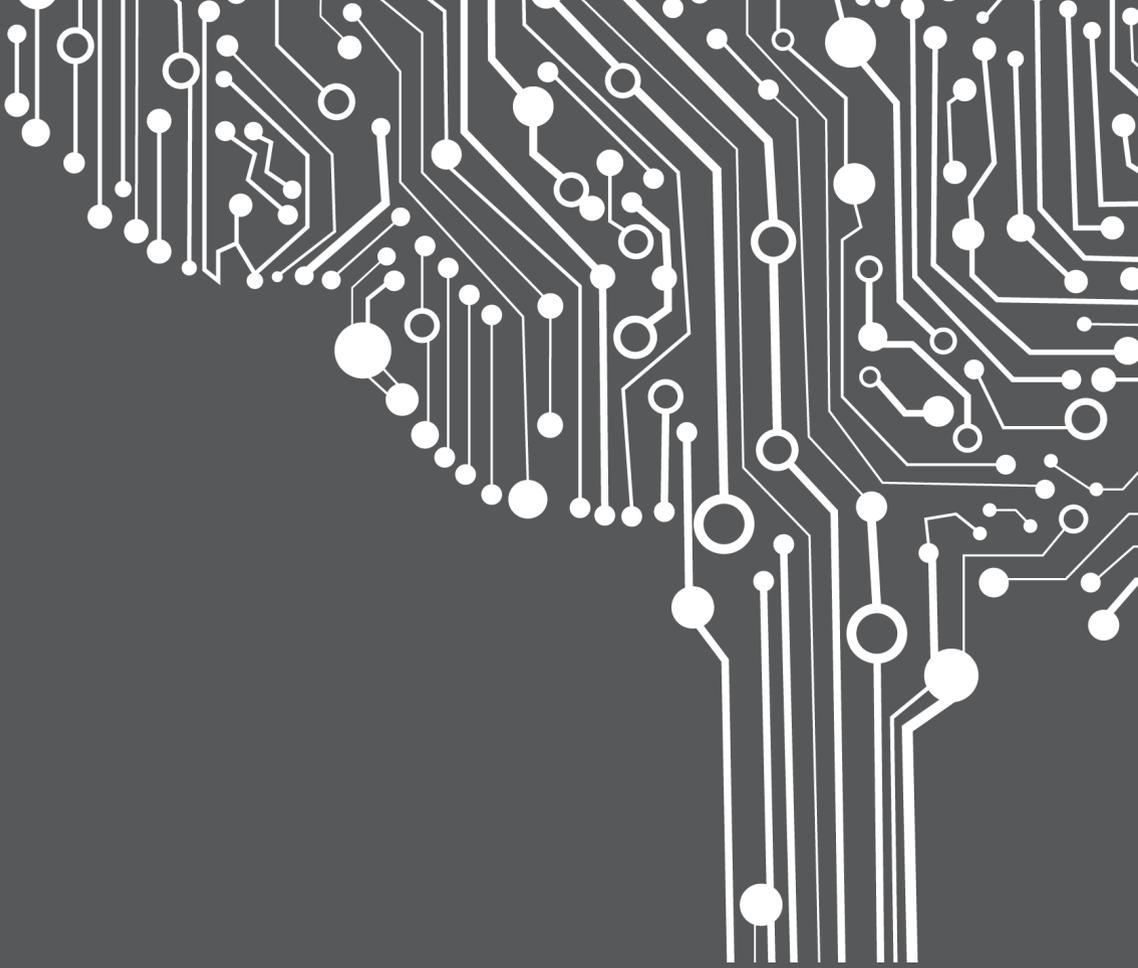
Finally, we would like to thank our own advisors for their time and guidance, and especially for their support in helping us develop and publish this edition of the *UMBC Review*:

**Dr. Molly Jones-Lewis** – Editing, Ancient Studies Department  
**Professor Guenet Abraham** – Design, Visual Arts Department

We invite you to enjoy the 21st Volume of the *UMBC Review*!

**Ghina Ammar** – Senior, Political Science and History  
**Maxi Wardcantori** – Senior, English Literature and Medieval & Early Modern Studies  
**Kristina Atanasoff** – Senior, Biological Sciences





**Surveying Potential Predators  
to Protect a Critically Endangered  
Bahamian Songbird**

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MATTHEW S. KANE

**Matthew Kane** is a biology major who graduated in Spring 2019 and began his Masters at William and Mary in Fall 2019. During his time at UMBC he was also a member of the UMBC Honors College and UMBC Cross Country team. Matthew would like to thank his mentor Dr. Omland and his fellow undergraduate co-authors Dan Stonko and Michael Rowley for their help and guidance with this project. He would also like to thank Dr. Michael Cove from North Carolina State University for his assistance in identifying bite marks for the wax bait survey. In addition, he thanks Scott Johnson and the Bahamas National Trust for all their work on the Bahama Oriole Project and in protecting Bahamian wildlife. For funding, Matthew Kane would like to thank the UMBC Undergraduate Research Award and Explorer's Club for their support.

I began working for the Omland Lab during the spring semester of my freshman year at UMBC. One of the first projects I worked on was updating the Cornell Neotropical Birds website entry for the Bahama Oriole. While doing research for this entry, I noticed that there was little information available on the predators of the Bahama Oriole. In addition, I learned that there exist multiple introduced mammal species on Andros that are known to prey upon songbirds. This highly concerned me because I had heard of island bird species being wiped out by cats, dogs, rats, and other invasive species. When Dr. Omland offered me the opportunity to start an individual project for the Bahama Oriole Project, I knew I wanted to fill in this knowledge gap and figure out if predation was the root cause of the Bahama Oriole's decline. My goal as a member of the Bahama Oriole Project was to provide Bahama Oriole conservation efforts with the information they needed to effectively protect this rare, charismatic songbird.

## ABSTRACT

The Bahama Oriole (*Icterus northropi*) is a critically endangered songbird that is only present on the Andros island complex in the Bahamas, and whose cause of decline is not well understood. In order to gauge the threat predation poses to this species, we surveyed populations of two globally invasive songbird predators: black rats (*Rattus rattus*) and house cats (*Felis catus*). Both species have contributed to the decline of several island birds worldwide, including other Caribbean songbirds. In January 2017, we monitored the presence of house cats using trail cameras and were able to capture images of cats in known Bahama Oriole habitats. In May 2018, we utilized wax baits to survey the population of black rats; while we found no signs of rats in this survey, several of our baits were attacked by land crabs. Our combined survey results indicate that while black rat population density is likely very low, house cats are present in Bahama Oriole nesting habitats and are more likely to be a threat. In order to determine the extent of this threat and how it should be countered, Bahama Oriole predator research should shift focus from black rats to house cats.

## INTRODUCTION

The Bahama Oriole (*Icterus northropi*) is a critically endangered songbird species that is only present on the Andros Island complex in the Bahamas (Birdlife International, 2016). This species was also formerly present on the island of Abaco until the 1990s when it was extirpated from Abaco (Price *et al.* 2011). We still do not know the exact cause of the Bahama Oriole's extirpation or continued decline, but one possible cause may be predation. Invasive mammals, including black rats (*Rattus rattus*), brown rats (*Rattus norvegicus*), and house cats (*Felis catus*) live on Andros and are known songbird predators (Buden, 1974; Buden, 1986). House cats have been implicated with the extinction of over thirty island bird species, and rats are known nest predators of island songbirds (Marra and Santella, 2016). Notably, Allcorn *et al.* (2012) documented black rat nest predation of the Montserrat Oriole (*Icterus oberi*), a species closely related to the Bahama Oriole. The threat that mammalian predators pose to Caribbean songbirds suggests that they may be important factors in the Bahama Oriole's decline.

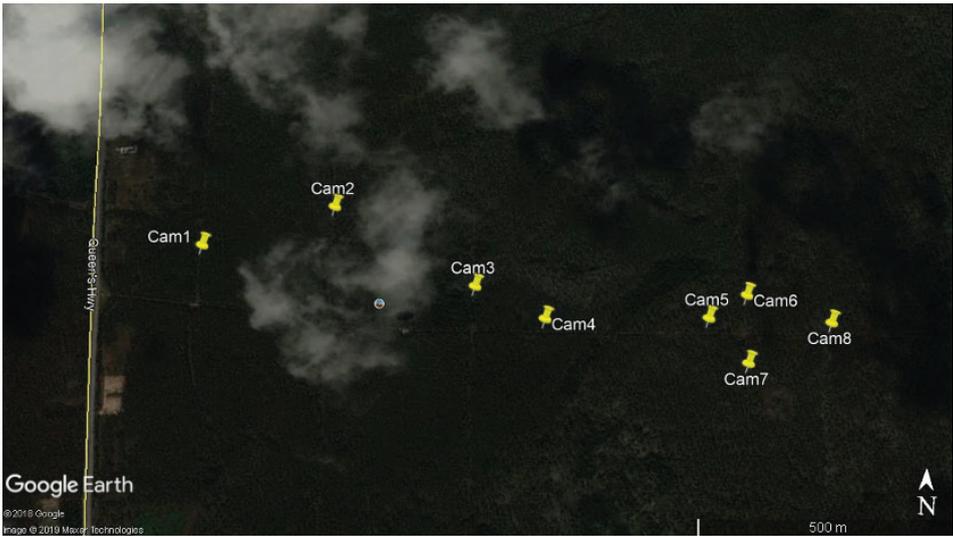
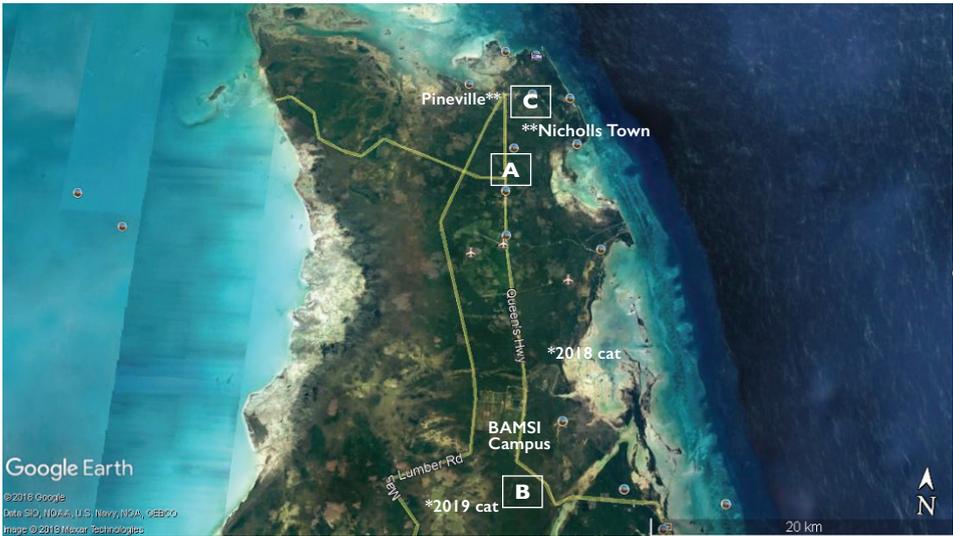
In January 2017 and May 2018, the Omland Lab from the University of Maryland, Baltimore County (UMBC) traveled to Andros for ten days as part of the Bahama Oriole Project, a cooperative research effort between UMBC and the Bahamas National Trust (BNT) to study the Bahama Oriole's decline. We studied populations of rats and cats on the island in order to determine if

predation by these species is a potential threat to Bahama Oriole. During the 2017 expedition, we examined the presence of house cats using trail cameras. During the 2018 expedition, we utilized wax baits to survey the population of rat species. By studying the populations of house cats and black rats on Andros, we sought to gather pilot data that would allow us to gauge the potential threat these predators pose to the remaining Bahama Oriole population.

## **TRAIL CAMERA SURVEY METHODS**

Around the world, domestic and feral house cats are apex predators that will often kill songbirds. As a result, cats have been implicated with the extinction of over 30 island songbird species and the death of billions of songbirds in the United States and Canada annually (Marra and Santella, 2016). Therefore, if there is a feral house cat population present on the island of Andros that overlaps with the Bahama Oriole population, this predator may pose a significant threat to the Bahama Oriole's survival. By using baited trail cameras in different regions of Andros, we sought to determine whether feral cats are present in forests close to, and distant from, human settlements.

We used six motion-activated Reconyx and Bushnell trail cameras with infrared flash for our cat survey. These cameras were deployed for two nights at 14 sites for a total of 619 camera hours. Since we were only present on Andros for ten days, we chose to spread our camera locations across a variety of accessible locations where Bahama Orioles have nested previously. Sites 1-8 were located near Uncle Charlie's Blue Hole, a sinkhole less than one kilometer from the nearest human settlement along Queen's Highway in San Andros. Sites 9-11 were placed in a remote pine forest off Owens Town Road, three kilometers south of the Bahamas Agriculture and Marine Science Institute (BAMSI) campus along Owens Town Road. Sites 12-14 were located within the residential area of Nicholls Town (Figure 1, Table 1). The Nicholls Town cameras were located within or adjacent to a developed area, whereas the Uncle Charlie's Blue Hole cameras were located less than one kilometer from an occupied settlement, and the remote pine forest cameras were located over three kilometers from the nearest developed areas. We specifically chose to examine the forest off Owens Town Road because we had documented Bahama Oriole nests in this area previously, and Bahama Orioles are known to be present in the pine forests of Andros (Stonko *et al.*, 2018). Each camera was set approximately 0.25 meters off the ground and had a small tin of cat food placed in front of it to attract nearby cats (Figure 2).



**FIGURE 1** (above and facing page): Map of cat camera placements throughout North Andros (A) Cameras 1-8 were placed near Uncle Charlie's Blue Hole, a sinkhole near Queen's Highway in North Andros. (B) Cameras 9-122 were placed off Owens Town Road. (C) Cameras 12-14 were placed in Nicholls Town, a developed town in North Andros. Cameras 1-8 were located within 1 km of an occupied human settlement, while cameras 9-11 were located over 3 km from settled areas, and cameras 12-14 were located within a developed area. \* Locations of two cats observed opportunistically in 2018 and 2019. \*\* Towns where the two sets of rat WxTag baits were deployed in 2017. (Images taken with Google Earth Pro).



LOCATION	LATITUDE	LONGITUDE
Camera 1*	25° 6'44.72"N	78° 2'39.46"W
Camera 2*	25° 6'47.64"N	78° 2'30.09"W
Camera 3*	25° 6'42.65"N	78° 2'19.69"W
Camera 4	25° 6'40.69"N	78° 2'14.64"W
Camera 5*	25° 6'41.13"N	78° 2'3.01"W
Camera 6	25° 6'42.72"N	78° 2'0.29"W
Camera 7	25° 6'38.30"N	78° 2'0.25"W
Camera 8*	25° 6'41.12"N	78° 1'54.31"W
Camera 9*	24°55'3.46"N	78° 1'35.60"W
Camera 10	24°54'31.53"N	78° 1'39.39"W
Camera 11*	24°54'9.62"N	78° 1'40.94"W
Camera 12	25° 8'40.74"N	78° 0'20.53"W
Camera 13	25° 8'40.62"N	78° 0'21.22"W
Camera 14	25° 8'40.71"N	78° 0'25.06"W
Cat Sighting 2018*	24°59'49.20"N	78° 0'21.60"W
Cat Sighting 2019*	24°51'0.00"N	78° 5'38.40"W

**TABLE 1:** Camera placement locations for trail camera survey (\* cat spotted at this location).

**TRAIL CAMERA SURVEY RESULTS**

We photographed two different cats that passed cameras 1, 2, 3, 5, and 8 near Uncle Charlie’s Blue Hole, as well as one cat that passed cameras 9 and 11 in the pine forest off Owens Town Road (Figure 3). The sites near Uncle Charlie’s Blue Hole were approximately one kilometer from the nearest human settlement. Sites 9 and 11, on the other hand, were in the remote pine forest over three kilometers from the nearest human settlement. Such results indicate that some of the cats we spotted are likely feral and not being cared for by any human.

The presence of one or more cats far from developed areas indicates that house cats are present deep in the pine forests of Andros. This evidence of a cat population has been further supported by recent observations in which two additional cats were spotted at other remote locations. One of these cats was spotted in 2018 (not pictured) in the pine forest more than two kilometers east



**FIGURE 2:** Deployed cat camera.

2017-01-16 4:45:18 PM M 10/10

76°F



Bushnell

01-20-2017 17:31:48



**FIGURE 3:** Feral cat spotted with trail camera at site 3 (A), site 8 (B), and site 9 (C).

of developed areas along Queen's Highway ( $24^{\circ}59'49.20''\text{N}$ ,  $78^{\circ}0'21.60''\text{W}$ ). The second cat was photographed in 2019 (Figure 4) at a location more than 10km from the BAMSI campus at ( $24^{\circ}51'0.00''\text{N}$ ,  $78^{\circ}5'38.40''\text{W}$ , Table 1).

The presence of cats in the remote pine forest near previous Bahama Oriole nest sites demonstrates that cat home ranges overlap with known habitats of the Bahama Oriole (Stonko *et al.*, 2018). However, without more data we are unable to determine the size of the cat population or where this population is most concentrated. Cat populations on Andros very likely pose a threat not just to the Bahama Oriole, but to other endangered songbirds on Andros as well, such as the Bahama Swallow (*Tachycineta cyaneoviridis*). Therefore, feral house cats are likely a threat to the Bahama Oriole population, although more information is necessary to understand the impact of this threat and how it should be countered.



**FIGURE 4:** Feral cat photographed in 2018 in the pine forest of Andros approximately two kilometers from the nearest human settlement.

## WAX BAIT SURVEY METHODS

The main goal of the wax bait survey was to learn more about potential rat predation on Bahama Orioles. Specifically, our intention was to study the presence of invasive rat species on Andros, as they are known nest predators of other Caribbean orioles (Allcorn *et al.*, 2012). To accomplish this, we conducted a population survey of rats in the pine forests and developed areas of North Andros. By comparing rat populations in these two habitats, we sought to assess whether rats are likely to inhabit areas where Bahama Orioles nest.

The rat survey on Andros was conducted using peanut butter WaxTags manufactured by Pest Control Research LP in New Zealand (Figure 5). WaxTags are a survey tool designed for nonlethal possum and rodent monitoring (Russel *et al.* 2009). Each WaxTag consists of an orange plastic tag with a piece of peanut butter-scented wax on the end. The peanut butter scent encourages rats to bite the wax, leaving their characteristic tooth marks behind. The unpalatable taste of the wax then encourages the rat to leave it alone afterwards.

WaxTags were deployed at two sets of paired study sites. Each pair consisted of one developed site and one pine forest site. Nicholls Town and Pineville were the two developed sites chosen for the survey, while the undeveloped areas immediately south of Nicholls Town and immediately south of Pineville were



**FIGURE 5:** Peanut butter WaxTag deployed in the field.

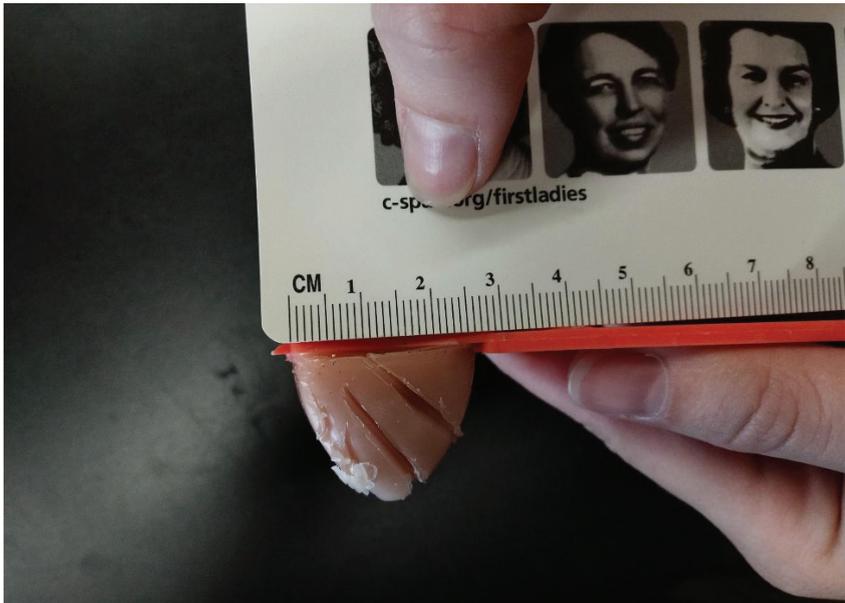
chosen as the pine forest sites. These sites pairs were chosen due to their ease of access and their proximity to previous Bahama Oriole nesting sights. The Nicholls Town site bordered the northeast coast of Andros and consisted of private homes with coppice habitat in between properties. The Pineville site was located further inland, with wetland and pine habitat near houses. Both pine forest sites had signs of human activity in the form long abandoned logging roads; they were generally similar in terms of vegetation.

We placed 18 WaxTags in transects at each of our four study plots, for a total of 72 tags. Six transects were laid per plot at randomly chosen locations along roads and trails using QGIS. Each transect consisted of three WaxTags laid on the ground near tree roots, with each tag placed ten meters away from the last. Each tag was left out for six days before being collected for analysis. Due to the ten days allotted for our expedition, this was the maximum number of transects and maximum deployment time for each transect we were able to achieve.

## **WAX BAIT SURVEY RESULTS**

We found no evidence of rat bite marks on any of our baits. While 11 of the 72 tags did have marks, it was unlikely that these marks came from rats, as their size and shape did not correspond to the distinct two-toothed mark characteristic of rats and other rodents. In order to accurately identify the marks on the baits, we consulted with Dr. Michael Cove, a rat expert at North Carolina State University. After discussing the tags with him, we concluded that the “bite” marks were most likely caused by land crabs (*Cardisome guandhumi*) (Figure 6). In addition, one supplemental WaxTag from Nicholls Town that was not a part of the wax bait survey did show a bite mark from a house mouse (*Mus musculus*).

While our wax bait results were unexpected, as we did not anticipate land crabs attacking the tags, the lack of rat bites could indicate a few possible conclusions. First, it is possible that, although peanut butter WaxTags have worked for assessing rats in other studies (Russell *et al.*, 2009; Samaniego-Herrera *et al.*, 2013), they do not adequately attract rats on Andros. However, these baits have been used in studies of rats and other invasive mammals in other parts of the world, so this possibility does not seem likely (Russell *et al.*, 2009; Samaniego-Herrera *et al.*, 2013). Second, the rat population density on North Andros may be so low that the few rats present simply did not notice the tags deployed at our four sites. However, we do know that at least some rats are present on Andros; for example, we found one road-killed brown rat in 2017. Low



**FIGURE 6:** An example of the markings we saw on our WaxTags, which tended to resemble a slash rather than a two-toothed rodent bite mark. Upon consulting with Dr. Michael Cove, we realized that the marks on the tags were likely made by land crabs rather than rodents.

rat density on Andros would be beneficial for the Bahama Oriole, as it would rule out one potentially dangerous predator as a major threat to the population. However, a longer and more extensive rat survey is necessary to verify this conclusion.

## **FUTURE DIRECTIONS**

A lack of rat bites in the WaxTag survey suggests that the rat population density was very low throughout each study site. However, a more extensive survey is necessary to confirm this. In multiple studies, WaxTags have been an effective method of determining rat population density, even when compared with more traditional methods such as kill traps (Russell *et al.*, 2009; Samaniego-Herrera *et al.*, 2013). However, it is possible that the rat populations in these studies may have different preferences than the rat population on Andros. In order to ensure that the lack of bites was not due to the WaxTags themselves, a more extensive study using different survey methods should be conducted.

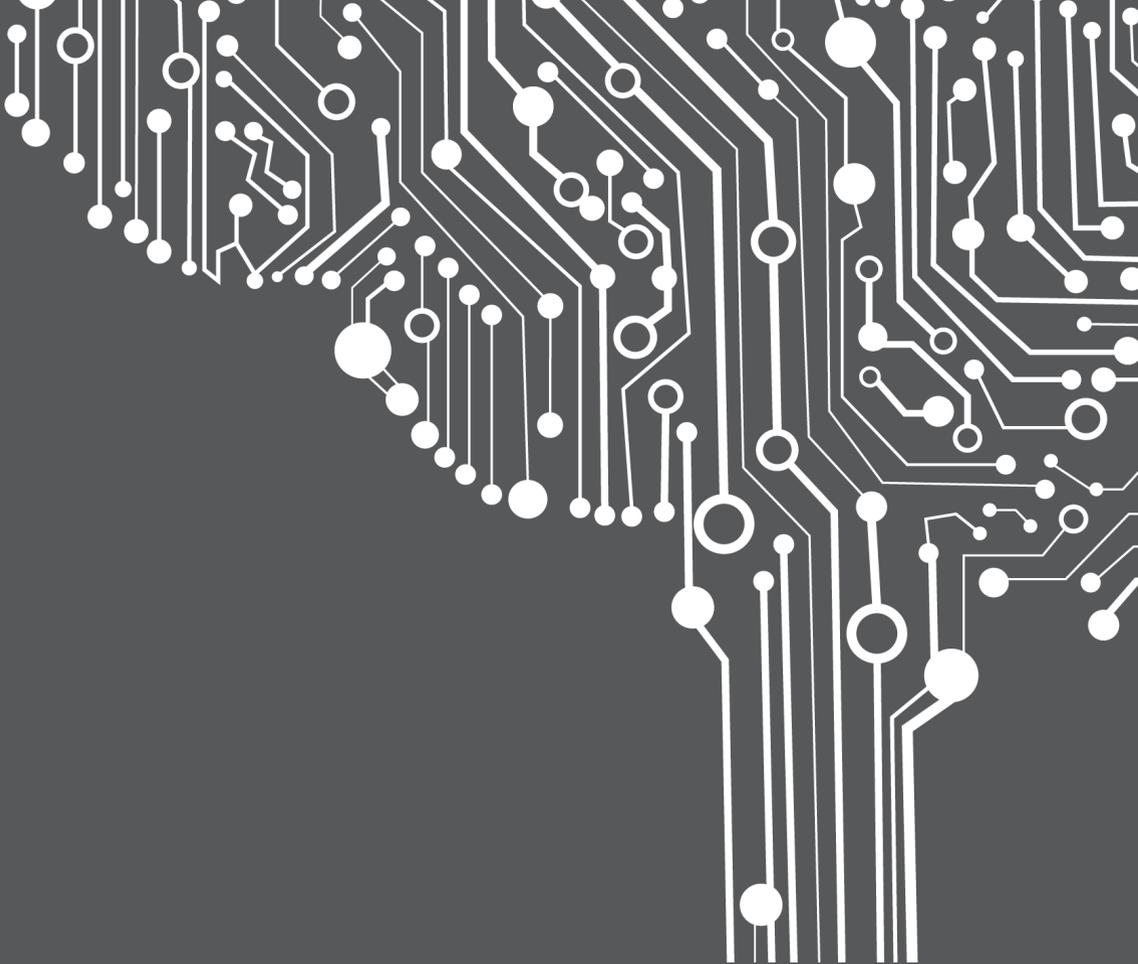
While peanut butter WaxTags did not document any rat bites in our study, the response they elicited from land crabs suggest that they may be useful in future land crab surveys. If the land crab response to WaxTags is consistent between populations on different islands, the peanut butter WaxTag could be used to monitor the land crab population. These wax baits would provide a survey method that can be used in a wide range of habitats. Such surveys would be beneficial to ensure sustainable crab harvests in the long term.

If the cats we found in our trail camera survey are indicative of a feral cat population on Andros, then predation may be a significant threat to the Bahama Oriole's survival. Like the black rat, the house cat is a globally invasive predator that potentially poses a crucial threat to the Bahama Oriole, as well as other songbirds throughout Andros. The pilot data we have gathered indicates that house cats are present in areas far from human development that are inhabited by Bahama Orioles. Therefore, to gain an accurate understanding of what species may predate Bahama Orioles, a more extensive population survey of house cats on Andros will be necessary. More surveys are being conducted by UMBC students working with Dr. Kevin Omland and Dr. Colin Studds who are deploying 20 unbaited cameras in the same general area as cameras 9-11 in the pine forests of Andros. Based on the lack of rats found in our rat survey and the majority of cats found in our cat survey, we believe that most future research into Bahama Oriole invasive predators should focus on house cats.

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**Comparison of Solvent Delivery for  
Enhancing Desorption Electrospray  
Ionization (DESI) Source**

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KARIS R. BARNETT

**Karis Barnett** is a chemistry major and creative writing minor graduating in Spring 2021. She is a member of the Meyerhoff Scholars Program, the MARC U\*STAR Program, and the UMBC Honors College. Currently, she plans to pursue a PhD in analytical chemistry with a focus in forensic and nuclear chemistry. Her research and career interests include enhancing opioid detection in forensic analyses and improving national security through nuclear forensics. Karis would like to sincerely thank Dr. William LaCourse, Josh Willhide, the LaCourse Lab, and the Molecular Characterization and Analysis Complex (MCAC) team for their invaluable assistance and encouragement throughout her sustained research experience. She would also like to thank her aforementioned scholars programs for their consistent support. Finally, the authors gratefully acknowledge the contributions of Dr. Brian Cullum, who assisted in the noise evaluation process.

Chemistry is a fascinating science because it challenges my mind to think on a molecular level. Analytical chemistry specifically captured my interest with its goal of achieving low limits of molecular detection. I joined the Molecular Characterization and Analysis Complex (MCAC) Lab team to begin analytical chemistry research in Fall 2018. I was initially daunted by the task of pursuing an independent research project using instrumentation completely new to me. However, my faculty mentor encouraged me to begin by studying molecular structures of interest. As my mentor has expressed, analytical chemistry is fundamentally “all about the [molecular] details.” After preliminary instrumentation training, my research officially focused on optimizing the DESI source with mass spectrometry (DESI-MS) by exploring various solvent delivery systems. Although I was initially discouraged by the lengthy time spent learning the basic mechanics of DESI-MS, I learned to view failures as opportunities to improve in the future. I have now developed a passion for understanding the language of both chemical compounds and apparatuses. In analytical chemistry, we strive to find the best communication between instrumentation and molecules. By exploring an optimal delivery system for the DESI source, we can enhance the communication of DESI capabilities.

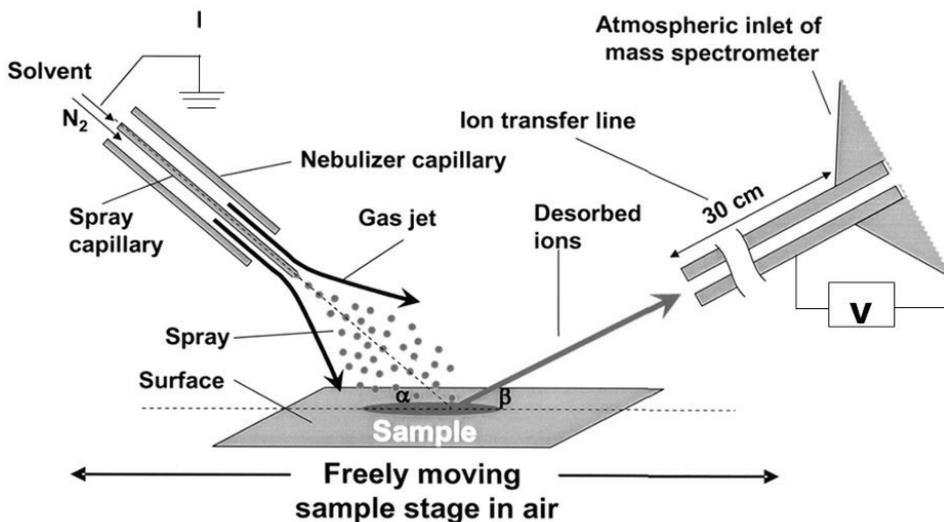
## ABSTRACT

The DESI source for mass spectrometry is becoming increasingly important for applications such as biological tissue imaging and drug detection methods for forensic applications. It functions by desorbing ions from a surface via created electrospray solvent drops. Source functioning can be limited by the coupled solvent delivery system creating the droplets. In this work, two solvent delivery systems were studied to determine which provided more consistent droplet creation for increasing the stability of the response and ultimately enhancing the quality of DESI technique. Research was performed on a DESI-2D platform coupled with an amaZon speed ion trap mass spectrometer. The solvent delivery systems compared were the Fusion 100 infusion (syringe) pump and a milliGAT pump. Pump performance was determined by analyzing the ion response of the model compound rhodamine 6G. Stability was defined as minimized fluctuation in ion response. The milliGAT pump reflected minimized fluctuation due to the continuous flow its mechanics provides. Accurate statistical analysis must be conducted to further define the ion current vs. time plots obtained. Future work will explore the milliGAT pump for efficient low-limit detection and imaging applications for enhancing DESI capabilities.

## INTRODUCTION

Analytical chemistry techniques such as chemical imaging and trace analysis enhance detection-based applications, including biological tissue imaging and toxicological screenings<sup>1</sup>. Mass spectrometry (MS) techniques detect the chemical composition of substances based on a mass to charge ratio after ion fragmentation<sup>2</sup>. Coupling an ionization source to a mass spectrometer allows ions to be created and detected for final analysis. Desorption electrospray ionization-mass spectrometry (DESI-MS) provides simplified analysis with minimal sample preparation and detection in ambient environments<sup>3</sup>. Enhancing DESI capabilities can improve and offer new approaches for detection science. In this work, the effectiveness of two solvent delivery systems for the DESI source was compared based on the stability of ion response achieved.

The DESI-MS instrument produces and detects ions via ambient ionization. Ambient ionization is a sensitive technique as a sample can be analyzed in its native state while retaining its chemical atmosphere<sup>4</sup>. The soft ionization (minimal fragmentation) approach allows for direct sample analysis and minimal sample preparation<sup>4</sup>. Since the advent of electrospray ionization (ESI) with Fenn and associates, ambient ionization has become a primary choice for



**FIGURE 1.** Diagram of desorption electrospray ionization platform setup, where  $\alpha$  is the incident angle (spray needle to surface) and  $\beta$  is the collection angle (surface to mass spectrometer inlet)<sup>3</sup>.

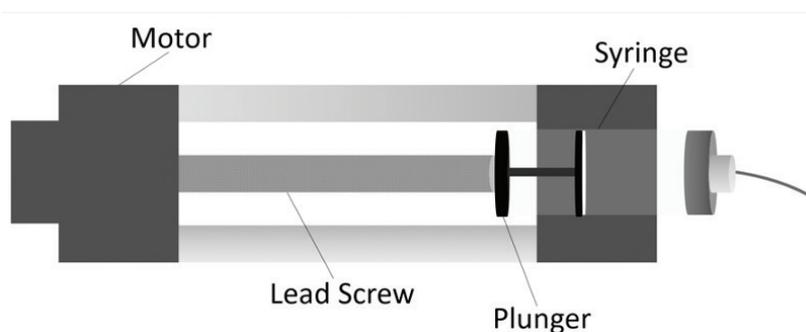
analyzing a wide range of chemical compounds, from small polar molecules to large biomolecules<sup>5,6</sup>. DESI further expands ambient ionization to include surface analysis.

The DESI ionization source, developed by R.G. Cooks and associates, allows polar species to be ionized under ambient conditions<sup>3</sup>. Both ESI and DESI analyze species within a wide mass range without critical fragmentation<sup>7</sup>. An ESI sample is a liquid that is charged and nebulized to achieve ions. DESI samples, however, undergo solid-liquid extraction via ambient ionization. Charged solvent electrospray microdroplets desorb a native-phase analyte from a surface with momentum from secondary droplets<sup>3</sup>. The analyte is desorbed via interacting Coulombic forces (electrostatic and pneumatic) between charged solvent spray particles and the sample on the plate<sup>3</sup>. The resulting secondary gas-phase ions are launched towards an extended, heated vacuum inlet of a mass spectrometer (i.e. ion trap)<sup>3,8,9</sup>. This process is displayed in Figure 1. The DESI desorption method makes the technique exclusive for solid surface analysis.

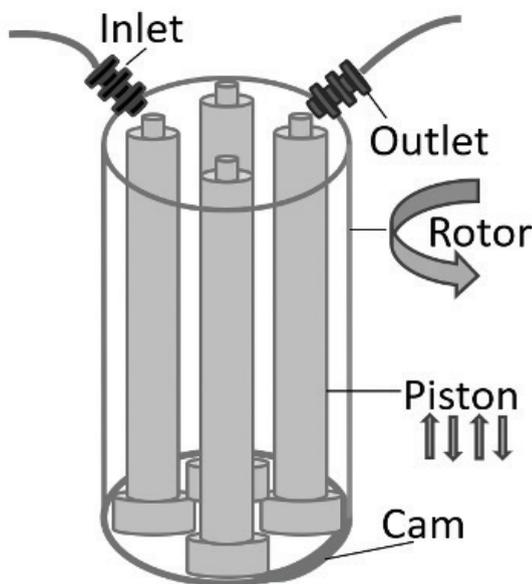
Compared to other types of ambient ionization, DESI has the advantage of minimal to no required sample preparation and a single-step operation of transferring ions into a mass spectrometer<sup>6</sup>. This allows for high-speed analysis, typically taking less than five seconds<sup>10</sup>. Compounds are quickly characterized by molecular weight based on MS attachment. More advanced analysis can be

conducted with ‘reactive’ DESI, a method that activates specific reactions between electrospray microdroplets and the sample for enhanced sensitivity, selectivity, and qualitative screening capabilities<sup>10</sup>. Furthermore, DESI can be used to image biological material such as plant and animal tissues directly on surfaces in ambient conditions<sup>10</sup>. While DESI allows for ambient ionization in multiple applications, error can be introduced from the background signal of an atmosphere. This can potentially result in low resolution for determining the molecular weight of a compound; otherwise, DESI is considered a high-resolution ionization source<sup>2</sup>. In addition, caution must be taken with DESI alignment and motion parameters as inconsistent adjustments may affect experimental results. Experimental parameters ultimately determine how accurately analyte ions are evaluated by the DESI source.

