MEASURING MORALITY

BY
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Measuring Morality

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Abstract

In every civilization lies a set of morals, ethics, and values that people respect. These systems build customs and traditions that makes each culture unique. Through five foundations of Harm, Fairness, Ingroup, Authority and Purity, the Moral Foundations Theory was constructed to explain the universal human values shared by diverse cultures. The Harm and Fairness foundations are focused on the individual while the Ingroup, Authority and Purity foundations are based on the community. Despite these foundations' goal to explain the morals and values surrounding different cultures, the Moral Foundations Theory can also be used to explain the moral differences between liberals and conservatives in the United States. This is because the differences between the political cultures surrounding these ideologies have become so distinct that they resemble unique civilizations on their own. A seminal paper in this field was published by Jesse Graham, Jonathan Haidt and Brian Nosek (2009) which uses four distinct methods to make the assertion that liberals are more likely to use the individualizing foundations of Harm and Fairness while conservatives are more likely to use the binding foundations of Ingroup, Authority and Purity. While this thesis is a replication of (Graham et al., 2009) at core, it also aims to expand its scope using more representative datasets. In this project, data originates from respondents in the general public and political elites. By using these sources, I hope to compare the differences in the conceptualization of morality between liberals and conservatives, but also to see how these patterns map between political elites and the public. This project utilizes the Cooperative Congressional Elections Study (CCES), The American Panel Study (TAPS), Measuring Morality, and data from YourMorals.org that represents the opinions from the mass public. Additionally, this project utilizes speeches from the 2016 Democrat and Republican National Convention to represent an image of the moral appeals and mindset in partisan elites. This is another expansion from Graham et al. (2009) as a way to study a case that is more center to political discourse. The results of this project shows that liberals and conservatives, as observed in a more representative sample, generally, have a moral framework that follows the conclusions established by Graham et al. (2009). Liberals tend to be more likely to value the individualizing foundations and conservatives tend to value the binding foundations. The results also show that people in the same party, both elites and the general public, utilize the same moral frameworks. Ultimately, I conclude that the moral values embodied by the politicians are also reflected in the views of the people, especially those who most strongly identify with the party's ideology.

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May 15, 2020

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Chapter 1

Introduction

In his 2016 Democratic National Convention video address, former President Jimmy Carter proclaimed that the Republican party had nominated a presidential candidate who "seems to violate the moral and ethical principles in which this nation was founded"(Gass, 2016)[1]. In June of 2019, Representative Dan Crenshaw (R-TX) tweeted about the Democrats' proposed policy to cancel student loan debt, where he claimed "When you say [Cancel Student Debt], you're saying a minority of people who had the advantage of obtaining a degree should have their debt paid off by hardworking taxpayers..." and ended with a declarative "This is immoral." (Klar, 2019)[2]

While it is clear that President Carter and Congressman Crenshaw are addressing different topics, their comments are addressed towards the same theme – calling a proposal from an opposing party immoral. These are not isolated instances. As the political discourse continues to unfold, we see many more instances of such occurrence, including the ways in which politicians view the morality of the treatment of migrants along the US Southern Border (Pavlich, 2019)[3]. Why are both sides appealing to moral values? What do they mean by morality? Do the parties have different definitions of this concept? Do the members of the constituency adopt the meanings of morality that their parties adopt? These are some very broad questions related to the concept of morality that this thesis will aim to unpack.

While questions related to one's morality are not limited to the ranks of politics and political opinion, the scope of this thesis will primarily focus on the applications of moral psychology to political understanding. If liberals and conservatives (used interchangeably with Democrat and Republican respectively in this work (McCarty et al., 2016)) do hold different conceptualizations of morality, it could become a possible gateway to understanding how to bridge the gap between the ideologies and to increase tolerance for different political ideas.

[1] As reported by Politico
[2] As reported by The Hill
[3] The Hill provides an example with Nancy's Pelosi's public address.

1.1 The Fundamentals of Morality

Inspired by Thomas Hobbes' theory that refers to human nature as "nasty, brutish, and short", the founders to the American Republic, most notably James Madison, proposed a plan to capitalize the tendency for individuals to rely on their self-interest while pursuing goals that would benefit those around them. In Federalist 10, Madison (1787) argued that factions settling their differences in the halls of government were necessary to prevent the evils of tyranny. Through the Madison's Republic, the model for government was to allow each individual and their respective factions to play their self-interests in the halls of government.

Yet, there must be institutions in place to ensure that these factions do not break out into fistfights in the middle of the debate. While it may be hard to elicit some form of government action, as the model posits inaction by design, what forces are present to ensure a civil conversation? Perhaps this is where morality, based in cooperation (Greene, 2014) or character (Turiel, 2002), come into play.

Morality was originally defined by philosophers to focus squarely on concerns related to care for others and justice for society and its groups (Haidt, 2012). Individuals care about others and would allow this to influence the ways that they behave and treat others (Turiel, 2002). At the same time, individuals want to ensure fairness for the people in their groups and that everyone is being treated with respect (Piazza et al., 2018). With this desire for a group, people would be ore likely to cooperate to ensure the fulfillment of this desire in lieu of actively attacking dissidents of their positions. Together, these two characteristics compose the core definition of morality.

First, morality is based in one's character. When people are asked to define morality in their own terms, common themes that come to mind include honesty, cooperation, responsibility, and courage Turiel (2002). As it turns out, these values are what parents tend to emphasize in children (Haidt, 2012).

Second, morality is often defined through the lens of cooperation, especially towards people with whom individuals can relate (Greene, 2014). It focuses on the duty for individuals to be civil with one another and look out for the welfare of others. In conjunction with the development of character, morality works to ensure that people are able to live in the modern day society and suppress selfishness (Haidt, 2012). This is common in most, if not all, of contemporary life.

This dual-process model of morality is not the only way that people have conceptualized the fundamentals aspects surrounding morals. To highlight the need to care for individuals and work as a team, Lakoff (2010) illustrated another duality for morality: The strict father and nurturing parent model. In the strict father model, Lakoff (2010) asserts that individuals should be obedient and demonstrate strength. They should be eager to follow norms and also speak out when they see something is not right. In general, people demonstrate the willingness to speak out to defend their moral convictions (Hornsey et al., 2007). However, this model pushes a bit further, expecting individuals to become self-reliant and achieve a sense of self-discipline.

The other component of this model represents a nurturing parent. Lakoff (2010) argues that, in order to have a social world, this model suggests that individuals have the duty to look out for one another and care for those who need help. It is not enough for one to take care of themselves; rather, one must also work on nurturing social ties to ensure the harmony of society.

Both of the models from Turiel (2002) and Lakoff (2010) aim to illustrate the general principles of morality and how different people conceptualize this concept in concrete terms. Regardless of how people define their morality, a pattern between these two models is clear: Groups, and society more broadly, implement a set of social and moral norms as a way to ensure that there is order and people are expected to follow these values or risk diminishing their social reputations. Instead of striving solely for the benefit of the individual without regard for the wellbeing of others, moral systems, broadly speaking, fundamentally address how the introduction of social values, norms, identities and other mechanisms can facilitate the move away from a pure focus on the self and increase regard for others in our surrounding communities. To illustrate these core aspects of morality, this thesis project will utilize the following definition of morality, defined by Haidt and Kesebir (2010) on page 800:

> Moral systems are interlocking sets of values, virtues, norms, practices, identities, institutions, technologies, and evolved psychological mechanisms that work together to suppress or regulate selfishness and make social life possible

* * *

Looking back to the intentions of the framers of the US government, the desire for moral leadership among the members of government, especially the executive, was strong (Wood, 2009). From the president, the desire was for someone who could put the factional bickering aside and serve as a face, albeit symbolic, that values the interests of the country at large Mulligan (2008). At the same time, the framers feared an all powerful statesman and knew that everyone had a different definition of what was morally right that was rooted in their self-interests. Given these differences in opinions, it was best for the government to value slow and steady action over rapid changes. Moral leadership, in their eyes, was a collection of cooperation (to compromise instead of fight) and character (to debate the issues in the halls of government civilly instead of arguing). Yet, these are still very broad concepts to define and contextualize. As a collective, how did the leaders then, and how do the people today, conceptualize the idea of what was moral enough to become worthy of implementation? What are the different ways that the people define morality and can different factors agree on a common definition? The Moral Foundations Theory (Haidt, 2012) argues that this is possible, The premise of this theory suggests that while different cultures might have different norms, values, virtues, and other mechanisms, we can concisely address these fronts through five

foundations. In the next section, I will explore the foundations that constitute this theory.

1.2 The Moral Foundations Theory

Societies, regardless of the cultural backgrounds, holds sets of moral values to ensure a smooth and functioning social system (Haidt and Kesebir, 2010). These values often include norms that emphasize respect for each other and policies that ensure equality in opportunities. Yet, within cultures, specific norms and practices that characterize the understanding of right from wrong vary. The Moral Foundations Theory is a social psychological concept that aims to explain these varying norms within culture while still reflecting core human universals (Hibbing et al., 2013). It contains five unique foundations that are widely researched, and may include a sixth that conceptualizes the moral domains (Graham et al., 2011). In this section, I address the Moral Foundations Theory that is the main focus of this project.

1.2.1 The Core of the Theory

Different cultures often have different social norms that govern interactions, values and judgments (Cialdini et al., 1999). Yet, through these differences, the goal of the Moral Foundations Theory is to determine a way to explain the universal human values that are common in each culture despite plausible differences that lie in between (Graham et al., 2011; Haidt, 2013).

The motivation of the Moral Foundations Theory come as a result of a desire to classify the overall moral tendencies for a diverse array of cultures (Graham et al., 2011). The goal is to map the universal human values common across cultures in some form as a way to better conceptualize the forces that lead each culture to determine right from wrong (Haidt and Joseph, 2004).

1.2.2 The Five (or Six?) Foundations

The Moral Foundations Theory consists of 5 well-research foundations including Harm, Fairness, Ingroup, Authority, and Purity (Haidt et al., 2009; Graham et al., 2011; Schein and Gray, 2015; Lin et al., 2018) along with a possible 6th (Liberty/Oppression) (Iyer et al., 2012) that aim to classify the different ways that various cultures conceptualize morality into broad, universal categories (Haidt, 2013). In this section, I discuss each of them in detail and consider research that pinpoints the foundation specifically. These foundations develop in humans as a result of the history that people experience in the evolutionary process and the need to ensure the survival of their species (Haidt and Graham, 2007).

In this section, I often refer to the terms of "individualizing" and "binding" as it relates to the broad categories of the moral foundations. I will describe each of these terms as it relates to the theory in greater detail in the end of this section. For now, the "individualizing" foundations label

refers to the Harm and Fairness foundations as they both address individual desires and needs. The "binding" foundations label refers to the Ingroup, Authority and Purity foundations as this category refers to the foundations that address needs of the group and the preservation of group order.

Harm/Care

The Harm/Care foundation emphasizes the innate sense of empathy that individuals have for others, especially when it comes to caring and protecting individuals who are most vulnerable. An example of this foundation at play comes when leaders factor in the number of people, especially those in vulnerable communities, who will be adversely affected by the implementation of a policy and when leaders make amendments to the policy to eschew these adverse consequences. Care for others is often the strongest for one's offspring since it is often in parents' interest to care for their children to ensure the survival of their genes. Across all cultures and ideologies, the Harm foundation tops the list when it comes to considering whether an act is moral or not. When people were asked to write down the number one thing that they thought was not moral, their response, regardless of racial, gender, or political background, was more likely to be categorized in the Harm foundation than any other (Schein and Gray, 2015). This suggests that individuals care deeply about whether or not someone is hurt in a given situation and would rather see no one harmed before making other judgment calls on other aspects of the issue.

When it comes to culture war issues, such as stem cell research (Clifford et al., 2015), one's score on the moral foundation, especially harm/care along with their political engagement can predict one's opinions towards the issue. When making judgments related to whether something is right or wrong, most people immediately consider whether someone was injured (Schein and Gray, 2015). However, their former political engagements can also predict how much elite influence there is on their opinions (Clifford et al., 2015). As a result, while people innately care for others as a natural instinct (Turiel, 2002), there is a part of us that is still influenced by external factors unrelated to morality and politicians will play to these effects in their political communications (Brattebo et al., 2015).

Fairness/Reciprocity

The Fairness/Reciprocity, sometimes also referred as justice, focuses on equality and truthfulness. It relates to the discussion about the roots of morality in the need for humans to be cooperative in the social world. In the fairness foundation, the chief component is the idea that there is equality in a cooperative relationship such that there is equal gain for the parties. This desire to behave altruistically towards those who we associate with comes from the history of preserving friends and maintaining the trust of those who have previously earned this sense of security when associating with us (Haidt and Graham, 2007). Within the value sets of this foundation, there is an appreciation

for the rights of the individual and a respect for the preservation of individualism. Here, people value human rights and the respect thereof. It is not enough to grant the rights of the individual in policy but the enactment and enforcement of these codes ought to happen equally for all individuals regardless of their background, demographics or other relevant characteristics. For example, in the debate about the implementation of Voter ID laws in elections, some find the policy reasonable since IDs are required in other aspects of daily life including air travel and alcohol purchases. However, opponents of this policy suggest that this policy is not fair in its implementation because of the discrimination that racial and ethnic minorities may face as a result (Newkirk, 2017).

Aside from Harm/Care, Fairness/Reciprocity is another major predictor of whether someone will judge something to be moral or not (Piazza et al., 2018). Often, this centers the idea of utilitarianism, which suggests that individuals strive to have equal, and better yet, positive results for everyone who is involved in the situation (Turiel, 2002). We see this desire in the rhetoric of the social justice movements in the present day (Lukianoff and Haidt, 2019). As people, especially college students, on the political left see certain groups, such as women, people of color, and other minorities, get discriminated against by the majority, the campaigns to solve these issues often show a desire for equal outcomes in the end. This leads to the support of policy issues such as Medicare for All and Universal Basic Income. This is also exemplified by the idea that the "rich should pay their fair share [in taxes]", which is a testament to the concept of equal outcomes social justice.

While fairness and equality in outcomes is a theme of this foundation, the broader core of Fairness stems from proportionality. Regardless of political ideology (Haidt, 2012), people largely accept the idea that one should reap the benefits of the work they contribute. If two people are contributing the same amount of work, then they should receive the same amount of compensation. Children, as young as the age of six, demonstrate their interest in supporting an issue like this (Lukianoff and Haidt, 2019). For group work, they are more likely to favor propositional rewards, even when equal pay is an option. Yet, this concept does get a bit more tricky when other factor such as status come into the equation. Here, liberals and conservatives have different opinions as to what constitutes "proportional", which I will discuss in a later section.

Ingroup/Loyalty

The Ingroup/Loyalty foundation focuses on the concern for building a cohesive group. This foundation values actions related to self-sacrifice in favor of one's group and vigilance towards the outgroups. These attitudes come from the experiences that people have when it comes to living in a kin-based group (Haidt and Graham, 2007). Here, value is placed on the emphasis of the group and actions that display loyalty, patriotism, and heroism. An example of this mindset at play is found in the desire for people to support groups that they consider their own. This might include cheering on a sibling's sports team, voting for candidates from their own political party, watching football games

to root for their college/university, and defending a friend in an argument. The motivation of the group members who are involved in this process should be to strengthen the group. This can be done through rituals and and other unifying activities that signal group solidarity. Diversity is not much of an option, especially if the group wants to increase the ways in which the people get along and feel the most safe in the context. By attracting people who think and look different, there may be a fear that arises that damages the feeling of security and pride that is desired from a strong group. In groups that desire cohesion, rally around the flag rituals can become common and any challenges or dissent to this can be frowned upon and lead to conflicts within the group.

Authority/Tradition

The Authority/Tradition principle focuses on the challenges that are present in the course to create a hierarchical society which includes respect for those in power, good leadership and defense of the legitimacy of authority. Human civilization has largely been based on dominance and subordination, especially as leaders aim to seek victory over weaker others as a way to gain resources for themselves and those closest to them. Some countries facus on this hierarchal concept more than others (Dalton and Ong, 2005). An example of this is the Confucian cultures in East Asia. People who are raised in these cultures tend to put greater emphasis on the authorities of their life including their father and other patriarchal leader. This leads to valuing prestige, fatherliness and wisdom (Haidt and Graham, 2007). However, with great power comes the desire to keep the respect that accompanies, which is why people high in desire to be in power also can become despotic, exploitative and inept. On the other hand, societies also value subordination, which includes respect for those who are in power, desire to complete one's duties, and obedience (Frimer et al., 2014).

Purity/Sanctity

Religious values are core to the American political system (Putnam and Campbell, 2012) and the Purity/Sanctity foundation addresses religion broadly. However, it was started as the motivation to avoid biological contaminants such as pathogens and parasites that posed challenges to human life. Since survival required people to be healthy, people were motivated to keep themselves clean and be more risk adverse to novel natural phenomena in order to keep themselves and those near them safe. This attitude is present, especially during the COVID-19 pandemic[4]. In general, people who tend to have higher disgust sensitivity tend to take more preventative measures to ensure that they do not get diseases (Curtis et al., 2011) and this attitude is seen as people cope with the COVID-19 pandemic (Robson, 2020). This value applies to the sanctity of life and spiritual purity as well.

[4]The COVID-19 pandemic was born out of a respiratory virus that was first spotted in Wuhan, China (CDC, 2020). This disease spreads quickly, which prompted a number of stay at home and shelter in place orders from the government. The New York Times provides links to the statistics of the disease as well as more details about these policies (Times, 2020).

The desire for physical cleanliness originated as a necessity for survival. When humans began to incorporate meat into their diets, the meat was often scavenged and not freshly hunted (Haidt and Graham, 2007). This coincided with the development of the emotion of disgust, which led people to become more careful of the things that they were touching and the foods that they were consuming. Disgust was a helpful evolutionary safeguard against disease and it led people to be more risk adverse when it came to trying new things. When people are primed with ideas regarding cleanliness, they are more likely to err on the side of caution rather than experiment with novel ideas or situations (Helzer and Pizarro, 2011). This is also the case when people are facing life-versus-death threats such as those presented by the COVID-19 pandemic mentioned earlier (Robson, 2020).

Disgust also expands beyond microscopic contaminants and into visions of a social world. People are tend to express their visions of morality and condemn those who do not live by their standards of good versus evil (Van Leeuwen et al., 2017). They are more likely to draw perceptions of social norms related to a healthy image and abide by such considerations. They are more likely to create social norms that resembles a pure and disciplined society and motivate others to live by these norms. For example, if the definition of a good person is someone who would pick up their towels to save the environment (Goldstein et al., 2008) or not pick up petrified wood from the forest (Cialdini et al., 2006) in the interest of the environment, then individuals will be told from those around them to eschew these undesirable acts or society will make these norms salient to change their behaviors (Cialdini et al., 1991).

A way to ensure that society stays pure and true to its core values is through the respect of religious values and by living life according to these values. As such, it is often the case that those high on purity would be likely to be religious and use these values in their judgment of morality on culture war issues (Koleva et al., 2012). After all, religion binds people into like minded communities and provides a sense of belonging to something that is greater than what one person can achieve (Graham and Haidt, 2010). Consequently, past research shows that this sense of belongingness leads religious individuals to be happier and more likely to give to charity. As heightened values of purity lead to greater religiosity, it also leads people to be more respectful of authority (God) and be more likely to be loyal to their group (those who are in their congregation).

Liberty/Oppression

The Liberty/Oppression foundation forms the "(or Six?)" component of the title of this section. This foundation was not part of the original Moral Foundations Theory as described by Graham et al. (2011) but new research establishes this as a core component in the ways in which people conceptualize right from wrong. As Haidt (2012) defines it, the Liberty/oppression foundation focuses on how people react to the presence of domination in their surroundings. It originates from a desire to be able to cooperate in a small group and be wary of the rise of leaders who take power

without the consent of the people. This attribute helps people notice and resist signs of domination. It help with building a collective momentum to resist the rise of bullies or tyrants.

An example of the principles of this foundation in action comes in the form of student activism on college campuses today (Lukianoff and Haidt, 2019). Students, and organizers in the broader community, often organize to combat issues such as racism, homophobia, xenophobia, sexism and other cases of oppression seen in society today. In each of these campaigns, there is an oppressor and a victim that is highlighted by the activities. Taking protests that center racism as an example, we may see activism focused on injustices to racial minorities. As people of color often face microaggressions in social settings (Bonilla-Silva, 2006), activists who want to increase equity would highlight the oppression that these individuals face as a way to seek liberty for them.

Like the Ingroup/loyalty foundation, there are questions on whether this is truly a binding foundation (Yalçındağ et al., 2019) that can be classified on the liberal-conservative continuum. Research in this domain considers this foundation to be more focused on understanding the moral foundations of libertarians (Iyer et al., 2012).

Since the Liberty/Oppression foundation is relatively new and the Moral Foundations Questionnaire as we know it today does not contain items related to this scale, it will be omitted for this study. This decision is also due largely in part because it is not available in the publicly available datasets that the responses are being pulled form for the data analysis later on.

1.2.3 Broader Categories of Moral Foundations

From the five core foundations discussed above (Harm, Fairness, Ingroup, Authority, and Purity), the literature groups them into 2 distinct categories: individualizing versus binding (Graham et al., 2009; Haidt and Graham, 2007). The *individualizing foundations* focus on the foundations that value the protection of the individual over the collective. This category contains the foundations of Harm/Care and Fairness/Reciprocity. Opposite of the individualizing foundations, the *binding foundations* emphasis the needs of the group and the structure of tradition over the individual. Under the framework of the foundations in this categories, individuals live to serve the groups that they are a part of and in preserving the values of the group from outside influence. The foundations in this category are Ingroup/Loyalty, Authority/Tradition, and Purity/Sanctity.