Solvent delivery systems coupled to the DESI source can affect the number of ions desorbed from an analyte. The commercially available DESI is conventionally coupled with a Fusion 100 infusion syringe pump (Chemyx, Inc., Stafford, TX) for solvent delivery. Figure 2 depicts an aerial view of the syringe pump. A stepper motor electromechanically powers the movement of a lead screw, which pushes the plunger of a syringe to dispense fluid. This pulsing motion produces a quantifiable fluctuation in the DESI ion signal; as a result, each pulse may decrease consistent electrospray microdroplet creation. This interferes with the stability of the ion signal. By contrast, the milliGAT pump motor (Global FIA, Fox Island, WA) is controlled by terminal commands communicated between a MicroLynx-4 micro-electric controller and Intelligent Motion Systems (IMS) Terminal software. The motor electrically powers the rotation of four pistons in the pump casing; the pistons simultaneously fill and



**FIGURE 2:** Schematic of infusion syringe pump (image credit: author).



**FIGURE 3:** Schematic of milliGAT pump functioning (image credit: author).

dispense solvent in a bi-directional flow. Figure 3 displays the inner mechanics of the milliGAT pump. This work compared the milliGAT and syringe solvent delivery systems for the DESI source.

A previous study sought to improve the DESI solvent delivery system by proposing a piezoelectric-based pressure controller and valve system with a thermocalorimetric microfluidic flow sensor<sup>11</sup>. The authors determined that syringe pumps, while robust, are inefficient for altering solvent composition and flow rate within experimentation. The direct comparison of the syringe and milliGAT delivery systems for improving solvent delivery in microdialysis sampling was explored by Bass and LaCourse in 2015. Reported disadvantages of the syringe pump included reproducibility and precision problems, limited fluid delivery, induced error from refilling the syringe, and limited flow rates with larger syringe volumes<sup>12</sup>. The authors proposed that the worm gear of the syringe pump, and more specifically, the pulsing motion of the syringe pump with the movement of the lead screw, caused fluctuations in data collection. In comparison, the milliGAT pump required no reloading, exhibited enhanced reproducibility, and achieved more accurate low flow rates<sup>12</sup>.

In this work, the signal fluctuations produced by the Fusion 100 infusion syringe pump and the milliGAT pump coupled with the DESI source were compared. Fluctuation was determined by consistent electrospray microdroplet

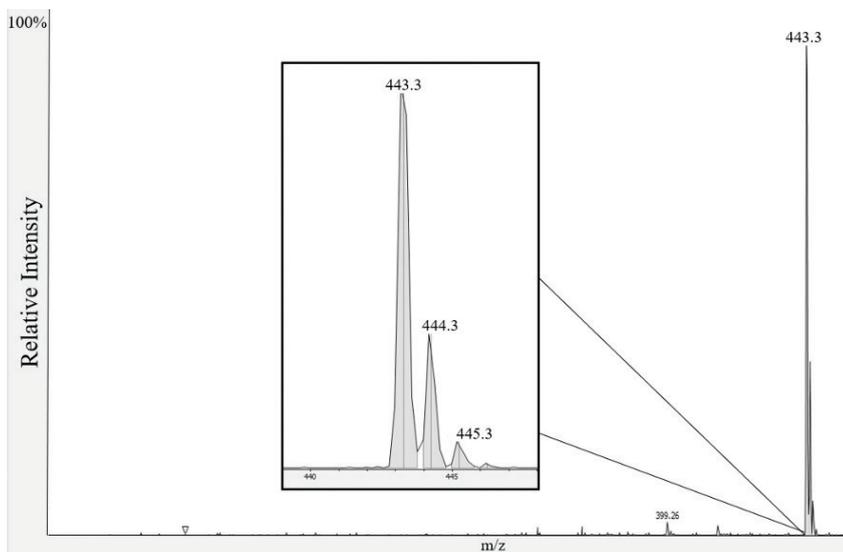
creation and a more stable ion signal. The milliGAT pump was expected to produce a more consistent ion signal, due to previously described advantages from Bass and its bi-directional solvent flow.

## EXPERIMENTAL PROCEDURES

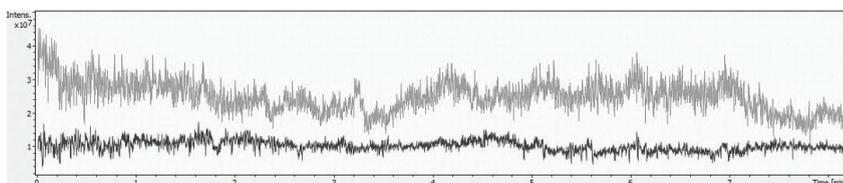
The work was performed with a DESI-2D platform (Prosolia, Inc., Indianapolis, IN) installed on an amaZon speed ion trap mass spectrometer (Bruker Daltonics, Inc., Billerica, MA) in positive-ion mode. The mass spectrometer settings were as follows: speed, 52000 m/z/sec; drying gas flow, 4.0 L/min; drying gas heater, 180°C; capillary voltage, -4500 V; end plate offset, +500 V; nebulizer, 7.3 psi; scan range, 100-3000 m/z; target mass, 443 m/z. The parameters for the DESI platform were as follows: needle to capillary distance, 5.25 mm; extender to surface distance, ca. 1 mm; needle to surface distance, ca. 1.6 mm; spray impact angle, 54 degrees.

The Fusion 100 infusion syringe pump was coupled with a 1-mL syringe (Hamilton Company, Reno, NV). The milliGAT pump was controlled by a MicroLynx-4 micro-electric controller (Global FIA) and Intelligent Motion Systems (IMS) Terminal software (Schneider Electric Motion USA, Marlborough, CT). Solvent flow rates were initially at 20  $\mu\text{Lmin}^{-1}$  for flushing the solvent system, then switched to 10  $\mu\text{Lmin}^{-1}$  for experiments. Nerl® High-Purity Water (Thermo Fisher Scientific Inc., Middletown, VA) was used to initially flush the system. ACS-grade methanol (Fisher Chemical, Hampton, NH) was used as the electrospray solvent due to its ionization capability with the compound of interest, rhodamine 6G.

Rhodamine 6G was the selected analyte due to its polar nature and facile ionizability. The analyte was applied linearly with red Sharpie® permanent marker ink (Newell Office Brands, Atlanta, GA) onto an Omni-Plate-96™ (Prosolia, Inc., Indianapolis, IN) via a metal ruler. Application was on the backside of the plate to decrease quantifiable fluctuation from polytetrafluoroethylene (Teflon™) polymer spots. A small spot of the analyte was sampled for detection before experimental testing with lines of analyte. Rhodamine 6G was detected at a rate of 159  $\mu\text{ms}^{-1}$  for 9.43 minutes. Length of time was calculated based on the length of the analyte line and rasterization rate. Auto-motion parameters were optimized for the length and width of analyte line. Ion current versus time plots were analyzed with Igor Pro (WaveMetrics, Inc., Portland, OR) noise evaluation software.



**FIGURE 4:** Example of extracted mass spectrum of rhodamine 6G.



**FIGURE 5:** Extracted ion current vs. time plots of ion signal produced with the Fusion 100 syringe pump (top) and the milliGAT pump (bottom); flow rates for both were 10  $\mu\text{Lmin}^{-1}$ .

## RESULTS AND DISCUSSION

A comparison of consistent electrospray microdroplet creation between two solvent delivery systems was conducted to enhance DESI functionality. The milliGAT pump system was expected to achieve a more stable ion signal due to its bidirectional flow of fluid delivery. Figure 4 depicts the typical mass spectrum for the parent ion and corresponding isotopes of rhodamine 6G. Figure 5 illustrates the extracted ion current vs. time plots achieved based on syringe pump and milliGAT pump experiments. Data are displayed as the extracted rhodamine signal to eliminate chemical background noise.

The Fusion 100 infusion syringe pump exhibited more frequent and steady fluctuations based on qualitative analysis of its ion current vs. time plot. Fluctuations are attributed to the constant pulsing mechanisms from the rotation of the syringe pump lead screw. This pulsing interrupts the stability of the ion signal by introducing more noise. In contrast, the milliGAT pump plot reflects more random fluctuations. These fluctuations were likely caused by the milliGAT's rotational pumping rather than error of instrumentation. Due to the overall lower amount of fluctuations in signal, the milliGAT pump demonstrated a more consistent ion response. This observation correlates with the pump's bidirectional solvent flow.

Despite a more consistent ion response, the milliGAT pump produced a lower ion intensity signal compared to the syringe pump. Further experimentation must be conducted for determining limit of detection differences between the two solvent delivery systems. It has been noted that the DESI source is not always ideal for optimizing constant ion detection due to its ambient nature<sup>13</sup>. However, signal plateauing generally correlates with complete extraction of material from a surface<sup>14</sup>, which should not be the case if the DESI source is constantly ionizing analyte (i.e. constant line of rhodamine 6G analyte). As such, the effect of applying analyte on ion signal intensity should be further investigated.

Both ion current vs. time plots contain high and low frequency amplitudes, likely due to pumping mechanics and electrical noise. A Fourier transform was applied to the data to assess frequency response (data not shown). Based on comparing this analysis to original data plots, the milliGAT response reflects an overall higher frequency amplitude, likely caused by pumping motions rather than electrical noise. Higher frequency potentially indicates the pumping mechanics are changing more consistently with respect to time compared to lower frequencies. This may suggest that the signal-to-noise (S/N) ratio of the milliGAT pump is higher compared to the syringe pump, as corroborated by previous qualitative analysis of signal fluctuation. However, this proposal is ultimately inconclusive because the assessed frequency may not directly represent pumping mechanisms or fluctuations; it may be more directly affected by application of analyte (as previously acknowledged) or other mass spectrometer variables. The exact solvent delivery rates of each pump should be further investigated to correctly evaluate frequency and S/N ratios.

The ion current vs. time plots were also fitted to a sine wave function to specifically assess frequency of pumping (data not shown). The sine wave function for the syringe pump reflects a higher amplitude compared to the milliGAT pump. This corroborates with the syringe pump ion current vs. time

plot showing a higher intensity of rhodamine 6G detected compared to the milliGAT pump. The larger distance between the maxima and minima peaks (lower frequency) of the syringe pump sine waves suggests a wider variation in solvent volume delivered from the syringe pump. The higher frequency milliGAT pump sine wave function indicates a more consistent delivery of solvent with less noise. This may suggest a more constant detection of rhodamine 6G as reflected in qualitative analysis. However, the sine wave fits indicate that neither pump appears to give reproducible pumping frequency. As such, these fits do not necessarily reflect the amount and consistency of solvent delivery. Pump mechanisms are not the only factor that affects consistent solvent delivery and constant analyte detection; additional experimental factors must be considered for detailed analysis.

Lack of reproducible pumping frequency may be due to uncontrolled experimental parameters that limit the consistency of ion signal and S/N ratios<sup>15</sup>. Such parameters may include an unknown amount of rhodamine 6G deposited and/or inconsistent flow rates between the milliGAT and syringe pump. Rhodamine 6G was applied at two different instances for milliGAT and syringe pump experiments. Therefore, the concentration of the analyte was not consistent between each experiment, and the milliGAT and syringe pump data is not directly reproducible. In addition, the flow rates of the milliGAT and syringe pump are not directly comparable. The flow rate of the milliGAT pump depends on the electromechanical rotation of pistons in the pump gear system. The uncalibrated computer programming that executes this rotation may not deliver exact flow rates as compared to calibrated solvent delivery systems. On the other hand, the flow rate of the syringe pump depends on the calibrated pressure from a rotating lead screw. The mechanically different flow rate functions lead to different noise introduced in each pump signal. Furthermore, the frequency signal of the ion current vs. time plots is affected by the rasterizing (desorption across a surface) rate of rhodamine 6G. The speed of rhodamine 6G detection determines the distribution of the ion signal intensity. The determined rate,  $159 \mu\text{ms}^{-1}$ , is a relatively slow speed for DESI data collection; thus, low frequency amplitude was predicted to be primarily present in the data plots. While some low frequency amplitudes were identified in the milliGAT and syringe data plots, frequency does not necessarily define the distribution of ion signal intensity. Further data analysis is required for more directly determining statistical difference between the low frequency amplitudes in ion current vs. time plots. Table 1 summarizes recognized advantages and limitations of the milliGAT pump and syringe pump for consideration in future experiments and data analysis approaches.

MILLIGAT PUMP	SYRINGE PUMP
<b>ADVANTAGES</b>	
<ul style="list-style-type: none"> <li>· Wider range of flow rates with terminal programming</li> <li>· Uninterrupted experiment trials (easier to maintain constant flow)</li> <li>· Smooth, bidirectional solvent flow with rotation of piston pump gears</li> <li>· Higher S/N values</li> </ul>	<ul style="list-style-type: none"> <li>· Simpler to assemble and use</li> <li>· More readily available (for coupling to MS)</li> </ul>
<b>LIMITATIONS</b>	
<ul style="list-style-type: none"> <li>· Flow rate needs to be calibrated</li> <li>· Longer set-up time</li> </ul>	<ul style="list-style-type: none"> <li>· Flow rates limited to syringe pump programming</li> <li>· Refilling of syringe needed, interrupting experimental trials</li> <li>· Rotation of syringe pump screw introduces noise</li> <li>· More signal drift</li> </ul>

**TABLE 1:** Syringe pump and milliGAT pump characteristics that directly affect data collection.

## CONCLUSION AND FUTURE WORK

In this work, DESI-MS ion signals were compared for stability between a syringe pump and milliGAT pump. Preliminary qualitative results suggest a significant difference in fluctuation of ion signal between the pumps; the milliGAT pump ion current vs. time plot showed lower fluctuation and more stable ion response. The sine wave-fitted milliGAT pump plot also reflected a more consistent high frequency amplitude compared to the syringe pump. These results potentially confirm that the milliGAT pump achieved a higher S/N ratio and more stable ion response compared to the syringe pump, as suggested by the qualitative analysis. However, this analysis is not definite, as experimental parameters were not normalized for valid data comparison (e.g. unequal flow rates between pumps, unknown concentrations of analyte, unknown variations in solvent delivery). To better assess pump characteristics, experimental

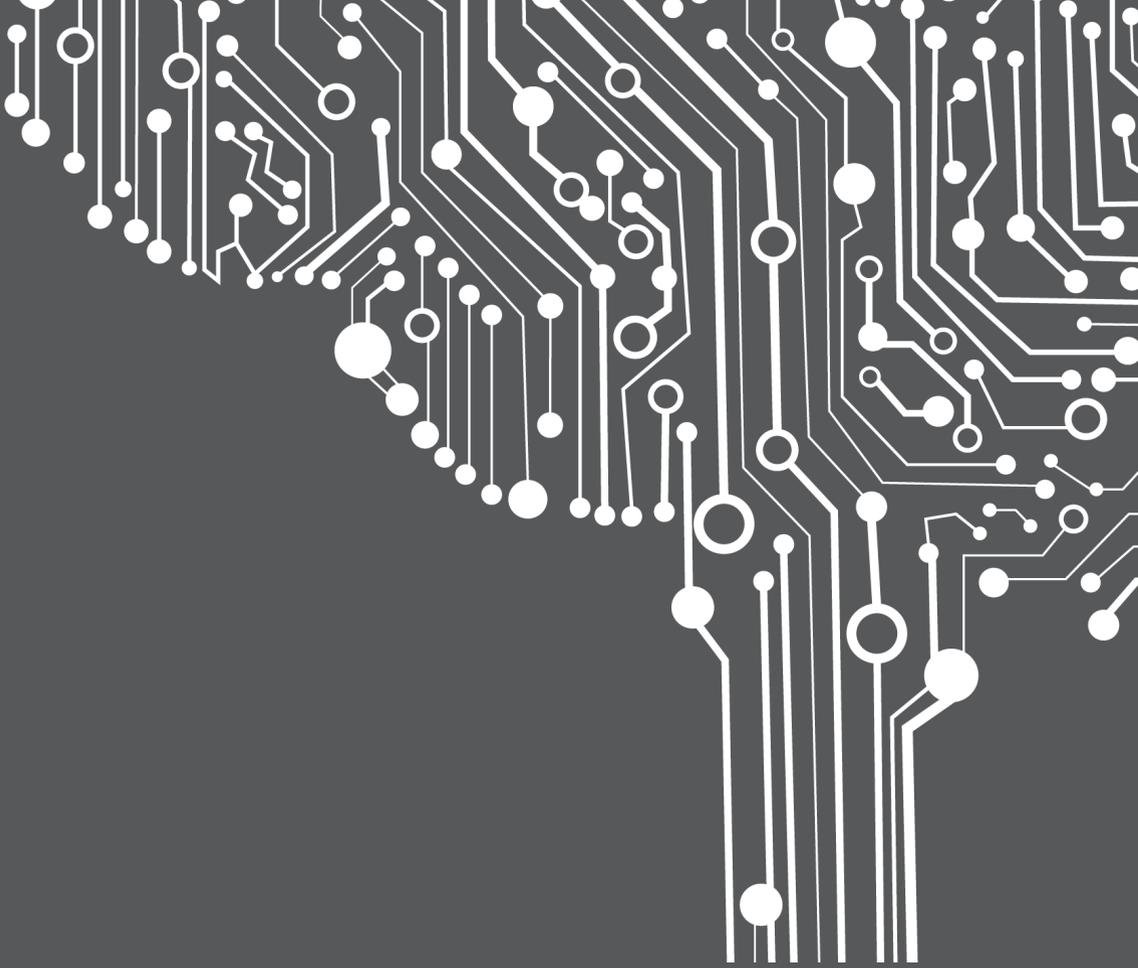
parameters must be controlled to optimize data collection (i.e. find optimal flow rates based on pump mechanics), decrease noise signals, and limit introduced human bias. These controlled parameters will provide clearer understanding of ion current vs. time plots and S/N data. Statistical analysis of peak-to-peak noise separation will further define the frequency and noise interference of each signal. This analysis will ultimately characterize DESI-MS abilities and reveal how the technique can be improved for imaging and trace analysis applications.

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**The Impact of Early Childhood Malaria Risk  
on the Probability of School Delay in Ghana**

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ANNA GIFTY OPOKU-AGYEMAN

**Anna Gifty Opoku-Agyeman** is an emerging researcher and entrepreneur hailing from Ghana and Maryland. She currently studies at Harvard University as a Research Scholar in Economics with an appointment at the National Bureau of Economic Research as a Visiting Research Fellow. Her interests lie in labor economics, diversity and inclusion, and technology. She graduated from the University of Maryland, Baltimore County with a B.A. in Mathematics and a minor in Economics as a Meyerhoff/MARC U\*STAR Scholar and Honors College student. She is best known for her work with The Sadie Collective, which she co-founded with Fanta Traore. The Collective's work has been featured by several media outlets, such as the *New York Times*, NPR, *The Economist*, and *The Wall Street Journal*.

Anna Gifty spent her formative years watching TED talks and reading articles that highlighted the importance of education in developing countries. After being accepted into the MARC U\*STAR and Meyerhoff Scholars Programs, she worked at the Institute for Global Health at the University of Maryland School of Medicine under the guidance of Drs. Lauren Cohee and Miriam Laufer. Over time, she realized that she wanted to explore the broader impact of her work with respect to malaria and long-term outcomes among school-age children.

In 2017, she conducted summer research with Dr. Judith Hellerstein, the department chair of Economics at the University of Maryland, College Park. Her experience inspired a senior thesis, allowing her to combine her interests in education and global health. Though early on she faced difficulties, she eventually connected with her mentors who helped her understand the underlying methods needed to construct and execute a meaningful project.

She sincerely thanks her thesis advisers, Drs. Tim Gindling and Lauren Cohee, for guiding her through the research process. Special thanks to her informal advisers Drs. Damon Jones, Seth Gitter, and Christelle Viaroux, her father, Ernest Opoku-Agyeman, and family friend, Kwasi Agyeman. Finally, she thanks her forever inspirations: Ghana, family, and God.

## ABSTRACT

Though many studies indicate that when students sicken with malaria, school outcomes worsen, only a few studies address the long-term effect of the disease on educational attainment. The overall aim of this paper is to determine whether infection with malaria before school age negatively impacts school progression among primary and secondary school students in Ghana. I used data from the 2012/2013 Ghana Living Standards Survey as well as regional malaria prevalence and incidence rates from the Malaria Atlas Project to conduct regression analyses on the relationship between early childhood malaria risk and the probability of school delay (here defined as dropping out of school or staying behind a grade). I found that there is a positive, statistically significant relationship between early childhood malaria risk and the probability of delay. As Ghana continues to steadily make economic progress and push for educational opportunity, the country should consider the long-term effects of malaria on the present and future labor force of the country.

## I. INTRODUCTION

Existing literature depicts a convincing adverse relationship between malaria, a potentially fatal disease caused by *Plasmodium* parasites and transmitted through mosquito bites (CDC 2019), and educational outcomes among school-aged children in sub-Saharan Africa (SSA) (Nankabirwa *et al.* 2014). Multiple studies have linked malaria to higher rates of school absenteeism and reduced focus in the classroom (Fernando *et al.* 2006, Jukes *et al.* 2006, Clarke *et al.* 2006, Clarke *et al.* 2008). Only a few have addressed the potential long-term effects of malaria on educational attainment (Brooker *et al.* 2000, Brooker *et al.* 2017, Jukes *et al.* 2006, Clarke *et al.* 2008). Furthermore, researchers have found that health shocks, or stringent health conditions that economically impact households, could have negative and lasting effects on the learning environments of SSA children (Wagstaff 2005). Primary school students from SSA countries currently fail to meet global minimum proficiencies in mathematics, science, and reading. Therefore, it is important to identify factors that may be impairing their academic progress (World Bank 2018). In this paper, I evaluate the potential impact of early childhood regional malaria (ECM) on school progression among Ghanaian children between the ages of 12 and 16.

According to Awine *et al.* (2017), 100 percent of Ghanaians are at risk for malaria infection given the endemicity of malaria in Ghana, with the most vulnerable group being children under five and pregnant women. Malaria infec-

tion accounts for 40 percent of all outpatient attendance, although among children under five years of age, prevalence has decreased from 47 to 45 percent from 2000 to 2010 (Awine *et al.* 2017). Though malaria interventions date back to before the 1950s, the Ghana Health Service only recently established the National Malaria Programme in 2014, in order to “ensure [the] availability of adequate resources to execute planned activities in order to achieve targets set in [the] national strategic plan for malaria control [between] 2014-2020” (Ghana Health Service 2017). Efforts to eradicate malaria in SSA, and specifically Ghana, among children and youth have primarily focused on those under the age of five, as mentioned (Nanakwabira *et al.* 2014). However, recent work finds that children who survive multiple episodes of malaria have “residual impairment of cognition, speech, language, and/or motor skills” that may lower educational outcomes (Nanakwabira *et al.* 2014, Boivin *et al.* 2007, Fernando *et al.* 2003a, Fernando *et al.* 2003b). This evidence suggests that contracting malaria at an early age could have negative long-term effects on schooling.

This study evaluates the potential impact of early childhood malaria (ECM) on school progression among Ghanaian children between the ages of 12 and 16. Using a linear probability model, I measured the probability of delay given the regional ECM risk a child at age five, which is before school age. I also conducted multiple sensitivity analyses using different levels of delay and model specifications. Ultimately, I found that regional ECM risk has a statistically significant and positive impact on the probability of delay in school progression: a one percent increase in prevalence of malaria as a five-year-old increases the probability that an individual between the ages of 12 and 16 will be delayed in school by five percentage points, implying that a relatively small increase in malaria prevalence results in an economically large increase in the probability of school delay.

## II. EMPIRICAL METHODOLOGY

Multiple variables were included in the model to isolate the effect of ECM risk. To address the proposed hypothesis, I measured the probability that a child will be delayed given their exposure to ECM using a linear probability model. I used robust standard errors and cluster at the regional level to control for heteroskedastic errors. Delay is an indicator variable,  $D_p$ , which turns on if an individual has dropped out or stayed behind in school at least two years ( $D_i \leq -2$ ).  $D_i$  is equal to the number of schooling years minus the difference between primary school entry age and current age in 2012 or 2013:

$$1) D_i = \# \text{ of Schooling Years} - (\text{Primary School Start Age} - \text{Current Age})$$

Students progressing normally or beyond grade level will have a  $D_i$  value greater than or equal to zero; delayed students will have a negative value for the expression. I also tested sensitivity by regressing different delay periods on observables and ECM. The sensitivity tests are consistent with the main results, but are not included in this paper. The main variable of interest,  $MALARIA_{ij}$ , is a proxy for the ECM risk that an individual  $i$  faces in his or her birth region  $j$  at the age of five when holding migration patterns constant. In the model, ECM is defined as the proportion of children with malaria between the ages of two and ten years old within a given year, or the malaria prevalence for children between the ages of two and ten years old. The average value of  $MALARIA_{ij}$  is the proportion of children at the age of five with malaria in their birth region. In the following model, I transform  $MALARIA_{ij}$  logarithmically, thus indicating that a one percent increase in results in a  $\beta_1/100$  change in the probability of delay:

$$2) D_i = \beta_0 + \beta_1 \ln(MALARIA_{ij}) + \varepsilon_i$$

Where  $\beta_0$  is the probability of delay for an individual without any additional independent variables;  $\beta_1$  is the coefficient value that represents the relationship between ECM risk and school delay;  $MALARIA_{ij}$  is the ECM risk when the individual was five in an individual's birth region,  $j$ ; and  $\varepsilon_i$  accounts for other factors that may impact delay.

In equation (3), I included control variables based on 1) impact on school delay, 2) lack of simultaneous relationships with school delay, and 3) lack of causal relationship with ECM risk at age five for a given individual. Generally, socioeconomic status, current health status, and educational access may negatively affect the school progression of SSA children (World Bank 2018, Nankabirwa *et al.* 2014). The World Bank (2018) reports that among the poor and those living in rural localities, children must consider tradeoffs between investing in their education and earning (Awedoba *et al.* 2003). Furthermore, parents with lower education levels tend to have less disposable income, and therefore cannot afford high costs associated with high-quality education (World Bank 2018). These findings informed the socioeconomic observables I controlled for, which include household gross income, employment status, parent's education level, distance to school, household expenditure on education and health, and locality (Akyeampong 2009, World Bank 2018, Wagstaff 2005). The model also includes the current risk of malaria for adults in a given region at the time of the survey, which serves as a proxy for an individual's health status at the time of the survey. I added fixed effects for age and region; age fixed effects account for the increasing number of older children contracting malaria (Carneiro *et al.* 2010,

Ceesay *et al.* 2008, O’Meara *et al.* 2008). I also controlled for an individual’s sex. The ordinary least squares (OLS) specification for my model is of the following form:

$$3) Y_i = \beta_0 + \beta_1 \ln(MALARIA_{ij}) + \sum_d D_d X_{id} + \delta + \gamma + \varepsilon_i$$

Where the expected value of  $Y_i$  given  $X_i$  is equal to the probability of delay for an individual  $i$  at the time of the survey;  $\beta_0$  is the probability of school delay for an individual without any additional independent variables;  $\beta_1$  is the coefficient value that represents the relationship between ECM risk and school delay;  $MALARIA_{ij}$  is the ECM risk when the individual was five in an individual’s birth region,  $j$ ;  $\sum_d D_d X_{id}$  is the summation of all control variables  $d$  for each individual, such as parent’s education level or an individual’s sex;  $\delta$  represents age cohort fixed effects in the current year; and  $\gamma$  represents regional fixed effects in the current year. The variable  $\varepsilon_i$  accounts for other factors that may impact delay. Given the absence of early childhood health data and other relevant variables, my proposed model may be subject to omitted variable bias (OVB); namely, I could overstate or understate the true relationship between ECM risk and the probability of school delay. Initial results suggest that omitted variables bias causes the simplest regression specification to overstate the relationship between ECM risk and probability of school delay without any additional controls or fixed effects (refer to Table 3).

### III. DATA

#### Ghana Living Standards Survey

The Ghana Living Standards Survey (GLSS) has been administered six times between 1987 and 2013 by the Ghanaian Statistical Service (GSS). The 2012/2013 survey, or GLSS6, was administered between October 18, 2012 to October 17, 2013, and includes information about child labor, non-farm household enterprises, household access to financial services and governance, and governance, peace, and security modules. The GSS also collected socioeconomic and demographic information from each household. GLSS6 is a nationally representative sample, including 18,000 households from 1,200 enumeration areas. Of the 18,000 households, 16,772 were successfully interviewed. The highest percentage of household respondents came from the Ashanti region, and the lowest percentage from the Upper West region.

## Regional Malaria Data

Data on *Plasmodium falciparum* (Pf) national, sub-national, or regional rates for Ghana are publicly available through the Malaria Atlas Project (Hay and Snow 2006). Rates were constructed using Bayesian geo-spatial models that considered cross-sectional surveys and environmental factors (Bhatt *et al.* 2015). I used two datasets from 2000 to 2015 to denote malaria risk: standardized regional Pf prevalence rates for children from ages 2 to 10, and overall regional Pf incidence. The former was used to generate the estimated ECM risk for an individual in their birth region at age five, defined as in the OLS model in section II. The latter was used to construct a measure that accounts for the number of malaria cases in a given region at the time of the survey, which I define as a control variable for overall risk in a given region. Both variables are continuous in the model and take on nonzero values below 1. I then generated the age of five variable by adding five years of age to the difference between the survey year (either 2012 or 2013) and an individual's current age, thus providing the year that an individual was five years old in his or her regional birthplace, assuming household migration patterns are constant:

$$4) \text{ Survey Year} - \text{Current Age} + 5 = \text{Year of Age 5}$$

I found that the selected sample were five years old between 2001 and 2006. Based on each corresponding year, I matched malaria prevalence rates for each region in 2001 through 2006 to individuals' birth regions in the survey data. For incidence rates, I constructed an incidence rate for each region in 2012 and 2013 by calculating the ratio of people at risk of malaria infection to estimated population counts for each region. I then matched the incidence rates for each region in 2012 or 2013 to the year that an individual's survey data was recorded in the GLSS6.

## RESULTS

### Descriptive Statistics

The sample used for this study is restricted to include individuals who were 1) between the ages of 12 and 16 during the survey, 2) who have previously enrolled in primary school, 3) Ghanaian-born, and 4) unmarried. With these criteria, the sample size is 8,155 observations, but with the inclusion of self-reported distance to school, the sample was reduced to 7,501 individuals. To further isolate childhood malaria risk from current malaria risk, I analyzed data from children who have moved regions. This estimate is advantageous because it clearly distinguishes between childhood malaria risk and current malaria risk;

	(1)	(2)
VARIABLES	MEAN	SD
Male	0.509	0.500
Incidence Rate (%)	21.2	7.48
School Distance (minutes)	17.58	14.26
Delay by 1+ Years (%)	69.2	46.2
Delay by 2+ Years (%)	39.8	48.9
Delay by 3+ Years (%)	21.8	41.3
Urban	0.389	0.488
Male Head	0.727	0.446
Household Income (\$10,000)	0.832	2.489
Health Expenditure (\$100)	0.445	1.183
Education Expenditure (\$100)	6.596	11.25

**TABLE 1:** Summary statistics of selected sample; for each variable, N = 7,501.

	(1)	(2)	(3)
School Type	VERY POOR (Percent)	POOR (Percent)	NON-POOR (Percent)
Public	1,089 (96.0)	1,439 (88.9)	3,551 (74.1)
R-Private	34 (3.0)	76 (4.7)	370 (7.7)
NR-Private	12 (1.1)	103 (6.4)	873 (18.2)
Total	1135	1618	4794

**TABLE 2:** School type and poverty status; R-Private stands for religious private schools and NR-Private stands for non-religious private schools.

however, it also decreases the sample size to 748 observations, which reduces the efficiency of the estimated coefficients.

I found that males made up 51 percent of the sample; the mean and median age was 14 years old. Most individuals included in the sample lived in rural localities and took an average of 18 minutes to get to school. The average primary school entry age was seven years old, and on average, children were delayed by approximately 17 months. The percentage of individuals who are delayed by one, two, and three years was approximately 69, 40, and 22 percent respectively (Table 1). Table 2 shows that a higher proportion of non-poor children were enrolled in private schools, as compared to poor and very poor children. Furthermore, the data corroborates a positive relationship between socioeconomic status and educational opportunity.

After adjusting for 2012 and 2013 exchange rates, the mean gross household income was approximately \$8,300, and the median household income was approximately \$3,290. Finally, the average malaria prevalence rate for children ages 2 to 10 was 32 percent, and the mean overall incidence rate was 21 percent for 2012 and 2013. Across regions, younger individuals experienced lower early childhood malaria risk, reflecting a general country-wide decline in malaria risk over time.

### **Regression Results**

Table 3 presents the results of linear-log functional form for individuals delayed by two years or more. The inclusion of self-reported distance and exclusion of non-movers reduces the sample size in columns (3) and (4). Regression output should be read from left to right: (1) includes only ECM risk, (2) adds fixed effects for current region and age, (3) adds control variables, which reduces the sample size to 7,501 observations, and (4) restricts column (3) to movers, which reduces the size to 748 observations. Controls included in the regression are household gross income, gender of head of household, household health and education expenditure, locality, current regional malaria risk, gender and age of individual, self-reported distance to school, and birth region. The Western region of Ghana and the youngest age cohort in the sample were dropped in the analysis to avoid collinearity.

In column (1), without fixed effects or controls, the coefficient of ECM risk is 0.114 and statistically significant ( $p$ -value $<.01$ ). However, column (1) likely suffers from omitted variable bias; thus the effect of ECM may be overstated or understated. In column (2), I add fixed effects for region and age, which are statistically significant ( $p<0.01$ ), and found that ECM risk is positive and statistically significant ( $p<.05$ ). In fact, the addition of fixed effects decreases the

	(1)	(2)	(3)	(4)
VARIABLES	OLS	Age and Region Fixed Effects	Controls + FE	Movers
ECM Risk	0.114*** (0.0319)	0.0536** (0.0197)	0.0513** (0.0184)	0.0504 (0.0352)
Household Income			-0.00539** (0.00173)	0.00937 (0.00546)
Male			0.0200** (0.00723)	-0.0286 (0.0291)
Male Head			0.0161 (0.0135)	-0.0441 (0.0342)
Health Expenditure			0.00926 (0.00797)	-0.00485 (0.0147)
Education Expenditure			-0.00196*** (0.000598)	-0.00205** (0.000717)
Urban			0.0532 (0.0303)	0.0308 (0.0737)
School Distance			-0.0903*** (0.0225)	-0.0215 (0.0409)
Current Malaria			0.000760* (0.000406)	0.00248** (0.000898)
Incidence Rate				
Constant			0.0796 (0.391)	1.740 (1.113)
	0.544*** (0.0639)	0.525*** (0.0962)	0.463* (0.244)	-0.209 (0.402)
Observations				
R-squared				
Number of regions	8,155	8,155	7,501	748
Region FE		0.022	0.041	0.064
Age FE	10	10	10	10
Birth Year FE		YES	YES	YES

**TABLE 3:** Impact of Early Childhood Malaria on delay by two years or more robust standard errors in parenthesis. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$

magnitude the relationship between delay and ECM risk by approximately 53 percent. Column (3) adds control variables, reducing the sample size from 8,155 observations to 7,501 observations. The signs and magnitude of the controls are corroborated by the literature; for example, individuals from higher gross earning households and households in urban localities are less likely to be delayed in school ( $p < 0.1$ ). Within the full OLS model specification, the coefficient for ECM risk is 0.0513, or approximately five percent. Put another way, a one percent increase in the risk of ECM increases the probability that a child is delayed by two or more years by nearly five percent ( $p$ -value  $< .05$ ). Given that 40 percent of all children in Ghana are delayed by two or more years, ECM increases the proportion of children delayed in 2012 and 2013 by 13 percent, or from 40 to 45 percent overall. In column 4, I evaluate the OLS model specification for movers and find that the magnitude of ECM risk is similar, but statistically insignificant.

## CONCLUSION

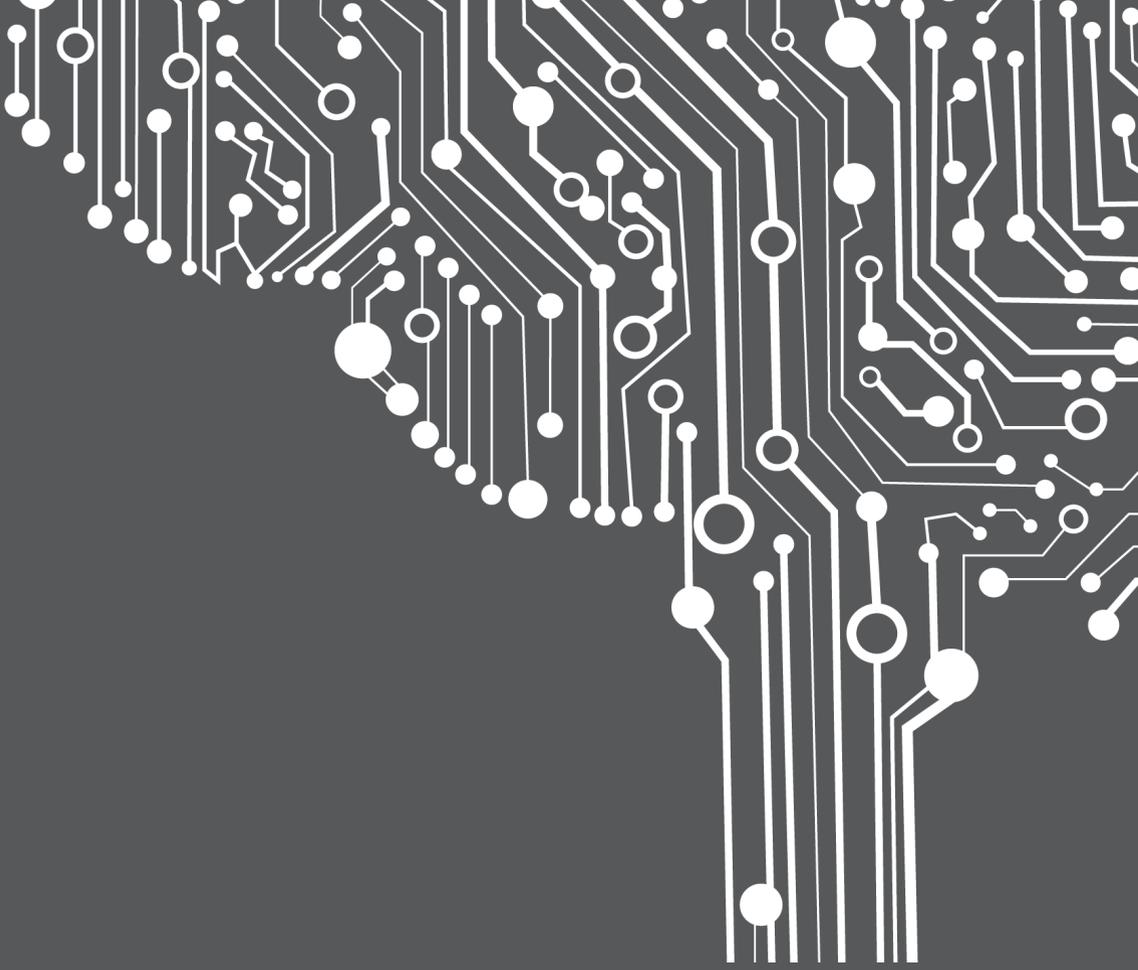
In this paper, I determine whether there is a positive and statistically significant relationship between ECM risk and school delay among Ghanaian children between the ages of 12 and 16. I found ultimately that the relationship between early childhood malaria and the probability of delay is not only positive and statistically significant, but also economically meaningful. Specifically, a one percent increase in the risk of ECM increases the probability that a child is delayed by two or more years by nearly five percent. Essentially, for each additional 320 children per 1000 that are infected with malaria in their birth region, the proportion of children delayed by two or more years, on average, increases from 40 to 45 percent.

My study demonstrates that if children experience health-related barriers, such as malaria, then their likelihood of progressing through the educational pipeline lowers. Ultimately, if Ghana hopes to usher in an able-bodied labor force, its policymakers, communities, and educators should begin to seriously consider the impact of malaria on long-term educational outcomes. The future of the country relies upon the preparedness and health of youths who will eventually constitute the labor force.

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**Examining the Role of Parental  
and Peer Religious Socialization  
in Muslim-Adolescents' Religious  
and National Group Identities**

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**w Antar** is a senior pursuing a double major in Biological Sciences and Psychology at UMBC. During his undergraduate career, he has enjoyed tutoring students in organic chemistry and has served as president of UMBC's Arab Student Union. Tarek plans to pursue a medical degree after he graduates in Spring 2020 and hopes to use his knowledge of psychology to better help his patients. He would like to thank his mentors, Dr. Charissa Cheah and Merve Balkaya, M.A. for their enormous patience, guidance, and earnest support throughout the duration of his research project. Tarek would also like to thank the entire Culture, Child, and Adolescent Lab at UMBC for their help in the pursuit of this research project. The present study received financial support from the Undergraduate Research Award granted by the Division of Undergraduate Academic Affairs at UMBC.

In Fall 2017, I became involved with the Culture, Child, and Adolescent lab under Dr. Charissa Cheah because I was interested in understanding how culture influences human psychology. At the time, there were two ongoing projects; one focused on examining Chinese/Korean immigrant families and the other on Muslim-American adolescents. While working on these projects, I became interested in learning more about the research process and carrying out my own independent study to examine how cultural factors influenced a person's identity. I discussed this with my mentor, Dr. Cheah, and a graduate student in the lab, Merve Balkaya, M.A. who helped me design a research study that fit my interests. Specifically, we explored how religious socialization from different sources (parents and peers) were associated with Muslim-American adolescents' national and religious identities. This project was fascinating to me not only as a member of the Muslim-American community and a second-generation immigrant, but because I have seen firsthand how religion can have profound effects on an individual's identity through parents and peers as socialization agents. I was also interested in examining the national and religious identities of Muslim-Americans because there is a widely held view that the two are in conflict.

## **ABSTRACT**

The development of religious minorities' sense of identity regarding both their religious group and the majority group is particularly important during adolescence. Adolescents receive cultural messages from those around them through cultural socialization practices. However, few studies examine the role of religious socialization in adolescents' identity development. Even less is known about how Maternal Religious Socialization (MRS) and Peer Religious Socialization (PRS) may independently and interactively impact adolescents' group identities. Furthermore, although Muslim individuals comprise the fastest growing religious minority group in the U.S., research on this group is scarce. Hence, the present study examined the role of MRS, PRS, and the interactive effect of MRS and PRS on Muslim-American adolescents' religious (Muslim) and national (American) identities. Muslim-American adolescents (N=212; 13-18 years-old) reported on their perceptions of their MRS, PRS, and Muslim and American identity. Overall, PRS was a stronger predictor of adolescents' Muslim identity than MRS. Mothers' promotion of pluralism predicted stronger Muslim identity, whereas promotion of mistrust predicted lower levels of American identity. Finally, the positive relations between MRS and adolescents' Muslim and American identities were weaker and became non-significant with increasing levels of PRS. Implications for supporting healthy identity development among Muslim-American adolescents are discussed.

## **THE IMPORTANCE OF MULTIPLE GROUP IDENTITIES**

Identity formation has long been recognized as a key developmental task in adolescence, the period where the individual refines and builds their sense of self through exploration (Erikson, 1980). In particular, group or social identity can be defined as “an individual’s self-concept which derives from his or her knowledge of his or her membership within a social group, together with the value and emotional significance attached to that membership” (p.166, Ozeki, 2015). Researchers have most frequently focused on individuals’ group identity related to their ethnic-racial membership, otherwise known as their ethnic-racial identity. Ethnic minority youths’ ethnic-racial identity is central to their overall identity development (Nelson et al., 2018) and is predictive of a higher social status and greater accumulation of wealth (see Hughes et al., 2018).

While perhaps related in some respects to ethnic-racial identity, individuals’ identity pertaining to their religious group is unique in that it is a group membership that is derived from a higher power and grounded in a sacred belief system (Ysseldyk, Matheson, & Anisman, 2010). For religious minorities residing in Western contexts, religious identity has been shown to be a key mitigating factor to the acculturative stresses and negative outcomes associated with discrimination (Kunst et al., 2012). In the case of Muslim Americans, religious identity is especially important, as increased scrutiny following 9/11 has caused groups that were once separated by ethnicity to form a more unified Muslim American identity (Tindongan, 2011). The dearth of studies examining religious identity development and its predictors has led to a gap in our understanding of a construct that is essential to the development of minority youth across the United States.

Minority individuals’ identification with their majority host culture, also known as their national identity, is another form of group identity that is understudied despite its importance to a minority individual’s integration into the mainstream society. Across diverse cultural contexts, a strong national identity has been linked to a stronger sense of well-being and better psychosocial functioning (see Grozdanovska, 2016). National identity can also act as a commonality between members of different social groups by connecting communities to a single group identity within the greater national context. For those who immigrate to the U.S., adopting an American identity and American practices is an essential part of their integration into American society. In fact, members of a host culture have been shown to evaluate immigrants with a higher host national identity as being of greater moral character (Maxwell & House, 2018).

This expectation and bias are especially salient for Muslims, whose faith is viewed as being incompatible with democratic values and a barrier towards their successful integration into Western societies (Foner & Alba, 2008; Martinovic & Verkuyten, 2012).

Much of the research on the development of national identity has focused on it as an essential step for the integration of first-generation immigrants. However, this aspect of group identity may be particularly important for their second-generation children (Akiyama, 2008). During their adolescence, second-generation immigrants are developing these two different social identities at the same time, which may lead to difficulties in maintaining their positive psychological well-being (Sirin & Fine, 2008). When compared to first-generation immigrants, second-generation children are at a higher risk of substance abuse, conduct disorder, and eating disorders (see Rothe, Pumariega, & Sabagh, 2011). These adjustment difficulties are thought to result from the discrimination and marginalization stresses associated with growing up in a different society than their parents without a secure bicultural identity (see Rothe, Pumariega, & Sabagh, 2011). Immigrants who successfully maintain strong senses of belonging with both their host and heritage cultures have reported better psychosocial adjustment into their host society (see Spiegeler, Gungor, and Leyendecker, 2016). Understanding the factors which influence an adolescent's sense of belonging to multiple groups is essential to developing social programs, which help them negotiate the stresses associated with simultaneously developing two social identities. Hence, the present study sought to fill a gap in the literature regarding this growing population, by examining the factors that can contribute to two seemingly polarized aspects of a Muslim-American adolescents' group identity.

## **CULTURAL AND RELIGIOUS SOCIALIZATION**

Most of the current literature on cultural socialization focuses on parental ethnic-racial socialization, which is defined as the methods by which children are taught about the history, heritage, and practices associated with their ethnic group culture, in pursuit of promoting a sense of cultural pride (Hughes, Bachman, Ruble, & Fuligni, 2006). Parental socialization has been theorized to form the core of a child's social abilities and inform their interactions with their peers during childhood and adolescence (Parke & Ladd, 1992). During the period of adolescence, ethnic-racial socialization by parents is central to ethnic-racial identity development because it facilitates the transfer of cultural values and allows parents to prepare their children for encounters related to their

ethnic-racial identity (Umaña-Taylor et al., 2014). These two functions are critical for the adolescent to internalize and embody the values associated with their ethnic-racial group. Greater parental ethnic-racial socialization in adolescence has not only been associated with stronger ethnic-racial identity and positive evaluation of one's own social group, but also with other positive outcomes such as higher self-esteem and improved academic performance (Else-Quest & Morse, 2015; Hughes et al. 2006). However, parents' socialization of children's religious group identity is not clearly defined.

Religion and culture are two interconnected phenomena that develop together in societies throughout history (Croucher, Zeng, Rahmani, Sommier, 2017). Their interaction is the result of a feedback loop where religion informs socialization practices and social systems within a community, and in turn, members of the community modify their interpretation of religious theory (Croucher et al., 2017). Religious socialization has been shown to be positively correlated with a stronger religious identity (Seol & Lee, 2012) and often acts as a key mechanism through which families can embed the younger generation into their local communities (see Gutierrez, Goodwin, Kirkinis, & Mattis, 2014). Religious socialization also aids in the internalization of religious values and skills such as prosocial engagement, compassion, and avoidance of risky behaviors (see Gutierrez et al., 2014). By directing immigrants to religious community organizations, religion can serve to develop immigrants' connections to American society and strengthen their sense of belonging to the mainstream American cultural group (see Foner & Alba, 2008).

For second generation immigrants, greater participation in religious activities has previously been shown to play an important protective role in reducing the risk of negative outcomes such substance abuse and suicidality (Pumariega, Swanson, Holzer, Linskey & Quintero-Salinas, 1992). Güngör et al. (2012) also reported that second-generation immigrants who maintained a level of religiosity that was congruent to adolescents of a similar age in their host country, reported higher ethnic-racial identification and valued close relations between different cultures to a greater degree. However, few studies examine how religious socialization may influence the development of multiple social identities during adolescence in second-generation Muslim Americans, as was the focus of the current study.

The limited body of studies which examine how religious socialization influences national identity reveal mixed findings on whether the association between these two constructs is positive or negative. Spiegel et al. (2016) found that when parents placed a greater focus on religious socialization practices, children had a lower national identification. Muslims in European cultures who

receive greater religious socialization have also been found to be less willing to adopt mainstream cultural values (Saroglou & Mathjisen, 2007). However, other studies in Western contexts have found that religious socialization can result in a strengthened identification with the host culture (Güngör, Bornstein, & Phalet, 2012; see Güngör et al., 2013). These seemingly conflicting findings could be the result of the need for simultaneous examination of national and religious identity, as previous studies have shown that for Muslim Americans these two identities are distinct but interrelated (Güngör et al., 2012; Sirin et al., 2008; Voas & Fleischmann, 2012). Thus, the current study examined the impact of two sources of religious socialization on Muslim American adolescent's religious and national identities to better understand the role of religion in Muslim adolescents' sense of belonging to American society.

## **INCREASED IMPORTANCE OF PEER SOCIALIZATION IN ADOLESCENCE**

During the period of adolescence, the effects of parental ethnic socialization may begin to stabilize as peers gain an increasingly central role (Özdikmenli-Demir & Şahin-Kütük, 2012). This transition is the result of adolescents seeking more autonomy from their parents and focusing on the strengthening of peer relationships (Hu, Zhou, & Lee, 2017). In the case of adolescents' ethnic-racial identity, they may also begin to rely more on peers for constructing their collective identity and new social challenges stimulate further exploration of their group identity (Umaña-Taylor et al, 2014). While there is a large body of literature suggesting that peers play a key role in an adolescent's development, the role that peers plays in the socialization of children's identities has received significantly less focus.

Previous studies have found that the social context of an adolescent's life (i.e. the ethnic composition of their community, their school relationships, and political influences) is a key factor in their development of a national identity (Kumar, Seay, & Karabenick, 2015). For immigrant youth, peers are key in teaching the values and beliefs required for the development of a national identity, but they can also exclude an immigrant from forming a strong national identity through discrimination and identity undermining (Schwartz, Meca, Cano, Lorenz-Blanco, & Unger, 2018). The limited existing research examining the independent effects of peer socialization tends to focus on negative out-group socialization messages, such as perceived discrimination, which have been associated with a lower national identity (Verkuyten & Martinovic, 2012).

In the case of religious socialization, research into the distinct roles that parents and peers play in transmitting religious values has formed the basis of a theory called the channeling hypothesis. This theory suggests that parents are the primary agents of religious socialization; they are mainly responsible for transmitting religious values by teaching children about their faith and encouraging religious behaviors (Özdikmenli-Demir & Şahin-Kütük, 2012). Parents then act to reinforce these values by “channeling” their children into religious groups or experiences, where peers encourage them to participate in religious activities and internalize religious beliefs (Himmelfarb, 1980, Özdikmenli-Demir & Şahin-Kütük, 2012). This “channeling” by parents has been shown to strengthen the child’s religious beliefs and religious identity (Himmelfarb, 1980, Güngör et al., 2013). This relation has also been established with regard to religious identity, as peer relationships have been shown to be key to the reinforcement of a shared religious identity in minority youth (Phalet, Fleischmann, Hillekens, 2018).

Research examining the channeling hypothesis has established that parental religious socialization depends on the influence of peers, particularly as children start to spend more time with peers with increasing age. However, studies that examine how this interaction between the two socialization agents impacts identity are rare. This interaction may be especially salient in the period of adolescence, as research has found that adolescents have limited social cognition skills in managing and negotiating distinct socialization messages (Wang & Benner, 2016). Wang and Benner (2016) found that when parental and peer socialization cultural messages are congruent, adolescents reported lower emotional distress and better academic adjustment. These authors also found evidence to suggest that adolescents had a greater sense of overall well-being when they received high cultural socialization from their peers in addition to high cultural socialization from their parents.

## **THE PRESENT STUDY**

In sum, the overall aim of the present study was to understand the role of maternal and peer religious socialization in the religious and national social identities of Muslim American adolescents. Specifically, the first aim was to understand whether mothers and peers independently predicted Muslim American adolescents’ national and religious identities. The second aim was to explore whether peers’ religious socialization moderated the associations between specific maternal socialization practices and these adolescents’ Muslim and Amer-

ican identities. Based on previous research, we expected that religious socialization from parents and peers would both be positively associated with Muslim identity. Due to the established increasing importance of peers during adolescence, we also expected that higher levels of peer religious socialization would attenuate the associations between maternal socialization and both forms of social identity.

## **METHOD**

### **Participants**

The participants consisted of 212 Muslim-American adolescents (58.3% female) between the ages of 13-18 ( $M_{age} = 16.7$  years,  $SD_{age} = 1.6$  years), of which 87.7% were born in the United States (second-generation immigrants) and 12.3% immigrated before the age of 6 years. Participants who moved to the United States before the age of 6 years reported an average immigration age of 2.35 years ( $SD = 1.9$  years) and had lived in the United States for 14.12 years ( $SD = 2.6$  years); thus, they had all their formal education in the United States prior to completing our survey. Participants reported originating from the following regional backgrounds: 72.6% were from South Asia (e.g., Pakistan, India, Bangladesh), 19.8% were from the Middle East (e.g., Egypt, Turkey, Syria), 3.8% were from Northern Africa (e.g., Morocco, Ethiopia, Algeria), and 3.3% were from other parts of Asia (e.g., Indonesia, Russia). The survey was distributed to Muslim American adolescents across the United States, although the majority were from Maryland (69.3%) or Virginia (14.15%). Most of the participants lived in two-parent households (91.5%).

### **PROCEDURES**

Participants were recruited from various religious and non-religious community organizations, as well as locations expected to be frequented by Muslims in the Maryland-Washington metropolitan area, such as halal supermarkets, mosques, and restaurants in communities with high Muslim populations. Information about this study was also spread through social media, listservs, and word of mouth to find participants who may be less likely to attend religion institutions or activities. Additionally, Muslim religious leaders from organizations across the United States were asked to distribute fliers to members of their community, so that a wider range of Muslim Americans could be included.

Research assistants were extensively trained in culturally-sensitive data collection techniques and many were bilingual in English and languages such as Arabic, Urdu, and Turkish. This was important so that language would not be a barrier in accurately conveying procedures to and obtaining consent from the participating adolescents' parents. Adolescents were screened for eligibility based on their age and whether they were born in the United States or immigrated before the age of 6. Parental consent was obtained for the adolescents who were under 18 years of age by phone call or over e-mail. Care was taken to ensure that both participants and parents were adequately informed about the methods and purpose of the study, as well as the potential benefits to them and their communities. After parental consents and adolescent assents were obtained, the adolescents were then asked to complete an online survey that assessed their perceptions of maternal and peer religious socialization, as well as their self-reported identification with their religious (i.e., Muslim) and national (i.e., American) social groups. Adolescents were compensated with a \$15 check upon completion of their participation in our study.

## **MEASURES**

### **Maternal Religious Socialization**

Adolescents' perceptions of their mother's religious socialization practices in the past 12 months were assessed with the pluralism, promotion of mistrust, and preparation for bias subscales of the Ethnic-Racial Socialization Scale (ERSS, Hughes & Johnson, 2001). Similar to previous studies (e.g., Bebiroglu, Roskam, & van der Straten Waillet, 2015), the items of this measure were reworded so that they measured religious socialization instead of ethnic-racial socialization (e.g., "My mother encouraged me to read books about Muslims" instead of "My mother encouraged me to read books about other ethnic groups"). Items were answered on a 5-point Likert scale ranging from 1 to 5 ("Never" to "Very Often") and a mean score was calculated for all items with greater values reflecting more perceived parental religious socialization. Items within these subscales had a good internal consistency for the pluralism ( $\alpha = .80$ ), promotion of mistrust ( $\alpha = .81$ ), and preparation for bias ( $\alpha = .91$ ) dimensions.

### **Peer Religious Socialization**

Adolescents reported on their perceptions of their peers' religious socialization practices using the overt subscales of the Cultural Socialization Scale (CSS, Wang et al., 2015). Similar to the ERSS, all the items were reworded to mea-

sure religious socialization (e.g., “My peers/friends teach/talk to me about being Muslim” instead of “My peers/friends teach/talk to me about the cultural background”) and participants answered on a 5-point Likert scale ranging from 1 to 5 (“Never” to “Very Often”). A mean score was calculated for all items with greater values reflecting more perceived peer religious socialization. The subscales of this measure had a good internal consistency for the covert ( $\alpha = .89$ ) and overt ( $\alpha = .91$ ) dimensions.

### **Muslim and American Group Identities**

Adolescents’ sense of belonging to their Muslim and American cultural groups were assessed with the belongingness subscale of the Multigroup Ethnic Identity Measure Revised (MEIM-R, Phinney & Ong, 2007). The items were reworded to evaluate adolescents’ religious (e.g., “I feel a strong attachment towards the Muslim group.”) and mainstream national identities (e.g., “I have a strong sense of belonging to the American culture.”). Participants answered on a 5-point Likert scale ranging from 1 to 5 (“Never” to “Very Often”). The reworded subscales had a good internal consistency for both the Muslim ( $\alpha = .92$ ) and American ( $\alpha = .88$ ) dimensions.

## **DATA ANALYSIS**

We conducted moderation analyses in PROCESS SPSS (Hayes, 2012) to examine if the relations between maternal religious socialization and adolescents’ religious and national identities were moderated by peer religious socialization. Two models were run separately to predict religious and national identity. Gender was included as a covariate in both of these analyses. Individual effects of both parental and peer religious socializations were measured by the main effects of these predictors on national and religious identity. The interaction between maternal and peer religious socialization was tested at low (-1 SD), mean, and high levels (+1 SD) of the moderator of peer religious socialization.

## **RESULTS**

Bivariate correlation analysis (see Table 1) revealed a positive association between maternal religious socialization/pluralism messages and adolescents’ Muslim identity, but not their American identity. This finding suggests that adolescents who receive more maternal pluralism and religious socialization

messages were more likely to report a stronger sense of belonging to the Muslim group. Conversely, maternal promotion of mistrust was negatively associated with adolescents' sense of belonging to the American but not the Muslim group, suggesting that when mothers promoted mistrust of the host culture, adolescents were less likely to identify with that culture. Moreover, the degree to which adolescents perceived their mothers as preparing them for bias or discrimination due to their religious group membership was not related to these adolescents' Muslim or national identity. Peer religious socialization was significantly positively correlated with Muslim identity, but not with national identity, suggesting that peers' engagement in overt religious socialization practices are uniquely associated with adolescents' identification with their religious group. Finally, Muslim American adolescents' American and Muslim identities were found to be positively correlated, suggesting that participants who reported a high identification with their national group were more likely to have a high identification with their religious group.

Variable	1.	2.	3.	4.	5.	6.	
1. Maternal Socialization of Pluralism/ Religious Socialization	1						
2. Maternal Promotion of Mistrust	.08	1					
3. Maternal Preparation for Bias	.52 ***	.33***	1				
4. Peer Religious Socialization	.18**	.04	.24**	1			
5. Muslim Identity	.20**	-.13	.06	.47***	1		
6. American Identity	.11	-.18**	.03	.09	.36***	1	
7. Participant Gender <sup>a</sup>	-.02	.11	.11	.25***	.05	.02	1
<i>M</i>	3.23	2.10	2.66	3.01	4.27	3.70	0.58
<i>SD</i>	1.04	1.20	1.09	0.93	0.76	0.83	0.49

<sup>a</sup>Participant Gender: 0 = *male*, 1 = *female*.

\* $p < .05$ , \*\* $p < .005$ , \*\*\* $p < .001$

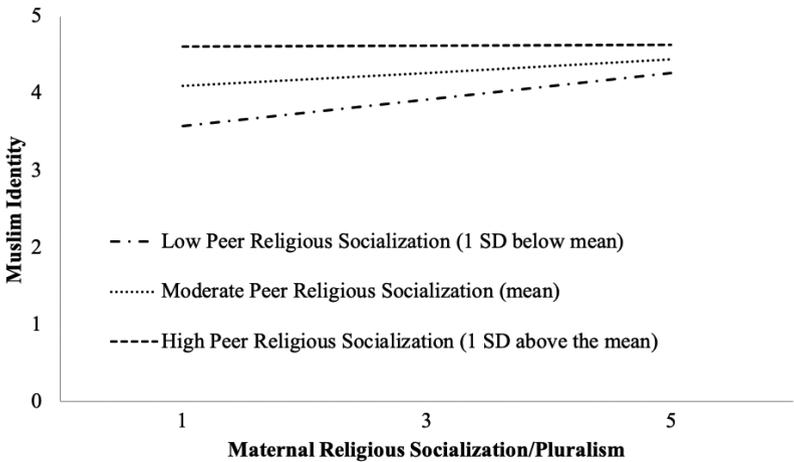
**TABLE 1:** Descriptive Statistics and Bivariate Correlations

Cells at the intersection of numbered variables contain values with asterisks denoting statistical significance. The bottom two rows denote the average value and standard deviation of each var variable.

## MODERATION ANALYSES

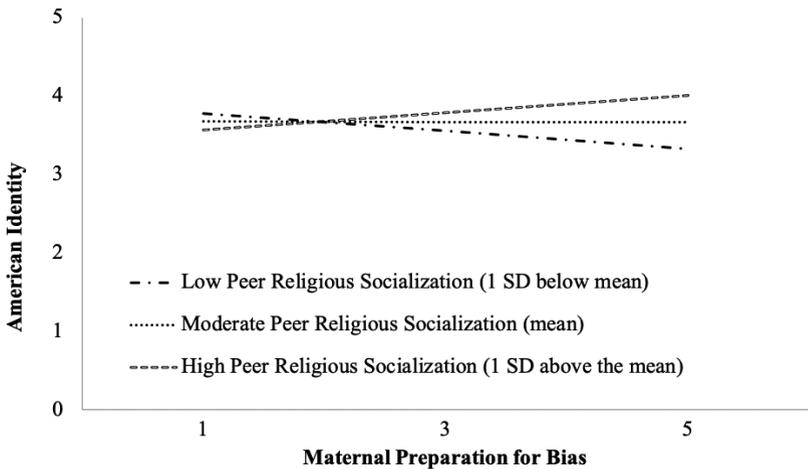
Moderation analyses were conducted in PROCESS SPSS to examine if the relations between various maternal religious socialization practices and adolescents' religious and national identities were moderated by peer religious socialization. Our findings revealed that peer socialization ( $B = 0.64, p < .01$ ) and maternal pluralism/religious socialization ( $B = 0.35, p = .02$ ) were both significant positive predictors of Muslim identity. Their interaction was also found to be a significant predictor of Muslim identity ( $B = -0.09, p = .05$ ). Simple slope analyses revealed that at low (1 SD below the mean) and moderate (mean) levels of peer religious socialization, maternal pluralism/religious socialization was a significant predictor of Muslim identity ( $B = 0.18, p < .01$ ;  $B = 0.09, p = .05$ ). However, at high (1 SD above the mean) peer religious socialization, maternal religious socialization/pluralism was no longer a significant predictor of Muslim identity ( $B = 0.00; p = .99$ ). In other words, as peer religious socialization increased, the association between parental religious socialization/pluralism and Muslim identity decreased (see Figure 1).

Mothers' promotion of mistrust  $B$  (unstandardized beta) =  $-0.33, p$  (significance) =  $.03$  and preparation for bias ( $B = -0.36, p = .05$ ) were negatively related to national identity, but maternal pluralism/religious socialization ( $B = -0.07, p = .70$ ) and peers' religious socialization ( $B = -0.09, p = .64$ ) did not predict American identity. Peer socialization also did not interact with promotion



**FIGURE 1:** Interaction between maternal religious socialization/pluralism and Muslim identity at three different levels of peer religious socialization.

of mistrust ( $B = 0.06, p = .15$ ) or religious socialization/pluralism ( $B = 0.05, p = .39$ ), but moderated the relations between maternal preparation for bias ( $B = 0.12, p = .03$ ), such that the negative effect of preparation for bias on national identity was attenuated with increasing levels of peer socialization (see Figure 2). Simple slope analyses indicated that at low (1 SD below the mean), moderate (mean), and high (1 SD above the mean) levels of peer religious socialization, maternal preparation for bias was not a significant predictor of American identity ( $B = -0.11, p = .15$ ;  $B = 0.00, p = .98$ ;  $B = 0.11, p = .16$ ). Using the Johnson-Neyman technique (Karpman, 1983), it was determined that the negative association between maternal preparation for bias and American identity was approaching significance only at the lowest levels of peer religious socialization ( $p = .06, B = -0.24$ ). At the highest level of peer religious socialization, there was a significant positive association between maternal preparation for bias and national identity ( $p = .05, B = 0.24$ )



**FIGURE 2:** Interaction between maternal preparation for bias and American identity at three different levels of peer religious socialization.

## Discussion

Some theorists have previously argued that one of the factors preventing immigrants from successfully developing a national identity is the collective identity they developed in their heritage country (Huntington, 2004), especially if there is a perceived conflict between their heritage identity and the greater national

identity (Molina, Phillips, & Sidanius, 2015). However, our findings indicate support for the opposite; that is, an adolescent with a strong sense of belonging to their national group was more likely to have to a stronger sense of belonging to their religious group, at least in the case of Muslim-American adolescents. Whereas these findings are consistent with previous research on Muslim youth in the United States (Güngör et al., 2012), they contradict findings on Muslim youth in European contexts (Malliepaard & Verkuyten, 2018). For example, Malliepaard and Verkuyten (2018) found Muslim identity to be negatively related to national identity and that the negative relation was greater if the host country was less accepting of Islam. In the case of ethnic-racial identity, these discrepancies in the literature have been attributed to socio-cultural differences in the host countries. Berry, Phinney, Sam, and Vedder (2006) found that there was a positive association between national and ethnic identities in countries that were traditionally settler societies, such as the U.S., Australia, and Canada, whereas there was a negative association between these identities in non-settler societies such as Germany, France, and Sweden.

Americans are also more likely to emphasize the importance of God and religious belief in the national culture and to report their religious identity as being more important than their national identity (Pew Research Center, 2011). Thus, religious identities may be more easily reconciled with the American national identity than European national identities. Another possible explanation for the relation between religious and national identity is that adolescents with one strong group identity naturally seek to develop other forms of group identity. This theoretical explanation is supported by previous research that has explained positive correlations between separate cultural group identities as being the result of adolescents' desire to seek a sense of community through as many pathways as possible once one of their group identities has been securely established (Molina, Phillips, & Sidanius, 2015). The positive relation between the two group identities may also be the result of some characteristic that is inherent to either the Muslim or American identity that makes adolescents more likely to develop the other form of identity. Despite media depictions of Islamic and democratic American values as contradictory (Tindogan, 2011), Islam teaches that Muslims should seek to develop a sense of solidarity and mutualism with their neighbors, regardless of their religious identity (Bouhdiba & al-Dawalibi, 1998). In the pursuit of building these relationships with members of the host culture (i.e. Americans), Muslims may develop their sense of belonging to the United States as well. Further research could seek to understand what factors moderate the positive relation between these two forms of social identity, for example individuals' personal perceptions of the compatibility between these two social identities (Sirin et al., 2008).

Our findings revealed a main effect of mothers' religious socialization on their children's religious identity in that when mothers encouraged their Muslim-American children to explore the cultures surrounding Islam and other cultural groups, their children were more likely to report a stronger sense of belonging with the Muslim group. In addition to findings indicating that religious socialization encourages adolescents to explore their religious identity (Seol & Lee 2012), pluralism is important because it promotes adolescents' appreciation of their own culture and reduces perceptions of negative relationships between groups (Tran & Lee, 2010). Hence, our findings that pluralism/religious socialization is associated with a stronger religious identity may indicate that discussions regarding adolescents' own and other cultures with their mothers allowed adolescents to explore their Muslim identity while understanding the characteristics that make it unique from other identities.

However, the above main effect was only found when adolescents also perceived low and moderate levels of peer religious socialization. Thus, the effects of mothers' religious socialization were no longer significant in fostering Muslim identity when adolescents' peers acted as religious socialization agents at high levels. Thus, with increasing levels of peer religious socialization, mothers became less important in defining adolescents' religious and national identity. These findings echo prior studies which have found that peers take on a more central socialization role during adolescence and become more important socialization agents in adolescents' development of social identities (Hu, Zhou, & Lee, 2017; Özdikmenli-Demir & Şahin-Kütük, 2012; Umaña-Taylor et al, 2014). However, the results of this study extend these findings into the context of religious socialization and religious identity development, an area where the role of peers is less well understood.

Participants who perceived their mothers as emphasizing a need for caution and distrust in their interactions with those who do not share their group identity were more likely to have a weaker national identity. Adolescents who receive these socialization messages about their host culture from their mother may develop a degree apprehension about their host society, which could hinder their successful development of a strong national identity. These findings echo results from prior qualitative research that found that adolescents who reported greater parental promotion of outgroup mistrust exhibited less exploration of their national identity and had only superficial commitment to the American cultural group (Joseph & Hunter, 2011). In a similar fashion to promotion of mistrust, mothers' preparation for bias was negatively associated with participants' national identity. Preparation for bias practices can be considered distinct from promotion of mistrust due to the former's inclusion of socialization messages that contain advice for coping with or managing discrimination (Hughes

et al., 2006). Our findings indicate that adolescents who had mothers who engaged in these type of socialization methods were more likely to have a weaker national identity. One possible explanation for this relation could be that the adolescent's socialized expectation for bias and discrimination resulted in them anticipating or perceiving more biased and discriminatory actions in their everyday life, which may ultimately make them feel alienated from the American cultural group. There is research to support this conclusion, as maternal preparation for bias has been related to youth perceiving more discrimination in their social interactions (Kulish et al., 2019). In turn, greater perceived discrimination is related to a weaker national identity (Molina, Phillips, & Sidanius, 2015).

Our findings also indicated that peers played a critical role in buffering the negative effects of mothers' preparation for bias on their national identities. Specifically, increasing levels of peer socialization attenuated the negative association between preparation for bias and national identity. This finding indicates that adolescents who perceive low levels of peer religious socialization learn about the cultural perceptions of their religion from their mothers. However, when adolescents experience more peer religious socialization, they are exposed to other socialization messages regarding their religion and are less likely to be influenced by maternal socialization messages. While the moderating role of peers was demonstrated in the effect of preparation of bias, peers were not shown to have a moderating effect on the negative association between promotion of mistrust and national identity. Thus, peer religious socialization can reduce the negative effects of certain maternal socialization practices, but not others. Further research could seek to understand the specific roles that peers and mothers play in socialization adolescents about their religion.

## **LIMITATIONS**

There are several limitations to the methodology of this study that should be considered when interpreting the findings. The use of a cross-sectional design does not allow for the examination of how religious socialization and religious identity change throughout adolescence. Indeed, previous studies have established that peer influences on identity development can change as an individual progress through early to late adolescence (Douglass, Mirpuri, & Yip, 2017). Further research could adopt a longitudinal design that examines socialization agents and group identity trends as the participants progress through adolescence.

Moreover, the use of a cross-sectional design prevents us from inferring the temporal relations between the constructs. This study was the first to examine the relations between various parental and peer socialization practices as they influenced both American and national identity. These findings can be used to guide further longitudinal studies that seek to examine how these constructs change over time.

The generalizability of this study may also be limited because our recruitment approach. First, our flyers indicated that our study focused on Muslim-American adolescents. Second, many of our participants were recruited by convenience sampling from areas that we expected to be frequented by Muslims, such as halal supermarkets, mosques, and Muslim community organizations. This recruitment and sampling strategy was likely to lead to more adolescents with a stronger Muslim identity in our study, and those who would be more willing to participate in a study that would benefit the greater Muslim community. The use of snowball sampling also limited the generalizability of our findings as participants who came from the same social organizations likely experienced more similar socialization effects that may have biased our results.

Also, the use of self-report measures introduced the potential for recall bias and required some degree of introspection from the participants. Specifically, the measures of socialization practices asked adolescents to subjectively report on the frequency of the practices and did not account for the adolescents' internalization or rejection of what was socialized. It is also possible that the participants over- or underreported the frequency of some socialization practices due to recall bias. Given that all measures relied on adolescents' self-reports, the relations between these constructs could also be inflated due to shared method variance.

## **CONCLUSIONS AND IMPLICATIONS**

In summary, the present study highlighted the importance of examining various socialization agents when seeking to understand the development of adolescents' multiple group identities. To our knowledge, this study represents the first attempt to examine the differential and independent effects of parental and peer religious socialization on adolescents' national and religious identity. Our findings serve as an important first step towards a greater understanding of the multiple-group identity development of Muslim-Americans living in America and how various socialization factors can influence their integration. Such re-

search on the Muslim-American population is essential to our understanding of how these individuals develop national and religious identities while living in the United States.

The finding that Muslim and American identity are not incompatible is of clear importance to both the Muslim-American and larger non-Muslim American communities. First, the compatibility between the two group identities is important for Muslim American families as it indicates that the promotion of either national or religious identity is not at the expense of the other and can aid in the formation of a bicultural identity. Thus, parents can be supported in their attempts to socialize children with bicultural competence, which has also been found to be associated with positive outcomes in other minority samples (Tikhonov, Espinosa, Huynh, & Anglin, 2019). Second, these results suggest that religious socialization by itself does not hinder the formation of a national identity, but specific religious socialization practices (such as promotion of mistrust or preparation for bias) may have that effect. Thus, the importance of encouraging parents and religious leaders to consider the potential impact that these types of socialization practices may have on a child's connection to their host culture was highlighted by these findings. Finally, these results also have implications for reducing public stigma and fostering a public understanding of what it means to be a Muslim in America. The knowledge derived from this study could also be used by community organizations, governments, and schools to develop programs and policies that understand and promote the healthy development of Muslim-American adolescents' group identities. For example, Umaña-Taylor, Kornienko, Douglass Bayless, and Updegraff (2017) developed an intervention program that promoted ethnic-racial identity exploration and resolution in a diverse group of American adolescents, which in turn lead to higher identity cohesion, lower depressive symptoms, and improved academic performance in these adolescents. The findings from the current study, lend support for similar intervention efforts to promote a strong social identity to the larger mainstream culture, which in turn could lead to more positive psychosocial functioning.