This individualizing versus binding duality in categorizing the moral foundations mirrors, in many ways, to the nurturant parent versus strict father model of morality outlined by Lakoff (2010). While the models do not necessarily match up evenly, the characteristics of someone who adheres to the nurturing parent model of morality shares similar characteristics as the individualizing foundations. Both tend to take a more nourishing approach to the way one cares for others in society. On the other hand, the binding foundations are most similar with the strict father model. This similarity lies on the obedience to authority and observance to traditions that both frameworks share.

The similarities between the models highlight the ways in which different models conceptualize morality. In many ways, these models are alike in the prescriptions of normative behavior but differ in the scope and comprehensiveness of the descriptions of morality. One is not necessarily superior to the other, but the paper will largely analyze morality using the individualizing versus binding foundation system that is used most in research related to morality (Haidt, 2012).

1.3 Comparing Liberals and Conservatives

When President-elect Donald Trump nominated Betsy DeVos to head the Department of Education, conflicts between teachers' unions, Republicans, and Democrats broke out. DeVos, who is an avid supporter of school vouchers and school choice, quickly became a target for the politicians and people on the left as they favored a strong public education system. The confirmation hearing for Betsy DeVos quickly turned into a hall of conflicts with the Democrats proving DeVos's inexperience and the Republicans, though some unwillingly, throwing their support behind her to create the 51-50 confirmation vote.

While DeVos's personal history and experience raised eyebrows nationwide, her goals to reform the education system have been, at face value, what Republicans have campaigned on for a very long time. And even if these same policy stances do not fit well for the Democrats' platform, campaign histories nonetheless suggest frequent reforms with the public education system. From President Bush's No Child Left Behind to President Obama's Head Start or Common Core, it is clear that politicians recognize that the US's education system ought to be reformed but don't seem to agree on how it should be done. After all, each politician had their own personal experiences with education in America when they were students, and perhaps currently have children or even grandchildren working in the system (Burden, 2007).

This divide in perspectives of outcomes and policy proposals is not unique to education. Democrats and Republicans disagree on what to do regarding the poverty issue (Miler, 2018), let alone abortion or gun control (Bishin, 2009). While politicians on both sides acknowledge these as issues, they cannot seem to agree on a proper solution. In this section, I analyze the literature that discusses the differences between liberals and conservatives, first on the broader scale then specifically considering the moral aspects of their differences.

1.3.1 Differences in Political Beliefs

As mentioned earlier, it is no secret that Democrats and Republicans agree that poverty is a problem (Miler, 2018). The parties also agree that issues related to economic productivity (Burden, 2007), racial attitudes (Sides et al., 2018), and the US debt are important issues that impact the American people greatly. However, they differ in their political beliefs, and the role that the government should

take in order to address the issues that face the country. These beliefs largely outline the values and the norms that are associated with the parties. In addition, these differences play a role to outline the differences in moral foundations that might arise between the organizations.

As Grossmann and Hopkins (2016) outlines in their book, the parties are in agreement on the various issues that need to be addressed in their political agendas. however, they have different ways of doing so. Yet, the parties are not as able to understand each other in their attempts at addressing these problems in their own agendas. In the long run, this leads to partisan sorting (Levendusky, 2009), which makes ideologues more committed to their partisan camps (Noel, 2014). This leads to the question of how the parties differ in their political goals and what patterns we can see when it comes to understanding their work towards addressing these hotly contested issues.

The Republicans, which is a party of mostly conservatives, are more ideological in their conceptualization of politics (Grossmann and Hopkins, 2016). Throughout history, they built their platform on appealing to ideas related to small government and the individual-focused American political culture traditions. When picking a political candidate, Republicans also tend to look at a candidate's ideology over their other qualities (Grossmann and Hopkins, 2016; Noel, 2014). Their debates focus more on what the actual size and scale of government should be, along with the long-term directions of the country rather than how government should cater to the lives of individuals. In many ways, the beliefs of the Republicans can be summarized by the strict father model of morality, which highlights the ideas of self-sustainability, respect to traditions, and self-discipline (Lakoff, 2010). The focus lies primarily in the ability of the individual to service the group that they hold their allegiance towards as a way to build a more sustainable society.

On the other hand, the Democrats, which is a party of mostly liberals, spend more of their energy and resources appealing to group based interests (Grossmann and Hopkins, 2016). Additionally, members of this party also tend to vote based on a their group social identity in elections (Van Bavel and Pereira, 2018). Consequently, candidates appeal to these group identities in order to gain their votes and also represent their constituencies based on these lines (Sides et al., 2018). Examples of policies that came from this guiding party model include the New Deal and the Great Society. Debates in the Democrat party tend to focus on how the party caters to different groups in society and what they can do to better serve the diverse base that they represent[5]. The party platform of the Democrats most resembles the nurturant parent in the Lakoff (2010) model. From the policies that this party has endorsed, it is mostly build on the premise that the role of the government is to help people become self-sustainable. Those who are able to take care of themselves should do so, but also lend a hand to help others who might need a bit more help. This process is mediated by the government, who establishes policies to ensure the fair distribution of resources. And once someone becomes self-sustainable, it would be their duty to participate in the system that nurtured them. In

[5]We see this in the 2020 Democratic Primary as candidates talk a lot about what to do for people in the working class, racial minorities, and other people who are discouraged by the "top 1%".

this process, they would, ideally, "pay it forward" to ensure that people in the next generation who are in need of help would get this assistance in order to support themselves and their families.

The differences in the parties based on their broad appeals suggests that there are broad differences between Democrats and Republicans when it comes to the ways that they set up their policies and appeal to the public about it. This signals differences in political rhetoric that have been explored by past researchers (Burden, 2007; Miler, 2018). As the people communicate their desires for the government to their elected officials, especially those in their respective parties, we can expect to continue to see the parties grow to cater to these demands and become more different in terms of their broad approaches to policymaking (Grossmann and Hopkins, 2016). This logic could also be applied to the values that the parties endorse. As we saw in this analysis, liberals and conservatives carry different moral frameworks in the model that Lakoff (2010) defines. These approaches in policies spell out differences in the types of proposals that the parties put forth and provide a hint to further differences between the parties in terms of the moral foundations, which I will explore in the next section.

1.3.2 The Core of Graham et al. (2009): Differences in Morality

One of the most seminal paper in this literature, and the focus of this project, is the work by Graham et al. (2009). In this paper, the authors utilize four distinct methods to establish a singular conclusion: Liberals prefer the individualizing foundations over the binding ones, and conservatives utilize all five foundations in their moral judgments. Pieces of evidence since the publication of this paper have justified or questioned these findings through methods related to the Moral Foundations Questionnaire, a metric developed by Haidt and Joseph (2004) that measures the extent to which people use each of the five moral foundations described earlier, and analysis of morality in context of natural language.

Since the publication of this work, there have been numerous of extensions to this project that utilizes the conclusions from Graham et al. (2009). From reading this paper, it is unclear whether the results from this work can be extrapolated to people of different countries and different backgrounds. As a result, Davis et al. (2016) expanded the analyses in this study to a black sample, and Yalçındağ et al. (2019) studied this topic in a Turkish sample. From both of these papers, there seems to be skepticism surrounding whether the Moral Foundations Questionnaire can measure the same results between cultures and countries. To that end, Doğruyol et al. (2019) disagrees. In that paper, the authors argue that, using the analyses proposed by Graham et al. (2009), the moral foundations theory is able to measure the patterns in Wealthy, Educated, Industrialized, Rich and Democratized (WEIRD) countries just as well as non-WEIRD ones.

Following these studies, there have been others that aims to understand how the Graham et al. (2009) conclusions can be expanded to different arenas. In a study of natural language in reports

and news releases about stem cell research, Clifford and Jerit (2013) noticed that politicians insert their own moral beliefs into their methods of communicating with the people on this matter. In these reports, liberal authors are more likely to use language that appealed to Harm and Fairness than their conservative counterparts. This shows a greater emphasis for liberals when it comes to appealing to different moral foundations when compared to conservatives.

The pattern in each of these studies still seems clear: liberals are more likely to focus on the individual. They want to ensure that no one is being oppressed by the overarching system. Meanwhile, conservatives are more likely to focus on the group. They are more interested to make sure that their kin is being taken care of before putting energy (if any) into the needs of someone else (Hibbing et al., 2013). Once an individual identifies with a political ideology and join a political group, they inherently subscribe themselves to a moral matrix, one they live by, and one that we explore (Haidt, 2012).

However, there is some research that begins to look at the replicability of the original paper. One of these attempts comes from Frimer (2019). In this study, the authors conduct six separate studies using a close and conceptual methodologies of replicating the fourth study on Graham et al. (2009). Through the investigation of church sermons, media coverage, political party platforms and others, the results find that the strong effects that were detected in the original paper do not seem to be replicable using different conditions. Frimer (2019) also notes that the paper by Graham et al. (2009) has not been replicated much, only expanded upon. This premise sets up the goals and questions for this thesis, which I will discuss in more detail later.

Finally, many researchers have the question related to the causal relationship between moral foundations and political ideology. Research into the causal relationship between the variables finds that moral foundations predict political ideology but vice versa is not true (Hatemi et al., 2019). One's score on the Moral Foundations Questionnaire, for example, is better at predicting political ideology than vice versa. Other studies have also shown this effect. Moral foundations influence perceptions and motivations to affiliate with a political party (Rempala et al., 2016).

* * *

The creators of the Moral Foundations Theory did not intend for a theory that is meant to understand cultural differences to be applied to the political divide (Haidt, 2013; Hofmann et al., 2014). Yet, from the exploration in this section, we saw literature that supports the notion that liberals and conservatives hold different political beliefs and hold distinct moral realities. In many ways, the ideologies are becoming close to two nations with unique cultures. While they can agree that there are the same core problems in society, they cannot seem to come to a consensus on the ways in which these issues should be addressed. Such impasse, as we will see in the next section, carries consequences for the political divide.

1.4 The 2016 Election and the Nature of Partisan Rhetoric and Political Polarization

The 2016 Presidential election was one of many firsts. For the first time, a woman was nominated by a major party to represent them as a Presidential Candidate. Donald Trump was also the first in history to be elected in his 70s to the office of the President. Yet, for all these facts are worth, the significance of this election for political science research remains, among other things, in the rhetoric of the race in context of the political climate (Hinck, 2018). Trump was seen as a political maverick of sorts, but his ability to bring conflict and controversy in such a way that *helped* him gain coverage and conversation was crucial to his victory (Sides et al., 2018). In this section, I briefly recap the background of the race, answering the question "what happened?" and integrate past research to understanding the role of political rhetoric in this race, along with its significance for future political work. I do this to provide background for the election as it would become context to understand the premise of the fourth study in this paper. In lieu of a full campaign analysis and election breakdown, this synopsis will focus chiefly on the rhetoric that was employed in the election as context for the fourth study.

1.4.1 What Happened?

The election of 2016, was, in many ways, not a normal election (Hinck, 2018). Or, at least this was the case when it came to the rhetoric that was present in this election, especially in issues related to race and life in the post-Obama era (Anderson, 2017). In any case, the 2016 race featured two rather competitive, open, primary races within the parties (Sabato et al., 2017).

To recapture the election in brief, Hillary Clinton, former Secretary of State and seasoned politician from the Democrat Party, ran against Donald Trump, a New York businessman and Republican nominee. Polls leading up to the election all showed Hillary Clinton to be the nominee with over 80% chance of winning (Katz, 2016)[6]. For the general election, the results showed Donald Trump winning the race with 206 electoral college votes (Times, 2017)[7]. The common theme in this election, as driven by Bernie Sanders and Donald Trump in the primaries, was the notion that the working class citizens do not have the necessary resources that they need to thrive because the resources in the economy and government are being dominated by the elites (Sabato et al., 2017). This notion shaped the communication tactics that both of the parties employed to connect with the voters.

During the election, Donald Trump and Hillary Clinton used different methods to communicate their messages across to their supporters (Savoy, 2018). For one, the communication of race issues

[6]Source: The New York Times: `https://www.nytimes.com/interactive/2016/upshot/presidential-polls-forecast.html`.

[7]The New York Times drew a map showing where the candidates won: `https://www.nytimes.com/elections/2016/results/president`.

was a major divider between the two parties (Sides et al., 2018). Trump was more likely to appeal to the deeply rooted racial divides in the hearts and minds of many Americans, especially those living in rural parts of the country (Hochschild, 2018). Additionally, the rhetoric of Donald Trump appealed to more the emotions, giving off the feeling to voters that Trump was speaking the things that were on their minds (Savoy, 2018). On the other hand, Clinton seemed more like your traditional establishment politician who rallies her base around the "Stronger Together" slogan. These mechanisms of communication allowed Trump's "Make America Great Again" brand to resonate more with the voters (Sabato et al., 2017).

Ultimately, Democrats used most of their efforts to appeal to the identity groups of their supporting base (Sides et al., 2018). However, their inability to connect with white working class voters cost them the election (Sabato et al., 2017). Trump became president by taking states like Michigan, Wisconsin, Ohio, and Pennsylvania, which flipped to his side since the 2012 race. The events in this election, the tactics that the candidates used, and it's implication for future races in American politics are worth analyzing on a deeper level. I will take on this task later in this thesis project, but also in the next section to explore the role of political rhetoric in American elections based on past research.

1.4.2 Appeals to Morality in Political Communication

In the second Democrat Presidential Primary debate for the 2020 race, the notion of morality in the political sphere becomes a dominant theme. Candidates in the field constantly pointed to the lack of respect of political norms in the current administration, with Senator Michael Bennet arguing that "I believe we have a moral obligation to beat Donald Trump." Self-help guru Marianne Williamson was perhaps one of the ring leaders in this avenue of appeals[8], with statements like this:

> "...We need to talk about the fact that the United States has sacrificed our moral leadership, the fact that countries see us not only domestically but internationally with policies that simply support our corporate overlords..."

These appeals to morality are not novel trends in the politics. Previously, politicians appealed to the morals, ethics and values of society especially through the lens of religion (Domke and Coe, 2008). Yet, when the word "moral" is used in the context of the 2020 Democratic Primary Debate, the goal was not to look at the soul of America, but how the *other* party violated the norms, values, and ethics of the party making those claims.

Putting morality aside, there are differences in the ways in which Democrats and Republicans communicate in politics that are indicators to the ways in which the parties appeal to their bases. In a study with tweets from Members of Congress, an analysis on the emotions used in the tweets suggests

[8]That is, until she dropped out of the race.

that Democrats tend to use more positive emotions than their Republican counterparts (Sylwester and Purver, 2015). In general, the language that people use can become insightful indicators to the ways that they think and the interests that they are conveying (Schoonvelde et al., 2019). An example of this can be seen in Khizr Khan's 2016 Democratic National Convention Speech (Kendall, 2017). His speech was dedicated to praising his son's service and compared, in an emotional way, how Donald Trump's past actions do not match the rigors of what is means to service this country. The tone used by Mr. Khan, along with his words, made the speech more impactful and was the reason why it was celebrated by the people in the party and media.

Lakoff (2010) argues that words do the work of politics. In each of the policies that Republicans and Democrats aim to convey, they do so in their unique ways. Looking to the dual process model discussed earlier in this thesis, Lakoff (2010) draws examples on how the parties convey the strict father or nurturing parent model in their political speeches. To use the social welfare issue as an example, liberals generally see the government as a nurturing parent while conservatives are more likely to endorse the "tough love" strict father perspective. In the 2016 election, Bernie Sanders campaigned heavily on social policies and his platforms largely dominate the Democrat party today(Sanders, 2020)[9]. His stances on Medicare for All and the $15 minimum wage are still chants to be heard in his rallies today. To the liberals, the government's job is to take care of the people, and that can be exemplified in the policies that advocate for social justice. However, for conservatives, this seems like the rise of socialism all over again. Republicans tend to favor the strict father model and communicate their policies in that manner. They are more likely to highlight the number of jobs that the country has and provide opportunities for people to sustain themselves. This is why Donald Trump's campaign website(Trump, 2020)[10], his main focus in on his track record on boosting the economy and bringing back jobs.

To Republicans, watching the Democrats advocate for social policies and welfare would make it seem like they are driving the country astray. To Democrats, watching Republicans focus on jobs and the economy, and rolling back food stamps and other welfare benefits seems like a gut punch. In the political sphere, liberals and conservatives communicate their policy platforms in different terms based on the direction of the party (Grossmann and Hopkins, 2016) and the moral values that people in the party hold (Lakoff, 2010). These appeals elicit emotional reactions that would draw people to vote the way that the party wants them to on election day (Van Bavel and Pereira, 2018). To that end, it gives parties more motivations to make these moral appeals, which, ultimately, are powerful in getting supporters to do what the party wants them to do: vote and even donate to the campaign's cause (Winterich et al., 2012).

* * *

[9]See Bernie Sanders' official campaign website for more information and details on his social policies.
[10]`https://www.promiseskept.com/`

In this literature review, I introduced the core concepts of morality explored by previous research. I also defined and discussed the foundations that make up the Moral Foundations Theory, which will be analyzed in greater detail in the studies to follow. Additionally, I compared Democrats and Republicans based on previous literature and explored the role of rhetoric in politics. This background will supply the foundations for the data analysis and discussions in the studies to come. In the next chapter, I will discuss the Graham et al. (2009) paper in greater detail, especially as it applies to the studies in this project. I will also introduce the questions and hypotheses that will guide the framework for this project moving forward.

Chapter 2

Research Design

In this opening of the project, I explored literature that considers the concepts of morality and the political divide. In the past, there is a lot of literature that considers the link between moral psychology and political ideology in terms of the factors that influence and mediate morality.

For these works, the consensus is that liberals and conservatives are unique and hold idiosyncratic viewpoints, especially regarding their perceptions on what is moral. These processes have been observed in public opinion data (Haidt, 2012), and in the communication patterns of the politicians and pundits (who are often known as the political elites) (Clifford et al., 2015). However, what constitutes "moral" and do ideologues agree on this definition?

In this thesis, I aim to answer the broad question of how liberals and conservatives define morality in light of public opinion and with the communication of political elites. This work will be inspired by the work of Graham et al. (2009) and their argument that liberals and conservatives are inherently different when it comes to moral foundations. The goal of this thesis is to move beyond a simple replication of the paper, but to also consider additional ways morality can be measured and whether the same conclusions can be drawn. Additionally, I will expand upon research in moral appeals in political communication (Clifford et al., 2015; Lewis, 2019) by integrating research on the political rhetoric in the 2016 election (Sides et al., 2018) to see if patterns surrounding the different moral foundations observed in Graham et al. (2009) emerge in national convention speeches.

2.1 Overview: The Graham et al. (2009) Study

Before introducing the questions of this study, I want to give a brief overview of the questions and topics explored by Graham et al. (2009). I will also discuss the rationale behind the decision to use this paper as a springboard for the project and consider some points in the original paper that I will ignore in the replication.

Like the Graham et al. (2009) paper, the core theory considered in this paper is the Moral

Foundations Theory. As I discussed in the literature review, the Moral Foundations Theory was developed by Haidt and Joseph (2004) with the goal of characterizing the values of diverse human civilizations around the world into coherent foundations. Just like the Olympic Flag has five rings with five colors that all flags of the world have, the Moral Foundations Theory consists of five well-research foundations that are exemplified in the values, virtues, norms, and practices of all cultures worldwide in some way. These foundations include Harm/Care, Fairness/Reciprocity, Ingroup/Loyalty, Authority/Tradition, and Purity/Sanctity. The Harm and Fairness foundations focus more on the needs of the individual, and are hence known as the individualizing foundations. The Ingroup, Authority, and Purity foundations are focused on addressing the needs of the group, and are known as the binding foundations. As Haidt (2013) argues, the Moral Foundations Theory was designed to compare the moral frameworks of civilizations but given the unique nature of American political culture, it can be used to understand differences in the moral frameworks of liberals and conservatives.

As I discussed earlier in the literature review, the goal of the Graham et al. (2009) paper is to explore morality using the Moral Foundations Theory using three different approaches. The first two studies consisted of the Moral Foundations Questionnaire (MFQ), which contains a series of questions that represents each of the moral foundations and assesses the foundations that people value when they think of their morality. This questionnaire is broken down to two subscales, Moral Relevance and Moral Judgment. The former assesses what factors people feel are related to their determination of morality and the latter assesses the actions that people judge as moral. These two sections are addressed independently and both demonstrate that liberals tend to use the Harm and Fairness foundations more while conservatives use the Ingroup, Authority and Purity foundations more in their determination of morality. In the third study, the authors use the Moral Trade-offs, or Moral Foundations Sacredness Scale, which measures the extent to which people make certain topics sacred such that they would not be likely to violate them under any circumstances. Here, a similar pattern emerges. Liberals were less likely to violate the Harm and Fairness foundations while conservatives were less likely to violate the Ingroup, Authority and Purity Foundations. Finally, in the fourth study, the authors studied the use of moral foundations in Unitarian (Liberal) and Southern Baptist (Conservative) church sermons. By using a LIWC Moral Foundations dictionary analysis, the results show that liberal pastors tend to appeal to the Harm and Fairness foundations while conservative pastors appealed to the Ingroup, Authority and Purity foundations.

An important question here is "why replicate and consider Graham et al. (2009) specifically when there are many other works on the relationship to between morality and politics?" In making this selection, I considered the importance that many pieces of literature had to the fields and the ease in which it was to reproduce the results. This work has many citations, especially in the literature

that was discussed in the previous chapter[1]. Furthermore, the replication files are published in the Harvard Dataverse[2] can facilitate the reproduction process. For the number of citations and relative ease in reproducibility, this paper is in the center of the debate regarding the existence of liberal-conservative differences in morality with authors supporting (Clifford, 2017) and rejecting (Schein and Gray, 2015) its key conclusions.

Through the process of replicating and expanding the Graham et al. (2009) study, I also aim to address some of their limitations and future directions that the authors mention. In the original paper, the authors discuss morality using scales that they create and recruit from websites that these authors manage[3]. In each of these studies, there is reliance on self-selection. People go to these sites through social network referrals and Google searches. While this expands the number of participants and can expand diversity in the pool, there might still be limitations regarding the motivations of people to participate and the pool can lean in one ideological direction. In this paper, I aim to address these limitations using different data sources with different recruitment mechanisms. The Cooperative Congressional Elections Study (CCES) and The American Panel Study (TAPS) are of primary interests given they contain modern forms of the Moral Foundations Questionnaire and contains a representative samples of US citizens.

Finally, the paper was published in 2009, which indicates that data collection and analysis happened beforehand. As such, the options for these methods may not be as advanced as they are today. One example of this is the fourth study related to morality in text. Using word count and human reading may be comprehensive in addressing the overall context, but word count to a dictionary itself may not be adequate enough to capture the broader picture (Garten et al., 2018). The analyses for this part of the replication will aim to look at the process from a different angle and perhaps open pathways for applications of machine learning to analyze political texts.

This thesis will address three questions and five hypotheses.

2.2 Question 1: Morality Between Left and Right

The most common measure of political ideology has been focused on the liberal-conservative, or left-right dimensions, as it serves as a useful approximation of the diversity in political views and values in the United States (Jost, 2006). Additionally, it is simpler for survey respondents who might not know as much about politics, to place themselves on a 7-point continuum. As a result, research that compares groups of people with different political ideologies largely use this scale including research in moral psychology as exemplified by Haidt and Joseph (2004) and Graham et al. (2009). This first question aims to characterize the core of this thesis project and it also serves as a reflection

[1] As of August 2019, the article has roughly 2470 Google Scholar citations and 370 in PsycInfo
[2] The data can be found here
[3] Jesse Graham and Jonathan Haidt manages YourMorals.org and Brian Nosek manages ProjectImplicit.

of the objective of the Graham et al. (2009) paper – that is to compare the moral frameworks between liberals and conservatives using the Moral Foundations Theory. Specifically, I measure the differences on the basis of the five foundations of Harm, Fairness, Ingroup, Authority and Purity.

> *Question 1: Morality Between Left and Right* – Do Liberals and Conservatives think of morality using different foundations?

To address this question, I reproduce the findings published by Graham et al. (2009) with their original data. The goal in the reproduction is to understand the methodology that the authors used and these results are displayed in Appendix A. In this thesis, I plan to apply the methods used in the original paper to different datasets that vary in several ways, including sampling methods, lengths of relevant questionnaires, and number of participants. By using these different datasets, I hope to gain insight on how different data collection methods or different lengths of questionnaires affect the conclusions that are drawn about the differences in morality between liberals and conservatives. For this question, I have two hypotheses:

> *Hypothesis 1a: Different Foundations* – Liberals and conservatives perceive the world differently. As such, they conceptualize the concept of "moral" using different foundations.
>
> *Hypothesis 1b: Morality in Text* – In national convention speeches, liberals and conservatives will appeal to different moral foundations.

These hypotheses, together, consider the core of the Graham et al. (2009) paper by considering the possible differences that liberals and conservatives have in terms of their definitions and judgments of morality. In their first hypothesis, or the *Different Foundations* hypothesis, I address the global differences in morality observed using each of the questionnaires that are included in the original paper, including the Moral Foundations Questionnaire and the Moral Foundations Sacredness Scale. I hypothesize that the results from this thesis will parallel those of Graham et al. (2009) such that liberals will be more likely to use the Harm and Fairness foundations (also known as the individualizing foundations) while conservatives will use Ingroup, Authority, and Purity foundations (also known as binding foundations) in their moral frameworks.

The second hypothesis, or the *Morality in Text* hypothesis, builds on the first and addresses the fourth study on text analysis specifically. Similar to the previous hypothesis, this one predicts that, in the context of the 2016 Republican and Democrat National Convention speeches, we will find that speakers from the Democrat party would be more likely to appeal to the individualizing foundations while speakers from the Republican party would appeal to the binding foundations in their speeches.

Together, these hypotheses characterize the results that I would expect from two different samples and methods. The *Different Foundations* hypothesis addresses a public opinion sample of everyday

Americans who may or may not be politically sophisticated. That is, they may not know as much about political positions, policies, or other tidbits as someone who studies or works in the political framework might (Campbell et al., 1980). The data, explained later in the individual chapters, reflect individual reporting and require informed consent to participate. On the other hand, the data for the *Morality in Text* is more archival-based with speeches gathered from past media publications and press releases. The sample here, as I will discuss in the Morality in Text chapter, are public figures who are more politically sophisticated and active in government. They represent a core facet of the party that invited them to speak. These speakers are the political elites whose words and actions are analyzed by the press to help the public understand politics a bit more. As a result, their words, in the case of the convention speeches, were not meant for my thesis; rather, they were meant to evoke strong emotions within the party's constituency. The goal is for their audience to feel a greater sense of support towards Hillary Clinton or Donald Trump and go to the polls.

The core of Graham et al. (2009) is embedded in their first question, which implicitly covers the different ways that the authors of the original paper measured morality in their work. The next question draws this point more explicitly and discusses the importance in the distinction of the scales.

2.3 Question 2: Measuring Morality in Different Ways

In Graham et al. (2009)'s work, the authors utilized three different ways of measuring morality – the Moral Foundations Questionnaire, the Moral Trade-offs (or Moral Foundations Sacredness Scale) scale, and the Moral Foundations Dictionary. They also studied the Moral Foundations Questionnaire using the Moral Relevance and Moral Judgment subscales that make up the questionnaire. I will discuss each of these questionnaires in greater detail in their relevant chapters but, for the purposes of introducing the next question, these are the different ways that this project will consider to measure morality.

> *Question 2: Measuring Morality in Different Ways* – How can we measure the differences in morality between liberals and conservatives and what do these scales tell us?

The second question explores the different ways that morality can be measured, which encompasses the ways that the Graham et al. (2009) paper considers in the opening of this section. The goal in this question is to understand whether the differences in morality between the ideologies will shift when different measurement tactics are applied and whether the same patterns related to the Moral Foundations Theory will be observed. For this question, I have one hypothesis

> *Hypothesis 2: Universal Conceptualization of Morality* – Morality can be measured in different ways using different scales. Each scale will communicate different information

related to morality.

For the second question, I hypothesize that there will be a general pattern of morality such that no matter which scale is used, liberals will generally identify subjects that address the values of Harm and Fairness to be moral while conservatives will generally favor issues that maintain the group, respect authority, and preserve their vision of purity.

2.4 Question 3: Moderating Factors of Morality

The final question addresses different factors that might predict differences in moral mindsets between individuals. These include many of the commonly measured demographic questions included in surveys such as gender, religiosity, income and education. The studies in the Graham et al. (2009) paper consider this question using latent variable models but have come to the conclusion that the core factor in differentiating moral concepts lies squarely within political ideology. In this question, I explore this question to see what patterns can be drawn from the data and answer the following question:

> *Question 3: Moderating Factors of Morality* – Are the observed differences between liberal and conservative morality moderated by other demographic factors other than political ideology?

Previous work suggest that certain social, knowledge, and identity factors such as political sophistication (Milesi, 2016), primes of purity (Helzer and Pizarro, 2011), and even religiosity (Graham and Haidt, 2010) can bind people into more intact moral communities or can shift their foundations. In this exploration, my goal is observe the trends in moral foundations between people with different gender identities, levels of religious commitment, income, and education. For this question, I hypothesize the following:

> *Hypothesis 3: Other Moderating Factors* – There are other factors, in addition to self-identified political ideology, that can predict differences in moral foundations between individuals.

Up to this point, the key independent variable has been focused on self-identified political ideology. However, the focus of this question and accompanying hypothesis considers other demographic variables including gender, religiosity, income and education in the picture. I predict that these variables would predict morality if considered in conjunction to political ideology. In elections, people often vote based on their political party but other social identity factors and interests can play a role. For example, while education can influence individuals to be liberal and vote Democrat, education can also predict a vote for the Democrat party more directly (Gelman, 2009). As a result,

I hypothesize that, when other demographic factors are added and considered in a model predicting morality with self-identified political ideology, they will contribute to explaining the differences in moral foundations that different individuals rely on in forming moral judgments.

2.5 The Road Ahead

To answer the questions posed in this chapter, Chapters 3 (Moral Relevance), 4 (Moral Judgment), 5 (Moral Foundations Sacredness Scale), 6 (Morality in Text) and 7 (Moderating Factors of Morality) will contribute data and analyses that address core components of each question. Throughout this project, I will focus on 5 key sources of data: the Cooperative Congressional Elections Study (CCES) Duke Team Module from 2012, the American Panel Study (TAPS) Wave 10, YourMorals Website, the Measuring Morality dataset, and speeches from the 2016 Republican and Democrat National Conventions. The details regarding each of these measures, data sources and analyses that apply will be discussed in the specific chapters. Table 2.1 outlines the road ahead by connecting the chapters to the relevant measures and analyses.

Table 2.1: *Snapshot: Data and Analyses*

Chapter	**Measure**	**Data Source(s)**	**Analysis Type**	
			Descriptive Statistics	Linear Models
Chapter 3 Moral Relevance	Moral Foundations Questionnaire	Cooperative Congressional Elections Studies	Yes	Yes
		The American Panel Study	Yes	Yes
		YourMorals Website	Yes	Yes
Chapter 4 Moral Judgment	Moral Foundations Questionnaire	Cooperative Congressional Elections Studies	Yes	Yes
		The American Panel Study	Yes	Yes
		YourMorals Website	Yes	Yes
Chapter 5 Moral Tradeoffs	Moral Foundations Sacredness Scale	Measuring Morality	Yes	Yes
Chapter 6 Morality in Text	Moral Foundations Dictionary	Republican/Democrat 2016 National Convention Speeches	Yes	Yes (t-test)
Chapter 7 Moderating Factors	Moral Foundations Questionnaire	Cooperative Congressional Election Studies	No	Yes
	Moral Foundations Sacredness Scale	Measuring Morality	No	Yes

Chapter 3

Moral Relevance

At a Glance

- **Goal:** To explore the Moral Relevance subscale of the Moral Foundations Questionnaire.
- **Relevant Question(s):**
  - *Question 1: Morality Between Left and Right* – Do Liberals and Conservatives think of morality using different foundations?
  - *Question 2: Measuring Morality in Different Ways* – How can we measure the differences in morality between liberals and conservatives and what do these scales tell us?
- **Relevant Hypothesis:**
  - *Hypothesis 1a: Different Foundations* – Liberals and conservatives perceive the world differently. As such, they conceptualize the concept of "moral" using different foundations.
  - *Hypothesis 2: Universal Conceptualization of Morality* – Morality can be measured in different ways using different scales. Each scale will communicate different information related to morality.
- **Data Source(s):**
  1. Cooperative Congressional Elections Study – 2012 Duke Team Module
  2. The American Panel Survey – Wave 10
  3. YourMorals website
- **Analysis Type:**
  1. *Descriptive Statistics* – line graphs to illustrate response patterns to questionnaire between liberals and conservatives

2. *Linear Models* – Regression to compare aggregate individualizing and binding foundation scores between liberals and conservatives

- **Results:** Liberals tend find items in the Harm and Fairness categories to be more relevant to their conceptualization of morality whereas conservatives tend see this with the Ingroup, Authority and Purity items.

This chapter and the next covers the Moral Foundations Theory as measured by the Moral Foundations Questionnaire (MFQ) developed by Haidt and Joseph (2004) and improved upon in Graham et al. (2009) and Graham and Haidt (2010). The MFQ conceptually covers the five foundations This scale can also be divided in two broader categories – Moral Relevance and Moral Judgment. The former assesses the extent to which people consider each aspect as closely connected to their definition of morality and the latter addresses whether a respondent will deem the item to be moral or not. This chapter covers Moral Relevance and the next covers Moral Judgment. Each of these analyses is similar, but the conceptual coverage differ in their own ways.

3.1 Methods

3.1.1 The Data

The data for this set of analyses come from different sources, times, and sampling methods. The following subsections discuss the datasets that are used for understanding the moral foundations. These are the same datasets that will be used to understand the Moral Judgment subscale in the next set of analyses.

The Cooperative Congressional Elections Study

The Cooperative Congressional Elections Study (CCES) (Ansolabehere and Schaffner, 2012)[1] is a national study that contains over 50,000 participants for the Common Content data set. Questions here feature opinions on Congressional candidates along with issue stances, demographic information, and other personal data. Participants are recruited from YouGov[2] and are paid to complete the surveys. For the CCES, research teams have the option of submitting a set of questions that takes no more than 10 minutes to complete. Teams that register with the study are allotted 1,000 respondents and have the option to purchase more on a per-case basis.

The data for this study come from the Duke University team module of the 2012 CCES, which contained the 30-item Moral Foundations Questionnaire. In this set, individuals who left the entire

[1] `https://cces.gov.harvard.edu/`
[2] See `https://today.yougov.com/`

MFQ empty were excluded. From the available cases, 820 participants were included in the dataset for this study. However, an additional 81 participants had to be excluded because they answered in the lower half of the scale for the *" It is better to do good than to do bad* question and/or answered on the upper half of the scale for the *"Whether or not someone was good at math"* question. These attention check restrictions were used to maintain consistency with the (Graham et al., 2009) method. This leaves 739 individuals for the analysis.

Of the 739 individuals who remain after this initial exclusion, only 206 respondents indicated their self-identified political ideology, which was measured on a 1 (Very Liberal) to 5 (Very Conservative) scale. For the purposes of remaining consistent with the ways Graham et al. (2009) described their political ideology distribution, I combine individuals who identify as "Very Liberal" and "Liberal" to be in the "Liberal" category, keep moderates as they are, and combine those who identify as "Conservative" and "Very Conservative" to be in the "Conservative" category. Based on the responses and this recording method, there are 211 liberals, 235 moderates and 310 conservatives.

The American Panel Survey

The American Panel Survey (TAPS) (Smith, 2014)[3] is a national panel study conducted every month on a series of different subjects. The items include opinions on pressing issues and leading political figures. Wave 10 of this study, conducted in March 2012, contains the 20-item Moral Foundations Questionnaire.

The original set had 2690 participants, but once the individuals who failed the attention checks (as described for the CCES data) were removed, there were 2392 individuals left for analysis. Of these individuals, 1,568 responded to the self-identified political ideology question which was measured on a 7-point scale with 1 being "Very Liberal" and 7 begin "Very Conservative". For the purposes of remaining consistent with the ways Graham et al. (2009) described their political ideology distribution, I combine individuals who identify as "Very Liberal", "Liberal" and "Somewhat Liberal" to be in the "Liberal" category, keep moderates as they are, and combine those who identify as "Somewhat Conservative", "Conservative" and "Very Conservative" to be in the "Conservative" category. From the individuals who responded to this question, the sample contains 593 liberals, 348 moderates, and 627 conservatives.

YourMorals Website

The YourMorals website was created by Jonathan Haidt and Ravi Iyer to gather data for the moral foundations research projects that the team was conducting (Haidt, 2012). The data that will be adopted for this portion of the project is part of the original paper's dataset for their third study on moral tradeoffs (also known as the Moral Foundations Sacredness Scale) (Graham et al., 2009).

[3] `https://wc.wustl.edu/american-panel-survey`

This adoption is possible because the dataset contains the information for the Moral Foundations Questionnaire needed for this section and the next, along with all the pertinent variables to replicate the original analysis. In this study, the method of recruitment differs from the preceding ones because surveys on YourMorals.org are based on self-selection and referrals from friends on social media.

This dataset contained 8193 participants, which is the set with the largest number of participants in this current project. A total of 307 participants were removed because they answered on the higher end of the attention check, which was *"Whether or not someone liked astrology"*. As a result, 7,886 participants were part of the analysis. From this group, 5,756 individuals responded to the self-identified political ideology variable which was measured on a 7-point scale with 1 being "Very Liberal" and 7 begin "Very Conservative". For the purposes of remaining consistent with the ways Graham et al. (2009) described their political ideology distribution, I combine individuals who identify as "Very Liberal", "Liberal" and "Somewhat Liberal" to be in the "Liberal" category, keep moderates as they are, and combine those who identify as "Somewhat Conservative", "Conservative" and "Very Conservative" to be in the "Conservative" category. As such, from this sample of people who are included in the analysis and responded to the political ideology variable, 4,120 participants identified as liberal, 711 as moderate, and 925 as conservative.

From the demographic data regarding ideology described above, we see some differences between the data in this set compared to the ones from the CCES or TAPS. While all three sets vary in the extent to which people self-select into the study and varies in their payment, the data from YourMorals has a noticeably greater proportion of individuals who self-identify as a liberal compared to each of the other sets.

3.1.2 The Items

The goal of the Moral Relevance scale is to understand the factors related to each foundation that individuals take into consideration most when determining whether something is considered "moral". This is a subscale of the Moral Foundations Questionnaire and contains 2 items per foundation in the 20-item MFQ and 3 items per foundation for the 30-item MFQ[4]. The exact wording of the items are in Appendix B For each question, the scale ranged from 0 = *not at all relevant* to 5 = *very relevant*. For this subscale, participants were asked to:

> For each item, please respond using the following options: not at all relevant, not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant.

Depending on when the participants responded to the MFQ and when the data was collected, the attention check item in this scale varies. For data gathered before 2009, the attention check

[4]For the purposes of these analyses on Moral Relevance, which also applies to the Moral Judgment analyses in the next chapter, I refer to the versions of the Moral Foundations Questionnaire based on how many items would be in the *overall* questionnaire. The Moral Relevance and Moral Judgment subscales each contain half of the entire questionnaire. As such, an analysis on a 30-item MFQ is, in fact, only out of 15 items, with 3 items per foundation.

was *"Whether or not someone liked astronomy"*. However, the current version is *"Whether or not someone was good at math.* Regardless of the item that the participants saw, the goal was to eliminate participants who may not have been paying attention to the items while responding to the questionnaire. Following the analysis in Graham et al. (2009), individuals who responded on the higher end of each of these scales (3-5) were eliminated from the analyses. Beyond these attention check items, other questions in this subscale include:

1. **Harm:** Whether or not someone suffered emotionally
2. **Fairness:** Whether or not some people were treated differently than others
3. **Ingroup:** Whether or not someone's action showed love for his or her country
4. **Authority:** Whether or not someone showed a lack of respect for authority
5. **Purity:** Whether or not someone violated standards of purity and decency

The differences between the availabilities of items are worth noting for this analysis and the next. In the original paper, Graham et al. (2009) used the most preliminary version of the MFQ with data gathered from Project Implicit[5]. This scale consisted of roughly 4 to 5 questions per foundation in the Moral Relevance study[6]. This version of the MFQ has been tweaked and is no longer in use in research. The replication data will utilize the 30-item MFQ as seen in the Duke CCES and the dataset from YourMorals. The TAPS set has the 20-item MFQ. For comparison purposes, the Analysis Plan described for this section will be completed twice for the datasets that have 30 items such that results will be generated for the sample based on the 30-item version and the 20-item version. This helps address questions regarding the differences in the scales and how conclusions to our research questions might be affected by differences in the version of the MFQ used in the study.

Before conducting the analyses, I generate Crombach's Alpha values for each of the Moral Relevance foundations in each of the datasets. In the CCES 30-item Moral Foundations Questionnaire, they are: .72 (Harm), .70 (Fairness), .92 (Ingroup), .69 (Authority), and .58 (Purity). For the YourMorals 30-item MFQ, they are: .71 (Harm), .60 (Fairness), .70 (Ingroup), .69 (Authority), and .70 (Purity).

In the 20-item Moral Foundations Questionnaire, the Cronbach's Alpha for each of the datasets are as follows. In the CCES, they are: .68 (Harm), .66 (Fairness), .82 (Ingroup), .42 (Authority), and .56 (Purity). In the American Panel Study, they are: .68 (Harm), .72 (Fairness), .64 (Ingroup), .58 (Authority), and .61 (Purity). Finally, for the YourMorals data, they are: .61 (Harm), .56 (Fairness), .56 (Ingroup), .61 (Authority), and .70 (Purity).

[5]The ProjectImplicit website is run by Brian Nosek, who founded it to work on research related to the Implicit Association Test (Greenwald et al., 1998).

[6]The Moral Relevance Study was their Study 1.

3.1.3 Analysis Plan

The analysis of the Moral Relevance scale is inspired by the methods used by Graham et al. (2009) and will be applied to each of the three datasets of interest individually.

First, I averaged the scores for each foundation on the Moral Relevance subscale and calculated the global average of each foundation by self-identified ideology. These averages will be plotted on a line graph to detect descriptive patterns between political ideology on each foundation.

Next, to determine the differences between liberals and conservatives on the individualizing and binding foundations, I ran linear models that analyze how political ideology predicts individual responses to the items in the scale. To generate the dependent variable for this analysis, I created a difference score between the aggregate individualizing and binding foundations scores for each individual. The aggregate individualizing foundation score comes as an average of the answers to the items in the Harm and Fairness foundation items. The aggregate binding foundation score reflects an average of the answers on the items to the Ingroup, Authority and Purity foundation items. I conducted a linear regression with political ideology as a continuous predictor variable. This analysis is repeated for each of the datasets and scales[7].

3.2 Results

The Moral Relevance subscale is the first part of the Moral Foundations Questionnaire that aims to identify the factors that are relevant to an individual's decision on the morality of an issue. These questions are interested in understanding whether someone thinks a component is important in their view of whether an act is moral or not. For this analysis, I analyzed three different datasets that vary on their size, number of questions for the MFQ and overall representativeness.

3.2.1 Results from the CCES

The CCES is the smallest of the datasets, with 739 respondents. Figure 3.1 shows the patterns for the Moral Relevance subscale in the CCES. From the data, we notice similar patterns compared to the results of the data from Project Implicit, reproduced in Appendix A. Here, the people who identify as "Very Liberal" were more likely to have higher scores on the Harm and Fairness foundations but lower on the Ingroup, Authority, and Purity foundations. This trend levels off as we observe responses from more conservative individuals. Despite these similar movements, the effect is not as pronounced. As seen in Figure A.1 that reflects the original data, the Harm and Fairness foundations are more separate from the three binding foundations, an effect that we are not quite detecting here.