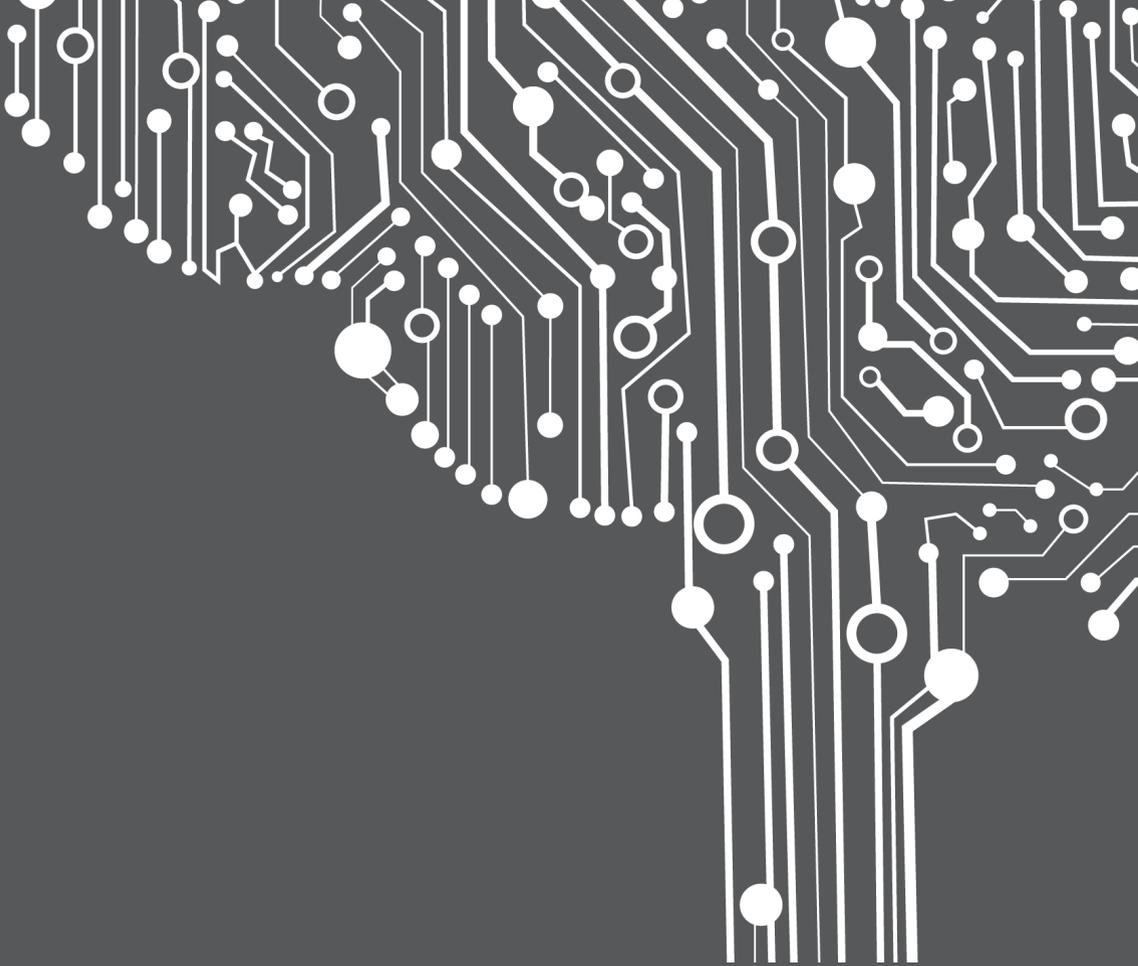
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**Diplomatic Disarray: Exploring American  
Brinkmanship in Obtaining Russian Compliance  
with the INF Treaty**

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MIRANDA SNYDER

**Miranda Snyder** graduated from UMBC in December 2019 with a major in political science and a minor in Russian. In addition to being a scholar at UMBC, she has been an employee with the U.S. Department of Defense since the age of 17. She has simultaneously balanced her full-time career with the Department of Defense throughout her entire college education, and continues to strive for greatness in being a public servant. Miranda is also a member of Pi Sigma Alpha Political Science Honor Society and Sigma Alpha Lambda Leadership Honor Society. In conjunction with her professional and academic career, she pursues community theater in her free time. Miranda is proud to be a UMBC Retriever, and thankful for her family and all the amazing professors and friends she has met throughout her time at UMBC. She would like to thank Dr. Hagerty specifically for always pushing her to be a better writer and scholar.

As a result of being an employee with the U.S. federal government since I was 17, overtime I have sought to understand the bigger picture of the U.S. strategy behind foreign policy. To accomplish this, I immersed myself in the study of international affairs and the Russian language. My Introduction to International Relations class was taught by Dr. Devin Hagerty, who specialized in strategic security studies. Under his teaching, I became exposed to the concept of nuclear deterrence, the method in which the use of nuclear weapons is grounded in strategic balance of power. Nuclear deterrence research began with looking at the United States and Russia as they were the two nuclear superpowers at odds during the Cold War. To this day, they are the two countries that have the largest arsenals, and continually prove to be a fascinating relationship to study.

After studying under Dr. Hagerty for two years, I knew that I wanted to have him guide me on a paper that dug into the security strategies executed by the U.S. and Russia. In the Spring of 2019, I looked at various arms agreements, trying to figure out “why do we need these agreements, if neither power will likely use their weapons?”. News broke of the U.S. withdrawal from the INF treaty, and Dr. Hagerty and I agreed that this would be an excellent research topic. In the absence of a treaty, could Russia and the United State maintain stability? This question inspired me to dig deeper, and see if we could rely on deterrence to ensure security in the absence of a historic agreement.

## **ABSTRACT**

This research explores why the Trump administration pulled out of the Intermediate-Range Nuclear Forces (INF) Treaty by assessing the strategic culture of the United States and Russia to justify the Trump administration's use of brinkmanship in the INF proceedings. Based on this research, the Trump Administration used brinkmanship as a short-term strategy to obtain the long-term objective of Russian compliance with the INF treaty. Brinkmanship is a method in which two state actors rely on the impending danger of a conflict, typically nuclear, in order to force stability and caution between them. By creating instability through withdrawing from the treaty, enough caution is created to allow the United States time to bring China into the INF and create a multi-lateral arms agreement. The United States wants to bring China in as it is one of the largest threats to Russian compliance. The probability of China joining that arms agreement is unlikely, but not impossible. However, the downside of brinkmanship is that even though all parties may use the utmost caution, it is the perfect environment for the misperception of threats.

## **INTRODUCTION**

In the fall of 2018, the Trump administration expressed its intent to begin withdrawal procedures from the Intermediate-Range Nuclear Forces Treaty (INF). The withdrawal procedures provided Russia with six months to become compliant with the Treaty by decommissioning the Russian SSC-8 ground-launched cruise missile. As of February 1<sup>st</sup> 2019, the United States declared that it had officially resigned from of the Treaty as the six-month grace period had expired, and Russia had not made effort towards compliance (Department of State 2019). To better understand the scope of the United States' reasoning for withdrawal for the agreement, we must analyze this situation as if we were the National Security Advisor.

If you were sitting at a table with the National Security Council, and the President asked, "How can we get Russia to be compliant with this agreement?", the first idea to come to mind would not be to do away with the INF Treaty in its entirety. The question itself is a difficult one of compellence; forcing someone to stop doing something is much more complicated than deterrence, i.e. convincing someone not to start something. Throughout the INF's history, both Russia and the United States have accused one another of violating the treaty. The stakes are high, and merely asking Russia to be compliant is not the answer.

The high risk surrounding the lack of an agreement creates caution. Think of a landmine; if you know a field is littered with bombs, you will walk much more carefully than you would anywhere else. Walking carefully does not eliminate the chance of injury, but it can minimize it.

Thomas Schelling defines brinkmanship as a method in which two state actors rely on the impending danger of a conflict, typically nuclear, in order to force stability and caution between them (Schelling 1966). Brinkmanship allows the Trump administration time to bring China, one of Russia's most significant military threats and a growing economic partner for the United States and Russia, to the negotiating table. Due to the United States categorizing both Russia and China as national security threats, the two have grown closer in an attempt to counter the United States. With China's growing economic influence and Russia's depreciation of crude oil, the two have begun to foster a strategic economic partnership by increasing trade and economic interdependence between Russia and China (Dobbins, Shatz and Wyne 2019). Additionally, with the United States prioritizing China and Russia as top national security threats, this provides an even larger incentive for an alliance. The Trump administration has openly disclosed that they are exploring arms control conversations with China, but this does not mean China will comply (Sonne and Hudson 2019). Yes, China is eager to demonstrate its strength, and what better way to do that than to join an arms agreement with the current hegemon and former superpower? However, from the Chinese perspective, joining the INF has minimal reward as its nuclear deterrent strategy relies heavily on a minimal, opaque arsenal to leave its four surrounding nuclear states – Russia, India, Pakistan, and North Korea – to question its capability. The opaqueness leaves its neighbors questioning China's capability, and ultimately deterring an attack (Riqiang 2019).

By using our hypothetical example as a National Security Advisor the objectives of the administration seem clear, but to the public they are not. In this paper, I will demonstrate how brinkmanship was the strategy used by the Trump administration to gain Russian compliance by exploring the following: the history of the INF Treaty, the US-NATO-Russia relationship, NATO commitment, the strategic culture of Russia, the strategic culture of the United States, brinkmanship as a strategy, and Russian compliance as the objective.

## **HISTORICAL CONTEXT OF THE INF TREATY**

### **WHAT IS THE INF TREATY?**

The INF Treaty stands for the Intermediate-Range Nuclear Forces Treaty, which was an agreement signed by both the United States and the former Soviet Union in December 1987 to eliminate both countries' entire class of intermediate-range weapons (Department of State 1987). The agreement was the first treaty between the two superpowers to reduce an entire class of weapons within their respective arsenals. The INF Treaty makes no mention of nuclear weapons, but it does address the delivery systems of intermediate-range missiles, which could potentially carry nuclear weapons. This agreement states that both superpowers must eliminate their arsenals of intermediate-range missiles with ranges of 500 to 5,500km (Kimball and Rief).

### **WHY WAS THE INF NEEDED?**

Intermediate-range delivery systems were not the United States' primary deterrent against the Soviet Union due to the distance between them, however this class of weapon did affect U.S. NATO partners' deterrent against the Soviet Union. NATO is an organization that was established by the United States' to form an alliance with its European partners to balance against Russia. As NATO partners were enveloped under the United State's so called "Nuclear Umbrella," the U.S. became a crucial factor in the debate over intermediate-range weapons placed in Europe. The U.S. "Nuclear Umbrella" involves allowing that states allied with the United States could rely on security from the U.S., rather than acquiring their own nuclear weapons. During the 1970s, NATO began considering a restructuring plan in which the European partners would provide their own defense support rather than relying on the United States, but that proposal was quickly dismissed upon the introduction of the Euromissile crisis (Bull 1983). The Soviets had deployed SS-20 missiles facing Western Europe, provoking a U.S. response. The United States counterbalanced by deploying Pershing II missiles, demonstrating an unwavering commitment to the protection of their NATO partners (Talbot 1983). However, this resulted in both NATO and the USSR pointing weapons at each other, increasing the Cold War tension. As a result, NATO partners asked the United States to seek an arms control agreement with the Soviet Union in order to reduce the weapons held by both U.S. and Soviet sides, and alleviate the tension within the European theater.

The INF Treaty was also used as a testing mechanism for Mikhail Gorbachev's commitment to cooperation with the West. During the beginning of Gorbachev's leadership, the West was still skeptical of the Soviet Union's actual intent to seek stability. However, throughout his leadership, Gorbachev demonstrated a strong commitment to easing Soviet tensions with the Western powers (Nemirovskaya 1997). Most treaties produced during the Gorbachev era were a demonstration of Soviet will to cooperate, and as a result, various arms agreements including the INF Treaty and the Strategic Arms Reduction Treaty (START) agreement became hallmarks of stability between the two nations.

## **WHAT HAS HAPPENED SINCE?**

### **The Collapse of the Soviet Union**

After the collapse of the Soviet Union, there was an era of uncertainty where weapons across the former Soviet Union were unprotected and unregulated. Besides loose nuclear weapons, there was concern for the continuity of landmark arms control agreements. To address continuity issues, NATO designated Soviet Republics as countries who had possession of nuclear weapons. In most instances, the new designee was the young Russian Federation. Specifically for the INF treaty, the follow-on actors were twelve successor states, six of whom had inspectable INF facilities. These actors were Belarus, Kazakhstan, Russia, Turkmenistan, Ukraine, and Uzbekistan. Of these six, four were active participants in the process of implementing the Treaty; Belarus, Kazakhstan, Russia, and Ukraine (Department of State). For the purposes of this research we will be focusing on Russia, as Russia is considered the political successor of the Soviet Union.

### **U.S. Accusations Against Russia**

Under the Obama Administration, tensions began to rise between the two states. Russia had begun testing its new Intercontinental Ballistic Missile (ICBM), the RS-26. An ICBM is defined by the Anti-Ballistic Missile Treaty as any missile that can travel over 5,500km. However, it could also travel within the 500-5,500km range prohibited by the INF Treaty (Pifer 2014). The U.S. argued that the development of this missile violated the INF treaty due to its ability to travel within outlawed range. This was a loophole in the agreement that could allow an ICBM to be used on an INF-range target in wartime conditions which threatened European NATO targets. Russia's counterargument was that the INF

Treaty itself is restrictive, as surrounding nations particularly China, are able to possess this class of weapon, yet the U.S. and Russia are restricted (Pifer 2014).

### **Russian Accusations Against the U.S.**

The less discussed violation is that of the U.S. Aegis Ashore Ballistic Missile Defense System. The U.S. system is located in Poland and Romania where missiles are used for the U.S. Ballistic Missile Defense System, an arm of the NATO “Nuclear Umbrella”. Washington says that this weapon is geared to defend against an Iranian attack (Postol 2019). Technical experts state that the Aegis system is too slow, rendering it futile against an incoming Iranian threat, thus leaving others to question the position of this weapon in Eastern Europe (Postol 2019). Russia feels threatened by the presence of these weapons, but the U.S. argues that the missile system does not possess the proper software to execute an offensive launch (Postol 2019). Here Jervis’s theory of misperception applies; it is challenging to discern between offensive and defensive weapons, especially in wartime conditions (Jervis 1976). If the software is the only restraint, a software update could be pushed through, should the weapons system be needed for war against Russia.

### **The INF Treaty in 2019**

In December 2018, the United States declared that Russia was in violation of the INF Treaty, providing them with 60 days to reestablish full compliance. The U.S. claimed that the Russian SSC-8, a ground-based ICBM that could also be launched within the INF range using a portable launcher, violated the treaty (Center for Strategic and International Studies 2018). Russia did not reestablish compliance within the timeframe allotted by the INF withdrawal procedures, so the U.S. officially resigned from the treaty in February 2019 (Department of State).

The United States claims that pulling out of the INF Treaty demonstrates strength and respect towards the treaty itself, as they do not wish to be held to a standard that Russia is not willing to uphold (Department of State). Others see beyond the words of the United States and claim that pulling out of the treaty frees Russia of accountability, making Trump appear weak for not holding Russia accountable (Korda and Kristensen 2018). Some state that pulling out of the treaty was a method to enable the United States to take steps in the direction of a multilateral agreement by incorporating China into the INF, easing Russian concerns, and instituting some Chinese transparency (Horlohe 2015). Others argue that pulling out matches Trump’s style of diplomacy; abrupt brinkmanship (Bronson 2019).

## **HISTORY OF THE US-RUSSIA-NATO RELATIONSHIP**

Historically NATO has been viewed as an extension of the U.S. military within Europe, and NATO partners have been protected under that arm, also known as the “Nuclear Umbrella”. NATO began as a balancing tool against the Soviet military (Haglund 2019). However, upon the dissolution of the Soviet Union, NATO began welcoming former Soviet states and Soviet satellite states. These Soviet-influenced states who joined NATO are comprised of a mixture of Warsaw Pact states (the Soviet equivalent of NATO), and various other states that were influenced by the Soviet Union through regime interference or aid provided (Rosenberg 2018). This growing Western influence on once Soviet – now Russian – influenced territory is an encroaching threat to Russian strategic depth and influence within Eastern Europe, particularly with countries like Ukraine who are pending NATO admittance (NATO 2019).

These former republics are now aligning with the United States because they want to avoid a Russian sphere of influence that would bring corruption, poor living standards, and overall aggression towards the West (Burke 2014). By aligning with the West through NATO, these former republics feel safer having the joint European-American deterrent behind them to prevent a resurgence of the former Soviet Union or a Russian Empire. This steep increase in Western influence seems menacing to Russia, as NATO is the equivalent of having the United States in its backyard, along with all of its allies. U.S. influence in the surrounding states leads to the Russian Federation beginning to feel threatened by the dominant defense posture of the United States and its NATO partners. Many critics argue that this expansion is justification for Russia to continue modernizing its arsenal, and may even be probable cause to throw out the INF Treaty. In Russia’s defense, NATO and its missile defense system have a much farther reach than Russia’s defense system (Kuhn and Peczeli 2017). Alongside the growing encroachment of the West, Russia also feels threatened by the development of China, as China’s intermediate-range weapons are not restrained, unlike Russia’s (Korb 2018).

Table 1 presents the current NATO members, their historical status of Soviet Union affiliation, and corresponding years of admittance to NATO. Table 2 shows the current aspiring NATO countries, their historical status of Soviet Union Affiliation, and corresponding years of disclosed interest in joining NATO. These tables visually demonstrate how a large amount of the former Soviet sphere of influence is shifting towards the West, away from Russia.

<b>COUNTRY</b>	<b>USSR AFFILIATION</b>	<b>YEAR JOINED</b>
Belgium	None	1949
Canada	None	1949
Denmark	None	1949
France	None	1949
Iceland	None	1949
Italy	None	1949
Luxembourg	None	1949
The Netherlands	None	1949
Norway	None	1949
Portugal	None	1949
United Kingdom	None	1949
United States	None	1949
Greece	None	1952
Turkey	None	1952
West Germany	None	1955
Spain	None	1982
<b> </b>		
East Germany/Unified Germany	Warsaw Pact (Only East Germany)	1990
The Czech Republic	Warsaw Pact (Former Czechoslovakia)	1999
Hungary	Warsaw Pact	1999
Poland	Warsaw Pact	1999
Bulgaria	Warsaw Pact	2004
Estonia	Soviet Republic	2004
Latvia	Soviet Republic	2004
Lithuania	Soviet Republic	2004
Romania	Warsaw Pact	2004
Slovakia	Warsaw Pact	2004
Slovenia	Former Yugoslavia	2004
Albania	Warsaw Pact	2009
Croatia	Former Yugoslavia	2009
Montenegro	Former Yugoslavia	2014

**TABLE 1:** NATO Members

<b>Aspiring Country</b>	<b>USSR Affiliation</b>	<b>YEAR OF DECLARED INTEREST</b>
<b>Georgia</b>	Former Soviet Republic	2008
<b>Ukraine</b>	Former Soviet Republic	2008
<b>Bosnia and Herzegovina</b>	Former Yugoslavia	2010
<b>North Macedonia</b>	Former Yugoslavia	2018

**TABLE 2:** Aspiring NATO Members

## **COMMITMENT TO NATO**

Recently, commitment to NATO’s unifying principle is being drawn into question, as the United States seems to be pulling back and following a more nationalistic strategy. This fear is a response to a slow decline in military support for NATO since the 80s, in addition to the recent America First rhetoric being projected by the Trump administration. Judy Dempsey fears that the strength behind NATO is degrading, turning it into a “Paper Tiger,” where the threats are conveyed but not acted upon. Dempsey’s analysis of the U.S. withdrawal claims that the withdrawal demonstrates a decreased commitment to NATO, which degrades the deterrent that has steadily balanced the United States and NATO against Russia (Dempsey 2019). The retreat of this deterrent creates worry of a new arms race, although Russia has openly admitted that they cannot afford a new arms race with the United States (Osborn 2019).

## **STRATEGIC CULTURE OF RUSSIA**

### **ECONOMIC INTERESTS**

After the collapse of the Soviet Union, the new Russia took time to establish itself, and naturally stumbled along the way; Yeltsin’s governance, the Chechen War, and reigning oligarchs (Nemirovskaya 1997). Now that Putin is in charge, many believe he brings stability to Russia. Putin has always demonstrated highly strategic thinking in his decisions and is well-versed in the realm of U.S.-Russia foreign policy. Despite treaty violations, Russia is slowly changing its strategic focus. Historically Russia has emphasized military strength, as demonstrated since the Soviet Era. Money for tanks took precedence over domestic needs including pay for employees and food (Nemirovskaya 1997).

In recent years the focus is slowly shifting from the military to the economy, as the price of oil seems to be dropping, resulting in a more economically cautious Russia (Dobbins, Shatz, and Wyne 2019). The shift in focus means that although Russia relies on its military to demonstrate strength, it must also focus on economic stability. Although China is one of Russia's most significant nuclear threats, it is also a strong potential economic partner for Russia as China's economic dominance in East Asia encourages further economic interdependence (Dobbins, Shatz and Wyne 2019). China's Belt & Road initiative that builds infrastructure at a global level combined with Russia's role as a major oil supplier could lead to the two countries creating a global economic stronghold by trading with one another and supplementing each other's economies when needed. Due to this shifted focus, Russia realizes that in the absence of arms control, however brief it may be, they cannot afford another arms race, as Putin and the population remember the economic turmoil of the Cold War and Soviet collapse (Osborn 2019).

Due to Russia's strategic acumen and refocused strategy, Trump felt that he could take the risk and eliminate the arms control agreement. On the surface, it looks as though he removed the stabilizing INF Treaty – which he did. But Russia's keen focus on strategy and economic prioritization make it the perfect partner for brinkmanship. Russia and the United States will both push each other to the edge, although neither has pushed the other off of it – yet.

### **Military Interests**

Despite Russian economic concerns, they are not blind to the encroaching NATO and rising China. Russia is not foreign to attack or invasion. Threats to Russian strategic depth, the literal geographic space between adversaries, date back to back Russian Empire, where Tsars fought over contested territory, the French invasion by Napoleon, the expansion of the Soviet Union, battles in WWII against Hitler, the Cold War, and now threats from both China and NATO (Eitelhuber 2009). Russia does not wish to increase or decrease its arsenal, but intends to modernize the current arsenal as it is more cost effective than building new bombs all together (Dvorkin 2019). The growing threats on each side of Russia intensify its desire to be freed from the INF Treaty or at least have the threats surrounding its borders to be mitigated.

## **RUSSIAN STRATEGIC CULTURE'S INFLUENCE ON THE INF TREATY**

From the Russian perspective, there is ample logic for wanting to pull out of the INF Treaty altogether. From the U.S. perspective there needs to be some level of control. If that control cannot be reached under new arms agreements, the two states can resort to the more long-term brinkmanship of the Cold War for stability, rather than the intended short-term era of brinkmanship currently at play. Too much is unknown about China to use brinkmanship against it, but a plausible solution could be to introduce a multilateral agreement including China, the United States, and Russia. Both Russia and the United States know little about the Chinese arsenal. By introducing a new agreement, they could potentially gain insight into an opaque China and reestablish intermediate-range stability. However, China may not be willing to participate in this multilateral agreement as the opacity of its arsenal serves as the primary deterrent against Russia and the West as it counterbalances its weaker arms of the military, air and naval (Riquiang 2019).

## **STRATEGIC CULTURE OF THE U.S.**

### **POST-COLD WAR STRATEGY**

The long-term adversary of the United States, the Soviet Union, ceased to be a threat immediately following the end of the Cold War, leaving the following U.S. administrations to seek the next foreign policy objective. The first concrete grand strategy to emerge after the Cold War was the Global War on Terror introduced in retaliation to the 9/11 attacks. It created a sense of clarity for the duration of the Bush Administration, and most of the Obama Administration. In 2019, the United States began to see a resurgence of Russian strength and a rising China. These threats mean that the U.S needs a new grand strategy, but in the aspect of foreign policy in 2019, the State Department is not operating at full capacity (Sonne and Hudson 2019).

### **TRUMP'S FOREIGN POLICY**

As the Trump Administration entered the global arena, many actors knew that his foreign policies would differ from that of his predecessors. Even with a Global War on Terror, Donald Trump felt the need to pave his own path regarding

foreign policy. The Trump administration has re-coined the phrase “America First,” but it is not the first time we have sought an aggressive foreign policy approach. Given the shifts in the balance of power in the post-Cold War era, the rest of the world is left wondering who will lead, as the benevolent hegemon retreats from leading the international system.

### **America First**

In his retreat, Trump claims that U.S. allies are not pulling their weight, and believes that pulling out of international engagements and agreements will rectify the problem. However, he is misguided in his prediction of their behaviors (Schake 2019). For example, when the United States wanted to start pulling troops out of the Middle East, the U.S. allies did pick up the slack, rather they followed suit. To achieve his goal, he must adapt his strategy and use diplomacy, rather than taking a nationalistic approach. In the case of the INF Treaty, he thinks pulling out will create so much uncertainty that an era of stability will be established. Additionally, the action also fulfills his nationalistic agenda. Trump’s brinkmanship approach is a risky maneuver to further his America First approach, but his ideal objective is to bring Russia back into compliance.

### **The Role of Bolton in the Trump Administration**

At the beginning of this essay, we started with a hypothetical that puts the reader in the position of the National Security Advisor to the President. The former National Security Advisor, John Bolton, has had a massive amount of influence regarding Trump’s national security policies. Bolton is known for his hawkish demeanor, particularly in regards to foreign policy. He is an avid skeptic of arms control and believes wholeheartedly in brinkmanship. In Bolton’s eyes, the INF Treaty holds the United States back. He believes eliminating restrictions could allow the United States to demonstrate immense strength and deter adversaries by being able to threaten the use of these intermediate-range weapons. Bolton also believes that pulling out of the Treaty will place increased pressure on Russia to behave (Miller 2018). Think of John Bolton’s perspective regarding brinkmanship as taking the training wheels off a bike. Sure, you can still ride the bike, but there is a much higher chance of falling and hurting yourself.

## **BRINKMANSHIP - THE MEANS**

Brinkmanship is a theory of risky diplomacy that relies on a threat that leaves an element to chance in order to deter an adversary. The impending doom of a single misstep results in overly cautious behavior to avoid any conflict (Schelling 1966). The critical takeaway from Schelling is that both states engaging in brinkmanship have a “shared risk of war,” meaning that under such tense situations, both states must exercise extreme caution (Schelling 1966).

The advantages of this form of diplomacy are small, as the probability of success is limited. However if successful, both states will recognize their ability to ultimately destroy one another and the entire world, thus forcing them to use extreme caution.

The disadvantages of brinkmanship reside in misperception. It can be argued that during times of extreme tension or wartime, both states would be overly cautious. However, as seen in history, when administrations are on high alert, there is an increased likelihood of misperception. Since the Cold War both countries have technologically advanced the quality of their missiles and defense systems, but are facing the same deterrence-reliant game that they once did before, and there are still no guarantees of stability. There is a risk for misperceived signals triggering a domino effect of adverse events that could result in an all-out war, or mass destruction.

Using the theory of brinkmanship outlined above, we can see that Trump’s risky strategy matches his historical pattern of behavior. Donald Trump has already established a reputation for walking away from agreements including the Paris agreements, and the Iran deal (Finucane and Manion 2019). Putin is known for demonstrating strength. Trump’s business history shows his tendency to tear up agreements and then start fresh, or walk away hoping he is asked back under better terms (Finucane and Manion 2019). Retreat from the agreement can arguably be relieving Putin of accountability, but Trump is actually playing a long, albeit dangerous game. Engaging in brinkmanship requires a clear objective, as using such a risky tactic is futile without a goal in mind. Pulling out of an arms control treaty creates uncertainty, ambiguity, and instability amongst Russia, NATO partners, and the United States (Bronson 2019).

## **RUSSIAN COMPLIANCE- THE OBJECTIVE**

If we view the situation as an argument, we must first understand why the argument started. The “argument” started with violation accusations by both parties. In Russia’s defense, it argued that the INF Treaty restricted it from de-

fending its borders from NATO and China. In defense of the U.S., it claimed that the Aegis Ashore system was placed in Eastern Europe to deter an Iranian threat, not a Russian threat. From the U.S. perspective, the problem lies with Russian Treaty compliance. For the United States and its allies to feel secure, Russia needs to be compliant. In order for Russia to comply, it needs reassurances.

In order to make Russia compliant, and demonstrate the validity of the argument for leaving the INF Treaty, the U.S. needs to incentivize Russia. An arms control deal with China is in the interest of both the U.S. and Russia. By bringing China in, the United States and Russia can gain insight into opaque China, and begin branching into a post-Cold War arms control era where the both countries recognize other partners in arms control agreements. Despite the American and Russian interest to include China in the agreement to ease Russian concerns, China sees no benefit in joining the Treaty as their nuclear deterrent relies heavily on opacity, and China relies on its intermediate-range weapons to compensate for a weaker air and naval presence than Russia's or the United States' (Riqiang 2019). Despite no clear benefit to joining the INF Treaty, China could also seek an agreement without the United States as Russian-Chinese tensions are gradually thawing, and U.S.-China tensions are intensifying. A bilateral agreement between China and Russia could ease Russian concerns, but ultimately create a larger threat for the United States and NATO partners.

## **HOW CAN BRINKMANSHIP ACCOMPLISH THIS?**

The objective of Trump's brinkmanship approach is to create a stalling pattern to give his administration time to start conversations with the Chinese and Russians to see if they would be interested in a multilateral agreement. It is not a secure approach for various reasons. Mainly Russia has had a history of non-compliance, China's has no tangible incentive to join, and the multilateral approach would mean more difficult negotiations and the potential need to bring more actors in. The broader an arms agreement is, the less effective is, because various actors have differing interests.

They could have revised the current Treaty bilaterally, and then sought a new multilateral agreement, but the probability of Putin and Trump both signing off seems unlikely, due to their tendency to demonstrate strength, rather than compromise and restraint. With the low probability of the multilateral treaty option, or the renewal option, brinkmanship was the closest the

U.S. administration could get to achieving nuclear stability. By removing the agreement in its entirety, Russia and the United States would be forced to avoid conflict that could result in an all-out war. Brinkmanship does in fact provide stability, but the problem lies within the large range for misperception. One misjudgment could start a war, due to the lack of control that an agreement could have provided. If both Russia and the United States are careful, this strategy could work, but brinkmanship is not 100% effective as misperception is entirely subjective.

## **WHAT DOES THIS MEAN FOR THE FUTURE?**

If the United States is successful in its brinkmanship era the prospect of China joining the arms control debate is probable. China does not like to disclose information or be ordered around by anyone, but they may be interested in the status provided by being included. Including China in these conversations enables it to feel it is gradually reaching the superpower status it strives for, through being recognized by the current hegemon and a former superpower as a credible threat.

It is also not guaranteed that China will be willing to participate in this agreement, despite the status they might receive. The opacity of its arsenal is a critical aspect of its nuclear deterrent. China's hallmark of minimal deterrence is successful because with a smaller arsenal, the opacity leaves adversaries wondering about the true extent of its arsenal, and signing the INF Treaty would eliminate that key advantage to its nuclear deterrent. The only factor that could induce China into this agreement would be its slowly developing economic relationship with Russia.

If Russia and the U.S. were both to sign the INF Treaty, eliminating their intermediate-range class of weapons, China may be persuaded to sign. However, even with the two countries eliminating that class of weapons, India, Pakistan, and North Korea are still threats who would not have a restricted class of intermediate-range weapons. The only scenario in which China ignores these external threats is if Russia and China were to establish a new "Warsaw Pact." The pact could state that in exchange for signing the INF, China and Russia would implement the "attack on one is an attack on all" policy. The potential for this multilateral agreement could help establish a new world order of multipolarity, but that aspect is still speculative.

## CONCLUSIONS

Despite the immediate unrest and nervousness caused by pulling out of the INF treaty, it appears the maneuver was most likely a strategic vehicle in a longer-term vision of a multilateral arms control agreement that could bring Russia back to the table, as long as China agrees to participate. The immediate concern and worry for a new Cold War, which plays into the strategy of brinkmanship, could be mitigated if a multilateral agreement were reached to regulate actions in a concrete way rather than only relying on a shared risk of war.

The end goal of pulling out of the INF Treaty is to seek an agreement that Russia will abide by, but the immediate objective is the beginning of a long-term strategy of using brinkmanship as an intermediary while diplomats begin discussions. This borrowed time is part of the Trump administration's grand plan to bring China into a multilateral version of the INF Treaty. The United States' choice to use brinkmanship over a new multilateral agreement, or renewed bilateral was the result of a cost-benefit analysis undertaken by the Trump administration. A multilateral agreement would expand to include too many actors. The more actors on the table, the harder it is to reach even the simplest of agreements due to different objectives. A renewed bilateral under the current Heads of State in Russia and the U.S. does not comply with their strategic culture and leadership styles, which prioritize demonstrating strength over diplomacy. Brinkmanship is unfortunately the most risky solution, but also the most likely to be successful at bringing some sense of stability, as it forces Russia and the United States to rely on the fear of a shared cost of war to deter them from provoking one another.

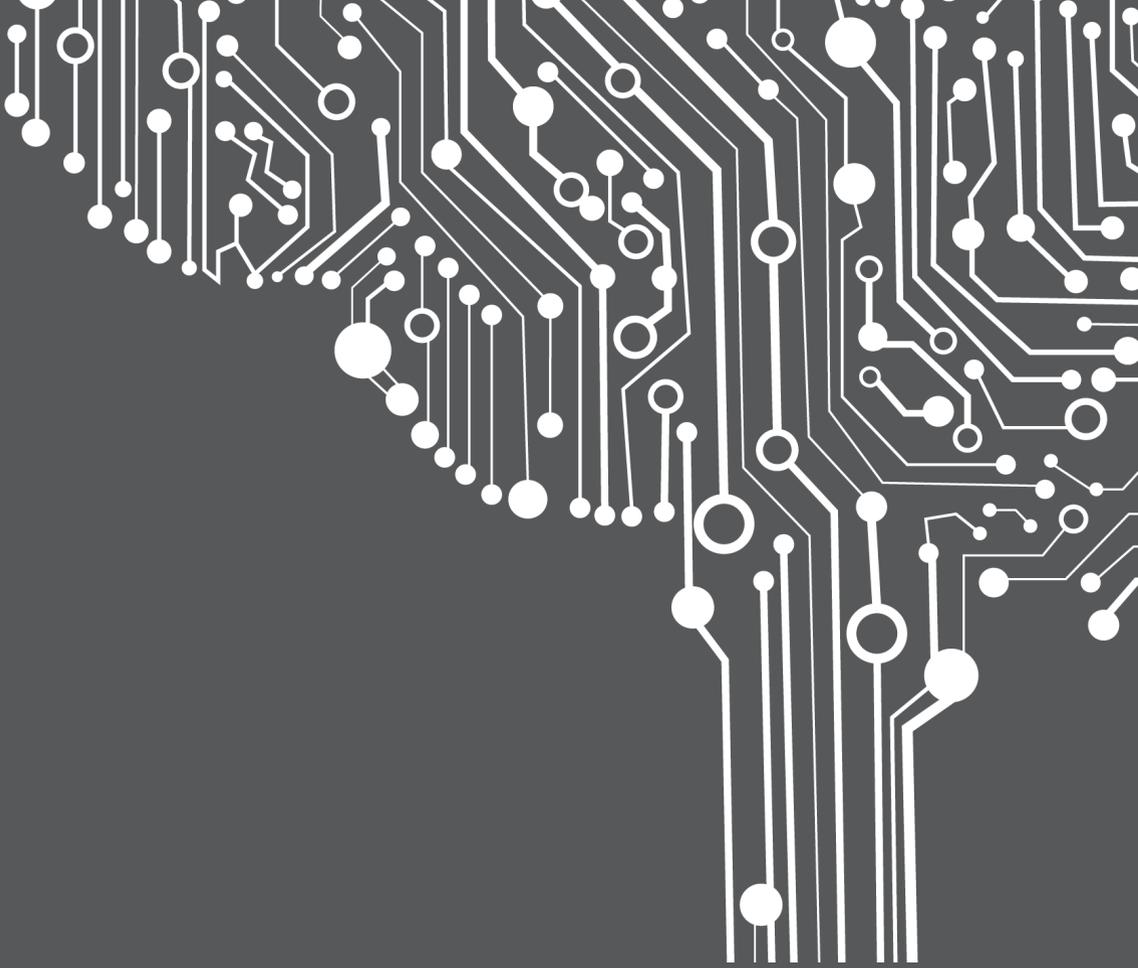
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**Knights, Villains, and Fools: Portrayals  
of the Ku Klux Klan in American Film**

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I studied this topic for my History 496 class, which focused on how we remember the Civil War and Reconstruction. It was a very interesting topic which got me thinking about pop culture depictions of that era and how much the era is represented today. At the time, *BlacKkKlansman* had recently been released, and I recalled all the scenes in the film that displayed the KKK in American films, and how many of these portrayals celebrated the KKK. I wanted to look deeper into that topic and see the progression of cinematic portrayals of the organization.

## ABSTRACT

My research focuses on portrayals of the Ku Klux Klan in film, from *The Birth of a Nation* to recent portrayals which paint them in a far different light. *Birth of a Nation* was a landmark film for its cinematography and film technique but was also hugely influential within the Klan itself. The film was a precipitating factor for the rebirth of the Klan, was used as a recruiting tool, and was hailed as historical fact for its positive portrayal of the Klan. Similar positive portrayals of the Klan can be found in other films of the day. Yet, over time, the original Klan became seen as villains rather than heroes. I examined the growth in these portrayals in accordance with the Civil Rights Movement and changing mainstream memories of the Civil War and of the Klan. Past the Civil Rights Movement the portrayal shifts once again, where, instead of the heroes of the white South or the masked racist villains, film portrayals moved towards an almost comical light for the Klan. They are portrayed as moronic, bumbling, fools, in films such as *Django Unchained*. Through these portrayals, I evaluate how changing memories of the Reconstruction Era and changing definitions of its heroes and villains are reflected in film, while also examining the flaws in these portrayals and how filmmakers contend with these issues.

## INTRODUCTION

In 2018 director Spike Lee released his latest film, *BlacKkKlansman*, dramatizing a real case in which Detective Ron Stallworth, a black man, infiltrated the 1970s Ku Klux Klan. Not only does the film itself deal with the Klan, but it acts as a public reckoning of Hollywood's own complicity in the actions of the Klan and the continuation of Lost Cause mythology. The film opens with a scene from *Gone With the Wind* (1939), including a shot of the Confederate dead in Atlanta with the Confederate flag flying proudly in the foreground before cutting directly to a PSA in which a man played by Alec Baldwin fumbles his way through a racist tirade interspersed with clips from *Birth of a Nation* (1915). Within the first five minutes of the film, Lee makes visual references to what are considered two of the most important films in American cinema. In doing so, he grapples with American cinema's own relationship with the Klan. Yet, Lee's work also presents the question of how American film moved from those early portrayals to the ones modern viewers are most familiar with.

Cinematic portrayals of the Ku Klux Klan initially were positive, placing them in a Lost Cause framework as Southern defenders of American values.

Over time, as the Klan lost public appeal and movements towards racial equality gained support, this portrayal gave way to the Klan acting as the monolithic, faceless villain representing white supremacy, first in independent blaxploitation films, then in mainstream Hollywood. In the twenty-first century, as the Klan falls further in appeal and is increasingly viewed as a remnant of the past, films generally use the Klan as a way of demystifying white supremacist iconography and activity, portraying them as bumbling, unintelligent, rednecks. Through examining the Klan's changing roles in films I will demonstrate some of the flaws in cinematic portrayals of the Klan, even ones which place them as villains or objects of ridicule, and how filmmakers, such as Spike Lee, contend with these issues to create a nuanced and critical look at white supremacy.

## **LITERATURE REVIEW**

This paper will deal with intersecting historiographies of the Ku Klux Klan, the Civil War, and Civil War and Reconstruction film. I hope to provide a chronology of film showing the shift of the Klan from knights, to terrorists, to fools, a progression missing in most examinations of the Klan in film. The most comprehensive work dealing directly with the KKK and the film industry is Tom Rice's *White Robes, Silver Screens: Movies and the Making of the Ku Klux Klan*. Rice's work, both his book and articles on the topic, largely deals with the second Klan founded in 1915 and how the film industry defined and codified the imagery and mythology of the Klan. His book also examines the Klan's relationship with the film industry in the 1920s, both as independent producers looking for recognition and as critics and censors of mainstream film. My work will expand upon the work of Rice by examining changes in Klan portrayals into the post-war era and the modern day. I will also connect this with resurgences of the Klan in the 1970s, a period which is largely overlooked in the historiography.<sup>1</sup>

## **THE KLAN AS KNIGHTS**

The largest proportion of the literature on the Klan in film focus on films that depict the Ku Klux Klan as white southern heroes or defenders of their communities. A large part of this importance derives from a single seminal film — *Birth of a Nation*. The release of the film coincided with the rebirth of the Klan in 1915 and became infamous for its use of racist stereotypes to characterize its black characters and for its treatment of the Klan as white defenders.

It is difficult to overstate how influential the film was on the Klan. *Birth of a Nation* essentially led to the popular resurgence of the Klan and was an integral part of how the Klan defined itself and how it was perceived by others. A significant example is the costume. The costume bears little resemblance to the Reconstruction era Klan but instead was invented for the film. Yet it remains an essential part of Klan iconography and, in the film, part of an imagined Klan history. The inspiration is dramatized as white children hiding under a sheet and frightening several black children.<sup>2</sup> The use of the uniform as an intimidation technique and cross-burning, two elements essential to the portrayal of the Klan, are rooted in the imagined history shown in *Birth of a Nation*.

Not only was the film an essential part of the construction of the Klan's mythology, but it was also a near unparalleled cultural phenomenon at the time. It was the longest and most expensive film to date, pioneered a number of film techniques, and was the most popular film of the silent film age. It was estimated to have been seen by over one hundred million people by 1926.<sup>3</sup> As a result, the film drew a great degree of both praise and controversy.

The film casts the Reconstruction-era Klan as the defenders of the white South. The Klan is formed by Ben Cameron, a white Southerner, in reaction to the "injustices" perpetrated by Reconstruction. In the film, Reconstruction is portrayed as a lawless time. Former slaves stuff the ballot boxes and the new black legislature is shown drinking and eating fried chicken at their desks. The greatest of these abuses is shown when a freedman named Gus forces Cameron's sister to jump to her death to avoid his advances. In response, Cameron's Klan lynches Gus. A further subplot of the film concerns a Northern mixed-race man named Silas Lynch who legalizes mixed-race marriage in an attempt to marry the daughter of a prominent abolitionist. Clearly showing the racial fears of the film, he says to the bound and gagged white woman, "I will build a Black Empire and you as my queen shall rule by my side."<sup>4</sup> Cameron's Klan saves the daughter and defeats Lynch's militia, saving the town. Come the next election, the Klan intimidates the black population from voting by showing up armed to the ballot boxes.

In this film, Cameron's Klan is the clear hero of the story. The Klan is portrayed as necessary to protect not only the community but the wider systems of white supremacy itself in the chaos of Reconstruction. Without the community enforcement of the Klan, it is implied, the freedmen would disenfranchise white people, control the legislature, and threaten the virtue of white womanhood through interracial marriage and rape.

The film quickly found critical acclaim. President Woodrow Wilson famously called the film "history written with lightning" and D.W. Griffith, the

director, cited Wilson's *A History of the American People* "to underscore and authenticate the vivid scenes depicted on the screen."<sup>5</sup> This mainstream support came from the media as well. *The Ogden Standard* described the film in 1916 as "authentic history... without fear or favor," noting the standing ovation given to the Klan's defeat of the "negro militia."<sup>6</sup> Indeed, there is a great preoccupation in noting the historical accuracy of the film. *The East Oregonian* wrote in the same year "Much could be written of the various scenes...of the gathering of the Ku Klux Klan and the charge of the white-robed saviors of a race and of the scenes of the terrifying days when a black peril was created by the folly of politics but they must be seen to be appreciated."<sup>7</sup>

Although this racist interpretation of history was commonplace, this is not to say that *Birth of a Nation* was not met with controversy by both white liberals and black Americans. Moorfield Storey, president of the NAACP, described the film as "an effort to mislead the people of this country...and to excite a strong feeling against the coloured people, already suffering everywhere from race prejudice..." while Booker T. Washington called it "the most dangerous thing [to have] ever happened to the advance and improvement of the coloured people."<sup>8</sup> Most famously, the NAACP led a movement to ban the film, leading to heavy protests in New York, Los Angeles, Boston, and other nationwide showings.<sup>9</sup> Unfortunately, though these attempts to ban the film did result in the deletion of a rape scene from the film, they had little success in removing it from circulation.<sup>10</sup>

Another film with a similarly positive portrayal of the Klan is the 1922 film *One Clear Call*.<sup>11</sup> Unlike *Birth of a Nation*, which preceded the resurgence of the Klan, *One Clear Call* was produced in the midst of the Klan's resurgence in the 1920s. At this point, post-*Birth of a Nation*, positive Klan portrayals moved away from the racist elements of Klan ideology and identified the Klan as "a moralistic organization dedicated to law enforcement."<sup>12</sup> In these portrayals, while attempting to retain the Klan's "substantial and influential membership" mainstream production studios intended to avoid condoning the actions of the Klan itself. This generally included a move toward removing the trope of black characters as victims of Klan violence. In the case of *One Clear Call*, the two black characters are described in the advertisements as "Toby, the quaint old southern darky," and "Smoke, whose heart was as big as a watermelon"<sup>13</sup> While clearly rooted in racist stereotypes, mainstream films chose to downplay the role of race in relation to the Klan and relegate black characters (played by white actors in blackface) to the background.

At this point, the Klan was a bankable commodity in Hollywood. Promotion for *One Clear Call* said the Klan brought "drama, action, tingling sensation."

and offered no information on the plot. Instead, they relied on the visual presence of the Klan itself to sell the film.<sup>14</sup> The local Klan was even paid to make appearances at several screenings of the film.<sup>15</sup>

Yet, despite the reliance on the Klan as a selling point of the film, the Klan is only featured for a few minutes of the film and their presence is a relatively minor plot point. The film's story is actually based on a conflict over a woman between two friends — a doctor and a bootlegger. The bootlegger runs a gambling establishment called the Owl and the Klan forcibly shuts down the bootlegging operation but spares him, establishing this cinematic Klan as a just legal force rather than brutal vigilantes. These Klan members do not target religious groups or racial groups. Instead they act as community enforcers of law, order, and morality. While the bootlegger repents for his sins, the Klan is portrayed as moral defender of the community.<sup>16</sup> The positive stance toward Klan activities as well as the reliance on it as a selling point for the film shows the mainstream influence the Klan had during this period of resurgence.

Similarly, despite the focus on the Klan in the marketing of the film, responses in the press barely mention the Klan's presence. Some reviews, such as in *The Baltimore Sun*, (then titled *The Sun*) merely mention the Klan's presence with no positive or negative judgments.<sup>17</sup> Others, such as *The New York Times*, do not mention the Klan at all in their review. Strangely, the *Baltimore Afro-American* published a positive review.<sup>18</sup> They mention that “nightly ridings of the Ku Klux Klan and a tense climax that combines romance with thrills brings the story to a surprising and unusual head.”<sup>19</sup> These reviews indicate the success the film had in removing the Klan from its racial context and how strongly the Klan was integrated into popular culture. Even a black newspaper did not object to its needless presence in the film.

These two films display the period of time when the Klan saw its first rebirth since Reconstruction. The portrayals were extremely positive, depicting Klan members initially as defenders of white Southern femininity and heroes of Reconstruction. As *Birth of a Nation* was met with backlash from both white and black liberals, portrayals during this period of resurgence attempted to remove racial context from the portrayal of the Klan, instead casting members as admirable local forces for justice.

## SHIFTING VIEWS OF THE KLAN

The Klan, while always controversial, began to fall from public grace into the 1930s, especially after Klan leader D.C. Stephenson was convicted of man-

slaughter for the kidnapping, rape, and suicide of Madge Oberholtzer.<sup>20</sup> By the 1930s Klan membership had declined precipitously. This also changed the public image of the Klan regarding patriotism and Americanism. The Klan was no longer the patriotic defender of its community but was described as “Un-American masked mob gangs.”<sup>21</sup> An example of this change in discourse around the Klan can be seen in the 1938 film *The Texans* when a Reconstruction-era Southerner excitedly announces his plans to “drive the Yankees out of the South” with the Klan. His love interest derisively responds “How childish!... This is America. We govern by law, not night-riding...You’re just a boy playing at soldiers.”<sup>22</sup> While, again, the Klan was removed from its history of racial violence, it had clearly fallen out of popular favor.

This shift in views of the Klan can be clearly seen in another of the most important films of the era, *Gone With the Wind* (1939). If any one film is most responsible for the continuing Lost Cause myth of the Grand Old South it is this one. Americans were “reinforced mightily in the Never-Never Land of Dixie, where the social order contained no middle class and the darkies were gay.”<sup>23</sup> This preoccupation is evident from the opening, describing the South as a “land of Cavaliers and cotton fields” and “the last ever to be seen of Knights and their Maidens Fair, of Master and of Slave.”<sup>24</sup> This Lost Cause romanticism is especially present in the treatment of its black characters. The film relies on the trope of the content and happy slave while also supporting some of the same Lost Cause tropes as *Birth of a Nation*, such as “freemen open-mouthed at the promise of forty acres and a mule if they ‘vote like [their] friends do,’”<sup>25</sup> once again playing into the stereotype that enslaved people were too ignorant and easily duped for freedom.

Yet, despite this romanticized preoccupation with the Old South, the film intentionally keeps the Klan at arm’s length. By describing its members, vaguely, as rebels “taking the law into their own hands.” The night raid on the town after Scarlett is attacked, resulting in Frank Kennedy’s death, was conducted by the Klan in the novel. Frank Kennedy and Ashley Wilkes are both part of the Klan, while Rhett Butler helps destroy the evidence of their raids. This is merely described as the duty of Southern white men to protect white womanhood.<sup>26</sup> Although the producers eventually chose to remove the Klan from the film, it was not due to any issue with the portrayal in the novel but due to the associations of the modern Klan. Producer David Selznick wrote that “it would be difficult if not impossible, to clarify for our audiences the difference between the old Klan and the Klan of our times.”<sup>27</sup> Despite popular attention turning against the modern Klan in the 1930s, Hollywood producers remained uncritical about the virtue of the Reconstruction-era Klan.

An exception to this era's treatment of the Klan is *The Burning Cross* (1947) an independent film that depicts a World War II veteran who joins the Klan when he has trouble adjusting after the war. Seeing the violence that the Klan perpetrates in his community, especially after the murder of a local black farmer, he turns against the Klan and works with the state prosecutor to defeat them.<sup>28</sup> This film is explicitly negative in its portrayal of the Klan and was one of the first films in its time to take such a hard stance against the Klan, including making explicit the organization's association with racial violence.

However, Hollywood was not far removed from the times when the Klan held mainstream appeal. The film was banned in the state of Virginia due to concerns that it might incite crime as it "has to do with the Ku Klux Klan and... such a subject is...not conducive to keeping the best relations among various racial or religious groups."<sup>29</sup> This caused an uproar, likely giving the film more attention than it would have otherwise received.

The Black press was especially adamant that the film be shown, with the *Richmond Afro-American* noting that despite the poor filmmaking, "it is the most daring exposé of the Ku Klux Klan ever filmed."<sup>30</sup> They also took issue with the logic behind the censorship with most viewers believing that the film would do little to incite violence.<sup>31</sup> The film received extensive coverage in the *Baltimore Afro-American*. They, perhaps overstating the quality of the film, stated the film "has been wholeheartedly acclaimed by newspaper critics wherever it has been shown."<sup>32</sup> Additionally, the paper described it as "almost wholly an educational [film,] there being little if anything that could...be called entertainment. It is, however, a daring expose of the inner workings of the Ku Klux Klan and of the motives behind it."<sup>33</sup>

Although the censorship was eventually struck down, several cuts had to be made before the film could be shown in Virginia. These included the most obvious depictions of racial violence, such as shooting a man in the back and the shadow of a man hung from a tree.<sup>34</sup> The judge himself confessed to being a former Klan member but summarized the general consensus, stating "I don't see how the film can do any good or do any harm... I wouldn't want to see it again."<sup>35</sup> As the reactions around the film showed, the film industry continued to be uneasy with depictions of the Klan's racial violence despite popular antipathy towards the group.

## THE KLAN AS VILLAINS

As the Civil Rights Movement began to reach the mainstream political consciousness in the 1950s and 1960s, the Ku Klux Klan also transitioned from the role of brave Southern knights to explicitly occupying the role of the villain in film. Although the Klan never again reached the sort of mainstream appeal or organization it had in the 1920s, the Klan saw a resurgence in the Civil Rights era, resisting efforts of integration and civil rights legislation. By the late 1950s Klan membership was estimated at 35,000-50,000, the highest since the 1920s Klan.<sup>36</sup> This rise in membership came with a commensurate rise in political violence. In the four years after *Brown v. Board of Education* “530 cases of ‘racial violence, reprisal, and intimidation’ (including bombings, dynamiting, shootings, stabbings, beatings, and mob actions) had been reported...”<sup>37</sup> to say nothing of the hundreds of cases which likely went unreported.

The largest and most visible of these reemergent Klans was United Klans of America. The UKA insisted they were committed to nonviolence and only obliquely discussed their white supremacist ideology by focusing on messaging about fraternity, patriotism, and “the perpetual preservation...of pure Anglo-Saxon civilization.”<sup>38</sup> While it was true that the actual violent members were generally a minority, these members were often elites who had proven their loyalty and were specially selected by Klan leadership.<sup>39</sup> The UKA was connected to hundreds of acts of violence and intimidation and, especially as it declined in the late 1960s, would generally utilize “semi-autonomous actions detached from the sanctioned by UKA leadership” to avoid explicit connections with racial violence.<sup>40</sup> However, the UKA, and Klans at large quickly fell in the late 1960s. Part of the success of Klan recruitment earlier in the decade was predicated on the idea that massive resistance could preserve Jim Crow but the passage of the Civil Rights Act and Voting Rights Act made such militant resistance less viable.<sup>41</sup> Furthermore, the public attention brought against the Klan intensified with the Mississippi Burning killings in June 1964, leading the FBI to ramp up their COINTELPRO program to “actively disrupt, rather than passively investigate, the Klan.”<sup>42</sup> Quickly, this infiltration exacerbated internal divisions by “the spreading of rumors to foster conflicts or chart klavern members on ill-fated courses.”<sup>43</sup> These factors all took a large toll on Klan recruitment, leading to the steady decline of the UKA and other Klans in the late 1960s and 1970s.

Amid flagging Klan recruitment, David Duke formally incorporated the Knights of the Ku Klux Klan in 1975 and became the leader of the nation’s largest Klan, attempting to lead another Klan resurgence. Duke intended to overhaul the Klan’s image after decades of association with violence. Duke’s

Klan began dressing in suits and ties instead of full Klan regalia.<sup>44</sup> The high-profile image Duke brought to the Klan boosted recruitment, with Duke's Knights reaching 1,000 members by 1978 and 2,000 by 1979, and nationwide, Klan membership was estimated at 10,500 by 1979.<sup>45</sup> While a step up from the dismal early 70s numbers, membership still paled in number when compared to the Civil Rights Era or the Klan's 1920s heyday, indicating their continued fall in popular favor. This bid at respectability boosted their reach but did little to lessen the Klan's predilection towards violence, such as the case of Joseph Paul Franklin, an Alabama Klansman who killed at least twenty-one black people, Jewish people, and mixed-race couples between 1977 and 1980.<sup>46</sup>

Through the 1960s and 1970s, few mainstream films seemed to deal with the Klan. Perhaps, given the Klan's resurgence and very public issues of racial tensions present in the Civil Rights Movement, Hollywood did not want to deal with the issues of racial violence the Klan presented. Although the Klan was a topic of intense discourse in other media, the profit incentive of Hollywood could have discouraged exploration into the controversial topic of the Klan. The notable exceptions tended to be low-budget independent films. These films were able to deal with controversial subject matter without studio constraints. One such exception is the 1976 blaxploitation film *Brotherhood of Death*. This film is interesting as a portrayal of black agency within film. Unlike "white savior" narratives that plagued films involving black characters, the black men in *Brotherhood of Death* are the principal actors defending their communities from racial violence rather than being saved by white authorities. Furthermore, as a blaxploitation film marketed to a black audience, there were few qualms about the use of violence against white people offering a stark contrast to other films yet to come where black characters are relegated to the roles of victims regarding the Klan.

The film follows three black men who arrive home from Vietnam. Upon returning to their small Southern town they find a strong Klan presence. The returning soldiers organize a voter registration drive to allow the majority black population to vote, and the Klan responds with violence. Klansmen kill the Sheriff and take over policing the town while being especially brutal to the black population, including killing one black man and raping a black woman. This ignites all-out war between the vets and the local Klan. The plot has relatively little substance and is largely summed up by the film's tagline — "See them avenge the death of a Brother, the rape of a sister, and the murder of their only honky friend."<sup>47</sup>

Furthermore, due to the film's intended black audience, it also gives the black leads an active role, not only in fighting the Klan but in leading their communities. The plot is initially propelled by the leads' attempt to organize

a voting drive within their community. The audience and conventions of the blaxploitation genre allowed the filmmakers to display controversial scenes of black power and black leadership which would have faced significant backlash in mainstream Hollywood. An example of these conventions is in the use of violence against white oppressors. The use of violence is common within the blaxploitation genre, yet violence displayed is itself a rhetorical act. One scholar, when examining the use of violence in *Shaft* (1971) argues that “the violence has a rhetorical function in that its mode of presentation acts to shape the audience’s perceptions of the justifiability of violence.”<sup>48</sup> In the film, Shaft’s use of violence is not to support the functions of the state or preserve law and order but to protect his community.<sup>49</sup> The same point can be made regarding *Brotherhood of Death*. The violence used is presented as justified but to a white audience in 1976 the use of violence by black people, even against racists, could have represented a threat.

The film is also valuable as a product of independent filmmaking. The movie was produced in a time when Hollywood was averse to black creatives, especially in the realm of producing and directing, a problem that persists today. As Stanley Robertson, an independent film producer, argues “We almost never get the opportunity to be creatively involved in telling our own stories... We get culturally raped by other people. It’s the denial, the exclusion that bothers me.”<sup>50</sup> As a result, the film’s anti-racist message and portrayal of black men mobilizing and protecting their communities in the face of white supremacy is valuable and shows the possibilities independent filmmakers were able to take hold of through blaxploitation, despite the issues with the genre’s stereotypical presentation of black men as violent and hypersexual.

Although Hollywood in the post-Civil Rights era became comfortable with portrayals of Klan members as villains, these portrayals were also reflective of inherent issues of race in Hollywood. Typically, these mainstream Hollywood portrayals suffered from the trope of the “white savior” regarding the Klan. In films such as *A Time to Kill* (1996), and *Mississippi Burning* (1988) the black characters are merely victims in the backdrop of the main story. The drivers of justice, and the ones who ultimately defeat the Klan, are the white leads.

*Mississippi Burning* clearly portrays the trappings of a white savior narrative. The film, based on the 1964 Mississippi Burning Murders, follows two FBI agents, played by Gene Hackman and Willem Dafoe, as they investigate the murders of three civil rights activists. The corrupt and racist local political structure attempts to cover up and slow the investigation but they eventually discover that the murders were committed by members of the local Klan. The film plays out the FBI’s investigation and arrest of the involved Klan members.

One of the major issues with the film is how the black characters and civil rights activists, who are the impetus of the story, are relegated to the roles of victims in the background. As one scholar notes, “when civil rights marchers are depicted, Parker’s use of camera angles reinforces their marginality. He doesn’t show close-ups of them during their march through town...The void left by their deliberate refusal to portray the movement makes the rebellion appear out of context, and the explosion of black youths’ righteous rage look like a childish tantrum.”<sup>51</sup> The film starts in response to the violence against civil rights activists, including one black man, yet they are relegated to the background of what is fundamentally their story. As Robert Moses, head of the Student Nonviolent Coordinating Committee in 1965 told *Christian Science Monitor*, “We’d been working in Mississippi for years before 1964, and America never saw us. Now again they don’t see us. Blacks in the movie are a plot device — a backdrop for the white heroes.”<sup>52</sup>

In addition to removing the focus of the story from black characters, the film runs into further issues in its characterization of historical events. In relegating black activists to the background, they downplay the events of Freedom Summer and the significant role black activists had in bringing the case to the attention of the FBI, and even bringing informants to the FBI.<sup>53</sup> Meanwhile, the film takes great pains to cast the FBI as a force for racial justice. The movie even features a black FBI agent, Agent Monk (although the FBI was in no way integrated at this point). In doing so, the movie ignores the FBI’s suppression of the Civil Rights Movement and how it contributed to violence in Mississippi. As Kristen Hoel argues, “historical accounts of the civil rights struggle suggest that the FBI was not committed to furthering the goals of the civil rights movement and was closely linked to Southern law enforcement officials.”<sup>54</sup> Furthermore, this was the FBI of J. Edgar Hoover, who “resisted the Justice Department’s efforts to get the agency to investigate civil rights violations...” and “was busy wire-tapping the civil rights leader Martin Luther King, Jr. in order to prove that the preacher was a dangerous communist...”<sup>55</sup> The FBI was no friend to activists in 1965, yet the FBI is cast as the heroes. As a result, the film removes the power to fight racial injustice from the black characters and places it within a white dominated institution. By casting a white-dominated branch of law enforcement, as civil rights heroes, as one critic argues, the film “reinforces faith in the state. The heroes embody the state’s alleged function as guarantor of constitutional rights.”<sup>56</sup>

These shortcomings led to a significant critical and academic backlash against the film’s version of events. *The Washington Post* praised the acting and direction but concluded that the movie felt like “the right story with the wrong

heroes.” Director Alan Parker responded to these criticisms with the classic Hollywood excuse — black led movies don’t sell. He told *Time Magazine* “The two heroes in the story had to be white. That is a reflection of our society as much as of the film industry. At this point in time, it could not have been made in any other way.” Not only was this untrue, given the box office success of films such as *The Color Purple* (1985) and *A Soldier’s Story* (1984), it also was a self-fulfilling prophecy. Black led movies could not be successful if Hollywood executives refused to make them. As one *New York Times* writer responded, “His comment is reminiscent of what a Montgomery, Ala., bus driver told Rosa Parks in 1955: Get up and go to the back of the bus, that’s just the way things are.”<sup>57</sup>

Films like *Mississippi Burning* show Hollywood’s newfound willingness to engage with the Klan in mainstream film in the 1980s and 1990s. Furthermore, they make no qualms in portraying Klan members as villains and placing them in the context of their history of racial violence. Yet, they also show how the shift to mainstream screens allowed these portrayals to fall into the white savior trope, erasing black people’s role in protecting their own communities or pursuing justice themselves while elevating white authorities to the role of saviors.

## **THE KLAN AS FOOLS**

The 21st Century saw the further decline of the Klan. Today, the various, often warring, Klans total about 5,000 – 8,000 members according to an estimation by the Southern Poverty Law Center.<sup>58</sup> The geographic spread of the Klan is focused in the former Confederacy with a small presence in the Midwest and the Border States, and a near nonexistent presence in the Northeast and West.<sup>59</sup>

Increasingly, the Klan has come to be seen as outmoded and a relic of the 20th Century. This is not to say that white supremacy is an issue of the past. Extremists which once might have been attracted to the Klan have gravitated towards militant “neo-nazis, racist skin-head, white nationalist, and neo-confederate groups.”<sup>60</sup> Additionally, hate has increasingly moved online to message boards and social media. The Internet has provided anonymity and opportunity for white supremacists to spread their ideology. As Don Black, founder of the Stormfront website told a reporter, “It’s about building a community and attracting hard-core supporters...We don’t want to present the Jerry Springer or Geraldo Rivera image of rabid racists. There are a lot of people who want to agree with us. They just don’t want to be associated with that.”<sup>61</sup> While today’s white supremacists seem less attracted to the traditions and pageantry of

the Klan, white supremacy itself has by no means disappeared. In 2018 the Southern Poverty Law Center tracked 1,020 hate groups, a five-year high and reflecting the fourth consecutive year of growth in hate groups.<sup>62</sup>

As a result, in 21st Century film, the primary characterization of the Ku Klux Klan has been as fools. They are typically regarded as little more than drunken, racist, rednecks. Instead of focusing on the violence and threat of the Klan, these portrayals neutralize them by characterizing them as hateful but too incompetent to offer much of a threat to the protagonists.

An excellent example of this tendency is seen in Quentin Tarantino's *Django Unchained* (2012). In this film, the Klan is the source of one of the major comedic scenes in the film. A Klan-esque posse tracks down Django and Dr. Schultz (played by Jamie Foxx and Christoph Waltz respectively), intending to kill them for collecting on a bounty and killing their local slave drivers. The scene opens with them dramatically careening over a hill towards the campsite, initially using the operatic score and dramatic camera angles to portray them as a legitimate threat. The scene then cuts to moments before, with the Klan preparing to ride before they all discover none of them can see through their eye holes. When one member suggests that they ride without the bags their leader, "Big Daddy" Bennett responds angrily, "Goddammit! This is a raid! I can't see! You can't see! So what? All that matters is can the fuckin' horse see? That's a raid!"<sup>63</sup> Predictably, the raid is a disaster and the posse, including Bennett, are killed. When the camera cuts back to the Klan they are in disarray, disorganized, and the score is entirely absent. The scene is clearly played for laughs and is one of the comedic center points of the movie.

Aside from the beginning with, the Klan's presence never seems to be a threat to the main characters. They instead come across as backward and idiotic, but this never translates into real danger. Though there is a real danger from other racists and villains in the movie, the Klan is a joke. Tarantino transplants the 21st Century view of the Klan to its 19th Century counterpart in order to demystify the Klan and play them for laughs. The Klan are "destroyed by their own cinematic constructs."<sup>64</sup> The same hoods that grew out of their cinematic portrayal in *Birth of a Nation* are their undoing in *Django Unchained*. Instead of the hoods adding mystique, danger or fear, they are a source of ridicule.

This humorous fantasy element in *Django Unchained* has both its supporters and critics. Supporters claim that the revenge fantasy of the freedman on the witless slave owners offers a power fantasy against the crimes of slavery, never redressed by the slave owners. As one scholar argues, "humor has a remarkable capacity to highlight the violence of slavery and to pillory the ideologies that upheld it...." The film uses "fantasy to effect scenes of retribution using humor

to both sharpen the edge of that ritual and to highlight the...artificiality of their representations.”<sup>65</sup>

However, critics of the film argue that an attempt to demystify the Klan can lead to a neutered Klan, devoid of threat or danger. To do so ignores their long history of violence and terrorism against vulnerable populations, especially black people. Spike Lee articulated this concern over the portrayal of the slave experience in the film on Twitter, writing “American Slavery Was Not A Sergio Leone Spaghetti Western. It Was A Holocaust. My Ancestors Are Slaves. Stolen From Africa. I Will Honor Them.”<sup>66</sup> For critics of the Klan as fools, by extending the modern view of the Klan as redneck idiots to a time when white supremacy was mainstream and accepted, the film denigrates the Klan’s victims.

True to his criticisms, Spike Lee’s own portrayal of the Klan and their violence against black people is a far more nuanced view than *Django Unchained*. His film, *BlacKkKlansman*, has elements portraying the Klan as buffoons, yet uses these in conjunction with scenes that portray the danger and violence of the Klan.

The Klan is played for fools for a large portion of the movie. The central plot of the film begins with Ron Stallworth calling a local Klan recruitment line. The ensuing scene is clearly comedic as Stallworth does his best to sound as cartoonishly racist as possible. Several more of these scenes ensue throughout the movie, including regular conversations with David Duke himself. The final conversation with Duke plays up the humor even further with all the cops gathered around Stallworth, barely keeping it together like children on a prank call. The final payoff is when Ron finally reveals his identity, while cathartically referencing all the racist terms Duke has used in their conversations. He declares, “that nigga, coon, gator bait, spade, spook, Sambo, spear-chucking jungle bunny, Mississippi wind chime detective is Ron Stallworth, you racist, peckerwood, redneck, inchworm, needle-dick motherfucker!”<sup>67</sup> Stallworth then hangs up while the camera lingers on Duke’s bewildered face. Although these scenes are not at all historically accurate (Duke didn’t find out about Stallworth for another decade), Spike Lee intentionally plays up the comedy and makes the Klan the butt of the joke throughout the movie.

Although Spike Lee has these scenes of comedy, he also grounds them in frank discussions of the Klan’s violence, lest the audience think they are simply a joke. Throughout the film, the Klan undertakes violence, harassment, and even bombings. They are a constant threat to the leads, rather than being rendered ineffective by their own stupidity. Even after their bombing plot is foiled, the film makes clear that this was only one small part of a campaign of terror and intimidation. Rather than ending with all the loose ends tied up and going

home, the 1970s portion of the film ends with Stallworth and his love interest receiving a knock on their door and finding a burning cross on the hillside facing them. The clear message that Spike Lee sends is that the Klan, and white supremacy, may be foolish but their violence is real and dangerous.

*BlacKkKlansman* is also notable in the way it engages with the history of the Klan on film and American film's role in shaping the Klan. The film acts as meta-commentary on the topic itself. It does so through the previously discussed opening scenes which preface the film with a visual indication of America's history with the Klan and how much racist ideology has pervaded some of America's most influential films. Even more directly, Lee engages with this history in his "Birth of Two Nations" scene. Jerome Turner, played by activist and musician Harry Belafonte, talks of the devastating effect *Birth of a Nation* had in catalyzing the rebirth of the Klan and creating racially motivated violence. Meanwhile, the camera cuts to a Klan viewing of the film where they cheer for the triumph of the Klan and end the screening with chants of "White power! White power! White power!"<sup>68</sup> This technique of cross-cutting to show simultaneous events on screen in a single scene, as well as the close-up portraits and tracking shots used in the scene, was pioneered by D.W. Griffith in *Birth of a Nation*.<sup>69</sup> As a result, Spike Lee not only uses *BlacKkKlansman* as a commentary on America's history with the Klan but does so using techniques pioneered by the film that inspired the rebirth of the Klan.

Finally, *BlacKkKlansman* is notable in that it does not allow the audience to regard the issues presented as things of the past or the Klan as the extent of the problems of white supremacy. This is a primary criticism leveled against the Klan as a villain. By acting as a stand-in for white supremacy the Klan can serve as the clear enemy while ignoring other racial issues.

Spike Lee gives no such luxuries to his audience. For one, the Klan is far from the only perpetrator of racial violence or advocate of racist ideology. Stallworth's first assignment is to infiltrate a civil rights rally, and other members of the Colorado Springs Police Department harass and threaten the activists, showing Lee's cognizance of the police force's role in harassing the Civil Rights Movement. Stallworth himself is beaten and nearly arrested during the climax of the film despite his protests that he is undercover. Only the intervention of a white detective stops them. Throughout the film he faces a crisis of racial identity where his job as a cop precludes his acceptance by activists, but cops view him as a trespasser in their world as well.<sup>70</sup>

Secondly, the film does not just relegate racial strife or white supremacy to the past. The film ends with footage of the 2017 Charlottesville riots, including footage of the real-life David Duke stating "I believe that today in Charlottes-

ville, this is a first step toward making a realization of something that Trump alluded to earlier in the campaign, which is... This is the first step toward taking America back.”<sup>71</sup> That clash between far-right extremist groups and counter-protesters resulted in one fatality and dozens of injuries. Spike Lee’s message is clear. Although the Klan has receded since the 1970s, neither it nor the issue of white supremacy, is dead. From the beginning, this was Lee’s intention. He told *The New York Times*, “It cannot be just a history lesson...It has to be contemporary...Otherwise, it’s a period piece. We had to connect David Duke to Agent Orange [Lee’s personal nickname for Donald Trump,] today.”<sup>72</sup>

## CONCLUSION

The Ku Klux Klan has played a variety of roles through American film. While they were once considered knights defending the virtue of white women against brutish black men, they would occupy the role of the villain through the second half of the 20<sup>th</sup> century before transitioning to the fool, critiquing white supremacist ideology with comedy. While these portrayals all had their own issues, to a greater or lesser extent, the most recent treatment of the Klan on film, *BlacKkKlansman* could very well indicate a move towards nuanced and thoughtful portrayal of the Klan - that both critique it and engage with its history. By approaching the topic with a critical eye Spike Lee demonstrates the fascination American cinema has had with the Klan while also critiquing the prior portrayals of the Klan on film. He neither neuters the Klan by removing danger from its presence or relegates white supremacy to the past, resulting in a nuanced portrayal that other directors can look to in future films on the Klan. Regardless of future portrayals, the Klan’s continued presence through American film is evidence of America’s struggle with racial tensions played out on the silver screen.

## ENDNOTES

1. My work also intersects with the historiographies of the Klan itself and cinematic portrayals of the Civil War. See Elaine Frantz Parsons, *Ku-Klux: The Birth of the Klan During Reconstruction* and Michael Newton, *White Robes and Burning Crosses: A History of the Ku Klux Klan From 1866* for recent histories of the Klan. See Matthew Christopher Hulbert, *The Ghosts of Guerrilla Memory - How Civil War Bushwhackers Became Gun slingers in the American West* and *Past Imperfect* for an examination of how film shapes public memory of historical events.
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3. Felix Harcourt, 2017, *Ku Klux Kulture: America and the Klan in the 1920s*, Chicago, IL: University of Chicago Press, 105.
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30. Ooten, "Censorship in Black and White," 83.
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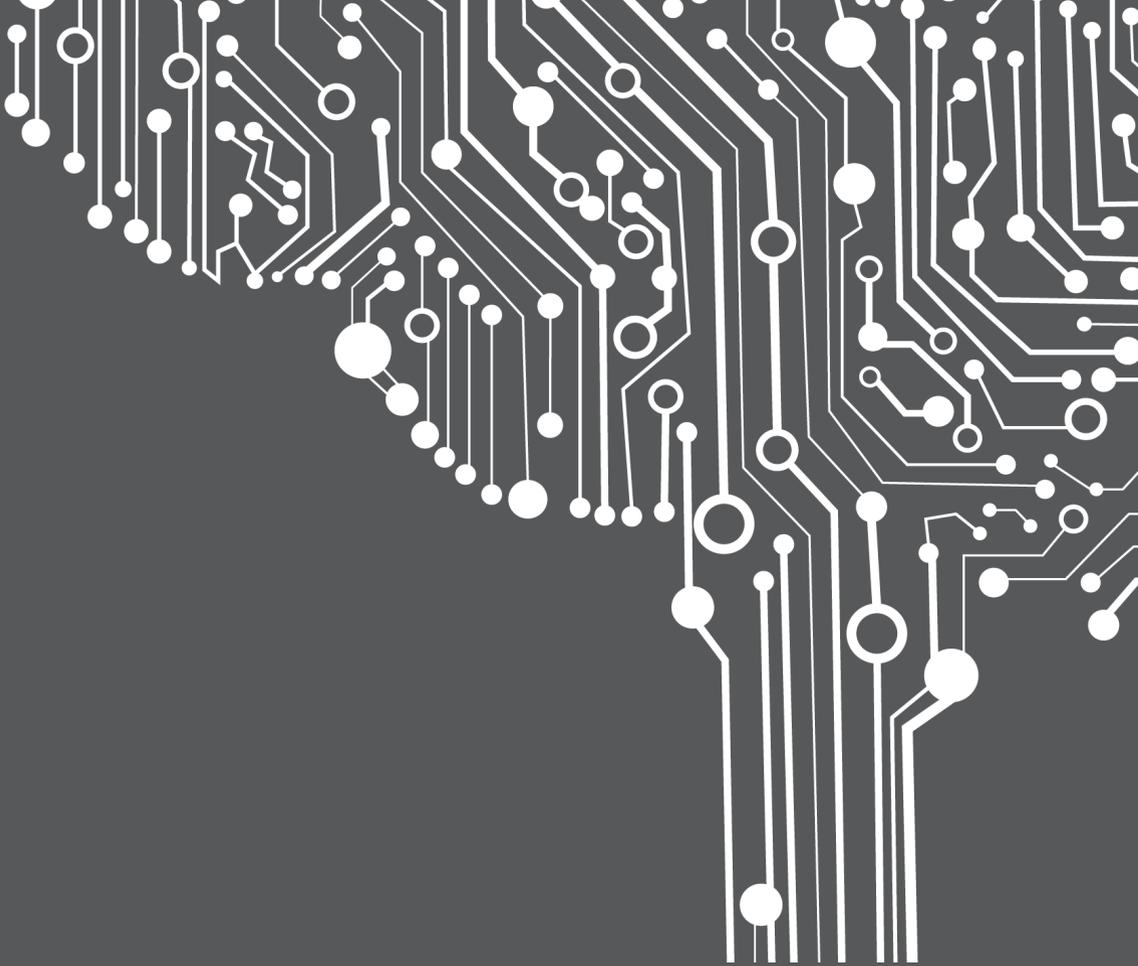
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## **How Donald Trump Tweeted His Way into the White House**

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ALISON KNOWLES

**Alison Knowles** finished her bachelor's degree in Political Science and Media & Communication studies in Summer 2019. She is pursuing her Master's degree in Public Policy at UMBC, with a concentration in Public Management. She is particularly interested in issues that separate citizens from the democratic process, such as gerrymandering and campaign finance laws, and would like to involve herself in the policy process as a legislative aide in her future career so she can work toward a more equal and fair democracy. She would like to thank her faculty advisor, Dr. Adelman, for helping her complete this project.

This research paper was completed under Dr. Rebecca Adelman for my Media Communication Studies senior capstone project in Spring 2019. The assignment required students to interpret a form of media using the visual analysis methodologies discussed in class. I chose to write about Trump's tweets because they demonstrate how social media affects people's perceptions of politicians, a topic that has amplified in importance since the 2016 election. Seemingly every day the president tweets a newly contentious statement, and every day each of us reacts differently. My feelings usually land somewhere between derision and disbelief, but many others respond more positively. I wrote this paper in an effort to reconcile the huge disparity between my reactions and those of someone with a very different ideology.