While there are clear divides for the foundations across political ideologies in the 30-item scale, this pattern does not seem to manifest for this sample with the 20-item scale. In Figure 3.2, the

[7]The data and code that I used in this section are available online. See Appendix C.

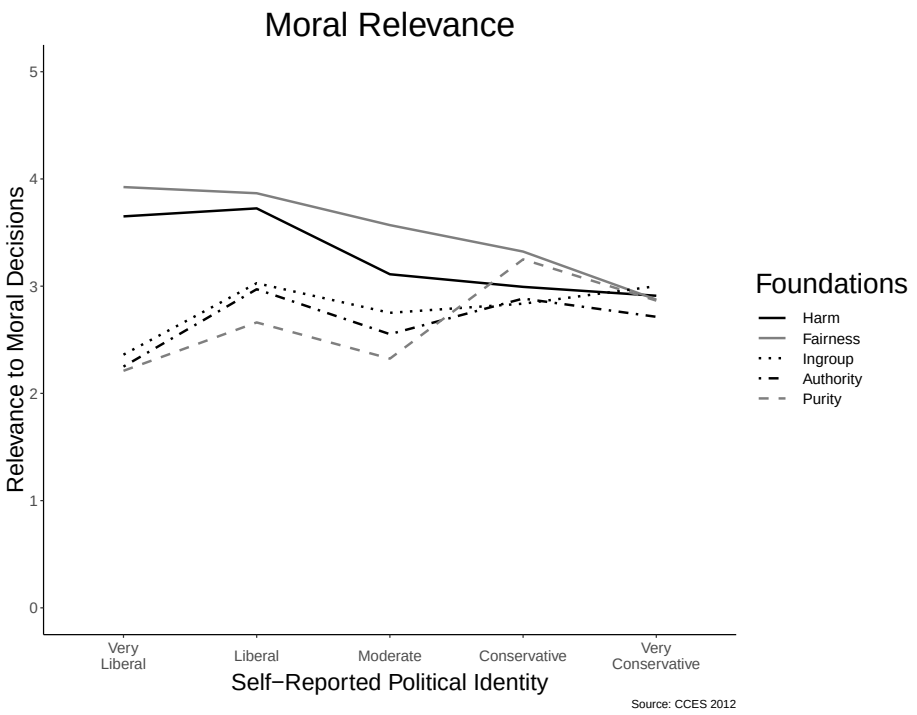

Figure 3.1: *Moral Relevance Trends for CCES Participants on the 30-item MFQ*

averages suggest that while those on the conservative end tend to use all five foundations, liberals do not differ much between their preferences for the binding (Ingroup, Authority and Purity) versus individualizing (Harm and Fairness) foundations.

From the graphs, we see patterns of convergence and divergence between the lines for liberals and conservatives. However, I am interested in whether the patterns observed in these graphs are significantly different from one another. Here, I use the linear models with the difference score between the individualizing and binding foundations as the dependent variable to analyze these trends.

The linear models, displayed in Table 3.1, depicts the results of the differences between the aggregate binding and individualizing foundation scores. On the 30-item MFQ, the aggregate individualizing and binding foundation scores differ from one another, $F(1, 203) = 85.60$, $p < .001$, and this effect is moderated by self-identified political ideology $F(1, 203) = 46.83$, $p < .001$, $\eta^2 = .19$. A similar pattern emerges for the 20-item MFQ. Here, the aggregate individualizing and binding foundation scores also differ from one another ($F(1, 192) = 29.91$, $p < .001$) and their effect is moderated by self-identified political ideology ($F(1, 192) = 18.14$, $p < .001$, $\eta^2 = .09$).

From the analyses using the CCES, similar results emerge from the 20-item and 30-item MFQ Moral Relevance items with patterns on the latter being more robust than the former. When comparing liberal and conservative respondents, the general trend suggests that liberals are, on both measurement scales, more likely to find items under the Harm and Fairness foundations to be

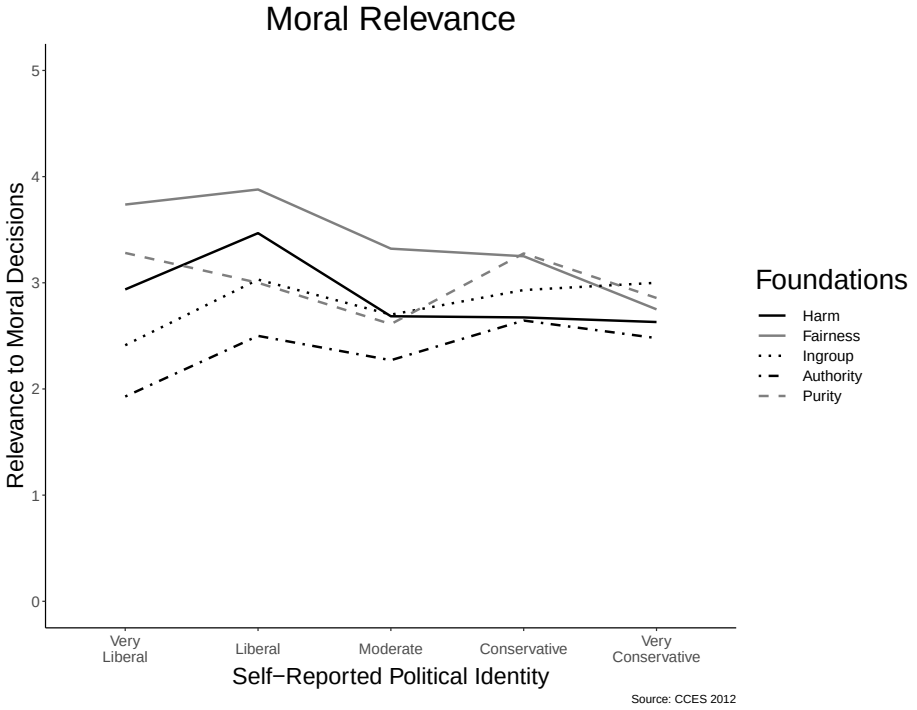

Figure 3.2: *Moral Relevance Trends for CCES Participants on the 20-Item MFQ*

Table 3.1: *CCES 2012 Linear Regression Results – Moral Relevance*

	Dependent variable:	
	30-item Difference Score	20-item Difference Score
	(1)	(2)
Ideology	−0.412	−0.305
	t = −6.843***	t = −4.259***
Constant	1.879	1.320
	t = 9.252***	t = 5.469***
Observations	205	194
R^2	0.187	0.086
Adjusted R^2	0.183	0.082
Residual Std. Error	1.040 (df = 203)	1.204 (df = 192)
F Statistic	46.828*** (df = 1; 203)	18.140*** (df = 1; 192)
Note:		*p<0.1; **p<0.05; ***p<0.01

more relevant to their conceptualization of morality whereas conservatives are more likely to find all five foundations to be relatively equally relevant to their morality.

3.2.2 Results from TAPS

The data from the TAPS dataset is unique from the others considered in this chapter because this dataset only contains 20 items in the MFQ across both of the subscales, which presents some limitations in the comparability of the results here to the other datasets in this project. However, I will still consider this set because it provides insight on the 20-item MFQ for a more diverse population based on political identity compared to the data from YourMorals and also contains a larger sample of individuals compared to the CCES. This dataset is also useful to consider since it contains a more refined self-identified political ideology scale compared to the 5 levels in the CCES question.

A summary graph for the data was created and Figure 3.3 shows the patterns for a 20-item dataset. Here, the patterns are similar to those in the CCES 30-item. People who identify as "Very Liberal" have more pronounced differences between their support for binding versus individualizing foundations. Like the patterns observed in the CCES analyses, as we move to observing those who self-identify as conservative, the differences in scores for individual and binding foundations narrows.

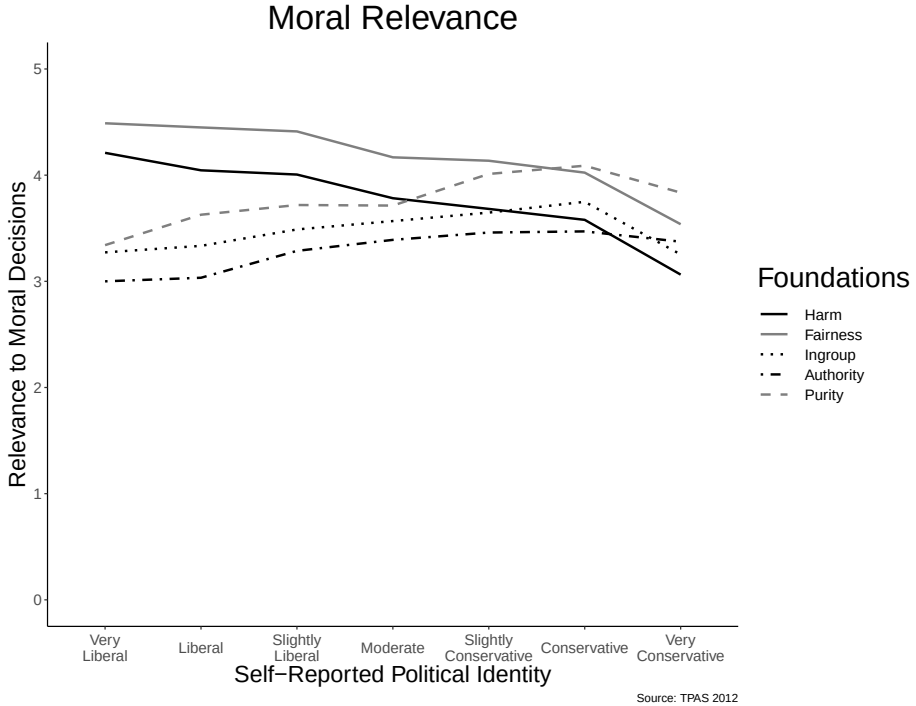

Figure 3.3: *Moral Relevance Trends for TAPS Participants on the 20-item MFQ*

For the 20-item MFQ in this dataset, a linear regression model suggests that the aggregate individualizing and binding foundations scores are different from one another ($F(1, 1249) = 548.49$,

$p < .001$) and that this effect is moderated by self-identified political ideology ($F(1, 1249) = 548.49$, $p < .001$, $\eta^2 = .19$). These results are displayed in Table 3.2.

Table 3.2: *TAPS Wave 10 Linear Regression Results – Moral Relevance*

	Dependent variable:
	20-item Difference Score
Ideology	−0.224
	t = −17.039***
Constant	1.355
	t = 23.418***
Observations	1,251
R^2	0.189
Adjusted R^2	0.188
Residual Std. Error	0.800 (df = 1249)
F Statistic	290.342*** (df = 1; 1249)
Note:	*p<0.1; **p<0.05; ***p<0.01

Through a larger, more representative sample, the results from this analysis of the TAPS data show similar patterns of Moral Relevance responses as seen in both the 20-item and 30-item analyses in the CCES. The patterns displayed in Figure 3.3 is perhaps more robust than those in Figure 3.2, which is the descriptive trends for the CCES 20-item. Liberals tend to find items in the Harm and Fairness foundations to be more relevant to their conceptualization of morality while conservatives use all five, with a slightly greater emphasis on the Ingroup, Authority and Purity foundations.

3.2.3 Results from YourMorals Website

Departing from the TAPS and turning to a larger dataset, the averages across foundations for the Moral Relevance subscale is more pronounced in Figure 3.4 with people who are "Very Liberal" having the greatest difference between the binding and individualizing foundations. As we move towards the conservative end of the political ideology spectrum, the differences between the individualizing versus binding scores begin to merge. This resembles the patterns in the Figure A.1 (Graph for original data – See in Appendix A) more than Figure 3.1 (Graph for CCES Moral Relevance) or Figure 3.3 (Graph for TAPS data).

Looking at the descriptive statistics for the 20-item MFQ seen in Figure 3.5, the results, like the ones in Figure 3.4 on the descriptive statistics for the 30-item scale, resemble the results from the original paper, as seen in Appendix A. As we move along political ideology towards the conservative end, the scores related to each of the foundations begin to merge, which is a similar pattern seen for the 30-item scale. On the 20-item scale, the scores for Authority for each ideology category is lowest for each of the ideology categories compared to the 30-item scale.

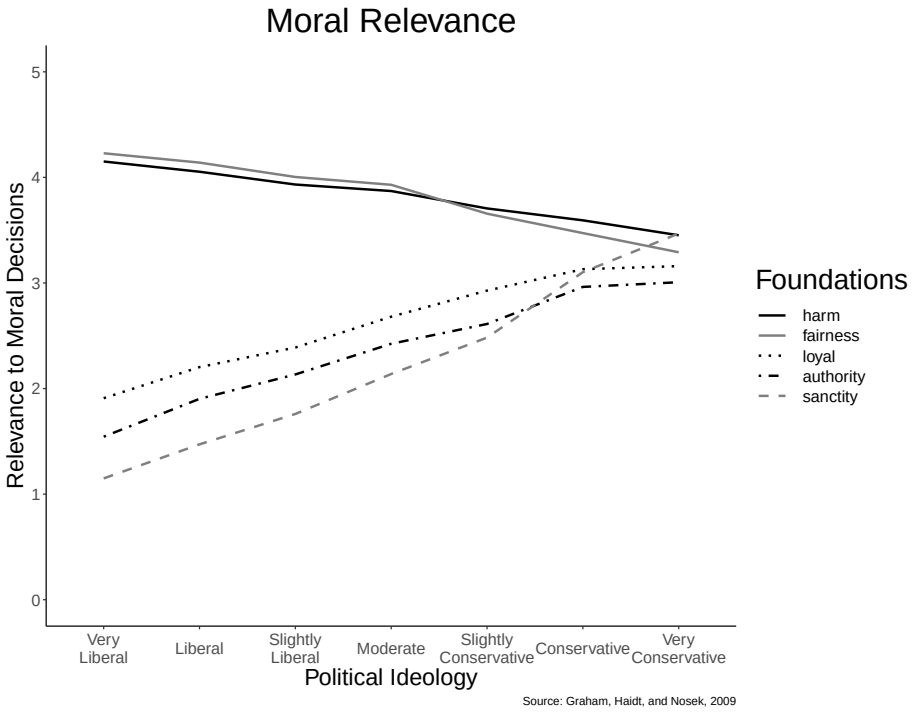

Figure 3.4: *Moral Relevance Trends for YourMorals.org MFQ Participants on the 30-item MFQ*

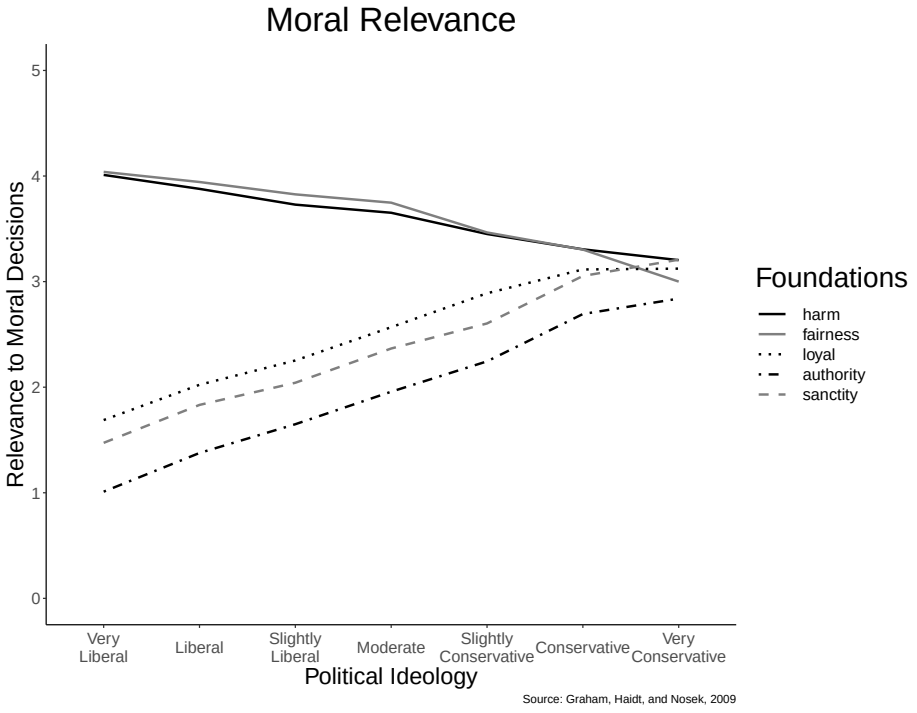

Figure 3.5: *Moral Relevance Trends for YourMorals.org MFQ Participants on the 20-item MFQ*

The results, as displayed in Table 3.3, of the linear regression for this data confirm that, for the 30-item Moral Foundations Questionnaire, the aggregate individualizing and binding foundation scores are significantly different from one another ($F(1, 5770) = 17{,}195.08$, $p < .001$) and that this effect is moderated by self-identified political ideology ($F(1, 5770) = 3340$, $p < .001$, $\eta^2 = .37$). Furthermore, this effect is also observed in the 20-item MFQ, where the aggregate individualizing and binding foundation scores differ from one another ($F(1, 5770) = 13{,}069.06$, $p < .001$) and that the effect is moderated by politics ($F(1, 5770) = 2790$, $p < .001$, $\eta^2 = .33$).

Table 3.3: *YourMorals Linear Regression Results – Moral Relevance*

	Dependent variable:	
	30-item Difference Score	20-item Difference Score
	(1)	(2)
Ideology	−0.420	−0.437
	t = −57.790***	t = −52.818***
Constant	3.096	3.070
	t = 131.132***	t = 114.318***
Observations	5,772	5,772
R^2	0.367	0.326
Adjusted R^2	0.366	0.326
Residual Std. Error (df = 5770)	0.853	0.970
F Statistic (df = 1; 5770)	3,339.706***	2,789.745***
Note:		*p<0.1; **p<0.05; ***p<0.01

The sample in this set has the advantage of a large sample size, but this sample does skew towards the liberal side. From both the 20-item and 30-item MFQ analysis on the Moral Relevance subscale, the results show that the number of items did not necessarily affect the patterns that are observed since both trends are similarly robust. Respondents who are most liberal see the greatest difference between their individualizing and binding foundation scores, and this difference narrows among the more conservative respondents.

3.3 Discussion

From the analysis of the Moral Relevance subscale items in this chapter, we see that each of the datasets, despite the differences in the sampling methods and sample sizes, show similar patterns. The results overall suggest that, from the self-reported data of liberals and conservatives, people differ in their definitions of morality and this effect is highly based on their political ideologies. While the descriptive statistics do not show this pattern to the same extent for each of the datasets, the linear models help illustrate this conclusion. Furthermore, we see these patterns hold even in

the 20-item MFQ, which was observed for the CCES and YourMorals datasets.

The datasets used in this section differ from one another in key ways. The Cronbach's Alpha differ widely between sets such that what is reliable in one source may not be in the other. Additionally, the distribution of political ideologies differed between the sets such that the CCES and TAPS were more evenly distributed than the YourMorals data. As a result, while we still have similar conclusions in each of the results, the actual statistical values differ widely.

This leads me to address the question: "Who visits `YourMorals.org` and does this matter?" We know from the websites of the CCES and TAPS that the sample is representative of the national population, and the distributions of the political ideologies confirms this. However, when we look at the distribution of political ideologies for the YourMorals data, it is skewed towards the liberal end such that we do not have, comparatively, as many conservatives as we do liberals. From the literature, we know that this website was created as a mechanism to study morality (Haidt, 2012). Instead of gathering data on Amazon Mechanical Turk or YouGov, the authors elected to create their own platform and attract voters through social networking sites and shares within friendship networks. This might create a cost-effective way to gather data but given the homogeneity of networks in information sharing (Ahn et al., 2014), especially in online settings (Flaxman et al., 2016), it might lead to the imbalance in representation of political ideologies in the sample size and detecting significant effects on one end of the spectrum as a result of the large number of individuals represented.

As such, future research can be dedicated to creating a space that gathers data with the sample size of the YourMorals dataset but with the representativeness of the CCES or TAPS set. The CCES and TAPS recruiters are able to get a representative sample but the costs are high, especially for team modules on the CCES. By researching an innovative way to get the best of the worlds in data collection, it might allow us to get a better, and more representative, picture of how everyday liberals and conservatives understand morality.

This avenue of research addresses a limitation in the Moral Judgment subscale, which I will explore in the next chapter.

Chapter 4

Moral Judgment

At a Glance

- **Goal:** To explore the Moral Judgment subscale of the Moral Foundations Questionnaire.
- **Relevant Question(s):**
  - *Question 1: Morality Between Left and Right* – Do Liberals and Conservatives think of morality using different foundations?
  - *Question 2: Measuring Morality in Different Ways* – How can we measure the differences in morality between liberals and conservatives and what do these scales tell us?
- **Relevant Hypothesis:**
  - *Hypothesis 1a: Different Foundations* – Liberals and conservatives perceive the world differently. As such, they conceptualize the concept of "moral" using different foundations.
  - *Hypothesis 2: Universal Conceptualization of Morality* – Morality can be measured in different ways using different scales. Each scale will communicate different information related to morality.
- **Data Source(s):**
  1. Cooperative Congressional Elections Study – 2012 Duke Team Module
  2. The American Panel Survey – Wave 10
  3. YourMorals website
- **Analysis Type:**
  1. *Descriptive statistics* – line graphs to illustrate response patterns to questionnaire between liberals and conservatives

2. *Linear Models* – Regression to compare aggregate individualizing and binding foundation scores between liberals and conservatives

- **Results:** Liberals tend to judge items in the Harm and Fairness categories to be moral whereas conservatives tend to judge items in the Ingroup, Authority and Purity categories to be such.