## **ABSTRACT**

This paper explores a selection of Donald Trump’s most popular tweets during the 2016 presidential election, seeking to answer two questions: What image did Trump create for himself using Twitter, and how did this image help him connect with his base? I use discourse analysis, which examines how power creates meaning through language, to categorize the tweets and to provide a better understanding of why Trump’s persuasive strategy was successful. This analysis led me to conclude that Trump used Twitter to cultivate his base’s predisposed beliefs about the government’s weakness and corruption while simultaneously portraying himself as the only candidate who could save the country from its problems.

## **INTRODUCTION**

In 2016, Twitter became the battleground on which one of the most dramatic and pivotal presidential elections in American history was fought. The tweets of then-candidate Donald Trump were of particular interest to the news media, the general public, and other presidential candidates because of Trump’s willingness to publicly air his controversial opinions about topics such as immigration and terrorism. Using discourse analysis, this paper delves into the persuasive strategy of Trump’s tweets and examines how they might have contributed to his victory, specifically asking: What image did Trump create of himself using Twitter, and how did this image help him connect with his base?

One of Michael Foucault’s foundational ideas was that of discourse, which is described as knowledge that defines “the way a thing is thought, and the way we act on the basis of that thinking.”<sup>1</sup> Foucault specifically focused on how power materializes through language and communication. Certain discourses are more powerful than others because they rest on assumptions of absolute truth—assumptions made both by the creator of the text and those reading it. Though written decades ago, Foucault’s ideas have never been more relevant than they are in relation to Trump’s campaign and presidency, which is why I chose discourse analysis to structure this paper. Unlike the institutional actors on which Foucault centered his theory, Trump in 2016 was an outsider candidate using Twitter to attack the establishment. Nonetheless, the discourses Trump communicated through his tweets bear striking similarities to the “regimes of truth” that Foucault believed institutions created and propagated.<sup>2</sup>

I selected twenty-two of Trump’s most popular tweets—all having more than fifty thousand “likes”—from between January 1<sup>st</sup> and November 7<sup>th</sup> of

2016 and divided them into five groups based on the discourses they discuss: campaign promotion, criticism of Hillary Clinton, criticism of other Democrats, the corrupt media and establishment, and personal tweets. Analyzing each tweet's language and message revealed that Trump used Twitter both to depict the American government as weak and corrupt and to portray himself as the only candidate capable of repairing the damage. His style of blunt, trivializing language and seemingly genuine outrage towards other presidential candidates, both major political parties, and the media made him appear to be the ideal savior of a base that was dissatisfied with and distrustful of the political establishment.

## **THEORETICAL CONTEXT**

By the traditional definition, a base is a coalition of people that consistently votes for a political party. Occasionally, a single politician becomes the magnet that pulls a base together, and this was the case with Trump. Not every person who voted for Trump in the general election should be considered part of the base, because many were primarily motivated by longtime Republican loyalty, dislike of Hillary Clinton, or support for free-market policies—not by positive attitudes towards the candidate himself.<sup>3</sup> The base instead is the group that propelled Trump from being an outsider candidate without political experience to winning the Republican nomination. Trump's base can be defined two ways. First, by demographics: they tend to be white and Evangelical, and usually do not have college degrees (neither do the majority of American voters).<sup>4</sup> Second, despite varying ideologies and issue positions, Trump's base shared a common frustration with the political establishment. Some voters resented the power of elites in government, some felt the media was in the pocket of those same elites, and some felt that the problems important to them—such as unemployment and immigration—were ignored or worsened by the previous administration.<sup>5</sup>

One way or another, a very common thread among members of Trump's base was the belief that the political system was rigged against them. Trump took advantage of this distrust by campaigning on his individual personality characteristics, which distinguished him from the establishment. Two articles by Azevedo et al. and Martinez also suggest that Trump's 2016 base held visceral views about maintaining the traditional social order of white male domination, and the presidency of Barack Obama—a liberal African-American—threatened that order.<sup>6,7</sup> Trump frequently tapped into these narratives to write tweets that would resonate with his supporters.

Voters typically experience political campaigns through the lens of the news media. Social media is a unique form of communication because it allows the user to deliver information directly to the audience, cutting out the news media's role as the middleman. Campaigns can dodge the monetary cost of traditional media and exercise more control over their public image. Social media also gives voters a role in disseminating campaign information when they share digital content. Twitter, which had a 140-character limit in 2016, is particularly adept at conveying brief but meaningful messages to millions of people at rapid speed. Previous literature has examined the strategies and habits that can be observed from politicians' use of Twitter, particularly during elections.

The platform's first major appearance in American politics was during the 2008 presidential election; Barack Obama found particular success using it to facilitate one-one-one interactions with voters. Kreiss found that by the 2012 election, presidential campaigns were intentionally crafting tweets to attract journalists and earn positive coverage.<sup>6</sup> Evans studied the same election and observed Congressional candidates using Twitter to announce campaign events, discuss issues, and humanize themselves through personal anecdotes.<sup>7</sup> In a 2015 article summarizing interdisciplinary literature on Twitter, Vergeer identifies two relevant theories: first, that Twitter is an echo chamber for like-minded partisans, and second, that candidates use Twitter to establish and advertise their political agendas more than to communicate with voters.<sup>8</sup> In summary, past campaigns have used social media in general and Twitter in particular to control the public narrative surrounding the candidate, either by creating their own news or getting desirable coverage from media organizations on their own terms.

For the most part, politicians' social media accounts are run by their campaign staff; rarely do candidates write their own posts. Trump is an exception. Though some content may have been produced by social media director Dan Scavino, the majority came from the candidate himself.<sup>9</sup> Scholars seem to agree that Trump's Twitter usage in 2016 was unique for a variety of reasons—chief among them the spontaneous nature of Trump's tweets, which departs greatly from traditionally scripted social media posts. Authors specifically highlighted his informal writing style,<sup>10</sup> his appeals to fear through anti-Muslim, anti-immigrant sentiments,<sup>11</sup> and his attacks on actors who could be potential allies, such as other Republicans, news media organizations, and foreign governments or leaders.<sup>12</sup> Though aberrant, the content and writing style of Trump's tweets were what Enli dubs "authenticity markers," or factors that gave Trump an amateurish image which allowed him "to compete with the professionalism of a more polished or controlled campaign" like Clinton's.<sup>13</sup> Stolee and Caton note that a deeper reading of persuasive linguistic strategies is needed to better understand Trump's tweets and the broader political context surrounding them.<sup>14</sup>

Another factor that sets Trump's campaign apart from others is the amount of news coverage directed specifically at his tweets. The media covered Trump's tweets so frequently that his campaign spent \$300 million less than Clinton's because he did not need to pay for publicity.<sup>15</sup> Francia and Marx both argued that Trump's message was so pervasive in part because of his ability to draw and retain the attention of the media, and as a result, his tweets reached audiences beyond Twitter, such as cable news watchers or online newspaper readers.<sup>16,17</sup> Media organizations rely on politicians to provide interesting and lucrative content for them to cover, and Trump was a particularly productive source of headlines.

The literature makes it clear that politicians' tweets tend to be issue-centric and written in a formal and professional style, and the accounts are almost exclusively operated by staffers. While some politicians attempt to use social media in a more personalized and down-to-earth manner, there remains a distance between them and the voters with whom they are trying to communicate. For Trump, there was no man behind the curtain; he appeared more credible in the eyes of his supporters because he was broadcasting his genuine opinions. His distinctive rhetorical style proved to the audience that he authored his own posts during the campaign. His tweets were informal and emotional—he often used abbreviated words, imperfect grammar, and caps lock (which connotes anger or excitement). Over 70% of his 2016 tweets contained one or more exclamation points; in contrast, only 7% of Clinton's tweets used any exclamation points at all.<sup>18</sup> These linguistic choices distinguish Trump from traditionally professional political candidates<sup>19</sup> because many of his voters were motivated by opposition to elite actors,<sup>20</sup> they likely appreciated Trump's willingness to broadcast his own unfiltered opinions.

Other scholars have thoroughly explored how Trump's Twitter usage deviates from social and political norms. In this paper, I use a close, piece-by-piece examination of twenty of Trump's most popular tweets to dig deeper and provide a better understanding of a key aspect of this topic—how and why these unusual and unconventional messages were so appealing to his base. Picking apart the discourses in these tweets makes clear the deliberate and skillful rhetorical strategy behind them, which leads to an important conclusion: during the 2016 election, Trump was very cognizant of the effect he could have on the American political landscape. He was aware of the thinly concealed narratives permeating the voting demographics that formed his base. Such narratives demonized “establishment” politics and politicians (Obama and Clinton in particular), the media, women, racial minorities, and immigrants, and through his tweets Trump brought these themes to the fore, made them an acceptable part of national politics, and harnessed them to his advantage.

## MAKING AMERICA GREAT AGAIN: TRUMP'S PLATFORM

As discussed in the literature, politicians traditionally use social media to advocate for their candidacy and platform, provide news updates, and ask for donations.<sup>21</sup> Some of Trump's tweets follow these conventions, but he kept his issue positions deliberately vague, instead simply assuring his voters that he would repair the disarray they perceived in the country. He frequently discussed issues that concerned his base, such as immigration and foreign terrorism, but disassociated himself from traditional partisan candidates by taking extreme stances and avoiding complex details.

At fifty-two thousand retweets, the most popular tweet in this category was posted three days before the election and simply reads "MAKE AMERICA GREAT AGAIN!"<sup>22</sup> These four words, printed on thousands of signs, T-shirts, and iconic red baseball hats, are a perfect summary of Trump's argument that he would restore the country to its previous position of prestige. "Make America Great Again" (commonly referred to as MAGA) is notably vague—what exactly does "great" mean? When was America "great," and what stopped it from being so? The phrase was intentionally reminiscent of Ronald Reagan's 1980 campaign slogan, "Let's Make America Great Again." Reagan was a popular president and something of a hero among the same people who made up Trump's base.<sup>23</sup> Azevedo et al. suggest that borrowing his slogan makes an appeal to both American nostalgia and American nationalism.<sup>24</sup> Through campaign speeches, advertisements, merchandise, and the enthusiastic capital letters of this Tweet, Trump made it clear that he would return the country to Reagan's free-market economics and traditional family values. Rather than being a particular issue position, MAGA was an overarching promise to solve all the corruption and dysfunction perceived by Trump's followers.

A similar message was visible in the tweet, "Such a great honor to be the Republican Nominee for President of the United States. I will work hard and never let you down! AMERICA FIRST!"<sup>25</sup> This was posted the day of the Republican convention, when Trump's primary nomination was made official and the last of the intra-party "Never Trump" movement fizzled out. Trump centered this tweet on himself. He did not ask his voters to put their faith in the Republicans, but in him as an individual—rightfully so, since Trump's base was exhausted with the ineffectiveness of both major political parties.<sup>26</sup> The statement, "I will work hard and never let you down!" contributed to his image as the country's savior; it was a promise to never disappoint his base the way the establishment had. "AMERICA FIRST!" took nationalism a step further by promoting ethnocentrism and isolationism—not only did America need to be

fixed, it needed to be prioritized over all else. This phrase made an appeal to Trump's mostly white base, which consistently expressed concerns that immigration into the U.S. had negative effects.<sup>27</sup>

This nationalistic sentiment was visible in another tweet: "Mexico will pay for the wall!"<sup>28</sup> Building a wall across the Mexican border was a cornerstone of the Trump campaign, but like many political candidates, he used this tweet to oversimplify a complex issue. Trump did not explain how the president could compel a foreign government to fund a U.S. project. Nor did he address the feasibility of the wall, the negotiation it would require in Congress, or the thousands of lives it would affect. Despite all the practical questions this tweet might raise, the use of the word "will" marked this statement as an absolute truth rather than mere speculation—the wall *will* be built and Mexico *will* pay for it. Such certainty would have been appreciated by Trump's base, which was frustrated with the lack of action from Congress and the Obama administration. The details are less important than the promise of the wall, which would allegedly end the threats posed by Mexican immigration.

Interestingly, two of Trump's tweets used mass shootings as a springboard for vague issue positions. The first pertained to the June 2016 shooting in which a man affiliated with ISIS killed fifty people in an Orlando nightclub. Trump wrote, "Appreciate the congrats for being right on radical Islamic terrorism, I don't want congrats, I want toughness & vigilance. We must be smart!"<sup>29</sup> Once again, Trump focused the message on himself by purporting that he was "right" about Islamic terrorism. His demand that the U.S. become tough, vigilant, and smart implied that the government was failing to combat terrorism, and the repeated use of the word "I" indicates that his administration would do better. The majority of Trump's base supported a temporary Muslim ban.<sup>30</sup> This stance was likely motivated by post-9/11 fear of Middle Eastern terrorism, so Trump took a strong stance against the Orlando terrorist in this tweet to earn praise from his supporters.

A month later, after several police officers were shot dead in Baton Rouge, Trump posted: "We are TRYING to fight ISIS, and now our own people are killing our police. Our country is divided and out of control. The world is watching."<sup>31</sup> Though this shooting had nothing to do with ISIS, Trump declared that it somehow interfered with the fight against terrorism. According to this tweet, the Baton Rouge shooting contributed to our fall from being the world's dominant superpower to being debilitated and emasculated—the world was watching and disapproved of what it saw. As in the tweet about Orlando, Trump interpreted mass shootings as an indicator of U.S. weakness, which fed into his wider MAGA narrative. Additionally, as Zompetti points out, while this

tweet and the previous one focused on shootings, neither mentioned the victims or the racialized nuances inherent to both incidents; instead Trump chose to make appeals to his base.<sup>32</sup>

Marx argues that rather than using the policy jargon and confusing language typical of politicians, Trump gave his voters easy and concrete answers to their concerns; this set of tweets exemplifies his ability to “take complicated issues and make successful slogans out of them.”<sup>33</sup> The 140-character style of Twitter is already designed to favor brevity over detailed discussion. Since Trump’s base was less educated and distrustful of establishment politics, oversimplifying issues was an effective way for him to communicate his message. It also contributed to his image as a candidate—he appeared to be an outsider compared to establishment candidates like Clinton or Ted Cruz. Yet this unconventionality became his strength as he individualized these tweets through phrases like “I will work hard” and “I want toughness & vigilance.” Trump was an amateur, but he was also a champion of the people.

## **TRUMP’S ADVERSARY: CROOKED HILLARY**

Opinions about Hillary Clinton were one of the most important factors that distinguished Trump voters from non-Trump voters; she was almost universally disliked within the base, and about a quarter of Trump voters overall chose him primarily to oppose her.<sup>34</sup> As a former First Lady, Senator, and Secretary of State embroiled in several scandals, Clinton is inextricably tied to the political establishment that Trump’s base so reviled. Trump constantly reminded his followers of those ties and always strived to characterize Clinton as corrupt and untrustworthy. She was his second most tweeted-about topic overall.<sup>35</sup> He is in the habit of giving condescending nicknames to those who oppose him (“Rocket Man” for Kim Jong Un, “Little Marco” for Marco Rubio), and none stuck better than “Crooked Hillary”, which appeared in 208 of his 2016 tweets.<sup>36</sup> This nickname was central to his depiction of Clinton not just as the inferior candidate, but as the embodiment of all that his base stood against.

Trump’s most popular tweet in all of 2016 was a direct response to Clinton. He made a post criticizing Obama for endorsing Clinton, to which she retaliated, “Delete your account.”<sup>37</sup> Trump replied, “How long did it take your staff of 823 people to think that up--and where are your 33,000 emails that you deleted?”<sup>38</sup> This tweet made two different points. The first was that Clinton’s reply was written by her campaign staff, which was likely to be true, and Trump included the large number of staffers to associate her with the political establishment. Clinton seemed isolated from her voters as a result, which put her

in contrast with Trump, who wrote his own tweets. Enli argues that Clinton's Twitter followed norms of professionalism typical to political campaigns, while Trump's Twitter had a more authentic style;<sup>39</sup> Trump conveyed the very same idea by mocking Clinton for having her staff write her response. Trump's second point was to bring up the emails Clinton stored on a private server while she was Secretary of State, once again including the number of them to show the magnitude of the problem. He used the existence of the emails as an indicator of Clinton's "crookedness"; the fact that they were deleted was further proof she had something to hide.

Trump brought up Clinton's emails often throughout the campaign. For example, he tweeted, "If Russia or any other country or person has Hillary Clinton's 33,000 illegally deleted emails, perhaps they should share them with the FBI!"<sup>40</sup> Trump's base already distrusted Clinton and felt disenfranchised by the political establishment she represented.<sup>41</sup> Trump stirred that distrust into vindication, in this tweet and in many others, as well as by chanting "Lock her up!" at rallies. By encouraging Russia or any other party to leak the emails, Trump showed voters he would do anything to ensure that Clinton's corruption was exposed. He disregarded legal and diplomatic ramifications of Russia violating an American citizen's privacy, instead prioritizing Clinton's punishment. The anger Trump's base harbored towards Clinton overshadowed the potentially disturbing idea of a presidential candidate inviting a foreign rival to interfere in a U.S. election.

In addition to villainizing Clinton, Trump also discredited her candidacy itself. In October, WikiLeaks released emails from the account of John Podesta, Clinton's campaign manager. Among other things, the emails contained town hall questions the Democratic National Convention chairwoman obtained from CNN and passed onto the Clinton campaign ahead of an event. The leaks coincided with a drop in Clinton's approval.<sup>42</sup> Trump reacted by tweeting: "I hope people are looking at the disgraceful behavior of Hillary Clinton as exposed by WikiLeaks. She is unfit to run."<sup>43</sup> Rather than following his usual narrative about Clinton's corruption, he instead chose the word "unfit" to show that her actions disqualified her from the race—all without specifying exactly what she did. Knowing that his base already held negative attitudes towards Clinton, Trump likely expected them to agree that her behavior was "disgraceful" regardless of the details. He also glorified WikiLeaks for exposing Clinton's perceived corruption, failing to mention that most of the organization's information is obtained illegally and its founder fled the U.S. years ago to dodge an indictment. As with the previous tweet about Russia releasing the emails, Trump prioritized his criticism of Clinton above all else.

Oddly enough, two of Trump's most popular tweets were about Clinton's sleeping habits. One stated "Hillary Clinton is taking the day off again, she needs the rest. Sleep well Hillary - see you at the debate!"<sup>44</sup> while the other simply read, "#WheresHillary? Sleeping!!!!!"<sup>45</sup> There were multiple occasions outside of Twitter where Trump raised concerns about Clinton's supposedly poor health, such as when she contracted pneumonia during the campaign.<sup>46</sup> He also insisted multiple times that she lacked the "stamina" a president requires, which Hess interprets as a reference to "an American subconscious that stereotypes older women as sick, weak, unattractive and useless."<sup>47</sup> Trump previously called Clinton "unfit to run" based on her behavior; in these cases, she was unfit based on her physical constitution. Clinton's purported weakness can be linked back to the general weakness of the country Trump described in many of his tweets. He wanted to convince his base that a Clinton presidency would result in a continuation not just of a corrupt and non-transparent government, but a feeble and emasculated one.

In summary, Trump used these tweets to characterize Clinton as crooked, incompetent, and fragile by linking her to the political establishment, emphasizing and exaggerating her scandals, and pointing out her poor health. There was more to this depiction than the typical political strategy of one candidate undermining the other. Clinton became the face of everything Trump and his base stood to oppose—a government that was elitist, corrupt, and ineffective. That Clinton was a woman, and an imperfect one with political baggage, is also significant. The potential of her presidency served as a threat of further emasculation to a country that Trump already portrayed as being weak.

Nearly half of Trump voters had positive views of Clinton in 2012, but by 2016 they disliked her almost universally.<sup>48</sup> Though certainly the drop in approval was affected by the Benghazi and email scandals, Trump's constant villainization of Clinton kept those topics in the limelight. Had Trump failed to paint an incredibly negative picture of her in front of millions of people on and off Twitter, he might not have won the election. His base wanted to fix many things—the loss of jobs due to mechanization and globalization, the corrupt political establishment, the economic disparities between themselves and elites—but the traditional social order was not one of them. Azevedo et al. state that Trump voters are "strong critics of the government, especially under President Obama, but it seems unlikely that they were especially critical...of traditional gender roles in society."<sup>49</sup> Clinton threatened those roles by being the first woman to win a presidential nomination. The base's preferences for social conservatism and tradition could explain why they were particularly susceptible to Trump's narrative of vitriol towards Clinton.

## OTHER DEMOCRATIC OPPONENTS

Trump also attacked prominent Democrats aside from Clinton. He made his disapproval of the Obama administration known on Twitter long before the 2016 election and even pioneered the “birther” movement, which questioned the legitimacy of Obama’s birthright citizenship. Two of the top priorities for Trump voters were restricting immigration and combating terrorism.<sup>50</sup> Trump was frequently critical of Obama’s and Congressional Democrats’ positions on both of these issues even before 2016, and he remained vindictive towards them during the election. By accusing Democrats of actually exacerbating the issues his voters cared about most, Trump depicted Obama and the Democratic Party as chief causes of the crippled, corrupt, and dysfunctional state of the government. They became a representation of why America needed to be made great again.

Demonizing Obama was a common trend in Trump’s tweets. On the day of the Orlando nightclub shooting, the perpetrator of which affiliated himself with ISIS, Trump tweeted: “Is President Obama going to finally mention the words radical Islamic terrorism? If he doesn’t he should immediately resign in disgrace!”<sup>51</sup> As with his other tweet about the same shooting, he implied that the U.S. was failing to prevent terrorism, this time as a result of Obama’s rhetoric. Trump has often argued that the Obama administration danced around the truth of terrorists’ motivations, and that this “political correctness” somehow detracted from national security. His base had major concerns about Muslim immigration and terrorism that they felt were not being taken seriously by the Obama administration, but Trump promised not to make the same mistake. He labeled political correctness as a tool of the establishment, particularly of the Democrats, and his base disliked the establishment enough that he was comfortable blaming the Orlando shooting on Obama’s political correctness.

From the birther movement to this tweet, the theme underlying all of Trump’s criticism of Obama is Islamophobia, as if having a Muslim father and a foreign-sounding name made Obama complicit in ISIS terrorism. Trump depicted Obama’s so-called politically correct language as an exculpation of terrorism and insinuated that if he were president, he would disregard Obama’s careful rhetoric and deal with the threat more effectively. Perhaps another reason Trump was able to successfully disparage the idea of political correctness is that it conflicted with the racist and anti-immigrant narratives he brought to light within his own base; in a politically correct world, Trump’s tweets would be socially unacceptable, but they were well-received among his target audience.

Twice, Trump disparaged Obama's efforts to campaign for Clinton. In June, he posted, "Obama just endorsed Crooked Hillary. He wants four more years of Obama—but nobody else does!"<sup>52</sup> Then just a few days before the November election, Trump tweeted: "If Obama worked as hard on straightening out our country as he has trying to protect and elect Hillary, we would all be much better off!"<sup>53</sup> In both tweets, Trump posited that Obama's administration was detrimental to the country and had failed to "straighten" things out. This argument contributed to the picture of weak and corrupt government that Trump painted throughout the entire election. The potential of Clinton's presidency being just like Obama's would be a nightmare for Trump's base, who disapproved not just of Obama but of the direction in which the country was headed under his leadership. By inextricably connecting Obama and Clinton, Trump soured Clinton's image further in the eyes of his followers. These two tweets appeared to focus on Obama but really existed more to attack Clinton. By the end of the 2016 election, Trump's base disapproved of Clinton significantly more than they had disapproved of Obama after the 2012 election.<sup>54</sup>

Trump criticized another Democratic politician for supporting Clinton: "Bernie Sanders endorsing Crooked Hillary Clinton is like Occupy Wall Street endorsing Goldman Sachs."<sup>55</sup> Sanders's campaign leaned more socialist than traditionally Democratic; his platform involved free college and universal health care, and he gave Clinton an unexpected run for her money. Trump drew a parallel between Sanders and Occupy Wall Street, an activist organization that protested economic inequality in 2011. Trump's base would have approved of this grassroots-driven movement against the economic structure, which they felt was rigged. Trump simultaneously mocked Sanders for endorsing Clinton and glorified him by comparing him to heroic populist protestors. Meanwhile, Trump villainized Clinton by comparing her to the firm Goldman Sachs, which represented the overpowered elite actors his base loathed. As when he discussed Obama's endorsement of Clinton, Trump only criticized Sanders to make a stronger attack on Clinton.

Trump identified Clinton as the face of everything his base condemned and made it clear that the Democrats stood behind her in the shadowy ranks of the political establishment. Trump blamed highly salient issues like immigration and terrorism on the Democrats, either claiming that they had not done enough to resolve these problems or were somehow responsible for them becoming worse. In reality, Congress has not passed major immigration legislation in decades regardless of which party was in power, and the Obama administration took only one significant action: enacting the Deferred Action for Childhood Arrivals (DACA) program. Nor can foreign or domestic terrorism be

reasonably blamed on any political party. Nevertheless, Trump communicated to his followers that the Democrats were the architects of the country's rigged system and were the reason it was so weak and inefficient. In many of these posts, Trump contrasted himself with Obama to assure his base that his presidency would be different. Several of these tweets were also somehow linked to Clinton, indicating that Trump's ultimate goal in criticizing other Democrats was criticizing Clinton.

## **OUTREACH EFFORTS: TRUMP'S PERSONAL TWEETS**

Personalization was one of the most important social media strategies used in the 2008 and 2012 presidential elections, as well as in subsequent races for other public offices. A 2013 analysis showed that over a third of politicians' tweets involved them "communicating more on a personal level... as a human being having a family, special interests, and hobbies."<sup>56</sup> Just two of Trump's popular tweets showed him attempting to connect to voters in a similar manner.

One of Trump's most popular posts during the campaign was the following: "Happy #CincoDeMayo! The best taco bowls are made in Trump Tower Grill. I love Hispanics!"<sup>57</sup> It includes a photo of a grinning Trump giving a thumbs-up in front of a taco bowl. This tweet was an outlier for Trump because of its seemingly positive tone. At first glance, it looks like an attempt at inclusivity to attract support from Latino voters. However, the overtly friendly message contradicted with Trump's usual rhetoric towards Latino people, which revolved around building the wall and deporting criminal immigrants. Rather than making a true effort at reaching out to Latino voters, Trump reassured his white base that he was "not racist" by eating a taco bowl and enthusiastically proclaiming that he "love[d] Hispanics." Even if most of Trump's base viewed legal and illegal immigration unfavorably, most people do not like to think of themselves as racially prejudiced. That this tweet was incredibly condescending and disingenuous may not have been bothersome or even noticeable, considering that less than half of Trump's base held warm feelings towards Latino people.<sup>58</sup>

One of the biggest scandals of the campaign involved a tape of a 2005 conversation between Trump and Billy Bush, the host of the show *Access Hollywood*, in which Trump detailed his failed attempt to seduce a married woman, claimed he was automatically compelled to kiss beautiful women, and said that, "When you're a star, they let you do it. You can do anything. Grab them by the pussy. You can do anything."<sup>59</sup> On the day an *Access Hollywood* producer leaked

the tape, Trump responded with a tweet simply reading, “Here is my statement,” and containing a video. He offered an apology and said the tape was a distraction from the country’s problems, which he blamed on Hillary Clinton and “her kind.” He then contrasted his words in the tape with the actions of Bill Clinton, who “has actually abused women, and Hillary has bullied, attacked, intimidated, and shamed his victims.”

Trump spent about twenty seconds of this video expressing his regrets. A full minute went to minimizing the significance of the *Access Hollywood* tape, describing the faults of the dysfunctional political system, and highlighting Bill Clinton’s abuse of women and Hillary Clinton’s role as his helper. He then intentionally mentioned political issues that were important to his base—job loss, national security, and a “broken” Washington—in order to rile them up and detract from the *Access Hollywood* tape. In summary, Trump pivoted from the scandal at hand to the Clintons’ corruption and the problems facing the U.S., which enabled him to distract from the regrettable implications of the tape.

Often, politicians use social media to convey individualism and humility in an attempt to avoid seeming robotic or bland.<sup>60</sup> Trump, however, projected his personality with every bold claim, unconventional statement, and exclamation point. He did not need to tweet about his personal life to be viewed as an interesting and emotionally engaging candidate. The genuine uniqueness of his personality was appealing to a base who suspected that the formalized, politically correct rhetoric of establishment politicians was a thin veil for corruption. Rather than providing a glimpse into his life, Trump’s personal tweets severed potentially damaging connections. The Cinco de Mayo tweet was a disclaimer that Trump was not racist, while the *Access Hollywood* post deflected the blame for the tape away from him. Both appealed to the base by disassociating Trump from undesirable narratives of racism, sexism, and the corruption associated with Clinton.

## **TRUMP VS. THE RIGGED SYSTEM**

Foucault believed that a powerful discourse had to be backed by a “regime of truth” to effectively influence the way people thought. In other words, those who create discourses do not just pass on knowledge but define what is and is not true.<sup>61</sup> Donald Trump accomplished this goal with a simple, yet masterful, strategy. His base already distrusted the establishment and the media. Trump bolstered that sentiment by painting a picture of a grand, far-reaching conspiracy to keep him and his followers out of the race—and because everyone else harbored those ill intentions, only Trump himself could be trusted to speak the

truth. Whenever attacking the people or organizations who opposed him, he portrayed himself as the only shining light in a hopelessly rigged political and economic system.

A prime example of this strategy is the tweet, “The media and establishment want me out of the race so badly - I WILL NEVER DROP OUT OF THE RACE, WILL NEVER LET MY SUPPORTERS DOWN! #MAGA”<sup>62</sup> This post was made the day after the *Access Hollywood* incident. Just like in his video response to the tape’s release, Trump redirected the blame for his own actions onto others. In the video, it was the Clintons; in this tweet, he instead made a sweeping generalization about the media and the establishment (two massive and undefinable fields) and positioned himself as the victim of their wrongdoing. But he also exclaimed in capital letters that he would not back down or disappoint his voters, which characterized him as a brave and selfless savior of the people. That the media and establishment allegedly wanted Trump out of the race was also proof of the threat he posed to them. Since his base felt the political system did not serve them but rather actively disadvantaged them, they likely appreciated Trump’s supposed altruism.

Following the *Access Hollywood* tape and Trump’s mishandling of questions about it in the second presidential debate—along with his belligerent attitude towards Clinton and several strange moments where he loomed ominously behind her on the stage—many Republicans withdrew their support in response to Trump’s misogynistic behavior. Then-Speaker of the House Paul Ryan did not officially rescind his endorsement, but he publicly announced he would no longer campaign for Trump.<sup>63</sup> Trump retaliated by tweeting, “Paul Ryan should spend more time on balancing the budget, jobs and illegal immigration and not waste his time on fighting Republican nominee.”<sup>64</sup> The next day, likely referring to the continuing loss of Republican support, he posted, “Disloyal R’s are far more difficult than Crooked Hillary. They come at you from all sides. They don’t know how to win - I will teach them!”<sup>65</sup> It is unusual for a presidential nominee to be at odds with the party that resources them, but Trump was unpopular among the Republican establishment from the start and obtained far fewer endorsements than is typical. By implying that Ryan was incompetent, calling other unnamed Republicans disloyal, and claiming he would teach the party how to win, Trump marked himself as superior to establishment Republicans and promised to do better than them. Trump’s base was frustrated with both political parties and supported him because he was an outsider, so he criticized Republicans to distinguish himself from them.

In March 2016, Trump was unable to appear at a rally because thousands of opposing protestors crowded around the Chicago stadium and made the event unsafe. Trump tweeted the next day: “The organized group of people,

many of them thugs, who shut down our First Amendment rights in Chicago, have totally energized America!”<sup>66</sup> Trump used the word “thugs”—which commonly has a racist connotation—to describe people who protested him in seven other tweets during the election.<sup>67</sup> In other words, they were criminals with illegitimate concerns and heinous motivations—not dissimilar to his portrayal of “Crooked Hillary.” By referring to the protesters as “organized” when in reality they were not, Trump associated them with the rigged establishment. He also blatantly misconstrued the First Amendment, which prevents Congress from restraining free speech but says nothing of interactions between private citizens. More to the point, the protestors were in fact expressing *their* First Amendment rights to speech and assembly, and Trump painted them as criminals for doing so.

Trump frequently disparaged the media in his tweets, for example: “.@FoxNews is so biased it is disgusting. They do not want Trump to win. All negative!”<sup>68</sup> and “This election is being rigged by the media pushing false and unsubstantiated charges, and outright lies, in order to elect Crooked Hillary!”<sup>69</sup> The former tweet is from February, while the latter was made in mid-October, showing that Trump maintained this narrative throughout the entire election year. Polling in October 2016 showed that Trump’s supporters were much more likely to distrust journalists and established news organizations. These attitudes likely existed before the campaign, but were exacerbated by Trump’s portrayal of the media as deceptive and rigged in favor of the political establishment<sup>70</sup> Furthermore, every negative story and damning fact check only served to build Trump’s case, “especially if the revelations [came] from the mainstream media for which [the base harbored] a deep and abiding distrust.”<sup>71</sup> Trump’s constant discreditation of the media explains why his base remained loyal even when disturbing information about him was revealed, because they likely doubted the truth of the information.

Martinez puts forth an argument that “the diminution of the white male supremacy institutionalized during the founding of America” led to the development of a victim complex among the people who make up Trump’s base.<sup>72</sup> Trump’s rigged election theme illustrates that point. He insisted that the evil and all-powerful media, the Republican Party, and the establishment in general put him at a systematic disadvantage. This made him relatable to his supporters, who also felt wronged by the establishment. But even as he played the victim card, Trump also declared himself the protagonist of the story by staying in the race and lashing out against those who opposed him. Refusing to back down from the corrupt, antagonistic establishment made Trump seem selfless and heroic, which rallied his base behind him.

## CONCLUSION

The first theme of Trump's tweets was that the U.S. had become weak and unprincipled. This sentiment was likely already present in the minds of Trump's base but was exacerbated by his villainization of Democrats in general and Clinton in particular, as well as his dramatic portrayal of the negative effects of immigration and terrorism. The second major theme—his insistence that the entire electoral system was conspiring to keep him out of the White House—is especially important. The more he maintained this narrative, the less his voters believed in political parties and media outlets, which likely caused them to remain loyal to Trump because they could not trust anyone else. In their eyes, every negative news story was just a villainous attempt to sabotage Trump's campaign. Trump molded his base's predisposed wariness of the political establishment into an immutable regime of truth that the system was rigged against both them and him.

Trump's image relied on the assumption of a rigged system. He separated himself from establishment politics by oversimplifying issues and using simple, emotional language that marked him as authentic,<sup>73</sup> which distinguished him from candidates like Clinton who were more professional and distant. He also centered many tweets on himself, simultaneously painting himself as the victim of wrongdoing and as the hero facing down the monster of the establishment. The base wanted the broken system to change, but not from within, and Trump made sure he was seen as an outsider. Not only did he make slogans out of complicated issues,<sup>74</sup> he shamelessly brought to the fore dialogues that used to be poison to political campaigns. Racism was central to his positions about Mexican and Muslim immigration. Sexism was visible in his narrative that Clinton's leadership would emasculate the country through "crookedness", incompetence, and weakness. Statements like "Make America Great Again" and "AMERICA FIRST!" indicated nationalism and isolationism. By understanding his base's inclinations towards those subjects and being unafraid to publicly validate them, Trump distinguished himself from politically correct (and seemingly disingenuous) politicians like Clinton and Obama. He seemed more similar to the white, less educated Evangelical than he was to the establishment politician, which led his base to believe that he represented their interests better than an elite actor could. Thus Trump became a champion for people who felt like they had never had one.

Every tweet I examined can be connected to Trump's base in some way, and this is only a small sample. The scope and magnitude of Trump's persuasive rhetoric is perhaps the most important finding of this paper. People close to

the campaign—such as Trump’s longtime lawyer Michael Cohen, who went to jail for fraud and campaign finance violations, and Michael Wolff, the author of an exposé about the administration—have claimed that Trump never intended to win the election and only ran as a practical joke or a publicity stunt. Others believe he is too incompetent to have implemented a deliberate campaign strategy. But the extent to which each post appeals to his base demonstrates extraordinary ability. Not only did Trump accurately identify the electorate that would grant him victory; he understood what his supporters wanted to hear and effectively harnessed Twitter’s 140-character limit to convey the messages that mobilized thousands of people. He undermined the credibility of every other politician and media source, lumping them in as one deceptive and corrupt entity, to ensure that he was the only authority that could be trusted. The success of this approach indicates that Trump may have deliberately used Twitter to manipulate his base into thinking that he was their savior.

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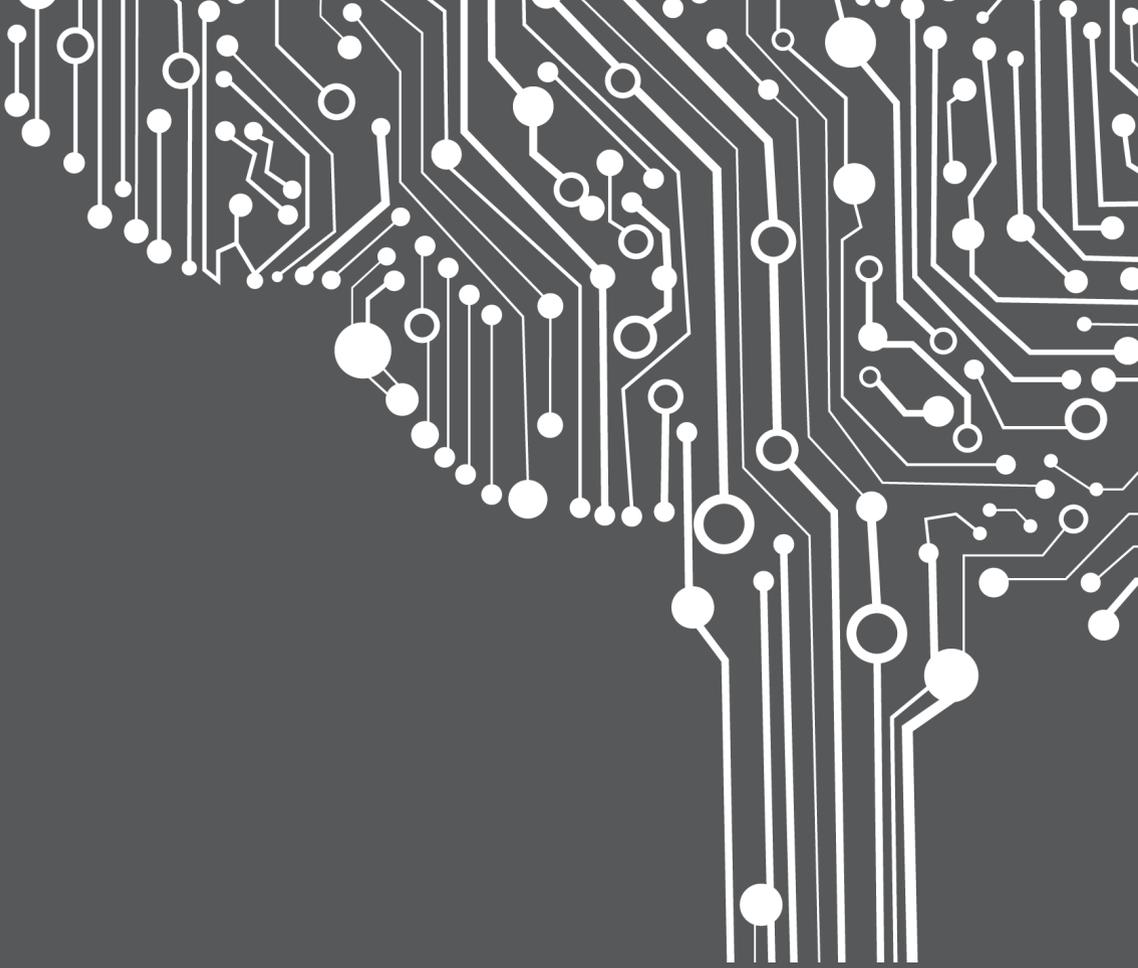
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**Lady Mary Wortley Montagu, Social  
Entrepreneurship, and Smallpox  
Inoculation in Eighteenth Century England**

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NIKKI VIETZ

**Nikki Vietz** graduated from UMBC in December 2019 with dual degrees in History and Political Science. Her interest in the past arose in part from being an avid reader, as well as her family's passion for travel. During her time at UMBC, Nikki participated in an archaeological dig in Jordan and shared her culture with the young Jordanian workers from Dhiban. After sampling her last plate of hummus and sipping Jordanian mint tea, she returned home and began working as an intern with National Consortium for the Study of Terrorism and Responses to Terrorism (START). Currently, she is interested in pursuing a Master's degree in History with a special focus on terrorism. Nikki would like to express her gratitude and appreciation to Dr. Amy Froide in the History Department, who has helped guide her on her educational path.

I came across my area of research during my History writing intensive class, History 497. The topic for the class was “Social Entrepreneurship in 18th Century England.” While researching a specific topic for a paper, I came across the subject of smallpox inoculation and Lady Mary Wortley Montagu. After doing some preliminary research, I was amazed by how strong, independent, and courageous Lady Montagu was during the 18th century. This project provided me with insight into the role of women in history and how easily they are forgotten, which is something being addressed today by numerous historians and the #MeToo Movement. Using private letters, newspapers articles from the British Newspaper Archives, and historical scientific publications from the Royal College of Physicians, I was able to not only learn about the important role of women in the battle against smallpox, but also gain a better understanding of what it is like to engage in academic historical research.

## **ABSTRACT**

The eradication of smallpox has been widely credited to Edward Jenner, who in 1796 discovered a vaccination for the horrific disease from cowpox. Yet, the battle against the smallpox did not begin with Edward Jenner; instead it began 80 years earlier in 1716 with Lady Mary Wortley Montagu. Lady Mary Wortley Montagu was a wealth aristocrat, whose life was dramatically altered by the horrific disease: the death of her beloved brother, her contraction of smallpox, and her struggle to popularize smallpox inoculation in England. This paper will bring a new perspective to Lady Mary Wortley Montagu's popularization of inoculation against smallpox by examining her contribution through the lens of social entrepreneurship, instead of focusing solely on her social class and gender. By definition, social entrepreneurs are those who seek to solve a particular social issue by providing a unique solution and mobilizing the masses in support of change. Using modern-day social entrepreneurial steps, such as having a personal connection to the social issue, researching possible solutions, creating a solution, reaching out for support, developing a plan, and identifying patrons, Lady Mary Wortley Montagu not only popularized smallpox inoculation in England but also laid the foundation for her enduring legacy.

## **INTRODUCTION**

The medical history of smallpox is a saga of untold human suffering, unforeseen human inventiveness, and unprecedented human triumph. It was a loathsome disease that wrecked havoc and terror from antiquity to modern times. Those who survived the painful two-week period of fever, skin eruptions, and internal organ damage were left with the terrible legacies of disfigurement, scarring, and blindness. While smallpox is eradicated today, this was not the case in eighteenth-century England. Edward Jenner's miraculous vaccination from cowpox in 1796 had yet to be discovered. However, the battle against smallpox began 80 years earlier in 1716 and leading the charge was an unlikely woman: Lady Mary Wortley Montagu. This paper will bring a new perspective to Lady Montagu's popularization of inoculation against smallpox in England by examining her contribution through the lens of social entrepreneurship; instead of focusing solely on her social class and gender like previous understandings of Lady Montagu's inoculation. In addition to this new perspective, this paper will argue that Lady Montagu was successful in persuading the public to adopt inoculation because: 1) she had a personal connection to smallpox, 2) although not a medical professional she was creative and determined to find patronage

for inoculation, and 3) struggled against many obstacles, such as public ridicule, superstition, and sexism, to gain the acceptance of the general public and the medical profession.

As a medical scientist Lady Montagu was a sheer amateur. In fact, she was a harsh critic of the profession and those physicians that ridiculed her only aroused her contempt. Yet, how did someone with no medical experience and contempt for the profession successfully promote smallpox inoculation? The answer to this question varies. According to Diana Barnes, Michael Bennett and Rajani Sudan, the answer lies in the fact that she was an elite and educated woman. Her position as an ambassador's wife and the accompanying power of such a position gave her the authority to defy Western medical authorities. Others, such as Isobel Grundy and Felicity Nussbaum, argue compassion and eighteenth-century feminism. Nussbaum attributes Lady Montagu's success to a kind of feminist allegiance to the female healers first credited with inoculation in the Levant: "Lady...Montagu [valued] the knowledge of women folk healers over male professionals." Grundy takes a more direct approach by arguing that medicine in the eighteenth century was "coded male" and Lady Montagu was able to show the expanding role of women in medical developments. This paper will combine the ideas of Diana Barnes and Michael Bennet with a new take on Lady Montagu: social entrepreneurship.

By definition social entrepreneurs are those who seek to solve a particular social issue by presenting their innovative and unique solution in a way that makes people recognize a need for change and support that change. In the end, the mobilization of the people is the cornerstone of all social entrepreneurs. This concept of social entrepreneurs have been applied and studied in the modern era, but this paper applies it to the past and argues that Lady Mary Wortley Montagu's introduction of inoculation to England was a socially innovative response to the horrific disease of smallpox. According to Bill Drayton, the creator of the term social entrepreneurship, social entrepreneurs have a personal connection to the social cause they are fighting to change and often struggle to obtain support for their endeavor. These traits are exemplified in Lady Montagu, who followed modern-day social entrepreneurial steps: having a personal connection to the social issue, researching possible solution, creating a solution for the social issue, reaching out for support, developing a business plan, and identifying patrons to fund her social endeavor. As a result, her determination to promote inoculation made her a target of both praise and ridicule. Yet, like a true social entrepreneur, she never faltered in her vision and thanks to this vision the number of deaths related to smallpox decreased by more than half.

Lady Mary Wortley Montagu's story began in 1689. Born to a distinguished family, Lady Montagu's schooling taught her to be precise, delicate,

and eloquent. These skills were meant to please any suitor her father selected. Yet, Lady Montagu was not interested in pleasing a man; instead she sought to please herself by reading every book she could find, teaching herself multiple languages, and writing poetry. In doing so, she made herself a target of her father's anger, who believed that women should be subservient to their husbands. In other words, Lady Montagu was a rebel. She dreamed of adventure and believed education was her passport to public life. Lady Montagu's scholarly accomplishments soon attracted the attention of Edward Wortley. Eleven years older than Lady Montagu, Edward Wortley Montagu was a ruthless businessman, who had a reputation for honesty and integrity in politics as a Whig Member of Parliament. Against her father's wishes, Lady Montagu eloped with Wortley in August 1712 and was quickly disowned by her father. A year later, in June 1713, her precious brother, William, contracted smallpox.

The horrific nature of smallpox was a constant reminder of the shortness and fragility of life, and for Lady Montagu this reminder came with the death of her brother and her own contraction of the disease. William's death deeply affected Lady Montagu, who poured her emotions and grief into her journals. She realized the fragility of life and wrote, "Since the losse of my poor unhappy brother, I dread every evil." Two years later in December 1715, this fear was exacerbated by her contraction of the disease. Her physicians, who believed in the ancient Greek theory of the four humors, prescribed bleeding and a series of "gentle" purges to empty her stomach and bowels. It was believed that good health was a "perpetual circus act" of balancing bodily fluids, such as blood, phlegm, black bile, and yellow bile. Four times a day, Lady Montagu was given medicine that was a mixture of ground-up stones of calcified hair and fiber found in animal stomachs as well as saltpeter. By the third day, Lady Montagu's fever soared to a temperature of 103 degrees Fahrenheit, according to today's calculations, and tiny red flecks no bigger than pinheads and smooth to the surface appeared across her forehead. As the days progressed, these flecks spread throughout her body and began to rise into little pocks. Mucous membranes along her mouth, throat, nostrils, eyes and sexual parts swelled, and her pocks burst with offensive yellow pus before scabbing. At this point there was no denying that the "Angel of Death" had its claws in Lady Montagu. The only question was how deadly was the "strain?"

Like many before her, Lady Montagu transformed from beauty to beast: a grotesque changeling with facial scarring and inflammations of the eyes. Gossip and rumors flooded the streets about her condition and how the disease would affect a lady of prominent fashion. Her friend the Countess of Loudoun reported that the pocks were very full and "a pair of good eyes [like Lady Mary's] being mark'd is nothing." It was assumed that her court career was over and

Wortley was reported to be “inconsolable for ye disappointment this gives him in ye carrier he had chalkt out of his fortunes.” For a beautiful and wealthy woman like Lady Montagu, smallpox was both devastating and liberating.

This devastation and liberation was presented in Lady Montagu’s poem, “Saturday: The Small Pox.” This poem allowed Lady Montagu to express her feelings about smallpox and attack her gossiping peers. The poem told the story of smallpox through the eyes of a much-courted society woman, named Flavia:

The wretched Flavia, on her Couch reclin’d/...A frightful spectre,  
to myself unknown!/ Where’s my Complexion? where my radiant  
Bloom,/That promis’d happiness for Year to come?/Then with what  
pleasure I face survey’d.” Unable to look at herself, she resigned to the  
fact that “Now Beauty’s fled and Lovers are no more/...False was his  
oath; my beauty is no more/ ‘Cease, hapless maid, no more thy tale  
pursue.

By the end of the poem, Flavia, like Lady Montagu, realizes there is more to life than beauty: “Forsake mankind, and bid the world adieu!/ Monarchs and beauties rule with equal sway;/All strove to serve, and glory to obey:/ Alike unpitied when despos’d they grow.” Despite the loss of beauty and the seditious gossip, Lady Montagu embarked on social mission to learn more about the practice of inoculation.

Through her physicians, who were all Fellows of the Royal Society, Lady Montagu was introduced to the idea of inoculation and engaged in numerous conversations about the practice. The Society had received reports from Emanuel Timoni, better known as Timonius of Constantinople, about the Turkish practice of “engrafting.” Despite the reports of success, the Royal Society deemed the practice of “engrafting” to be an old wives’ tale. Nevertheless, Lady Montagu argued that physicians were more concerned about money and profit than actually healing their patient or advancing the field of medicine. Her curiosity about this practice was enhanced when on August 1, 1716 Lady Montagu set sail for Turkey, where her husband was recently appointed ambassador. This singular event would change Lady Montagu’s life and officially mark her as a social entrepreneur.

When in Turkey, Lady Montagu had the opportunity to research and witness inoculation firsthand. In her letter to Sarah Chiswell of Nottingham, Lady Montagu described the operation: “The small-pox, so fatal and so general amongst us, is here entirely harmless by the invention of engrafting...There is a set of old women who make it their business to perform the operation.” These women, every September, inoculated children all over the country. They scratched open a vein in the patient and put a small amount of smallpox, as much as could “lie upon the head of [a] needle,” into the vein. Eight days later,

the children began to run a fever and “between twenty to thirty” pustules appeared on their faces. These pustules never left any marks and by the third day the children were fully recovered. Impressed by the procedure and the success rate, Montagu stated:

I am well satisfied of the safety of the experiment, since I intend to try it on my dear little son. I am patriot enough to take pains to bring this useful invention into fashion in England and I should not fail to write to some of our doctors very particularly about it if I knew anyone of them that I thought had virtue enough to destroy such a considerable branch of their revenue for the good of mankind. But that distemper is too beneficial to them...Perhaps, if I live to return, I may, however, have courage to war with them

While male physicians were dismissive of this practice, Lady Montagu credited the abilities and knowledge of the female inoculators. In her eyes, the procedure was both safe and beneficial to England. Not only had she established a solution to the horrific outbreak of smallpox, but she was willing and prepared to confront the established medical profession regarding the practice of inoculation.

Still haunted by her brother's death and her own experience with the disease, Lady Montagu had the family surgeon, Dr. Charles Maitland, inoculate her son, Edward, on March 18, 1718. Edward was about six-years-old and according to Dr. Maitland was “Inoculated...with [his] own instrument, and with so little Pain to him, that he did not in the least complain of it.” Between the next couple of days, Edward became feverish and roughly one hundred full pustules appeared before disappearing without any marks. This procedure proved to Lady Montagu the safety of the practice and by the mid-summer of 1718 Lady Montagu was on her way back to London with her new knowledge and experience of inoculation.

However, it was not until 1721 that Lady Montagu began to advocate inoculation when another epidemic of smallpox hit the country. Death notices filled the newspapers and fear of contagion brought the bustling city of London to a standstill. Fearing for the safety of her daughter, whose nurse contracted the fateful disease, Lady Montagu contacted Dr. Maitland and asked him to inoculate her daughter. Yet, Dr. Maitland refused to complete the procedure without the attendance of three “learned Physicians of the College” since inoculation was not deemed a safe practice in England. They believed “engrafting” was impious meddling in the workings of “God's Providence.”

Shortly thereafter, Lady Montagu's daughter had the virus “ingrafted... in both Arms...[and the girl] continued ease and well, without any sensible Alternation, bating the usual little Spots and Flushings, till the tenth Night, when she observ'd to be a little hot and Feverish.” The Physicians of the College all noted, “[the child was] playing about the Room, cheerful and well, with the

Small Pox rasi'd upon her; and that in a few Days after she perfectly recover's of them." The success of this "visionary experiment" reverberated throughout the country. One physician, James Keith, was an instant convert to the practice after losing two sons to the disease in 1717 and begged Dr. Maitland to inoculate his remaining son. This initial support would be Lady Montagu's first inoculation victory. Not only did Lady Montagu reach out for professional help, but the inoculation of her daughter also acted as her "business plan" to address the growing danger of smallpox.

However, the College of Physicians remained skeptical and debated the procedure. Some argued the success of inoculation had been a matter of chance and the procedure was "practiced only by a few ignorant women amongst an illiterate and unthinking people." On the other side, physicians, such as Sir Hans Sloane, wanted to perform more tests. Sloane petitioned the College of Physicians and the King for a royally sponsored test of inoculation on the prisoners of Newgate Prison.

Like any innovative breakthrough, inoculation was the topic of conversation and newspapers began to engage in heated debates over the practice. Newspapers, like *Applebee's*, ridiculed the Newgate experiment. They argued that inoculation provided a new means for condemned criminals to win their freedom and that anyone supporting the practice was not reputable. Other papers, such as the *Post-Boy* and the *Weekly Journal*, became inoculations biggest advocates by exposing falsehoods printed in other periodicals. In September 1721, the *Post-Boy* exposed a false account in the *London Journal* regarding the safety of inoculation: "the Whole is in every Particular notoriously false, and a downright Imposition on the Publick, plainly intended to discredit the safe and universally useful Experiment of Inoculating the Small Pox. If than any such Falshood shall by publish'd for the future, Care will be taken to pay open the whole Process of that very singular Operation, with the Persons therein concerned, and the Parts they acted."

Lady Montagu and her involvement in introducing and championing inoculation quickly became a subject of both praise and savage criticism. Those who praised commented on her resourcefulness and her desire to protect her children, while those that criticized her called her "a monster" and "an unnatural mother, who risked the lives of her own children." Others misogynistically argued that women, especially Lady Montagu, were at the root cause of smallpox: "the seeds of smallpox were transmitted to an embryo in the womb from impurities in the mother's blood." While others emphasized inoculations origins in Turkey, which was considered a "land of harems," and claimed Lady Montagu frequented harems during her time in Turkey and became a carrier for smallpox. In the words, the practice of inoculation was discredited simply

because of Lady Montagu's gender and Orientalism. Yet, Lady Montagu continued to discuss the benefits of inoculation from writing letters to her wealthy acquaintances at court, such as Princess of Wales, Princess Caroline and Sir Hans Sloane, and showing her daughter's immunity to the disease, despite the "significant shrugs...the looks of dislike of nurses and servants and the open hostility of aunts and grandmothers." This "vexation and, even persecution" of her social endeavor shocked Lady Montagu, yet wealthy families, including a Duke in Hanover Square and the Princess of Wales, continued to inoculate their children.

Inoculation had quickly attracted support amongst those in the royal court and leading the charge was the Princess Carolina, who became Lady Montagu's most devoted patron of her social endeavor. In late 1721, Princess Carolina announced her intention to inoculate all the children at St. James Parish. The plan remained unfinished for months and, in the end, only half a dozen of the children were successfully inoculated. Within a matter of weeks, Princess Caroline ordered Dr. Hans Sloane to speak to the King about inoculating her two daughters. The King gave his permission and on April 17, 1722, the two princesses were successfully inoculated. With this simple procedure, the entire Royal family now endorsed the practice of inoculation and just as royalty set the fashion of other things, so they did in Lady Montagu's social endeavor.

As a result, Lady Montagu's inoculation spread across England. From her rural retreat, Lady Montagu wrote her sister about the success of inoculation: "...the same faithfull Historians give you regular Accounts of the Growth and spreading of the Inoculation of the small pox, which is become almost a General practise, attended with great success." Lords and ladies throughout the country had their children inoculated. Lord Bathurst had all six of his children successfully inoculated and Lord Sunderland had his only son inoculated as well. Lady Montagu had finally gained the needed support for inoculation, especially among the elite and those in her immediate circle.

But in a turn of fate, Lord Sunderland's son died shortly after the operation and his death would lead to England's biggest inoculation controversy in the summer of 1722 with Lady Montagu struggling to promote inoculation to the church and skeptical physicians. Inoculations throughout the country were suspended and, once again, newspaper engaged in heated debates over the practice. Among the attacks, the most popular and outrageous attacks came from the church and skeptical physicians. The church, especially, Reverend Edmund Massey, preached that inoculation was unlawful and had been introduced by the Devil." In other words, Satan inflicted smallpox on "God's Children" as a way to weaken their dependence on God and to inoculate the disease would go against God's plan.

Dr. William Wagstaffe and Sir Richard Blackmore argued against the safety of inoculation, the importance of trained professionals in medical procedures, and the danger of it spreading the disease. In June 1722, Dr. Wagstaffe published a pamphlet titled *A Letter to Dr. Freind; shewing the Danger and Uncertainty of Inoculating the Small Pox*, which openly criticized the “*sanguine Traveller from Turkey*,” who brought the horror of inoculation to the West. In other words, he blamed Lady Montagu for the two epidemics of smallpox in 1719 and 1721. He saw Lady Montagu and her supporters as promoters of old-world values, who replaced learned doctors with folk medicine and superstition. Alongside this narrow-minded thinking, Dr. Wagstaffe pleaded for a more empirical approach to inoculation and attacked both Turkey and Lady Montagu’s gender: “[It is hard to believed] that a method practiced only by a few *Ignorant Women*, amongst an illiterate and unthinking People...so far obtain in one of the most Learned and Polite Nations in the World, as to be receiv’d into the *Royal Palace*.” In today’s terms, Wagstaffe was a racist, antifeminist, and orientalist. He rested his whole argument on superiority and exclusivity. He predicted that inoculation was a vehicle for poison, an “artful way of depopulating a Country.” Sir Richard Blackmore shared Wagstaffe’s beliefs.

On the other side of the debate were Charles Maitland and John Arbuthnot: supporters of Lady Montagu. These supporters promoted inoculation with facts and testimonies. Arbuthnot noted that arguments against inoculation were full of theories about witchcraft and “Satanick Possession.” Maitland wielded the authority of Sir Hans Sloane and the royal family. He questioned critics by asking them, why has the practice of inoculation endured so long in Turkey if it did not protect against smallpox? The debate not only defended inoculation, but also highlighted an important aspect of Lady Montagu’s social endeavor: the mobilization of the “masses.” With this mobilization, it became clear that inoculation had the support of both the elite in the royal court and the majority of the medical profession.

In September 1722, Lady Montagu offered her last and final opinion about inoculation in “A Plain Account of the Inoculating of the Small Pox by a Turkey Merchant.” Like her poem “Saturday: The Small Pox,” Lady Montagu used a fictional character to describe the practice of inoculation and attack the narrow-minded thinking of the medical profession. By using a fictional merchant, a nameless male Turkish merchant, Lady Montagu added legitimacy and credibility to her argument. Not only was the narrator from Turkey, which was where inoculation originated from, but also the merchant was male. In other words, this merchant had the social power to challenge the medical profession. Despite being an educated and wealthy member of society, Lady Montagu

was a woman. Her knowledge and opinion were always seen through the lenses of her gender and, as a result, were deemed less credible compares to those of her male counterparts.

Through the words of a Turkish Merchant, Lady Montagu exposed “the Knavery and Ignorance of Physicians” and plainly described the practice of inoculation. She described the Turkish method of inoculation: an old Nurse takes some “matter” from a “Young Person, of a Sound Constitution,” then inserts a small amount into tiny incisions on the patient’s arm or leg. The wound is bound until an eruption forms. Unlike the English, the Turks “gave no Cordials to heighten the Fever...leaving Nature to herself.” At the same time, Lady Montagu directly challenged the medical profession, despite having no professional experience or knowledge. She doubted the health benefits of balancing the body’s fluids or completing daily purges. According to Lady Montagu, “the miserable gashes, that they give people in their arms, may endanger the loss of them, and the fast quantity they throw in of infectious matter, may possibly give them the worst kind of small pox, and the cordials that they pour down their throats may increase the fever to such a degree, as may put an end to their lives.” In other words, Lady Montagu believed the ancient humoral theory caused more illness than inoculation and doctors could not be impartial to the new practice since they generate an enormous benefit from smallpox. In many ways, Lady Montagu was a woman before her time. Her “A Plain Account of Inoculating” not only described the procedure of inoculation in plain terms for the everyday citizen of England, but she also progressively attacked the narrow-minded thinking of the medical profession. By 1722, according to James Jurin, at least 182 inoculations were performed by fifteen different inoculators across Britain with only two known deaths compares to the one in 14 deaths caused by smallpox. In other words, Lady Montagu had won the “inoculation battle” by not only bring a innovative solution to a social issue, but also by mobilizing support for the procedure among the elite, the medical profession and the everyday citizens.

Inoculation spread across the country, and Lady Montagu continued to network among certain individuals. The spring of 1723 saw the inoculation of Margaret Rolle, and that June the nephew and niece of Griselda Murray. Lady Montagu noted, “I am so much pull’d about and solicited to visit people, that I am forc’d to [run] into the Country to hide my selfe.” Within seven years of the initial operation, statistics proved inoculations to be an overwhelming success. Between 1721 and 1728, 897 people were inoculated and only 17 died from the procedure. In the same period, a total of 218,000 deaths were reported over England and over 18,000 were due to smallpox. In the end, it was the well-authenticated reports of successful inoculation in New England that helped to officially establish the practice in England in 1756 when the Royal

College of Physicians resolved: “That in their opinion the objections made at first have been refuted by experience, and that it is at present more generally esteemed and practised in England than ever, and they judge it to be a practice of the utmost benefit to mankind.” In other words, it took Lady Montagu 35 years for her social endeavor to become a recognized and respected medical practice.

As it became slowly accepted in England, Lady Montagu’s contributions as a social entrepreneur were recognized and acknowledged. Aaron Hill, a English poet and dramatist, praised her in his poem “On Lady Mary Wortley Montagu’s Bringing with her out of Turkey, the Art of Inoculating the Small-Pox” in July 3, 1724, by evoking Ancient Greek myth to describe her beauty and knowledge. Others, such as Richard Savage, commented on her patriotic dedication to her country. Reprinted in Richard Savage’s *Miscellaneous Poems*, this version contained a patriotic dedication: “our Country has been honor’d by the Glory of your Wit as Elevated and Immortal as your Soul!” In 1733, Voltaire praised her efforts by stating, “Lady *Wortley Montagu*, a Woman of as fine a Genius, and endu’d with as great...Return[ed] to England, communicated the Experiment [inoculation] to the Princess of *Wales*, now Queen of *England*. Voltaire recommended that inoculation be adopted by the French for the sake of staying alive and keeping their women beautiful. By the end of the century, William Woodville’s comprehensive *History of the Inoculation of the Small-Pox in Great Britain* claimed Lady Montagu’s “brilliant accomplishments, masculine understanding, and great influence in the fashionable circles” and concluded, “it is therefore highly probable, had it not been for the uncommon fortitude of Lady Mary Wortley Montagu...the commencement of inoculation...would have been much later than that here stated.” In the end, inoculation and Lady Montagu came to symbolize the ideals of the Enlightened philosophes: the struggle between progress and conservative tradition.

Haunted by her own experiences with smallpox, Lady Mary Wortley Montagu embarked on a daring and modern social endeavor. While others have focused on Lady Montagu’s social status and gender, this paper examined her through the lenses of a social entrepreneur. Her journey to Turkey provided her with the needed research and knowledge to battle smallpox, while the public inoculation of her daughter outlined her “business plan” to high members of English society, such as Sir Hans Sloane. This “business plan” and sheer determination allowed Lady Montagu to accept both harsh criticism and royal patronage. Like all successful social entrepreneurs, Lady Montagu not only recognized a social need but also mobilized the people to support and accept inoculation. In the end, Lady Montagu was a woman before her time and, as a result, her courage in pursuing inoculation would influence Edward Jenner, who was inoculated, to pursue smallpox vaccination 80 years later.

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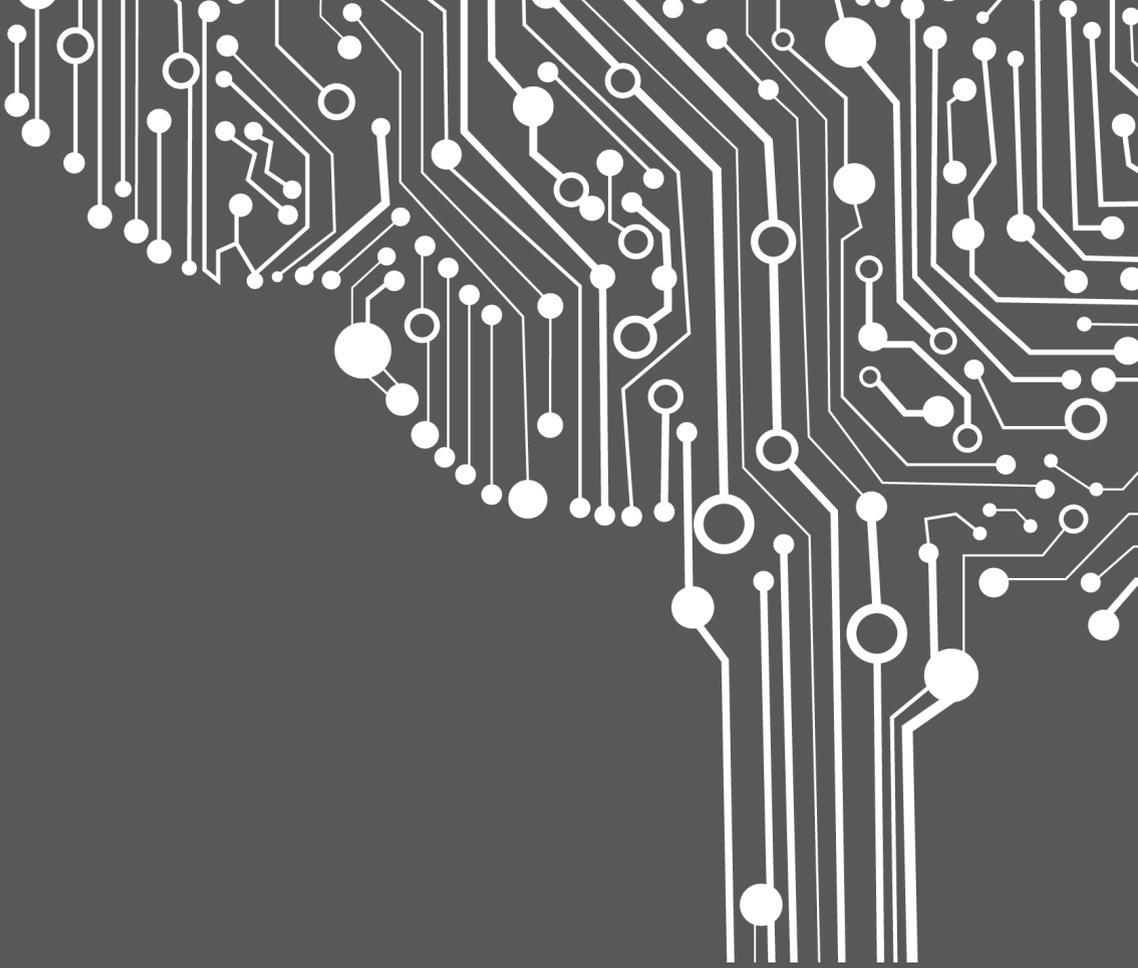
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**An Interview Study of UMBC Women:  
An Analysis of the Lived-Experiences  
of College-Age Women Accessing  
Proper Contraception**

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**Gabriela Salas** graduated from UMBC in May of 2019 with a double major in Global Studies and Gender & Women's Studies and a minor in International Relations. While at UMBC she was a member of the Sondheim Public Affairs Scholars Program. She is currently taking a gap year to gain experience in her field and is working as the Policy Fellow at the National Women's Health Network. She is hoping to start her graduate school journey in August of 2020. She plans to pursue her PhD in either American Studies or Ethnic Studies and hopes to continue to educate others through her research.

I have been interested in research and reproductive justice since my first year at UMBC. In fall of 2015 I took a First Year Seminar titled Maternal Race and Policy. During that seminar we watched a documentary on the *Madrigal v. Quilligan* (1975) court case which focused on the experience of Mexican-American women who were sterilized without their knowledge in California during the 1960s. As a Latina, I was so shocked that this had happened in the United States and that it happened to my community. I wanted to learn more about reproductive justice and the experiences of Latinx women with contraceptive policy. In the summer of 2017 I participated in the Leadership Alliance Research Program at Columbia University. During my time in the program I completed a project focused on understanding the forced sterilization of Mexican-American and Puerto Rican women that occurred throughout the 60s and 70s in the United States. The Leadership Alliance provided me with the resources that I needed to expand my research and allowed me to focus on the topic I was interested in. When I was given the chance to create a project for my Capstone for the Gender and Women's Studies program, I jumped at the idea of being able to work with UMBC students. I wanted to understand and share the experiences of women in our own community regarding contraception access, a topic that is normally discussed on campus. This was a wonderful project and I really learned a lot from it. I hope that others will be able to do the same through reading my research.

## **ABSTRACT**

The objective of this project is to analyze if there is an existing correlation between stratified reproduction and the reproductive rights and decisions of college-aged women. The experiences of Hispanic/Latinx women are further analyzed through a case-study of 4 Hispanic/Latinx women. This project presents an opportunity to understand the lived experiences of UMBC women, and provides important insight into the experiences of Hispanic/Latinx women, a particularly understudied group in this subject. UMBC college aged women (N=48) described their experiences accessing contraception and information on contraceptives through an 18-item survey. Four Hispanic/Latinx women who completed the survey were invited for a face-to-face follow-up interview. They were asked specific questions in regards to the dynamic between their culture and contraception, their contraceptive method of choice, and their ability to access that form of contraception. The results of the survey showed evidence of stratified accessibility to accurate information on contraceptives. College-aged women on UMBC's campus feel a lack of access to proper information on contraception which can lead to a lack of access to different methods of contraception. The results of the interviews showed that there is a correlation between Latin American culture and college-aged women's relationship with contraception, as well as the role that a consistent sexual partner played in the women's decisions.

*Keywords: contraception, college-aged, women, UMBC, lived-experiences, stratified reproduction*

## **INTRODUCTION**

This research project will focus on the experiences of college-aged women on the University of Maryland, Baltimore County (UMBC) campus regarding access to contraception. The existing literature on the topic of contraceptive use among college-aged women presents obvious differences in the levels of accessibility to information and types of contraceptives. These differences are indicative of the existence of stratified reproduction. Stratified reproduction refers to the societal pressure on reproduction that is created by racial, sexual, and class divides, as well as the lack of understanding of how these social determinants overlap and impact one another (also known as intersectionality). In gender studies, stratified reproduction is used to describe the way in which

certain groups do not have the same options or ability to choose as others. By looking at the lived experiences of UMBC women we gain the opportunity to see the real life application of feminist standpoint methodology, including stratified reproduction and intersectionality.

This work brings to light issues of accessibility that female college students, particularly those who identify as Latinx<sup>1</sup>, face when trying to make choices regarding their reproductive rights. This work specifically analyzes the extent to which stratified reproduction is embedded in our society and its influence on college-aged women's freedom, education, and access to the best contraceptive method for them. A survey of college-aged women and interviews with four women of Latinx descent are used to identify the above phenomenon. Focusing on Latinx women is valuable because this demographic is understudied, leaving many gaps in our understanding of their relationship with contraceptives.

## **LITERATURE REVIEW**

An extensive amount of research on contraception use, reproduction, university students, women, and the relationships between these elements has been conducted. The literature on accessibility, contraception, and college aged-women in the U.S. focuses on understanding accessibility to contraception, the concept of stratified contraception, and the discussion between long-acting reversible contraception<sup>2</sup> (LARC) and oral contraception.

### **Contraception Accessibility in the U.S.**

There are many policies set in place, primarily at the state level, that focus on regulation of contraception. The federal government allows health care professionals to refuse to provide care related to abortion and sterilization services, and some states have passed separate legislation that further restricts access to contraception. Twelve states allow some health care providers to refuse to provide services related to contraception. Out of those states, nine allow for individual health care providers to refuse contraceptive services, six explicitly permit pharmacists to refuse to dispense contraceptives, and eight allow health care institutions to refuse to provide contraceptive services.<sup>3</sup> In the state of Maryland there are policies put in place that give individual providers and institutions the ability to refuse services related to abortion and sterilization, but not contraception.<sup>4</sup>

Additional statistics demonstrate the disparity in access to proper contraception caused by federal policies, or lack thereof. Low-income individuals, especially those without health insurance, face many limitations from physician-based medical care and rely on other sources of medical care for needs like family planning and sexual health services. Since the 1980s states have begun to adopt policies that authorize registered nurses (RN) to dispense medications, including contraceptives, as a way to increase access to family planning for individuals who rely on outpatient health clinics.<sup>5</sup>

Although this is a step in the right direction for increasing accessibility of contraception, less than half of states allow for RNs to dispense medication and most allow only Advanced Practice Registered Nurses (APRNs) to dispense medication or provide drug samples. Sixteen states allow RNs to dispense contraceptives in outpatient family planning clinics, twenty-six states allow Certified Nurse Practitioners (CNSs) to dispense contraceptives, and another eleven states allow for CNSs to provide drug samples. Additionally, twenty-nine states allow Nurse Practitioners (NPs) to dispense drugs and thirteen allow NPs to provide drug samples. Twenty-nine states allow Certified Nurse Midwives (CNMs) to dispense drugs and another twelve allow CNMs to provide drug samples. In Maryland CNSs have the authority to prescribe contraceptives. NPs and CNMs are also able to prescribe contraceptives as long as they have a collaborative practice agreement with a physician explicitly for prescriptive authority. In Maryland RNs are also able to dispense contraceptive drugs, excluding devices, and CNSs/NPs/CNMs are all able to dispense contraceptives.<sup>6</sup> This data shows that progress is being made, on the state level, in recognizing and addressing the disparity in access to contraception. Women who do not have access to physician care have increased access to family planning services and contraception that they would not have if nurses were unable to prescribe and dispense contraceptives. However, the data further illustrates the remaining gaps in policy related to accessing services for contraception, including the issues of affordability of contraceptive drugs and the lack of reproductive/contraceptive policy at the federal level.