As discussed in the previous chapter, the Moral Foundations Questionnaire (MFQ) is made up of two subscales – Relevance and Judgment. In the previous chapter, I explored the Moral Relevance subscale. This chapter looks at Moral Judgment using the same datasets and analysis methods. The Moral Judgment subscale consists of 10 items on the 20-item MFQ and 15 items on the 30-item MFQ. In this section of the questionnaire, respondents are presented with a series of items and are asked to determine whether they will consider each of the topics to be moral or not.

4.1 Methods

4.1.1 The Data

As mentioned in the Moral Relevance methods section, the data for the Moral Judgment subscale of the MFQ come from the same set of data. Here, I use the same participants, just as Graham et al. (2009) did in their paper. I will use the items from the CCES, TAPS and YourMorals datasets. As mentioned in the data section in the Moral Relevance analysis, the same limitations, especially on the TAPS dataset also apply here.

4.1.2 The Items

While the data for the Moral Judgment subscale come from the same sources for this paper, the items are different. Here, I analyze the second part of the Moral Foundations Questionnaire that considers the extent to which individuals find the topics in the question to be moral. The full text of the question is in Appendix B. Here, the response scale is from a 0 = *Strongly Disagree* to 5 = *Strongly Agree* scale. Similar to the Moral Relevance subscale, there are 3 items per foundation in the 30-item MFQ and 2 items per foundation in the 20-item MFQ. Specifically, participants are asked to:

> For each item, please respond using the following options: strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree.

The attention check item for this scale is universal throughout the versions and it asks *"It is better to do good than to do bad"*. For this question, the goal is to force participants to answer on the upper half of the scale. As a result, participants who answer on the lower end (0-2) are excluded

from the analysis, based on the methods in Graham et al. (2009). Participants who were weeded out under the Moral Relevance analysis were also excluded for the Moral Judgment. Since Graham et al. (2009) excluded participants who did not fulfill the attention check requirements for one or both of the subscales, the number of respondents for both analyses in this project will remain the same as the previous section and included based on the same attention check requirements. Beyond this attention check item, a sample of other items in this subscale include:

1. **Harm:** Compassion for those who are suffering is the most crucial virtue.
2. **Fairness:** When the government makes laws, the number one principle should be ensuring that everyone is treated fairly.
3. **Ingroup:** I am proud of my country's history.
4. **Authority:** Respect for authority is something all children need to learn.
5. **Purity:** People should not do things that are disgusting, even if no one is harmed.

For this scale, the limitations in their differences between the original set of items used in the Graham et al. (2009) paper also apply here. Given that the present version of the MFQ doe not have the same number of items as the original set of data collected from ProjectImplicit, an exact replication with different samples is not possible. However, this allows for a second opportunity to explore how the differences in the number of items influences the conclusions related to the differences between liberals and conservatives on moral foundations.

Before moving to the analyses, I look at the Crombach's Alpha for the Moral Judgment items on each of these datasets, first for the 30-item scales, followed by the 20-item scales.

In the 30-item MFQ, the Cronbach's Alpha values for the Moral Judgment subscale in the CCES are: .30 (Harm), .18 (Fairness), .42 (Ingroup), .50 (Authority), .71 (Purity). For the YourMorals data, these are: .51 (Harm), .54 (Fairness), .42 (Ingroup), .59 (Authority), .75 (Purity).

In the 20-item MFQ, the Cronbach's Alpha values for the Moral Judgment subscale in the CCES are: .29 (Harm), .25 (Fairness), .26 (Ingroup), .22 (Authority), .54 (Purity). In the TAPS dataset, these are: .35 (Harm), .46 (Fairness), .17 (Ingroup), .29 (Authority), .49 (Purity). Finally, for the YourMorals data, these are: .49 (Harm), .67 (Fairness), .31 (Ingroup), .51 (Authority), .71 (Purity).

4.1.3 Analysis Plan

The analysis plan for the Moral Judgment subscale will emulate those completed for the Moral Relevance subscale, including the limitations regarding the TAPS dataset.

For the first part of the analysis, I, like the previous analysis, averaged scores across all of the items in the Moral Judgment subscale for each foundation for each participant. Then, I averaged the scores on each foundation by all the individuals who identify with each of the political ideology

categories. These points will be plot on a line graph to detect general descriptive patterns among different political ideologies for each of the foundations.

Similar to the Moral Relevance subscale, I also ran linear models to test the differences between the aggregate individualizing and binding moral foundation subscale scores. To create this score, I subtracted the aggregate individualizing foundation score from the aggregate binding foundation score. Just like the Relevance subscale, the aggregate individualizing foundation score reflects the average of the answers to the items on the Harm and Fairness foundation. The aggregate binding foundation score reflects the average of the answers to the Ingroup, Authority and Purity foundation items. I conducted linear regressions that look at this difference score as the dependent variable with political ideology as the independent variable[1].

4.2 Results

The Moral Judgment subscale is the second component of the Moral Foundations Questionnaire and it is interested in whether individuals deem an act to be moral or not. These acts are sorted into five foundations and can be analyzed in the same way that the Moral Relevance subscale is analyzed. A primary difference between the subscales is that the former considers characteristics of an act while the latter considers acts itself.

In the descriptive statistics graphs for the main paper, the authors inserted mid-line on the y-axis where $y = 2.5$. This line is to signify the midpoint in the scale and aid readers into seeing where people in each political ideology lie regarding their level of agreement for each foundation (on average) on the moral judgment items overall. For the descriptive statistics graphs in this paper, I follow suit and inserted this mid-line as a reference point for describing the average level of agreement for people in each class of political ideology on each foundation.

The results of the original paper suggest that liberals and conservatives differ on what they judge to be moral such that the more liberal one becomes, the less likely they are to judge items related to the binding foundations to be moral and also are, on average, most likely to disagree than agree. On the other hand, as people become more conservative, they are more likely to see everything as roughly the same regarding morality, and the most conservative of the group are slightly more likely to agree with statements from the binding foundations to be moral.

4.2.1 Results from the CCES

From the results in the CCES, which was a smaller sample and contained only 5 levels on the political ideology variable, the general pattern does resemble the conclusions of the original paper, but the averages do not. For both the descriptive statistics on the 30-item (Figure 4.1) and the

[1]The data and code that I used in this section are available online. See Appendix C.

20-item (Figure 4.2), the overall pattern show that as people become more liberal, there is a clearer differentiation between their average agreement towards issues related to the individualizing versus the binding foundations. Here, the average scores for the Harm and Fairness foundations are higher than the average scores for the binding foundations. Conversely, as people become more conservative, they tend to hold all five foundations as roughly the same when it comes to morality. Similar to the original paper, the 30-item patterns (Figure 4.1) show that conservatives are more likely to agree that topics related to the binding foundations are moral compared to their likelihood of agreeing that topics related to the individualizing foundations are moral. In the 20-item (Figure 4.2), we are not as likely to see this patterns those who self-identify as extremely conservative agree, on a similar average rate, that the topics related to each of the five foundations are moral.

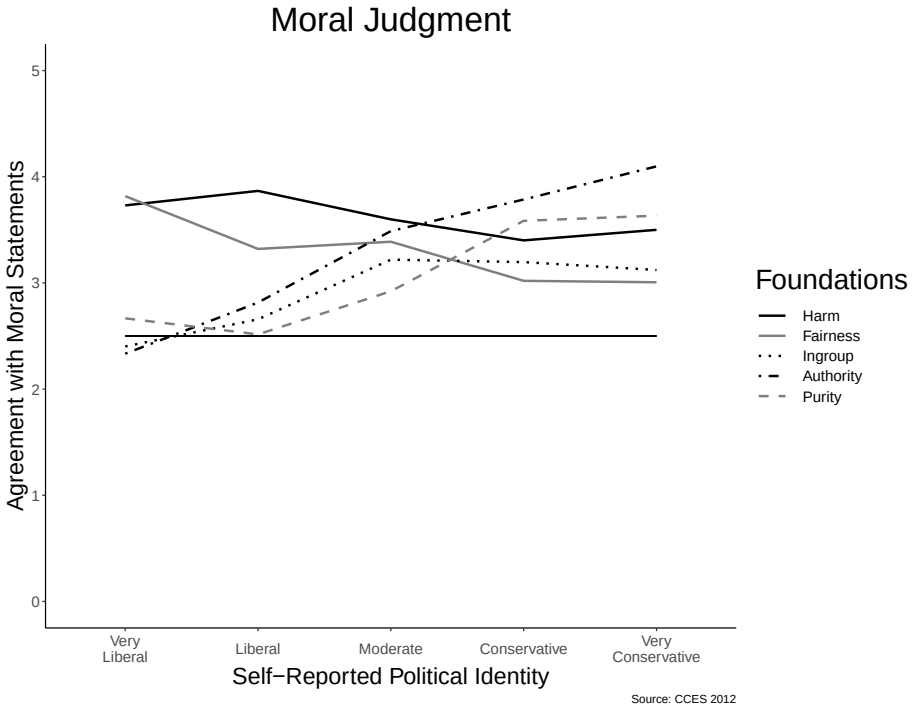

Figure 4.1: *Moral Judgment Trends for CCES Participants on the 30-item MFQ*

Focusing on the likelihood of agreement, there are clear differences between the responses for the 30- and 20-item MFQ on this dataset compared to the original results. Whereas in the original paper there were people who scored below average on some foundations based on their political ideologies, this pattern was not evident in the descriptive statistics for the CCES. Respondents across the board, and for a majority of the time, were more likely to agree than disagree as most averages are above the mid-line at $y = 2.5$. The exception for both versions of this scale was for those who are most liberal on the Authority foundation, where they were, on average, less likely to agree to the topics in the foundation to be moral when compared to the mid-line, along with other foundations.

Turning to the linear regression models, the results displayed in Table 4.1 suggest that liber-

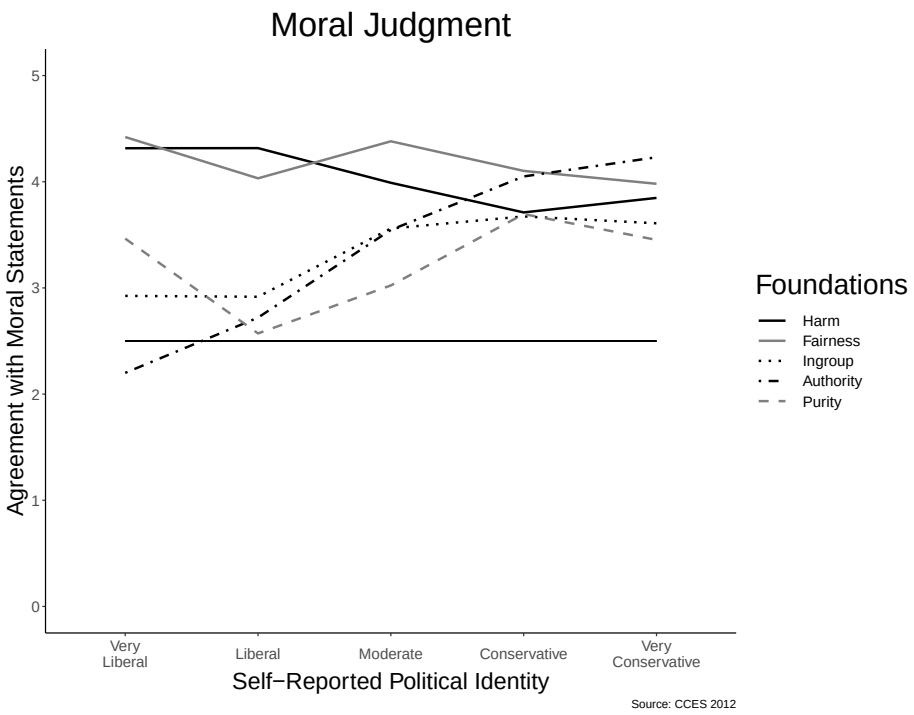

Figure 4.2: *Moral Judgment Trends for CCES Participants on the 20-item MFQ*

als and conservatives prioritize different moral foundations such that the aggregate individualizing foundations differ from the aggregate binding foundations ($F(1, 204) = 69.91$, $p < .001$) and this effect is moderated by self-identified political ideology in the 30-item MFQ ($F(1, 204) = 58.88$, $p < .001$, $\eta^2 = .23$). For the 20-item MFQ, we see similar results. Here, the aggregate individualizing foundation scores differ from the binding foundation scores ($F(1, 199) = 65.84$, $p < .001$) and this effect is also moderated by self-identified political ideology ($F(1, 199) = 34.56$, $p < .001$, $\eta^2 = .15$)

From both the 20-item and 30-item version of the MFQ, the patterns in responses on the Moral Judgment subscale are similar in these analyses. Respondents who identify as liberal are more likely to see topics in the Harm and Fairness category as moral whereas conservatives tend to see topics in Ingroup, Authority, and Purity to be moral. The difference between the individualizing and binding foundations is smaller for conservative respondents whereas this gap is wider for liberal individuals.

4.2.2 Results from TAPS

The results from the 20-item MFQ in the American Panel Survey shows similar results as both versions of the MFQ in the CCES for both general trends and rates of agreement. Like the descriptive statistics form the CCES, the level of agreement on the moral statements are all above the $y = 2.5$ mid-line. This suggests that people, regardless of their political ideology, are more likely to agree that the statements are moral than not for each of the foundations. The divide between the individualizing and binding foundations for those who are liberal versus those who are conservative

Table 4.1: *CCES 2012 Linear Regression Results – Moral Judgment*

	Dependent variable:	
	30-item Difference Score	20-item Difference Score
	(1)	(2)
Ideology	−0.500	−0.457
	t = −7.673***	t = −5.879***
Constant	1.836	2.127
	t = 8.361***	t = 8.114***
Observations	206	201
R^2	0.224	0.148
Adjusted R^2	0.220	0.144
Residual Std. Error	1.124 (df = 204)	1.327 (df = 199)
F Statistic	58.882*** (df = 1; 204)	34.563*** (df = 1; 199)
Note:		*p<0.1; **p<0.05; ***p<0.01

are more pronounced for the results in this set than the 20-item CCES results.

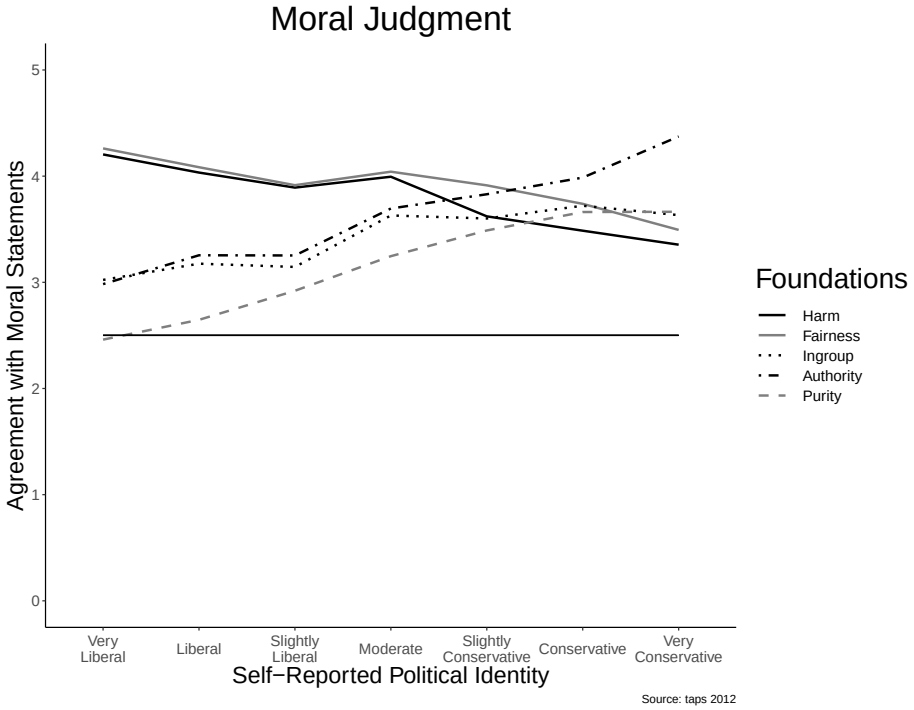

Figure 4.3: *Moral Judgment Trends for TAPS Participants*

In the linear regression analysis, the results displayed in Table 4.2 confirm the trends observed in the line graphs. Based on these results, the aggregate individualizing foundations differ significantly from the aggregate binding foundations ($F(1, 1249) = 565.48$, $p < .001$), and this effect is moderated by self-identified political ideology ($F(1, 1249) = 364.60$, $p < .001$, $\eta^2 = .23$).

Table 4.2: *TAPS Wave 10 Linear Regression Results – Moral Judgment*

	Dependent variable:
	20-item Difference Score
Ideology	−0.310
	t = −19.095***
Constant	1.699
	t = 23.776***
Observations	1,251
R^2	0.226
Adjusted R^2	0.225
Residual Std. Error	0.988 (df = 1249)
F Statistic	364.604*** (df = 1; 1249)
Note:	*p<0.1; **p<0.05; ***p<0.01

The patterns from the 20-item MFQ in this dataset show similar patterns communicated earlier in the analyses on the 20-item CCES MFQ. Liberal respondents judged items in the Harm and Fairness foundations to be moral at a higher rate than the binding foundations. Conservative respondents, on the other hand, were more likely to, on average, judge all items to be the same regarding morality, with slightly more emphasis on the Authority foundation.

4.2.3 Results from YourMorals Website

The data from the YourMorals Website, based on the demographics, most resembles those of the original paper. As discussed in the Methods chapter, the number of participants and the lean towards liberalism makes this set and the Project Implicit sets more identical to one another compared to how the CCES or TAPS compares to either of these sets. As a result, it is not a surprise that the descriptive statistics in the YourMorals data set most resembles the original results than CCES or TAPS on the 30-item scale.

On both of the graphs for the descriptive statistics on the 30-item (Figure 4.4) and 20-item (Figure 4.5) scale, the results show a similar pattern. Those who self-identify as "Very Liberal", "Liberal", and "slightly Liberal" tend to have a differentiation between the individualizing and binding foundations such that they are more likely to agree that statements relating to the individualizing foundations are moral and less likely to do the same for the binding foundations. Conservatives, on the other hand, especially for the Authority Foundation, are more likely to agree that statements in the binding foundations are moral. While this divide for conservatives exists, it is the case that most of them are more likely to agree that the statements on all foundations are moral than liberals. In other words, liberals are more likely to disagree that a statement, especially in the binding foundations, is moral than conservatives are to agree that statements, especially in the individualizing

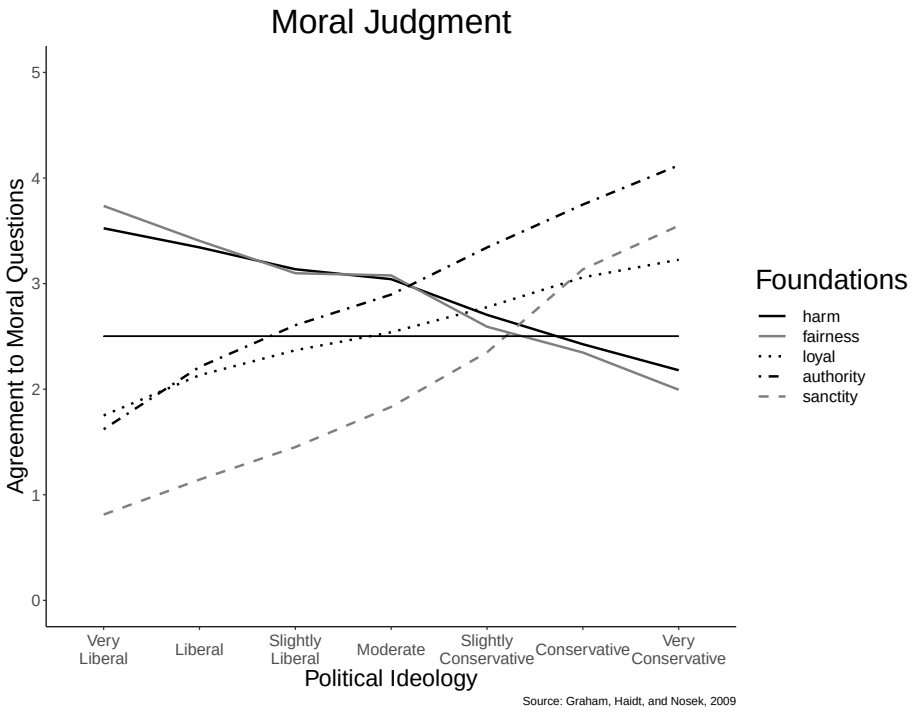

Figure 4.4: *Moral Judgment Trends for YourMorals.org MFQ Participants on the 30-item MFQ*

foundations, is moral.