Health insurance also plays a large role in accessibility of contraception. Since the 1990s, twenty-eight states require health insurance plans to cover prescription drugs and devices (including contraceptives). In 2010, under the Affordable Care Act federal contraceptive coverage expanded to include most private health plans nationwide. The federal law requires health insurance coverage for the full range of contraceptive methods used by women without out-of-pocket costs; this includes any counseling and related services.<sup>7</sup> In Maryland, the state allows pharmacists to prescribe and dispense contraceptives, but insur-

ance coverage is not explicitly included in the law. Only over-the-counter contraceptive drugs, such as emergency contraceptive pills, along with any extended supply, are allowed to be covered by insurance.<sup>8</sup> Maryland has an expansive scope of refusal provisions, but does require employers to notify the enrollees.<sup>9</sup>

### **Accessibility and Acceptability of Contraception**

The ability of college-aged women to access both information on different contraceptive methods, as well as actual contraceptives varies. Sutton and Walsh-Buhi investigated various variables in the context of inconsistent contraceptive use among college women. The investigators conducted an internet-based survey in which they asked the sample of 515 female college students about their contraception use, knowledge and information sources, demographic information, and Integrative Model of Behavioral Prediction (IMBP)<sup>10</sup> factors, including attitudes, norms, and perceived behavioral control. The study shows that although overall attitudes and intentions about the importance of contraceptive use were high – as unplanned pregnancy is a major concern among college students – only 46.8% of surveyed women used contraception consistently. Furthermore, the data collected by Sutton and Walsh-Bush showed that college-aged women had moderate levels of knowledge about contraception.<sup>11</sup>

Blunt-Vinti, Griner, and Thompson discussed the importance of proper access to information and contraceptives for women who identify as bisexual or lesbian. The investigation determined that several groups of sexual minority women were less likely than heterosexual women to use effective contraceptive methods at high or moderate rates. Access to proper information regarding contraception effectiveness for 18-24 year old college-aged women does impact their acceptance of, and therefore ability to access, more effective contraceptives such as Long Acting Reversible Contraceptives (LARCs). The use of less effective contraceptives then leads to a higher rate of unintended pregnancies among this population.<sup>12</sup>

Higgins and Smith discuss the way in which contraceptives affect women's sexual well-being. They argue that contraceptive sexual acceptability is needed in order to “capture the full range of women's sexual experiences.”<sup>13</sup> After conducting a narrative literature review and a review of empirical literature, Higgins and Smith found that contraceptives can affect a woman's sexuality in both a positive and negative way. They make a final point that increasing the amount of research on the way in which contraceptives impact sexual wellbeing is important, as well as increase access to information on all types of contracep-

tives so that women can make more holistic decisions on what method would ultimately work better for them and their lifestyles.<sup>14</sup> This literature contributes to the development of this project because it demonstrates that decisions made by college-aged women include their experiences outside of race/ethnicity, socio-economic status, and religion. Sexual orientation and sexual experiences also influences the decisions they make for their reproductive health.

### **Stratified Contraception**

Stratified contraception is a term used to describe the way in which contraceptive measures are produced, advertised, and circulated to women in communities in the Global South<sup>15</sup> as a method to control their population growth. Sheoran specifically focuses on the impact that Emergency Contraception Pills (ECPs) have had on the women of India and their choice in terms of their reproductive health. In India, the use of ECPs is the perfect example of stratified contraception because these pills allow for women to have some control over their reproductive lives, but also reduce their ability and power to ask their partners to use condoms.<sup>16</sup> Although Sheoran's research is based on the experiences of women in India, the history and results are reflected in U.S. based research on the history of contraceptive development in the U.S. and the way it has been affected by stratification.<sup>17</sup>

Everett et al and Kramer et al investigate stratification of contraception and accessibility. The article by Everett et al focuses on the experiences of sexual minority women. Their results show that lesbian women were less likely than heterosexual women to be given a contraceptive prescription or contraceptive counseling, but were more likely to have received an STD/STI test. Furthermore, in a clinical setting lesbian women were less likely to receive contraceptive counseling while receiving a pregnancy test, and lesbian women without male partners were less likely to receive any counseling about condom use at STD/STI-related visits.<sup>18</sup> Evidently, the stratification in the type of information made accessible to certain groups of women and the disparities in accessibility to information and contraception for these women that is caused by their sexual orientation.

Researchers have also investigated stratified contraception among women of color. Kramer et al, focuses on stratified contraception and accessibility through the lens of different demographic, socioeconomic, and reproductive health characteristics. The study used the race-interactions model<sup>19</sup> to demonstrate the racial-ethnic differences in LARC usage. The results showed that with the exception of those White and Latinx women who experienced unintended

pregnancies, there is no correlation with race-ethnicity to LARC usage. Women in a nationally representative sample had similar patterns of LARC use regardless of their race or ethnicity.<sup>20</sup>

### **Long-Acting Reversible Contraceptives (LARC)**

The final concept that was present throughout the literature was the use of LARCs. For this theme there were three pieces of literature that provide an accurate depiction of the relationship between LARCs and college-age women. Higgins et al conducted focus group discussions and interviews with 50 women between the ages of 18 and 20. The goal of these discussions and interviews was to explore their thoughts about the intrauterine device (IUD) and its impact on sexual experience.<sup>21</sup> The results showed that while women overall had positive experiences with the IUD, there were some women who expressed negative sexual experiences. The authors also show that although there is a lot of research and many policies focused on IUDs and other forms of LARCs, there still seems to be a gap in the knowledge on LARCs that is provided to younger/college-aged women, impacting the levels at which they use these methods.<sup>22</sup>

The article written by McCaffrey et al breaks down some of the barriers that cause these disparities. Through an anonymous internet-based survey of 2,461 female students of the University of Vermont the researchers found that only about 20.7% of the women sampled used the LARC method. The most common forms of contraception were birth control pills and condoms. 61.3% of women stated that their reasoning for choosing a non-LARC method was because of convenience.<sup>23</sup> The conclusion of the study demonstrated that the most common barriers for college women in choosing LARC methods are the limited knowledge on these methods of contraception and the lack of on-site services and same-day placement of the devices.<sup>24</sup> This concept of a lack of proper information on LARC is also supported by the work of Tanfer et al. This article further explains that characteristics such as age, education, marital status, parity and current contraceptive method serve as strong predictors for these disparities in knowledge and use of LARC methods.<sup>25</sup>

## **METHODOLOGY**

### ***Participants***

The participants of this study were recruited from UMBC's campus through email or social media. There were a total of 48 responses to the initial sur-

vey. The participants of the study were women of varying racial/ethnic backgrounds. The women who participated in interviews ( $n = 4$ ) were recruited based on their identity as Latinx and had marked that they were interested in participating in a confidential follow-up interview in their survey response.

### **Procedure**

The survey was created through Google Forms and the link to the survey was distributed through various Facebook groups made up only of UMBC students of which the researcher was a member. The link was also shareable and students were encouraged to share it with women whom they thought would be interested in participating. The responses were collected through Google Forms and recorded in an excel sheet, organized based on survey section and individual questions of the survey.

Participants who were interested in a confidential follow-up interview provided their name and contact information in the survey. Out of the participants who left their contact information ( $n = 8$ ) four women who identified as Latinx were contacted via email or text message. During initial contact they confirmed that they were comfortable with being interviewed, set up a meeting date and time, and agreed to having their interview audio-recorded or the purpose of transcription.

### **Measures**

This study was investigated using a mixed methods approach. The internet-based survey was quantitative, and the case study of Latinx individuals was qualitative.

The survey was divided into three sections, and was made up of multiple choice and short response questions. The first section focused on the participants' personal history and documented information regarding their race/ethnicity, whether or not they have health insurance, and history of sex education. The second section dealt with the participants' access to contraception. In this section of the survey the questions asked were focused on personal contraceptive use and opinions on how accessible it is for the individual. The final section was concentrated on the participants' knowledge of different contraceptive methods, specifically asking about their knowledge on how a method is used, how to access them, and the participant's comfort level with their knowledge of their own method of contraception. (See Appendix A for a full list of questions).

The case study of Latinx individuals uses feminist methodology, specifically the concept of feminist standpoint methodology, to explore a deeper under-

standing of the experiences of Latinx women at UMBC. Feminist standpoint methodology is based on the argument that “in order to address structural inequalities through research, the question of what counts as research must be answered from the perspectives of marginalized peoples.”<sup>26</sup> The goal of this methodology is to give back to the marginalized community by providing them with a platform to voice their own experiences relating to their reproductive decisions through the interviews, rather than just taking information from them.<sup>27</sup>

Taking this theoretical argument into account, a case study of the Latinx experience at UMBC was designed in order to understand their relationship with access to contraception by conducting interviews. The interview questions, which can be found in the appendix, are designed to ask for more detail on their lived experiences with sex education, their experiences with accessing contraception and the relationship between their culture/identity with their access to contraception and information. This case study will contribute to the limited research on this demographic.

The interview participants varied in age, class standing, and majors. Participant #1 is a 24 year old, Senior standing, biology major on the pre-dental track. Participant #2 is a 24 year old, Sophomore standing, mechanical engineer major. Participant #3 is a 23 year old, Junior standing, biochemistry and molecular biology major. Participant #4 is a 24 year old, Senior standing, social work major and sexuality studies minor.

# DATA ANALYSIS --- SURVEY RESULTS

## Demographics

There were 48 responses to the survey. Figure 1 shows the demographic break-up of the sample.

	<b>RACE/ETHNICITY (N = 48)</b>
White (European)	25 (52.1%)
Black/African American/African	1 (2.1%)
Middle-Eastern	1 (2.1%)
South-Asian	3 (6.3%)
East-Asian	6 (12.5%)
Native American/Indigenous	1 (2.1%)
Hispanic/Latinx/Afro-Latinx	11 (22.9%)
Biracial	1 (2.1%)
Native Hawaiian/Pacific Islander	1 (2.1%)

**FIGURE 1:** How would you describe your race/ethnicity?

As seen in Figure 1, the largest demographic of women who responded to the survey were White (52.1%) with the second largest demographic group being Hispanic/Latinx/Afro-Latinx (22.9%). Race and ethnic identity is an important aspect of this research because of role that stratification<sup>28</sup> plays on the accessibility of information of contraception and different contraceptive methods.

## PERSONAL HISTORY

The Personal History section asked for participants' thoughts on their sex education. Figure 2 below shows how participants felt about the quality of their sex education. Figure 2a provides direct quotes on what they learned about contraception in their sex education classes.

	<b>PERCENTAGE (N=48)</b>
Comprehensive or “Good”	16 (33.3%)
Average	25 (51.2%)
Not Comprehensive or “Bad”	7 (14.6%)

**FIGURE 2:** Did you receive comprehensive sex education through your schooling?

<b>NEGATIVE QUOTES</b>	<b>POSITIVE QUOTES</b>
“I went to a religious school and was told that contraceptives should not be used.”	“We talked about options, birth control pills, IUDs, the shot, and various other forms of birth control. They weren’t encouraged heavily, as there was more of an emphasis on safe sex in terms of STDs rather than preventing pregnancy.”
“I honestly can’t remember what I learned about them. I learned what a condom looked like from a youtube video. All my sex ed really taught me was anatomy.”	“I had a big spreadsheet that the teacher printed out of all the possible contraceptives and what they are, how to use them and how well they work”
“My school had an abstinence only policy so my health teacher only said “contraceptives are an option but I’m not allowed to teach you about them”	“I think every possible alternative, I am from California and went to a really liberal high school really open about contraceptive, unplanned pregnancy, where to get them, where to get help etc. The class was also mandatory to graduate.”

**FIGURE 2A:** What did you learn about contraceptives in your sex education class?

Figure 2 and 2a are significant because they share a wide range of participant experiences which impacted their accessibility to information on proper methods of contraception.<sup>29</sup>

**ACCESS TO CONTRACEPTION**

	<b>PERCENTAGES (N = 48)</b>
Oral Contraceptive Pills	19 (39.6%)
Any Form of Condom	10 (20.8%)
Intrauterine Device (IUD)	8 (16.7%)
Hormonal Injection	1 (2.1%)
Hormonal Ring	1 (2.1%)
Hormonal Implant	1 (2.1%)
Patch	1 (2.1%)
Diaphragm	0 (0.0%)
Surgical Sterilization	0 (0.0%)
Do Not Use Contraception	7 (14.6)

**FIGURE 3:** What type of contraception do you use?

The second section of the survey focused primarily on the participants’ actual access to contraception itself. 83.3% of women who responded to the survey actively use a specific method of contraception. Figure 3 shows that the top three methods used among women on UMBC’s campus are oral contraceptive pills (39.6%), any form of condom (20.8%), and intrauterine devices (16.7%). 14.6% so not use any method of contraception (14.6%). Other contraceptive devices used include the patch, hormonal injection, hormonal ring, and the hormonal implant.

Additionally, 100% of the survey participants have health insurance which is a key factor in the overall convenience of access to contraception.

<b>WHO PRESCRIBES YOUR CONTRACEPTION?</b>	<b>PERCENT-AGES (N = 48)</b>	<b>CONTRA-CEPTION COVERED BY HEALTH INSURANCE?</b>	<b>PERCENT-AGES (N = 48)</b>	<b>DO YOU FIND IT EASY TO ACCESS YOUR CONTRACEPTION?</b>	<b>PERCENT-AGES (N = 48)</b>
Primary Care Provider	26 (54.2%)	Yes	30 (62.5%)	Yes	40 (83.3%)
Planned Parenthood or similar clinic	4 (8.3%)	No	5 (10.4%)	No	1 (2.1%)
OB/GYN	3 (6.3%)	Some of it	9 (18.8%)	I do not remember	0 (0.0%)
I do not use contraception	8 (16.7%)	I do not use contraception	4 (8.3%)	I do not use contraception	7 (14.6%)
Other	7 (14.5%)	---	---	---	---

**FIGURE 4:** Participants' experience with accessing contraception.

This section also showed that 54.2% of participants receive their contraception, or their prescription, from their primary care provider and 81.3% of them having at least some of their contraception covered by their health insurance. Figure 4 provides the percentages of women who believe that it is “easy” for them to access their form of contraception (83.3%). Additionally, Figure 4a shows direct quotes related to participant experiences in accessing their contraceptive method.

NEGATIVE QUOTE <sup>S</sup>	POSITIVE QUOTES
“It is overwhelming because there are so many options but little is said to the public about them”	“Easy. I go to the doctor on my own, they prescribe it and I pick it up from the pharmacy.”
“More difficult living on campus not close to my primary care physician”	“I have a better understanding and I can do it more independently and the planned parenthood is very simple to make an appointment and go and get what you need”
“Now, I just got to CVS when my prescription is filled. It can be hard because my physician won’t fill my prescriptions until I’ve had a yearly appointment. As a college student it can be difficult to make that yearly checkup so when I miss it sometimes I have to call about my birth control so that I can guarantee that I have access to it.”	“My method is long term so I rarely have to find other forms of contraceptives. I have access to free condoms so I have a bulk amounts of condoms”

**FIGURE 4A:** What is your experience like now when you seek contraceptives?

These results support the findings of existing literature regarding the positive relationship between having health insurance and easier access to actual contraception.<sup>30</sup>

### **KNOWLEDGE OF DIFFERENT FORMS OF CONTRACEPTIVES**

The last section of the survey looked at the knowledge that participants have on the various forms of contraceptives. In other words looking at their access to accurate and thorough information on contraception. In Figure 5 we see the distribution of this data.

	PERCENTAGES (N = 48)
Oral Contraceptive Pills	43 (89.6%)
Male Condom	40 (83.3%)
Female Condom	8 (16.7%)
Intrauterine Device (IUD)	21 (43.8%)
Hormonal Injection	13 (27.1%)
Hormonal Ring	11 (22.9%)
Hormonal Implant	12 (25.0%)
Patch	10 (20.8%)
Diaphragm	2 (4.2%)
Surgical Sterilization	12 (25.0%)

**FIGURE 5:** Which forms of contraception do you confidently know how to use?

Here we see that there are certain gaps in the knowledge that college-aged women on UMBC's campus have on certain forms of contraceptives. The most well-known methods are oral contraceptive pills (89.6%), the male condom (83.3%), and IUDs (43.8%) while the two least understood methods are the diaphragm (4.2%) and the female condom (16.7%).

	PERCENTAGES (N = 48)
Yes, I knew a lot	9 (18.8%)
Yes, I knew enough	12 (25.0%)
A little	10 (20.8%)
No, I just choose the only form that I knew of/had heard of before	5 (10.4%)
No, I just went along with what the doctor/nurse suggested	6 (12.5%)
I do not use contraception	6 (12.5%)

**FIGURE 6:** Do you feel as if you had enough information before choosing your contraceptive method?

These disparities in information not only impact women's confidence levels in the usage of contraceptive methods but are also a factor in what method of contraception college-aged women on UMBC's campus choose to use for themselves.

The results shown in Figure 6 are interesting because they demonstrate that although most women have access to contraception through their health insurance, there are clearly gaps in the information that they have access to.

## **DISCUSSION**

When analyzing the data from the Personal History section of the survey, we see that education has an impact on a woman's access to information. For many young women, sex education through schooling is the only opportunity they have to learn about reproductive health. Not only does sex education impact women's knowledge on fundamental aspects of reproductive health, such as STIs, it also influences knowledge on various methods of contraception. In the results of this survey 51.2% of women on UMBC's campus believed that their sex education was "average". Some women commented on the vague information or absence of information on contraceptives. Comprehensive sex education that includes proper information on all types of contraceptives is necessary to close the knowledge gap that is currently impacting women's choice in contraception method. Women are less likely to choose a contraceptive method that they are unfamiliar with, as seen in the existing literature as well as in the survey results; therefore women's choice in their contraceptive methods is linked to their sex education. This correlation between the amount of knowledge on contraceptives and the levels of use among college-aged women can be seen in Figures 3 and 5. The three most used forms of contraception are oral contraceptives pills (39.6%), any form of condoms (20.8%), and IUDs (16.7%). The top three most known methods as oral contraceptive pills (89.6%), male condoms (83.3%), and IUDs (43.8%).

In addition to sex education, health insurance coverage plays a role in women's access to contraception and where women can receive information on contraception. We see, based on the survey results, that overall it is simple for UMBC's women to access contraception. 64.6% of women were using some form of contraception other than a condom at the time they filled out the survey. 85.4% of women stated that they are able to access a form of contraception and 83.3% said that they find it "easy" to access their contraceptive method (as see in Figure 4). Considering these results, it is important to discuss what barriers, if any, they do face in making a decision for their reproductive health.

What can be seen through participant answers, is that barriers to access are created through other aspects of their college experience, including living away from home, not being able to easily access a primary care physician, and not having access to transportation. Additionally, the lack of proper information on different methods of contraception limits their choice of contraception because that choice is directly linked to their knowledge on contraceptives. There are of course other factors that impact a woman's decision on contraception. Some women would rather use condoms to avoid the "hassle" of accessing contraception, some might use LARCs because they do not want to take a pill daily, and some women might choose a non-hormonal form of contraception because they do not want to have additional hormones in their body. However, the data also demonstrates a 45.8% gap in the women's confidence levels with using oral contraceptive pills versus LARC (in this case an IUD) and a 22.9% gap in the use of these two methods. This is particularly interesting because it further supports the existing research on the most common forms of contraception,<sup>31</sup> and further demonstrates an existing correlation between having information and women's ultimate choice in contraception.

The results of the survey were essential in gaining a general understanding on the overall experiences of women concerning their sex education, access to information, and access to contraception. The data supports the idea that the terms stratified reproduction and stratified contraception not specific enough to include the stratification of proper education and access to information on contraception. Stratified reproduction describes the differences in women's reproductive health, taking into consideration various social determinants. Stratified contraception is used in a similar way, but focuses primarily on the contraception that is made available to women based on there are social determinants. Both of these terms are essential in the development of reproductive health and gender studies research, but they are too broad and do not provide the proper emphasis on the importance that information and reproductive education has in the realm of reproductive health.

The term stratified accessibility was coined based on the data collected in this survey. Stratified accessibility refers to the way in which women's access to contraception is limited by their knowledge on contraception, which differs based on social determinants. Lack of access to proper information on contraception can lead to a lack of access to contraception itself. If women are not informed on all of their options their choices are then restricted to methods of contraception that they feel comfortable using, which are oral contraceptive pills, condoms and IUDs. Oral contraceptive pills, condoms, and IUDs may not suit every women's lifestyle or body. For example, hormonal implants and hormonal patches are less permanent than IUDs and sterilizations. Lack

of knowledge prevents college-aged women from making the best decision for their lifestyles and bodies by their ability to find and access a different contraceptive method.

## **CASE STUDY ANALYSIS --- THE LATINX EXPERIENCE**

This case study was designed to identify any occurrence of stratified accessibility in the experiences of Latinx UMBC students. The data that was collected through the survey did show that there is some correlation between access to information and access to contraception. According to existing feminist research, women of color have additional barriers due to their culture or background in accessing contraception; this is seen in the concepts of stratified reproduction and stratified contraception. The interviews allowed the participants are able to share their lived experiences, as Latinx women, in accessing information on contraception as well as their specific method of contraception.

Four women of varying ages, majors, and standing in college, were interviewed for the case study. The interviews were confidential, audio recorded, and transcribed. The questions were designed to build from the information that was gained through their survey responses. Three major themes were identified from the interviews that explain the experiences of this demographic of women with accessibility to contraception.

### **LACK OF KNOWLEDGE**

The first theme serves as support of the data collected from the surveys, and further supports the main argument that access to information impacts a woman's access to contraception. In three out of the four interviews participants stated that they previously had or currently have some disparities in their knowledge of contraceptive use. They also mentioned that they dealt with issues when attempting to access the information they needed. Some participants had issues getting proper information from their OB/GYN and some from their family. Two of the participants described their experience in the following way;

...I [asked] like “Oh what about the nuvaring?” She’s [referring to her OB/GYN] like “I don’t know...it works for some people but it doesn’t work for others”. It was just SO unhelpful! Like okay how was I supposed to deduct information from what she told me...and like she didn’t even like mention any side effects or anything... (Participant #1, 2019)

...When I turned 18 I think I started looking into birth control only because I was of age and I wanted to go by myself and not with my parents... [referring to why she wanted to get information by herself] I am of Mexican decent and my parents are immigrants so for them if I even asked anything about anything they would be like “oh my god you’re having sex!” and you know being a woman you’re always told your virginity is sacred... and I didn’t want t ruin that for my parents... (Participant #3, 2019)

One other participant described a similar experience with her family. Two out of the four interview participants only used condoms as their preferred method of contraception. The other two participants used IUDs. When asked about how they felt when they made their decision on what contraceptive method to use the participants who only use condoms said that they felt that they did not have enough information on the side effects of options such as oral contraceptives and IUDs, and therefore did not feel comfortable in using those methods.

## **DYNAMIC BETWEEN CULTURE AND CONTRACEPTION**

While conducting these interviews a second theme emerged from the responses; the dynamic between Latin American culture and contraception. This relationship further impacts the overall access the four participants have to contraception. When asked about their culture every participant shared a similar response. Three out of the four women described the Latinx culture as “*conservative*”, having a “*taboo around sex*”, and mentioned the fact that there is “*really no conversation around contraception*” because of its connections to sex. This can be seen in Participant #3’s quote above.

Two out of the four participants mentioned that their mothers were not “typical” and were more open to talking to them about sex and contraceptives because they wanted them to be safe. However, one of these participants still did not feel as if she could freely discuss contraception with her mother and both participants mentioned the overall “*taboo*” on contraception discussion that they experience as Latinas. The participants explained that they did not get any information on sex or birth control growing up and had to seek out information themselves from other sources like Planned Parenthood and the internet. One participant told me about a particular case;

My mom really wanted me to understand how my body worked and birth control and contraceptives and sex at a really young age, because my mom was a teen mom...she use to give me books and she would never actually talk to me, like she refused, I don't think that I have ever had a sex ed conversation with my mother...my mom just like gave me info and pretended like it was nothing, we [would] never speak about it. (Participant #4, 2019)

A participant whose mother was eager to share information on contraception and how to practice safe sex shared;

...It's such a big thing [referring to sex] in the culture especially with my family, on both sides, [and] all of the women got pregnant very young...so I think that just made my mom push being safer...I think that was the only [reason] why we would've gotten more information...kinda like an encouragement to do it [referring to practicing safe sex] because of what has happened in our family previously. (Participant #2, 2019)

These two cases show that information is provided to Latina women, but it is very much dependent on how willing people, especially family members, are to stray away from culture and tradition to be more open with their female relatives.

Acknowledging the impact that culture can have on access to education, conversations, and information regarding contraceptives and sex is important in understanding stratified accessibility.

## **THE IMPACT OF A CONSISTENT SEXUAL PARTNER**

The final theme that became apparent through the interviews is something that was not mentioned in any of the existing literature; the impact that a consistent sexual partner can have on contraceptive use. Two out of the four participants do currently use condoms instead of other forms of contraceptives. They both had a similar reasoning – that they did not have a consistent sexual partner, meaning that they did not have consistent sexual relations. Both participants explained that they did not “*find it worth it*” or did not want “*to go through the hassle*” of taking something every day (like birth control pills) or having something inserted (like an IUD). This does not necessarily show an impact on access but it is an interesting additional factor that influences a woman's choice not to explore more contraceptive options.

## **LIMITATIONS**

The main limitation of the study is that the researcher distribute the survey through their previously established social network with various student organizations on campus. This may have impacted who ended up participating in the survey. The demographics of the survey reflect the two major organizations that the researchers is a part of; Greek Life (where a majority of students are white) and the Hispanic Latino Student Union (where a majority of the students are Hispanic/Latinx/Afro-Latinx). White and Latinx were the two highest demographics of the survey. The researcher also personally knew each participant in the interview portion of the study, which may have impacted the way in which they interacted or what they chose to share.

## **CONCLUSION**

Despite the limitations of the study, this study was overall successful in gaining insight and understanding in how women on UMBC's campus are able to access information on contraception and their overall access to proper methods of contraception. This study introduces stratified accessibility for college-aged women to expand the concept of stratification and how it impacts the reproductive health of women. Stratified accessibility facilitates understanding of the stratification of access to contraceptives and of proper information on how these contraceptives work. College-aged women are in a time in their lives when they are beginning to make their own decisions for their own bodies. Many of these women rely heavily on their previous knowledge because they do not always know where to go to get new information. However, the type of information that women get varies based on their sex education, background, where they are prescribed their contraception, and culture. Based on the case study of Latinx college-aged women, one factors that impacts the type of information women of this background receive is their family's attitude towards discussion of contraception. An unexpected factor that impacts the type of contraception a woman may choose to use discovered through the case study, is the consistency of a sexual partner. This factor is understudied in the existing literature.

The results of the survey and the case study reflect the main arguments of existing literature in terms of the issues that college-aged women face in accessing proper information.<sup>32</sup> Additionally, the results support the existence of stratified accessibility and the main argument of this study, which is that a lack of access to proper information on contraception can, and in certain cases

does, lead to a lack of access to certain methods of contraception. If college-age women are not comfortable asking questions, do not have the resources to find proper information, and are not confident in their knowledge of how a certain form of contraception works they will not have access to the best method of contraception for themselves. Therefore, a lack of access to information does cause a lack of access to contraception in college-age women.

## ENDNOTES

1. Latinx is a gender neutral term used to describe those of Latin American descent.
2. Long-acting reversible are methods of birth control that provide effective contraception for an extended period without requiring user action.
3. Five states limit the exemption to private health care institutions.
4. "Refusing to Provide Health Services." Guttmacher Institute, May 2019, <https://www.guttmacher.org/state-policy/explore/refusing-provide-health-services>. Web.
5. "Nurses' Authority to Prescribe or Dispense." Guttmacher Institute, May 2019, <https://www.guttmacher.org/state-policy/explore/nurses-authority-prescribe-or-dispense>. Web.
6. "Nurses' Authority."
7. "Insurance Coverage of Contraceptives." Guttmacher Institute, May 2019, <https://www.guttmacher.org/state-policy/explore/insurance-coverage-contraceptives>. Web.
8. "Insurance Coverage."
9. "Insurance Coverage."
10. The IMBP is a theoretical model that is used widely in health behavior research. It predicts that intentions are "the immediate antecedents of behavior, and recognizes that environmental factors, skills and abilities can moderate the intention-behavior relationship".
11. Jazmyne A. Sutton and Eric R. Walsh-Buhi. "Factors Influencing College Women's Contraceptive Behavior: An Application of the Integrative Model of Behavioral Prediction." *Journal of American College Health* 65, no. 5 (2017): n.p.
12. Heather D. Blunt-Vinti, Erika L. Thompson, and Stacey B. Griner. "Contraceptive Use Effectiveness and Pregnancy Prevention Information Preferences Among Heterosexual and Sexual Minority College Women." *Women's Health Issues* 28, no. 4 (2018): n.p.
13. Jenny A. Higgins and Nicole K. Smith. "The Sexual Acceptability of Contraception: Reviewing the Literature and Building a New Concept." *The Journal of Sex Research* 53, no. 4-5 (2016): n.p.
14. Higgins, "Sexual Acceptability," n.p.
15. "Global South" is one of a family of terms like "Third World" and "Periphery" and refers to regions such as Latin America, Africa, Oceania, and parts of Asia.
16. Sheoran argues that this is because the access to ECPs and the effectiveness of the technology reduce the "fear" of pregnancy.
17. Nayantara Sheoran, "'Stratified Contraception': Emergency Contraceptive Pills and Women's Differential Experiences in Contemporary India." *Medical Anthropology* 34, no. 3 (2015): n.p.
18. Bethany G. Everett, Jenny A. Higgins, Sadia Haider, and Emma Carpenter. "Do Sexual Minorities Receive Appropriate Sexual and Reproductive Health Care and Counseling?." *Journal of Women's Health* 28, no. 1 (2019): n.p.

19. Used to explore whether individual characteristics affect LARC use differently by race and ethnicity. This model is used because it could identify important intersectional effects.
20. Renee D. Kramer, Jenny A. Higgins, Amy L. Godecker, and Deborah B. Ehrental. "Racial and Ethnic Differences in Patterns of Long-acting Reversible Contraceptive Use in the United States, 2011–2015." *Contraception* 97, no. 5 (2018): n.p.
21. Jenny A. Higgins, Kristin Ryder, Grace Skarda, Erica Koepsel, and Eliza A. Bennett. "The Sexual Acceptability of Intrauterine Contraception: A Qualitative Study of Young Adult Women." *Perspectives On Sexual and Reproductive Health* 47, no. 3 (2015): n.p.
22. Higgins, "Intrauterine Contraception," 115-122; K. A. McCaffrey, L. K. MacAfee, A. Howard, A. K. Howe, and S. A. Brown. "Patient-perceived Barriers to Accessing Long-acting Reversible Contraception Among College Students." *Contraception* 96, no. 4 (2017): n.p.
23. This was the most common reason. Other reasons included; concern for discomfort during LARC placement, refusal of a foreign object (by the body), and concerns about side effects; McCaffrey, "Patient-perceived Barriers," n.p
24. McCaffrey, "Patient-perceived Barriers," n.p.
25. Koray Tanfer, Susan Wierzbicki, and Betsy Payn. "Why Are US Women Not Using Long-Acting Contraceptives?." *Family Planning Perspectives* 32, no.4 (2000): n.p.
26. Hekia E.G. Bodwitch. "Why Feminism? How Feminist Methodologies Can Aid Our Efforts to 'Give Back' Through Research." *Journal of Research Practice* 10, no. 2 (2014): n.p.
27. Bodwitch, "Why Feminism?," n.p.
28. The arrangement or classification of something into different groups; Sheoran, "Stratified Contraception," n.p.
29. "Nurses Authority."
30. "Nurses Authority.;" "Insurance Coverage."
31. Blunt-Vinti, "Contraceptive Use Effectiveness," n.p.; Sutton, "Factors Influencing," n.p.
32. Higgins, "Sexual Acceptability," n.p.; Sheoran, "Stratified Contraception," n.p.; Sutton, "Factors Influencing," n.p.

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## APPENDIX A

### Personal History

1. How would you describe your race/ethnicity? (Check all that apply)
  - a. White (European)
  - b. Black/African American/African
  - c. Middle-Eastern
  - d. South-Asian
  - e. East-Asian
  - f. Native American/Indigenous (North, South, and/or Central American)
  - g. Hispanic/Latinx/Afro-Latinx
  - h. Other (the participants had the option to write in their answer)
2. Do you have health insurance?
  - a. Yes
  - b. No
  - c. I'm not sure
3. Did you receive comprehensive sex education through your schooling?
  - a. Yes
  - b. No
  - c. I think it was average
  - d. I don't remember
4. What did you learn about contraceptives in your sex ed class?
  - a. The participants had the option to write in their answer

### Access to Contraceptives

5. Do you currently use any form of contraception?
  - a. Yes
  - b. No
6. What type of contraception do you use?
  - a. Intrauterine Device (IUD)
  - b. Oral Contraceptive Pills
  - c. Hormonal Injection
  - d. Hormonal Ring
  - e. Hormonal Implant
  - f. Patch
  - g. Diaphragm
  - h. Any form of condom
  - i. Surgical Sterilization
  - j. I do not use contraception
  - k. I do not feel comfortable stating my contraceptive method but do use contraception
  - l. Other (the participants had the option to write in their answer)

7. Do you find it easy to access your current form of contraception?
  - a. Yes
  - b. No
  - c. I don't remember
  - d. I do not use contraception
8. Who prescribes your contraception?
  - a. Primary Care Provider
  - b. UHS (on-campus University Health Services)
  - c. Planned Parenthood or similar clinic
  - d. Pharmacy
  - e. I don't remember
  - f. I do not use contraception
  - g. Other (the participants had the option to write in their answer)
- 8a. What was your experience like when you first sought contraceptives?
  - a. The participants had the option to write in their answer
- 8b. What is your experience like now when you seek contraceptives?
  - a. The participants had the option to write in their answer
9. Does your health care cover your contraception?
  - a. Yes
  - b. Some of it
  - c. No
  - d. I do not have health care
  - e. I do not use contraception

**Knowledge of Different Forms of Contraceptives**

10. Which forms of contraception do you confidently know how to use?  
(Check all that apply)
  - a. Intrauterine Device (IUD)
  - b. Oral Contraceptive Pills
  - c. Hormonal Injection
  - d. Hormonal Ring
  - e. Hormonal Implant
  - f. Patch
  - g. Diaphragm
  - h. Male Condom
  - i. Female Condom
  - j. Surgical Sterilization
  - k. I do not know how any of these forms of contraceptives are used
11. Did you feel comfortable asking the doctor or nurse questions before choosing your contraceptive method? (linear scale 1-5)
  - a. 1 – Not Comfortable
  - b. 2 – Somewhat Uncomfortable
  - c. 3 – Neutral

- b. 4 – Somewhat Comfortable
  - d. 5 – Comfortable
12. Do you feel as if you had enough information before choosing your contraceptive method?
- a. Yes, I knew a lot
  - b. Yes, I knew enough
  - c. A little
  - d. No, I just choose the only form that I knew of/had heard of before
  - e. No, I just went along with what the doctor/nurse suggested
  - f. I do not use contraception
  - g. I do not feel comfortable answering this question
13. Are you currently happy with your contraceptive method?
- c. Yes, very happy
  - a. Yes, it does its job
  - b. Indifferent
  - c. No, it was not my first choice of contraceptive
  - d. No, not happy
  - e. I do not use contraception
  - d. I do not feel comfortable answering this question
- 13a. Why or why not?
- a. The participants had the option to write in their answer
14. Do you think you have access to the best method of contraception for your lifestyle?
- a. Yes
  - b. I think so
  - c. No
  - d. I do not use contraception

**Interview Recruitment Statement**

“Thank you very much for taking the time to answer this questionnaire. If you would be interested in participating in a (CONFIDENTIAL) follow up interview about your experiences, please leave your contact information below. This information will not be used in the study and will only be used as a method of contacting you, and will remain confidential.”

- a. The participants had the option to write in their name and contact information

### **Interview Questions**

1. Please state your name and age
2. Tell me a little bit about yourself; where are you from? What's your major? What year are you in?
3. Tell me about your experience with sex education in school?
  - a. Do you think that it was detailed enough?
  - b. Did you learn about different type of contraceptives?
4. Did you learn about different type of contraceptives?
  - a. Tell me more about that experience; did you talk to your parents about it?
5. Were you comfortable asking for help in your search of contraception?
6. Tell me about your experience actually accessing your method of contraception for the first time?
  - a. Did you feel comfortable?
    - i. Tell me more about that experience.
7. Do you think that your experiences as a Hispanic/Latinx/Afro-Latinx woman impacted your experience with contraception?
  - a. Can you go into more details
    - i. Your parents? Religion? Values?
8. Have you ever tried to access contraception at University Health Services (UHS) here at UMBC?
  - a. How was your experience with UHS?

## EDITORS & DESIGNER BIOGRAPHIES

**GHINA AMMAR** is a senior graduating in Spring 2020 with a B.A. in Political Science and a B.A. in History. She has been the Social Sciences editor of the *UMBC Review* for two years. The experience has been incredibly rewarding and she has learned a lot about the research process and the amazing level of research conducted by undergraduate students at UMBC. Ghina would like to thank her fellow text editors, Maxi Wardcantori and Kristina Atanasoff, and designer Courtney Monaco for their commitment and effort in producing the 21st edition of the *Review*. She would also like to thank Dr. Molly Jones-Lewis who has been a steadying force throughout the process, as well as Dr. April Householder for her excellent advice and constant support.

**MAXI WARDCANTORI** has been the Humanities Editor at the *UMBC Review* for two years, as well as currently serving as Content Managing Editor at The Retriever and Poetry Section Editor at Bartleby. Maxi will graduate in Spring 2020 with a B.A. in English Literature and a minor in Medieval & Early Modern Studies. Beginning in Fall 2020, she has accepted a Part-Time Lecturer position at Rutgers University, where she will teach undergraduate creative writing as she pursues an MFA in poetry. Maxi would like to sincerely thank her co-editors Ghina and Kristina, as well as Dr. Molly Jones-Lewis, who have worked tirelessly to put together this collection of research. They have provided her with endless support and advice. In addition, she is thankful for Courtney Monaco, who skillfully and patiently designed this volume.

**KRISTINA ATANASOFF** is a senior member of UMBC's Honors College who will graduate in Spring 2020 with a degree in Biological Sciences, a minor in English Literature, and a certificate in Russian Studies. After graduating, she will pursue a PhD in Biomedical Sciences at the Icahn School of Medicine at Mount Sinai, with her research focusing on virology. Kristina is profoundly grateful to have had the experience of working as the STEM Editor for the *UMBC Review*. She would first like to thank Dr. Molly Jones-Lewis for her advice and tireless support throughout the publishing process. She is also grateful to her co-editors, Ghina Ammar and Maxi Wardcantori, for their dedication and hard work as fantastic colleagues. Thanks are also due to this year's graphic designer, Courtney Monaco, for making this edition of the *Review* look stunning. Finally, Kristina extends her thanks to the staff of the Undergraduate Research department, especially Dr. April Householder and Devon Fick, for their help in crafting this journal. Working with these committed and talented individuals has been a privilege.

**COURTNEY MONACO** is a senior graduating in Spring 2020 with a B.F.A. in Visual Arts with a concentration in Graphic Design. Courtney joined the *UMBC Review* team this year. The experience that she has gained has been amazing and rewarding. She has also found a new passion for book design. Courtney would like to thank the editors; Ghina, Kristina, and Maxi for being patient with her throughout this process. Courtney would also like to thank Professor Guenet Abraham for teaching her all the important aspects of book design and Dr. April Householder for allowing her to be a part of this amazing team.