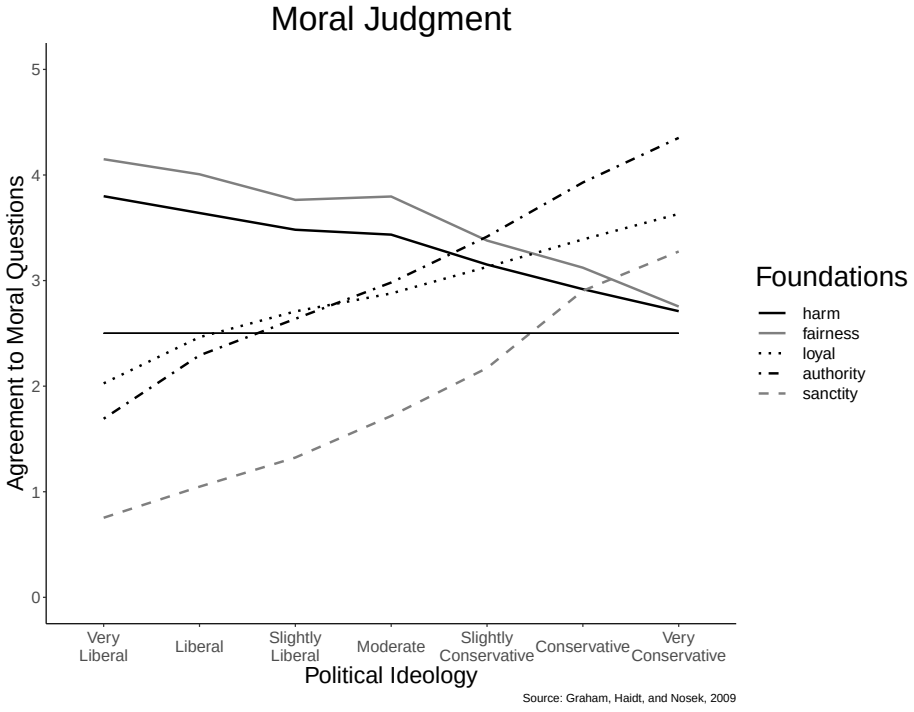

Figure 4.5: *Moral Judgment Trends for YourMorals.org MFQ Participants on the 20-item MFQ*

Turning to the linear regression models for this dataset, the results displayed in Table 4.3 confirm

the observations made from the line plots. Here, for the 30-item MFQ, the results show that the aggregate individualizing foundations differ from the aggregate binding foundation ($F(1, 5766) = 10{,}243.46$, $p < .001$) and this effect is moderated by self-identified political ideology ($F(1, 5766) = 4957$, $p < .001$, $\eta^2 = .46$). These patterns are also observed in the 20-item MFQ, where the aggregate individualizing foundations also differ significantly from the aggregate binding foundation ($F(1, 5766) = 10{,}424.41$, $p < .001$), and this effect is moderated by self-identified political ideology ($F(1, 5766) = 3552$, $p < .001$, $\eta^2 = .38$).

Table 4.3: *YourMorals Linear Regression Results – Moral Judgment*

	Dependent variable:	
	30-item Difference Score	20-item Difference Score
	(1)	(2)
Ideology	−0.599	−0.544
	t = −70.407***	t = −59.601***
Constant	2.796	3.025
	t = 101.210***	t = 102.131***
Observations	5,768	5,768
R^2	0.462	0.381
Adjusted R^2	0.462	0.381
Residual Std. Error (df = 5766)	0.998	1.070
F Statistic (df = 1; 5766)	4,957.096***	3,552.310***
Note:		*p<0.1; **p<0.05; ***p<0.01

Of the three datasets used in this analysis, the patterns on both the 20-item and 30-item MFQ for this sample has the most pronounced differences between liberal and conservative respondents. Like the other two samples, liberal respondents in this sample were, on average, more likely to judge items in Harm and Fairness as moral while conservative respondents are more likely to judge binding foundation topics as moral. In the previous trends, the difference in individualizing versus binding foundations were present for liberal respondents but this pattern tapered off for conservative respondents. In this sample, however, the patterns show that people who identified as most conservative have a noticable difference in their judgment of morality in favor of the binding foundations over individualizing foundations.

4.3 Discussion

The global picture of the results in the Moral Judgment subscale give off a similar image as the Moral Relevance subscale results. From each of the datasets, the pictures suggest that liberals and conservatives differ in the moral foundations that they cherish. Liberals are still more likely to judge

items related to Harm and Fairness as more moral than their conservative counterparts.

Since these analyses use the same data as the Moral Relevance analyses in the previous chapter, the same limitations on sample representativeness apply here. Future research can work to address this for the Moral Foundations Questionnaire overall and see how larger, more representative samples can help us better understand moral trends between people with different political ideologies.

An additional limitation arises in the Moral Judgment subscale that was not as big of a concern for the Moral Relevance items. While the Cronbach's Alpha for the Moral Relevance items were not particularly strong across the board, they still reflected better reliability for the items than the Moral Judgment subscale. For this project, I continue to use these items as they have been tested across morality research since the publication of the Graham et al. (2009) paper. But without these tests and verification from past research, I would proceed with caution regarding the use of this subscale. Since Crombach's alpha assesses reliability, these low values indicate that the scale does not measure with the same precision at every turn. This is a limitation with the data and samples in this chapter. As such, future research can be dedicated to editing these items to ensure that they have the same reliability across sample size and diversity in their distributions.

In the next chapter, I turn to a different scale used in the Graham et al. (2009) paper – Moral Tradeoffs, or the Moral Foundations Sacredness Scale.

Chapter 5

Moral Foundations Sacredness Scale

At a Glance

- **Goal:** To explore the sacralization process in morality.
- **Relevant Question(s):**
  - *Question 1: Morality Between Left and Right* – Do Liberals and Conservatives think of morality using different foundations?
  - *Question 2: Measuring Morality in Different Ways* – How can we measure the differences in morality between liberals and conservatives and what do these scales tell us?
- **Relevant Hypothesis:**
  - *Hypothesis 1a: Different Foundations* – Liberals and conservatives perceive the world differently. As such, they conceptualize the concept of "moral" using different foundations.
  - *Hypothesis 2: Universal Conceptualization of Morality* – Morality can be measured in different ways using different scales. Each scale will communicate different information related to morality.
- **Data Source(s):**
  1. Measuring Morality – Moral Foundations Sacredness Scale
- **Analysis Type:**
  1. *Descriptive statistics* – line graphs to illustrate response patterns to questionnaire between liberals and conservatives

2. *Linear Models* – Regression to compare aggregate individualizing and binding foundation scores between liberals and conservatives

- **Results:** Liberals are more likely to say "never for a million dollars" to items in the Harm and Fairness categories whereas conservatives are more likely to do this for the Ingroup, Authority, and Purity categories.

In this chapter, I analyze the Moral Foundations Sacredness Scale originally developed and tested in Graham et al. (2009). This scale analyzes what people hold most sacred and would not trade off any amount of money that would get them to violate these values. The theoretical premise behind the use of this scale to understand one's moral framework is explained in Graham and Haidt (2012). When people consider something to be moral, they are most likely to also consider it to be sacred. This is because people associate what is moral with what is right and what is core to the preservation of their identity, family, religion, and culture (Greene, 2014; Haidt, 2012; Turiel, 2002). The Moral Foundations Sacredness Scale adopts the idea of the sacralization process that is associated with the process of moralizing a topic and combines it with the foundations of the Moral Foundations Theory to create a scale that assesses the extent to which people value topics in a certain foundation. This scale operates on the idea of the trade-offs that people are likely to make in their daily lives. For example, when people make purchases, they trade a sum of money for a good or a service because they value the outcome more than the money. For the items in this scale that we will explore later, participants are placed in a similar circumstance. They are asked to respond with an amount of money that they would need to be offered in order for them to do the task. This suggests that, at some point, individuals might value preserving their morality than the money. As the saying goes,"never for a million dollars" is the concept that prevails. From this scale, we can tell what people find most sacred, or closest to their conceptualization of morality, based on what they would not do, even if they were given the option to get a million dollars for it.

5.1 Methods

5.1.1 The Data: Measuring Morality

The Measuring Morality dataset[1] is a project conducted by the Kanan Institute for Ethics at Duke University. The project aims to understand what people consider to be moral and to find possible explanations for differences in morality between individuals who hold different identities.

This dataset contains several well-researched scales that measure different aspects of morality, including the Moral Politics Scale (also known as the Lakoff Scale), Moralization of Politics Scale,

[1] `https://kenan.ethics.duke.edu/attitudes/resources/measuring-morality/`

Schwartz's Portrait Values Questionnaire, and many others. The main scale of interest for this analysis is the Moral Foundations Sacredness Scale (Graham and Haidt, 2012), which measures the extent to which individuals would be willing to violate their moral values in exchange for a hypothetical amount of money.

In this study, there are 1,519 participants. Each participant was included in this analysis as there were no attention check items in this scale, which was also the case in Graham et al. (2009). Of those who responded to the self-identified political ideology variable, 401 self-identified as liberal, 533 moderate, and 567 conservative. This variable was measured on a 7-point scale with 1 being "Very Liberal" and 7 begin "Very Conservative". For the purposes of remaining consistent with the ways Graham et al. (2009) described their political ideology distribution, I combine individuals who identify as "Very Liberal", "Liberal" and "Somewhat Liberal" to be in the "Liberal" category, keep moderates as they are, and combine those who identify as "Somewhat Conservative", "Conservative" and "Very Conservative" to be in the "Conservative" category.

5.1.2 The Items

The Moral Foundations Sacredness Scale in the Measuring Morality dataset is a shortened version of the Moral Tradeoffs items that were used in the original paper. This scale was designed to understand the evils that people might be willing to conduct in order to preserve their what they hold most sacred (Graham and Haidt, 2012). By answering the items in this scale, respondents are subconsciously made to reflect on their visions on sacredness. Consequently, the topics are written such that they trigger a gut reaction within the respondents as they speculate their choices. The items each present an action that is not what one would regularly do and would often seem atypical, or even immoral to some individuals. In the responses, participants were asked to indicate the minimum amount of money they would have to be paid in order to do each of these acts that would violate their morals. As described by Graham and Haidt (2012), higher dollar amounts indicate that the respondent labeled the topic as sacred, which implies that they find it immoral to participate in these actions even if they were paid to do so.

Participants were asked to respond to the questionnaire using the directions and answer choices described as follow:

> For each item, please respond using the following options:
>
> 1 = \$0 (I'd do it for free)
>
> 2 = \$10
>
> 3 = \$100
>
> 4 = \$1,000
>
> 5 = \$10,000

6 = $100,000

7 = a million dollars

8 = never for any amount of money

The original scale in the Graham et al. (2009) paper contained 5 or 6 items per foundation whereas the version in Measuring Morality only contained 3 items per foundation. A sample of the items used in the questionnaire are:

1. **Harm:** Kick a dog in the head, hard
2. **Fairness:** Cheat in a game of cards played for money with some people you don't know well
3. **Ingroup:** Burn your country's flag, in private (nobody else sees you)
4. **Authority:** Make a disrespectful hand gesture to your boss, teacher, or professor
5. **Purity:** Get a blood transfusion of 1 pint of disease-free, compatible blood from a convicted child molester

Before moving to the analyses, I look at the Cronbach's Alpha values for each of the foundations. In this dataset, they are: .66 (Harm), .72 (Fairness), .64 (Ingroup), .64 (Authority), .44 (Purity).

5.1.3 Analysis Plan

To analyze the Moral Foundations Sacredness Scale, I draw a line graph that reflects the average amount people would want to be paid to violate their moral values as a function of their political ideology.

Next, I conduct a linear regression model to explore the differences between the aggregate individualizing and binding foundation scores, along with the ways that political ideology influences the model. Here, the dependent variable is the difference between the aggregate individualizing and the aggregate binding foundation scores. The aggregate individualizing foundation score is created as an average of the items in the Harm and Fairness foundation scales. The aggregate binding foundation score is the average of the items in the Ingroup, Authority, and Purity foundation scale[2].

5.2 Results

The Moral Foundations Sacredness Scale was known as the Moral Tradeoffs study in the original paper. This scale is interested in whether or not people will make exceptions to their values and complete otherwise immoral acts in a hypothetical situation where they are given money in exchange.

[2]The data and code that I used in this section are available online. See Appendix C.

The responses on this scale look at how much someone would have to be paid to violate their sense of morality and complete the act. The data in this section is from the Measuring Morality dataset, which contains a subsection of the original Moral Tradeoffs questionnaire.

Like the previous analyses, the number of questions allocated to each of the foundations do not necessarily match up. For the Moral Relevance section, the original dataset had 4 questions per foundation whereas the sections for the sets used here has at most 3 per section. In the Moral Judgment section, the original set also had roughly 5 questions per foundations whereas the sets here also have 3 per section. However, for the Moral Foundations Sacredness Scale, the original scale had 5 or even 6 questions and the current scale in the Measuring Morality set had 3 per foundation. In the original set, there was around 8 times more participants than the current set. In sum, due to these differences, this set of results may not be a complete replication on many fronts, but can still present interesting results to explore.

In the descriptive statistics displayed in Figure 5.1, the data do not suggest a clear difference between the foundations and political ideology. While there are slight differences between each of the foundations from one another, people, in general, were not willing to violate their morals across the board unless they were paid at least $10,000. This pattern was more exaggerated in the original dataset such that the differences in the amount of money that one would have to be paid was lower for liberals on the binding foundations and conservatives would be not as likely to violate their foundations unless paid at least $10,000 on each foundation[3]. Across the spectrum of self-identified political ideology groups, people generally found topics under the Harm/Care category to be most sacred, which is in line with the results from Schein and Gray (2015) where the authors find that liberals and conservatives, alike, tend to find issues in the Harm foundation to be most important in their moral palette.

Looking at the linear regression model, the results suggest that the aggregate individualizing and binding foundations differ from one another ($F(1, 1486) = 157.85$, $p < .001$) and this effect is moderated by politics ($F(1, 1486) = 37.86$, $p < .001$, $\eta^2 = .025$).

While the descriptive statistics displayed in Figure 5.1 show that participants across all of the categories on the self-identified political ideology spectrum tend to not violate the Harm foundation topics, the results from the linear regression displayed in Table 7.3 suggest that there is still a difference between the foundations that liberals and conservatives label as sacred in their minds. Liberals generally do not violate the items in the Harm and Fairness foundations. Conservatives, on the other hand, generally find the items in the Ingroup, Authority, and Purity foundations to be more sacred and tend to hesitate to violate these foundations.

[3]See Figure A.3

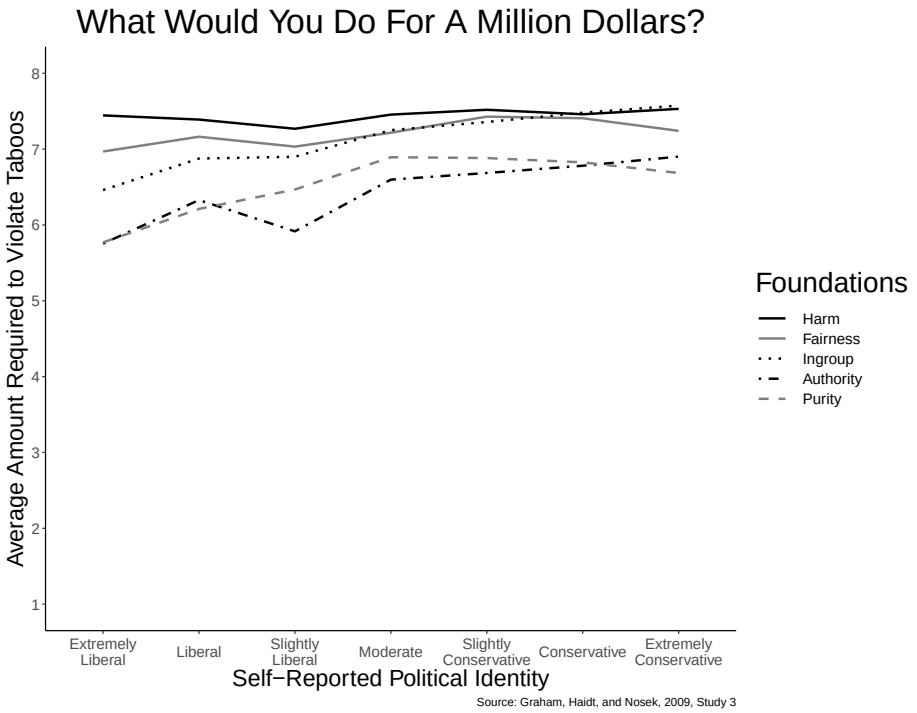

Figure 5.1: *Moral Foundation Sacredness Scale averages by Political Ideology from the Measuring Morality Dataset*

Table 5.1: *Measuring Morality Linear Regression Results – Moral Foundations Sacredness Scale*

	Dependent variable:
	Difference Score
Ideology	−0.108
	$t = -6.153^{***}$
Constant	0.981
	$t = 12.564^{***}$
Observations	1,488
R^2	0.025
Adjusted R^2	0.024
Residual Std. Error	0.987 (df = 1486)
F Statistic	37.862^{***} (df = 1; 1486)
Note:	*p<0.1; **p<0.05; ***p<0.01

5.3 Discussion

The items in the Moral Foundations Sacredness Scale takes a unique approach to try to understand the things that people value and would not violate under any circumstances, as operationalized with money in this case. The results suggest that liberals and conservatives have different values and that they would trade different amounts of money in different circumstances. Specifically, liberals are, on average, scoring lower in their expressed likelihood to violate values related to the Harm and Fairness Foundation, and do not seem to be as willing to do any of the acts listed under these foundations for any amount of money. Conservatives, on the other hand, are less likely to violate any values related to the binding foundations and would not do acts listed under these foundations for any amount of money.

This scale is not as widely used as the Moral Foundations Questionnaire outside of the YourMorals data collection site. As such, this section of the project is limited in the number of datasets that I can compare to examine how factors like the number of items or representativeness of sample influences the patterns that are observed.

As I discussed in both of the chapters that analyze the MFQ, this scale can use some further research in understanding which items will increase the reliability of the scale, even when changes to the number of items, sample size and sample representativeness are introduced. Furthermore, additional data can be collected from a nationally represented sample to understand whether these conclusions generalize to the broader population. Since this scale is not as popularly research when compared to its MFQ counterpart, it opens avenues for more research to its contribution for how we understand morality.

In the next chapter, I discuss another way that morality can be measured using the Moral Foundations Theory. I apply the Moral Foundations Dictionary to conduct a text analysis on the 2016 Democrat and Republican National Conventions to see how the parties differ in their moral appeals to national audiences. This next section departs from the self-report-based data used up until this point in the thesis. Instead of polling individuals across the country, the data in the next chapter looks at the morality embodied and communicated by political elites and sees how they compare to the values of the American people.

Chapter 6

Morality in Text

At a Glance

- **Goal:** To explore patterns of moral appeals between Democrat and Republican national convention speakers.
- **Relevant Question(s):**
  - *Question 1: Morality Between Left and Right* – Do Liberals and Conservatives think of morality using different foundations?
  - *Question 2: Measuring Morality in Different Ways* – How can we measure the differences in morality between liberals and conservatives and what do these scales tell us?
- **Relevant Hypothesis:**
  - *Hypothesis 1b: Morality in Text* – In national convention speeches, liberals and conservatives will appeal to different moral foundations.
  - *Hypothesis 2: Universal Conceptualization of Morality* – Morality can be measured in different ways using different scales. Each scale will communicate different information related to morality.
- **Data Source(s):**
  1. 2016 Democrat National Convention (Philadelphia, PA)
  2. 2016 Republican National Convention (Cleveland, OH)
- **Analysis Type:**
  1. *Approach:* Word Count (LIWC-based) and Tokenization

2. *Descriptive statistics* – bar graphs to illustrate average number/percentage of appeals to each foundation used by the speakers for each convention.
3. *Linear Models* – T-tests to compare the appeals to each foundation for the party conventions.
4. *Extension* – Compare positive versus negative appeals between parties on each foundation.

- **Results:** As a whole, Democrats are more likely to appeal to the Harm foundation while Republicans appeal to Authority.

The political atmosphere, despite attempts at motivating voters to support policy, appeals to the core of political traditions through political rhetoric. Consequently, many researchers apply the moral foundations theory to understanding the basis in which morality is applied in the political context through different methods and lenses (Garten et al., 2016, 2018; Lin et al., 2018). Appealing to the moral values of American voters have become close to appealing to their political ideology. As Noel (2014) argues, conservative value preserving the American moral tradition while liberals want to ensure that everyone is being catered to through government policies. While many of these conversations are based in policy, the underlying meanings are rooted in appealing to the hearts and minds of the voters.

As a result, in replicating the Graham et al. (2009) study, I chose to use the speeches from the 2016 Republican and Democratic National Conventions to understand how political elites embody and communicate moral values. While the authors of the original paper argue that convention speeches could not be used to understand morality given the number of policy proposals, I choose to use the convention speeches as a reflection of the current role these events play in electoral politics. The rhetoric in these events are largely designed to sell the values of the parties and the candidates for public consumption rather than selecting nominees and establishing party platforms (Brattebo et al., 2015). Given the division of the parties on ideological lines and policy preferences explored in the literature review (Grossmann and Hopkins, 2016; Levendusky, 2009), the messages that speakers in each convention deliver are representative of the liberal and conservative values that are attributed to the parties (Abramowitz, 2010). For example, Democrats, in 2016, were focused on their platform that largely surrounded social issues including higher federal minimum wages to the working class people (Sides et al., 2018). Republicans were similarly focused on their platform such as securing the country's borders. In each of the speeches in both conventions, we would expect the speakers to make the case to their base aggressively as a representation of the values of the party. In using convention speeches, the goal of this set of analyses is to challenge the claims made by (Graham et al., 2009) and will allow us to gain a better understanding of how the times have changed in regards to the use of moral appeals in political discourse.

6.1 Methods

6.1.1 The Data

The data for this part of the analysis come from speeches delivered, or embargoed for delivery to the 2016 Democrat and Republican National Convention.

2016 Democrat National Convention

As a brief look back to the Presidential race of 2016, the goal of the Democrat National Convention (DNC) was to nominate a candidate for President that would succeed the Obama years in the White House, define the party platform moving forwards and advertise the nominee to viewers at the arena and on television across the country. Like the 2012 convention, the goal of this moment was not necessarily to nominate a candidate, but to establish why this party was in the best position to beat the Republican presidential nominee, Donald Trump.

The DNC, like the Republicans which I will discuss later, placed speakers on the stage that matched their progressive agenda (Sides et al., 2018). Activists for women's rights, gun control, and climate change were among the many interest groups that had their chances to deliver their message to the nation. Like the goals of the party, as described by Grossmann and Hopkins (2016), the party was interested in appealing to a diverse array of group interests and ensuring that they can get enough votes to secure the White House yet again. Many of these speeches were also geared towards emphasizing why Hilliary Clinton will be a great president. Yet, there were also some speeches from the Bernie Sanders delegation that made the case of urging the party to nominate Sanders despite Clinton's wins in the primary elevations. This convention was held from July 25 to July 28, 2016 at the Wells Fargo Center in Philadelphia, Pennsylvania.

For the analysis, the corpus for the DNC convention contained 152 speeches containing 104,586 words. This corpus contains 7 invocation and benediction speeches, which will be removed for part of the analysis. With these out of the picture, the DNC corpus becomes 145 speeches with 102,344 total words.

2016 Republican National Convention

Just as the Democrats held a convention to send out their message and nominate a candidate for President, the Republicans followed suit in their convention that was held from July 18 to July 21, 2016 at the Quicken Loans Arena in Cleveland, Ohio. The goals of the Republican National Convention (RNC) were similar to the Democrats. Speakers advocated for the policies endorsed by the party and for the ideological positions that the party holds on the issues. The nominee, Donald Trump, spoke about his goals under his administration. Overall, The RNC convention corpus contained 64 speeches with 66,183 words.

6.1.2 Materials

In each of the National Conventions, the media releases select speeches presented by the speakers as transcripts. Additionally, the party can also send speeches embargoed for delivery to the press [1]. In addition, major news outlets also release the schedule for the conventions, which were used to keep track of which speeches were included and which were still needed[2].

For this study, each speech was gathered and sorted by day, speaker, type of delivery (speech, video transcript, or benediction), and source of the transcript[3]. A spreadsheet was used to keep track of the file names assigned to each speech, which was used later to facilitate the analysis process. To analyze the tests, the Moral Foundations Dictionary was acquired from the `quanteda.dictionaries` R package (Benoit and Müller, 2019).

Moreover, the analyses in this chapter require the use of the Moral Foundations Dictionary (MFD). This was introduced in Graham et al. (2009) as a way to measure the number of moral appeals used in church sermons. In this dictionary, words that conceptually cover the core aspects of a moral foundation are included for each of the five foundations. Within each foundation, positive (virtue) and negative (vice) connotations of each foundation are also included. In the virtue subcategories, words often represent the times where positive aspects of the foundation are present. In the Harm/Care foundation, for instance, words under the virtue category address the idea of protecting and caring for other. Under the vice category, words that allude to times where the foundation is violated are included. For the Authority/Tradition foundation, words under this subcategory might include those that show when people betray traditions or disobeyed authority. In 2019, Frimer et al. (2019) created a revision to this dictionary with new phrases and words that expanded on the connotations of the words in the original dictionary to yield a broader coverage for each of the foundations. I compared the versions in Appendix A and note that the revised version provides broader conceptual coverage such that it would identify moral appeals that were not necessarily detectable by the original version. The entirety of the original and revised Moral Foundations Dictionary are available in the online appendices (see Appendix C). Table 6.1 displays a brief sample of the concepts covered under each foundation.

6.1.3 Analysis Plan

In Graham et al. (2009), the authors discussed textual analyses to ascertain moral underpinnings that divide the liberal and conservative frame of mind. Here, they developed the Moral Foundations Dictionary for use with the Linguistic Inquiry and Word Count (LIWC) program (Pennebaker et al.,

[1] See InfoDocket for the DNC speeches and Cision for a snapshot of the RNC speeches released as speeches embargoed for delivery.

[2] The schedule for the Republican National Convention, and the Democratic National Convention were released in full by POLITICO.

[3] See `https://github.com/lin-jennifer/2016NCtranscripts` for the speech transcripts

Table 6.1: *Words Included in the Moral Foundations Dictionary in Brief*

Harm		Fairness		Ingroup	
Virtue	Vice	Virtue	Vice	Virtue	Vice
altruism	abuse	equal	bias	ally	backstab
care	bully	honest	cheat	company	betray
comfort	cruel	impartial	deceive	family	disloyal
empathy	damage	justice	discriminate	group	enemy
help	duress	law	exploit	herd	infidel
love	exploit	proportional	imposter	kin	outsider
mercy	harass	repay	inequality	loyal	rebel
nurture	injury	rights	mislead	patriot	traitor
rescue	pain	trust	oppress	pledge	treason
safe	suffer	vengeance	prejudice	tribe	unfaithful

Authority		Purity	
Virtue	Vice	Virtue	Vice
adhere	chaos	bless	addict
chief	disobey	chaste	corrupt
compliant	heresy	decency	dirt
dictate	lawless	divine	disgust
duty	nonconformity	faith	epidemic
govern	overthrow	holy	filth
honor	rebel	modesty	infect
leader	riot	organic	obscene
obey	subvert	orthodox	pathogen
punish	unauthorized	sacred	sin

Notes: These words are excerpted from the new Moral Foundations Dictionary created by Frimer et al. (2019).

2007). Through this process, the goal is to count the number of appearances of words associated with each of the moral foundations and generate a composite score that reflects the total percentage each foundations is utilized in the speech. While counting words alone has pitfalls when it comes to shorter texts (Garten et al., 2016), this method has been sufficient when understanding longer works, similar to the ones used in this chapter.

In the present study, we will analyze the speeches available from each of the 2016 conventions to understand their moral underpinnings using the Moral Foundations Dictionary. Each speech will be compiled and analyzed using the `quanteda` class of packages (Benoit and Nulty, 2017). This package is constructed as the open source version of LIWC and operates similarly to the intended package. For this analysis, the speeches are complied into a corpus sorted by convention using the `quanteda.corpora` package (Benoit, 2019). As such, the RNC speeches reside in its' own corpus distinct from the DNC.

To analyze the test, we use the `quanteda.dictionaries` package. This program is preloaded with the most updated version of the Moral Foundations Dictionary created by Frimer et al. (2019), among other LIWC-compatible dictionaries. In the output, the results from the analyses generate the percent carrying positive or negative connotations on each of the foundations. Similar to the analyses conducted in Graham et al. (2009), the scores for each foundation are summed and t-tests are conducted to compare the differences in moral word usage on each of the foundations between the political parties.

Furthermore, I tokenize the text and analyze the results using the same processes above based on text analysis methods recommended by Grimmer and Stewart (2013). In the above analysis, I simply use word count, as described by the original authors. This process takes the moral words in the full context of the speech. However, while this highlights the ideas in the original context, there is a lot of noise in the model. Often, speeches contain plenty of stopwords, such as "and", "is", and "or", which carries no moral meaning but are counted as a percentage of the total. Additionally, words ending with "-ed" or "-ing" might not be counted in the word count because it does not match the exact word in the dictionary. By tokenizing, we boil the texts down to the foundational structures, which can provide us a more accurate count of the moral appeals in the speeches itself. This includes removing the stopwords and stemming of words in this new analysis[4].

6.2 Results

In Table 6.2, the results reflect the presence of moral foundations across all speech types using the word count method described by Graham et al. (2009).

The results suggest some interesting patterns about the differences between liberals and conser-

[4]The data and code that I used in this section are available online. See Appendix C.

Table 6.2: *Morality Across All Convention Speakers*

	Percentage			
Foundation	Democrat	Republican	t	Effect Size (d)
Harm	1.6	1.1	4.219***	0.511
Fairness	0.53	0.44	1.05	0.159
Ingroup	1.45	1.32	1.10	0.152
Authority	1.02	1.33	-2.97**	-0.446
Purity	0.54	0.56	-0.276	-0.034

Notes: The percentage of words is calculated as a function of the instances words in each foundation, established by the Moral Foundations Dictionary, appeared in text divided by the total number of words in the speech.
$p = .05$, $^{**}p = .01$, $^{***}p \leq .001$

vatives as detected using a similar method as intended by the original authors. Here, the Democrats were more likely to utilize the Harm foundation ($t(193) = 4.219$, $p < .001$, $d = 0.511$) but they did not differ significantly from the Republicans when it came to using the Fairness foundation. Similarly, Democrats and Republicans do not differ in their usage of the Ingroup and Purity foundations, but they differ significantly on the Authority foundation ($t(116) = -2.966$, $p = .003$, $d = -0.446$). This suggests that, on average, Republicans are more likely to use appeals to Authority/traditions and Democrats are more likely to utilize appeals to Harm/care. However, this analysis includes invocations and benedictions, which are remarks that are characteristically used as prayers and moments of unity and reflection. A secondary analysis was conducted to see if removing these speeches would influence the presence of foundations, especially those of Ingroup/Loyalty and Purity/Sanctity.

Table 6.3: *Morality in Convention Speeches Minus Invocations and Benedictions*

	Percentage			
Foundation	Democrat	Republican	t	Effect Size (d)
Harm	1.54	1.1	3.719***	0.464
Fairness	0.52	0.44	0.997	0.152
Ingroup	1.42	1.32	0.812	0.114
Authority	1.01	1.33	-2.983**	-0.454
Purity	0.51	0.56	-1.826(*)	-0.276

Notes: The percentage of words is calculated as a function of the instances words in each foundation, established by the Moral Foundations Dictionary, appeared in text divided by the total number of words in the speech.
$(^{*})p = .1$, $^{*}p = .05$, $^{**}p = .01$, $^{***}p \leq .001$

When the invocations and benedictions are removed (n = 7), similar patterns emerge with one small but interesting difference. Similar to the previous set of results, Republicans were more likely to use the Authority/tradition foundation ($t(117) = -2.983$, $p = .003$, $d = -.454$), while Democrats

were more likely to use the Harm/care foundation ($t(188) = 3.719$, $p < .001$, $d = .465$) in there speeches. With the removal of the benedictions, which were largely from the Democratic National Convention[5], the increased use of the Purity foundation among Republicans is observed, even if the significance is not as pronounced ($t(118) = -1.823$, $p = .07$, $d = -.277$). While the effects observed in these cases were not similar to the patterns in Graham et al. (2009), they move in a similar direction. The Republicans, in this election cycle, focused more on maintaining the image of the country with their "Make America Great Again" appeals and called to preserve the values associated with the founding principles of the country. Democrats, through viewing their roster of speakers, sought to speak to a variety of interests and ensure that they appealed to all their voters' specific interests. Culture war issues such as abortion and gay marriage were hot topics of this election, with Republicans moving to cite God on these topics as a way to preserve the country in their ideal world.

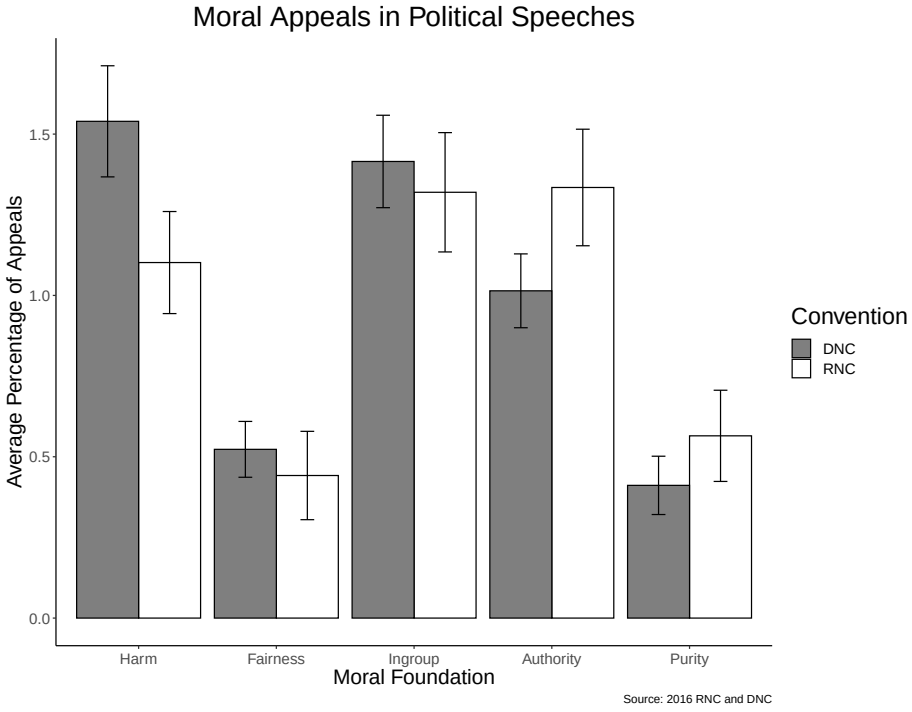

Figure 6.1: *Cell Means and 95% Confidence Intervals for moral appeals by foundation and convention using the simple word count method*

In addition to word count methods, we tokenize the text to remove noise from each of the texts as a way to get a clearer picture of the main ideas that are employed by speakers in each convention. The results here are measured in slightly different units than the word count method. Here, in lieu of percentages, the results are reported as instances in which something under a category appears to align with the dictionary.

[5]Only the Democrats released these speeches

Table 6.4: *Token Analysis: Morality Across All Convention Speakers*

	Instances			
Foundation	Democrat	Republican	t	Effect Size (d)
Harm	8.96	10.7	-0.913	-0.152
Fairness	1.97	2.84	-1.384	-0.246
Ingroup	3.16	5.34	-2.475*	-0.432
Authority	3.20	8.97	-5.103***	-1.029
Purity	2.2	4.06	-3.591***	-0.550

Notes: The instances of each foundations appears as a function of the number of times the stem of the word matches stems in the Moral Foundations Dictionary.
(*)$p = .1$, *$p = .05$, **$p = .01$, ***$p \leq .001$

When the texts are tokenized, the results, as seen in Table 6.4, show a different picture than the word count method that incorporated the entire text discussed before. Here, despite using a slightly different measurement unit for the words, the results suggest that Democrats and Republicans do not differ on Harm ($t(95)$ = -0.913, p = .36, d = -.152) or Fairness ($t(85)$ = -1.384, p = .169, d = -.246). However, Republicans are more likely to use Ingroup/Loyalty ($t(87)$ = -2.475, p = .015, d = -.432), Authority ($t(72)$ = -5.103, $p < .001$, d = -1.029), and Purity ($t(111)$ = -3.591, $p <$ .001, d = -.550) than their Democrat counterparts. Due to the level of partisan sorting increasing over the years (McCarty et al., 2016) and its trends over the 2016 Presidential Race (Sides et al., 2018), the conservative Republicans are more likely to appeal to the binding foundations than the liberal Democrats. However, it is interesting that the Democrats are not more likely to use appeals to Harm and Fairness when compared to the Republicans. Part of this may be due to the diversity of the types of speeches gathered from the Democrat convention. In the next analysis, I remove the invocations and benedictions so that the comparison lies between policy speakers in the parties.

Table 6.5: *Token Analysis: Morality Minus Invocations and Benedictions*

	Instances			
Foundation	Democrat	Republican	t	Effect Size (d)
Harm	9.03	10.7	-0.867	-0.144
Fairness	2.04	2.84	-1.260	-0.222
Ingroup	3.34	5.34	-2.487*	-0.431
Authority	3.20	8.97	-5.053***	-1.007
Purity	1.88	4.06	-4.347***	-0.714

Notes: The instances of each foundations appears as a function of the number of times the stem of the word matches stems in the Moral Foundations Dictionary.
(*)$p = .1$, *$p = .05$, **$p = .01$, ***$p \leq .001$

In Table 6.5, the results for the analysis minus invocations and benedictions shows a similar pattern compared to Table 6.4, except with more pronounced results for the Purity foundation.

When we compare the speeches of both conventions, Republicans still trump Democrats in their usage of Loyalty ($t(90)$ = -2.487, p = .015, d = -.431), Authority ($t(73)$ = -5.053, $p < .001$, d = -1.007), and Purity ($t(99)$ = -4.347, $p < .001$, d = -.715) foundations. Meanwhile, Republicans and Democrats do not differ on their use of Harm ($t(98)$ = -0.867, p = .39, d = -.144) or Fairness ($t(87)$ = -1.259, p = .21, d = -.222).

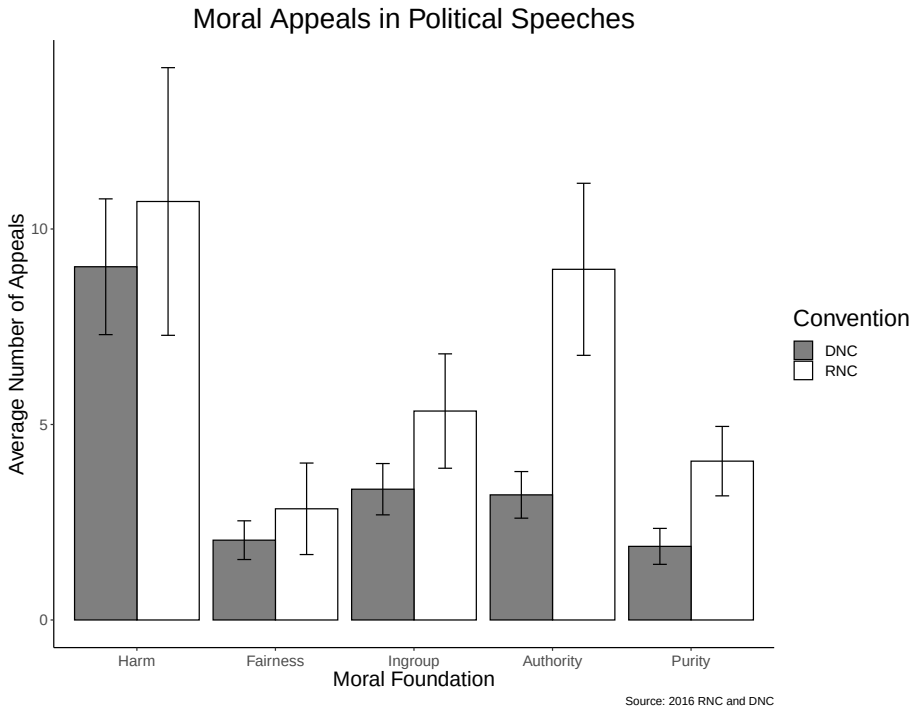

Figure 6.2: *Cell Means and 95% Confidence Intervals for moral appeals by foundation and convention using the Tokenization method*

6.3 Extension: Comparing Virtue and Vice

In the previous sections, I use two different methods to compare the moral appeals between Democrats and Republicans in their 2016 National Convention speeches. I reported results that reflected the use of appeals in each foundation overall, which is a sum of the positive (virtue) and negative (vice) category words. However, there is information communicated within each foundation's virtue and vice categories that is not analyzed through this process and this might communicate more insight into the Democrats' and Republicans' moral appeals in their speeches. In this extension, I look into these sub-categories in greater detail using the method that Lewis (2019) adopted to analyze Presidential Primary Debate performances in that same election cycle.

For these analyses, I use the same data that I used earlier and run the same analyses as well. However, I do not include the invocations and benedictions in the comparison. Like the analyses

earlier, I generate graphs that reflect descriptive statistics between the groups and t-tests to compare the appeals in these speeches.

6.3.1 Results From the Word Count Analysis

First, I use the Word Count analysis and the results are displayed in Figure 6.3 and Table 6.6. From the graph, we see that both parties are more likely to appeal to the positive aspects of each foundation rather than the negative. In the virtue category, Democrats use more appeals to the Harm/Care foundation while Republicans use more appeals to Authority/Tradition and Purity/Sanctity foundations. For the vice category, the only significant difference between the parties is where Republicans used more appeals to Ingroup/Loyalty than Democrats. Despite these significant results, we must notice that the actual percentages between the parties are not at all substantive. Republicans are using more Ingroup appeals in the vice category, but this difference is only by 0.06%.

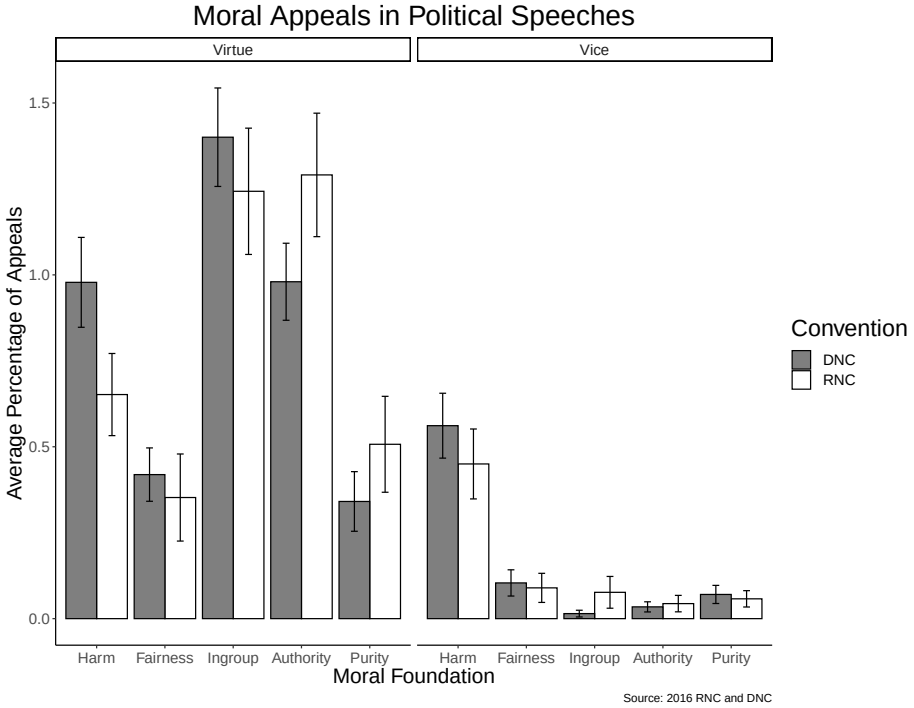

Figure 6.3: *Cell Means and 95% Confidence Intervals for moral appeals by foundation, category and convention using the Word Count method*

6.3.2 Results From the Tokenization Analysis

Turning to the Token Analysis, we see similar patterns compared to the Word Count Analysis. In Figure 6.4, we see more instances of virtue appeals compared to vice appeals for both parties. Looking to Table 6.7, we see that, in the virtue category, Republicans use, on average, more appeals to the Ingroup/Loyalty, Authority/Tradition and Purity/Sanctity foundations than Democrats. While

Table 6.6: *Word Count Analysis Results by Category*

(a) Virtue

	Instances			
Foundation	Democrat	Republican	t	Effect Size (d)
Harm	0.98	0.65	3.661***	0.457
Fairness	0.42	0.35	0.894	0.137
Ingroup	1.40	1.24	1.344	0.188
Authority	0.98	1.29	-2.925***	-0.447
Purity	0.34	0.51	-2.106**	-0.309

(b) Vice

	Instances			
Foundation	Democrat	Republican	t	Effect Size (d)
Harm	0.56	0.45	1.595	0.210
Fairness	0.10	0.09	0.502	0.066
Ingroup	0.01	0.07	-2.616**	-0.545
Authority	0.03	0.04	-0.671	-0.103
Purity	0.07	0.05	0.713	0.088

Notes: The percentage of words is calculated as a function of the instances words in each foundation, established by the Moral Foundations Dictionary, appeared in text divided by the total number of words in the speech.
(*)$p = .1$, *$p = .05$, **$p = .01$, ***$p \leq .001$

these are not that many words in context of the actual number of words that are in an average speech, we still see significant differences in this regard. For the vice category, Republicans tend to use these words more in general and on average. However, the only source of significance likes in the Authority/Tradition foundation.

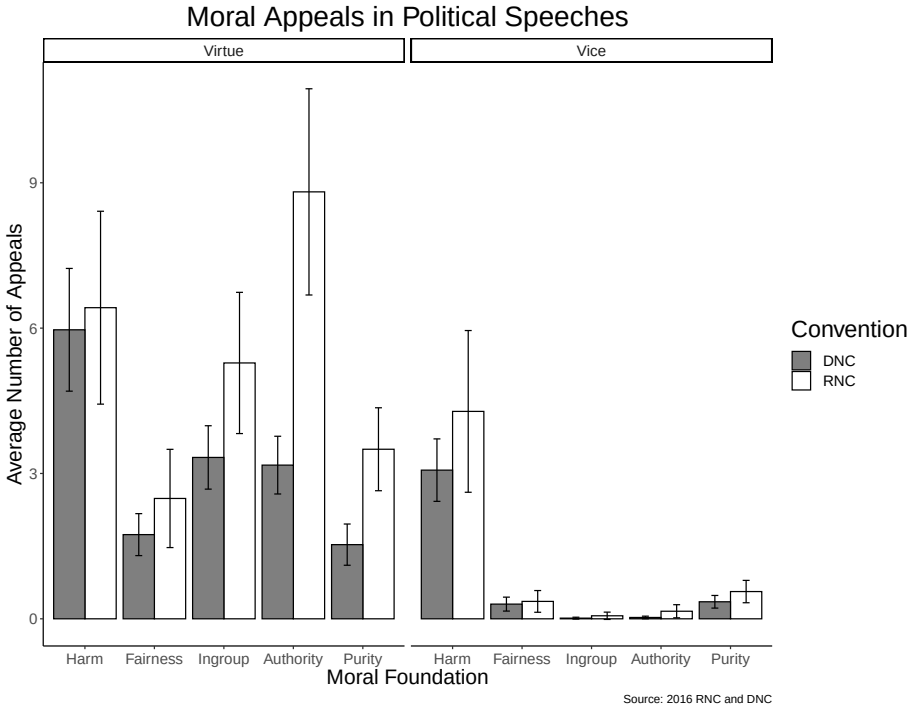

Figure 6.4: *Cell Means and 95% Confidence Intervals for moral appeals by foundation, category and convention using the Tokenization method*

* * *

The analyses in this section give us some more insight regarding where the breakdown of appeals lie. Since the virtue and vice categories convey different information for each foundation, it is useful to understand where the appeals generally are. Since the purpose of national conventions is to excite voters and highlight the positive aspects of a political party, it helps for speakers to appeal to the positive aspects of their party's platform. As such, we see more positive appeals to each foundation, where the words speak to how the party respects the interests and concerns of the people that they represent.

6.4 Discussion

In our analysis of the speeches from the Democratic and Republican National Conventions, the methods provided different, but interesting pictures to consider regarding the moral appeals each party's

Table 6.7: *Token Analysis Results by Category*

(a) Virtue

	Instances			
Foundation	Democrat	Republican	t	Effect Size (d)
Harm	5.97	6.42	-0.385	-0.058
Fairness	1.74	2.48	-1.351	-0.238
Ingroup	3.33	5.28	-2.435**	-0.421
Authority	3.17	8.81	-5.095***	-1.008
Purity	1.53	3.50	-4.107***	-0.685

(b) Vice

	Instances			
Foundation	Democrat	Republican	t	Effect Size (d)
Harm	3.06	4.28	-1.352	-0.246
Fairness	0.30	0.36	-0.418	-0.063
Ingroup	0.01	0.06	-1.249	-0.252
Authority	0.03	0.15	-1.865(*)	-0.392
Purity	0.35	0.56	-1.585	-0.252

Notes: The instances of each foundations appears as a function of the number of times the stem of the word matches stems in the Moral Foundations Dictionary.
$(*)p = .1$, $*p = .05$, $**p = .01$, $***p \leq .001$

speakers employed. In the methods, I used a traditional word count where the text was analyzed at face value. Here, the results suggest that Democrats, before and after the removal of the invocation and benediction sections, were more likely to appeal to voters through the Harm/care foundations while Republicans used Authority/tradition more often. Additionally, after the removal of the benedictions, Republicans showed a slight increase in their appeals to Purity/sanctity compared to the Democrats.

However, after tokenizing the words in each of the texts, the results provide a different picture. Even without the removal of invocations and benedictions in the analysis, Republicans continuously trump Democrats in the use of loyalty, authority and purity appeals.

The patterns displayed in these analyses align with the trends of moral foundations research, which suggests that liberals are more likely to appeal to individuality while conservatives tend to value community. Through analyzing the Democratic and Republican National Convention speeches, we see these patterns emerge despite the goals of such conventions. While they exist to nominate a presidential candidate and launch policy proposals to lure independent voters, the speakers reflect what voters see as those fighting for quintessential values of the party. Each speaker for both of the conventions represent issues that the party aims to represent in their public image, such as religiosity and gun rights for the Republicans, and women's health and sensible gun laws for the Democrats.

Nonetheless, there can be a variety of reasons for this observation, including the climate of the election. While it is normal for parties to attack each other, the radical positions proposed by people like Donald Trump and Bernie Sanders has both sides claiming that these policies are not what the US represents. As such, this can motivate the use of moral appeals such that they can be detected more so in this election than in those of the past.

The methods in this section of the analysis relies on Benoit and Nulty (2017)'s `quanteda` word count package. While research in machine learning argues that word count is inferior to train-test models in understanding semantics (Garten et al., 2018), the method was chosen as a replication to the work by the original authors of the study. I used tokenization to get closer to Garten et al. (2018)'s ideal but there is more digging that can be done in this regard. This is not to dismiss the interesting results that may arise from understanding what machine learning can contribute to morality in political discourse. Future research can take advantage of the advanced technologies to understand semantic meanings behind the usage of words rather than understanding how much a foundation is used based on word count. While word count can allow us to understand prevalence, context-driven machine learning can help us understand the problem in novel contexts even without a sophisticated dictionary.

In addition, since this study only looks at the 2016 election, future research can be conducted on past convention speeches to see if the climate is the case of the increase use of morals as appeals. By understanding how these patterns change over time, it can help provide a better understanding for the motivations of political rhetoric, especially when it comes to electing a new President for the country. In many ways, the 2016 election, while it is not necessarily a realigning one, was something many people have not seen in their lifetimes. Republicans and Democrats alike thought Donald Trump was a political maverick of sorts and vowed to keep him far away from the Oval Office. Similarly, many Democrats were not so quick to buy the proposals of Bernie Sanders, even though they got plenty of attention from young voters. While proposals like Medicare for All and free tuition are not new, they divided the Democratic party between the top candidates. Even though the contests of the Democratic nomination were not new the politics, the emergence of Donald Trump on the Republican side certainly stirred up fervor on both sides that may have led the rhetoric of this election to be different from those in the past.

Moreover, the dictionary used in this section reflect words associated to five of the six foundations. In future research, words related to the Liberty/Oppression foundations can be added to the dictionary. With this addition, research can reflect how liberals and conservatives vary on their reactions to patterns of discrimination and oppression present in their social surroundings.

Finally, political parties are not meant to be sustained ideological clusters (Noel, 2014). Due to partisan sorting (Levendusky, 2009), I am able to take the conventions as a reflection of ideologies. However, there are heterogeneous environments within each party as well, such that there are some

Republicans that are more liberal than others (Weber and Federico, 2013). Future research can analyze these within parties to understand if partisans are as morally sorted as they are politically, and whether moral appeals in text are distinguishably different within a party as they are between parties.

This analysis both replicated the methods of the Graham et al. (2009) study and expanded using a different, more coherent method to understand the root meaning of the texts. However, as machine learning experts would argue (Garten et al., 2018; Lin et al., 2018), more in-depth models can be developed with a larger universe of examples to gain a better glimpse of the environment of interest.

Chapter 7

Moderating Factors to Morality

At a Glance

- **Goal:** To understand how gender, religiosity, income and education contribute to the prediction of an individual's moral mindset.
- **Relevant Question(s):**
  - *Question 3: Moderating Factors of Morality* – Are the observed differences between liberal and conservative morality moderated by other demographic factors other than political ideology?
- **Relevant Hypothesis:**
  - *Hypothesis 3: Other Moderating Factors* – There are other factors, in addition to self-identified political ideology, that can predict differences in moral foundations between individuals.
- **Data Source(s):**
  1. Cooperative Congressional Elections Study – 2012 Duke Team Module
  2. Measuring Morality – Moral Foundations Sacredness Scale
- **Analysis Type:**
  1. *Linear Models* – Five regressions models that progressively add each demographic variable such that:
     (a) Model 1: ideology
     (b) Model 2: ideology + gender
     (c) Model 3: ideology + gender + religion

(d) Model 4: ideology + gender + religion + income

(e) Model 5: ideology + gender + religion + income + education

- **Results:** Political ideology is the chief moderating factor to explain the variance of the difference between the average individualizing and binding foundation scores.

The Graham et al. (2009) paper considers a variety of latent variable models that analyzes the influence of other demographic factors in one's moral foundations. In the previous sections of this thesis, I did not consider any of these other factors in my regression models. This chapter will be dedicated to these considerations.

Past research in moral psychology has analyzed how certain individual factors such as income (Ciuk et al., 2018), influence people's moral foundations. However, there isn't much literature in this domain that focuses on these other moderating factors. Here, I will run regression analyses to answer the third main question of this thesis, addressing different groups and other factors that shape moral foundations. In my regressions, I add relevant demographic variables that are available in the original dataset to reflect gender, religiosity, income and education.

For this chapter, I chose gender, religiosity, income and education for two main reasons. The first is based on the intent to adhere to the research design of Graham et al. (2009) as closely as possible. In their models, they considered gender, age, income and education. Since age was not available in the data that I will be using in this chapter, I decided to substitute with with religion. Since past research has demonstrated the connections between religiosity and morality such that religion tends to be a strong glue to bind people to moral communities (Graham and Haidt, 2010). The second is focused in the ways that these factors have been associated with partisanship and political participation. I kept gender, income and education from the original paper because past research on these individual difference factors have found relations to political identity. For example, women (Lawless and Fox, 2010), wealthy (Gelman, 2009) and educated individuals tend to vote for Democrats. As such, the inclusion of these variables here aims to see if these variables relate to one's moral mindset in any way.

7.1 Methods

7.1.1 The Data

For this section, I choose datasets that contain all the relevant demographic variables listed above. For the Moral Foundations Questionnaire, it will be the Duke 2012 team module from the Cooperative Congressional Elections Study. For the Moral Foundations Sacredness Scale, it would be the Measuring Morality data set. Both sets are described in their respective chapters and used earlier in

this paper. Despite rather small sample sizes compared to what Graham et al. (2009) published, both contain the relevant demographic variables that I proposed, including gender, religiosity, income and education.

7.1.2 The Items

This section considers two different ways to measure morality that was discussed earlier in this thesis. First, I will consider both sections of the Moral Foundations Questionnaire. Then, I will look at the Moral Foundations Sacredness Scale.[1]

7.1.3 Analysis Plan

For both of the datasets, the analysis plan will follow the same general plan. I will run linear regressions with each independent variable added in each subsequent model, creating five linear regressions. The goal of this is to see the influence that each variable has on the overall model.

The first model reproduces the analyses that are conducted in the previous chapters of the paper. Here, α represents the difference score between the individualizing and binding foundations. This α representation will be the same for each of the subsequent models. In the first model, β_1 represents the coefficient to the self-identified political ideology demographic variable. In both of the data sets, the self-identified political ideology variable is measured on a 7-point scale where 1 is "Very Liberal" and 7 is "Very Conservative".

$$y = \alpha + \beta_1(ideology) \tag{7.1}$$

In the second model, β_2 adds gender into consideration. This gender variable contains two categories – male and female. In both datasets, the male category carries a lower value than the female. Thus, in the interpretation of the results, the baseline category is the males.

$$y = \alpha + \beta_1(ideology) + \beta_2(gender) \tag{7.2}$$

In the third model, β_3 adds the religion variable. In the CCES dataset for the Moral Foundations Questionnaire, this variable represents the frequency of religious service attendance such that it is a 6-point Likert scale where 1 is the most frequent (more than once a week) and 6 is the least frequent (never). In the Measuring Morality dataset, this variable represents a 5-point Likert scale that addresses the importance of religion to a person, ranging from 1 (very religious) to 5 (not at all religious). Nonetheless, both variables measure, in their own ways, how religious people are based on their involvement with a religious institution, which can convey the extent to which religion matters to their identity (Wald and Calhoun-Brown, 2014).

[1] The specific items for both of the scales are reproduced in Appendix B.

$$y = \alpha + \beta_1(ideology) + \beta_2(gender) + \beta_3(religion) \tag{7.3}$$

In the fourth model, β_4 adds income to the model. Income, in both datasets, is represented by income brackets broken into 15 or more categories. Given the refined level of the income brackets, this variable is treated as a continuous variable in the analysis.

$$y = \alpha + \beta_1(ideology) + \beta_2(gender) + \beta_3(religion) + \beta_4(income) \tag{7.4}$$

Finally, in the fifth model, β_5 adds education. Like income, each level of education is its own factor. Given the continuous nature of these levels, I treat this variable as a continuous variable in the analysis as well. In both of the data sets, education begins with an indication that there was no high school completed and ends with an indicator for the completion of a graduate or professional doctorate degree.

$$y = \alpha + \beta_1(ideology) + \beta_2(gender) + \beta_3(religion) + \beta_4(income) + \beta_5(education) \tag{7.5}$$

In the results section, I generate five models that add each of these variables one at a time. By doing so, we are able to see how other demographic factors moderate the relationship between the binding and individualizing foundations for individuals[2].

7.2 Results

7.2.1 Moral Foundations Questionnaire: CCES 2012

To analyze the Moral Foundations Questionnaire using this method, I break up the scale into the Moral Relevance and Moral Judgment subscales like the analyses earlier in this project.

The results for the linear regressions on Moral Relevance are displayed in Table 7.1. In the first model, I reproduce the results that were discussed in the earlier chapter. This model suggests that the aggregate difference between individualizing and binding foundations is moderated by politics ($F(1, 203) = 46.83$, $p < .001$, $\eta^2 = .19$). This model explains 18.7% of the variation between the independent and dependent variables used in this analysis.

When gender is added in the second model, we see that women and men do not differ in their moral relevance scores despite a significant overall model ($F(2, 202) = 23.38$, $p < .001$). This shows that political ideology is still the main moderating factor between individualizing and binding moral relevance scores.

[2]The data and code that I used in this section are available online. See Appendix C.

In the third model, religion is added. This variable represents the frequency to which someone attends a religious service[3]. Similar to the previous model, the addition of religiosity does not suggest that there is a difference between the more religious and less religious respondents with regard to their responses on the moral relevance scale. However, this model does significantly predict politics as a moderating factor to the aggregate difference between the individualizing and binding moral relevance responses ($F(3, 200) = 15.6$, $p < .001$).

With the addition of income, the fourth model does not suggest that people with higher income necessarily differ on their moral relevance responses. Here, politics is still the chief moderating factor between the individualizing and binding moral relevance scores ($F(4, 170) = 10.32$, $p < .001$). However, when education is added in the fifth model, we see that education can moderate the relationship between individualizing and binding foundations such that the more educated one is, the more likely they are to score higher on the individualizing rather than binding foundations ($t = 2.512$, $p = .012$). From the overall fifth model, political ideology remains the strongest predictor of individualizing and binding moral relevance differences ($F(5, 169) = 9.77$, $p < .001$).

Table 7.2 displays the results from the Moral Judgment analyses on each of these models and the results are largely similar to those discussed earlier with Moral Relevance.

The first model reproduces the moderation with politics that was discussed in the earlier chapter on this subscale ($F(1, 204) = 58.88$, $p < .001$, $\eta^2 = .23$). In subsequent models, politics was still the chief moderating variable even when gender ($F(2, 203) = 29.34$, $p < .001$), religious service attendance ($F(3, 201) = 19.53$, $p < .001$), and income ($F(4, 171) = 13.58$, $p < .001$) are added. While they generate significant overall models, the individual variables themselves do not contribute much to explaining the differences between the aggregate individualizing and binding foundation variables.

Like the Moral Relevance results, the addition of education shows that the more educated a respondent is, the more likely they are to score higher on the individualizing than binding foundations ($t = 2.270$, $p = .024$). Yet, like the results in the Moral Relevance model, politics still remains a strong moderator between the aggregate difference between individualizing and binding moral judgment scores as it explains 22.4% of the variation between the variables ($F(5, 170) = 12.16$, $p < .001$).

For both of these models, it is worth noting the R^2 values across the models. For each variable, the added value in the coefficient of determination is not very high beyond the initial model with politics and the aggregate difference score between the individualizing and binding foundations. In the Moral Relevance analyses, the first model with politics explains 18.7%. Given the variations that naturally occur in human behavior, this score is relatively average for the model. However,

[3]The frequency of religious service attendance is used as a substitute for the importance of religion variable under the assumption that the more someone attends a religious service, the more religious they would tend to be (Putnam and Campbell, 2012)

subsequent models such as gender and religion add .001 and .003 to the score respectively, which does not make for a significant addition to the ways that these variables explain the relationship between the key factors of interest. Given that education was slightly significant in the Moral Relevance model, the fifth model, overall, only adds 3.7% to explaining the variation between politics and moral foundations, which is not as great of an effect compared to that of the original model.

Similarly, for Moral Judgment, the initial model with political ideology and the difference score between the moral foundations had an R^2 value of .224, meaning that 22.4% of the variation between the variables can be explained by this model. Again, given variations in human behavior, this makes for a good R^2 value. However, given that subsequent factors did not yield significance with the exception of education, their models do not add as much to this R^2 statistic, as observed in the first model. Even though education did provide some significance, this model only added 3.9% to the explanation of the variation between the independent and dependent variables. Like the situation in the Moral Relevance section, this addition is not large enough practically to yield that great of a difference when considering how individuals conceptualize morality when comparing it to the effects from political ideology.

Table 7.1: *Moral Relevance: Linear Regression*

	Dependent variable:				
	Dependent Variable				
	(1)	(2)	(3)	(4)	(5)
Ideology	−0.412	−0.415	−0.427	−0.422	−0.390
	t = −6.843***	t = −6.802***	t = −6.518***	t = −6.042***	t = −5.571***
Gender		−0.055	−0.063	0.002	0.008
		t = −0.371	t = −0.415	t = 0.015	t = 0.049
Religion			−0.024	−0.025	−0.005
			t = −0.518	t = −0.501	t = −0.102
Income				−0.004	−0.024
				t = −0.184	t = −0.968
Education					0.137
					t = 2.512**
Constant	1.879	1.919	2.062	2.019	1.438
	t = 9.252***	t = 8.332***	t = 5.715***	t = 4.899***	t = 3.076***
Observations	205	205	204	175	175
R^2	0.187	0.188	0.190	0.195	0.224
Adjusted R^2	0.183	0.180	0.177	0.176	0.201
Residual Std. Error	1.040 (df = 203)	1.042 (df = 202)	1.045 (df = 200)	1.016 (df = 170)	1.000 (df = 169)
F Statistic	46.828*** (df = 1; 203)	23.383*** (df = 2; 202)	15.599*** (df = 3; 200)	10.316*** (df = 4; 170)	9.773*** (df = 5; 169)
Note:					*p<0.1; **p<0.05; ***p<0.01

Table 7.2: *Moral Judgment: Linear Regression*

	Dependent variable:				
	diffscore				
	(1)	(2)	(3)	(4)	(5)
Ideology	−0.500	−0.497	−0.483	−0.527	−0.494
	t = −7.673***	t = −7.525***	t = −6.809***	t = −6.565***	t = −6.126***
Gender		0.039	0.060	0.007	0.009
		t = 0.244	t = 0.366	t = 0.036	t = 0.048
Religion			0.027	0.034	0.054
			t = 0.539	t = 0.593	t = 0.950
Income				−0.009	−0.030
				t = −0.310	t = −1.020
Education					0.143
					t = 2.270**
Constant	1.836	1.807	1.646	1.823	1.226
	t = 8.361***	t = 7.268***	t = 4.218***	t = 3.858***	t = 2.289**
Observations	206	206	205	176	176
R^2	0.224	0.224	0.226	0.241	0.263
Adjusted R^2	0.220	0.217	0.214	0.223	0.242
Residual Std. Error	1.124 (df = 204)	1.127 (df = 203)	1.131 (df = 201)	1.168 (df = 171)	1.154 (df = 170)
F Statistic	58.882*** (df = 1; 204)	29.335*** (df = 2; 203)	19.526*** (df = 3; 201)	13.579*** (df = 4; 171)	12.158*** (df = 5; 170)
Note:					*p<0.1; **p<0.05; ***p<0.01

7.2.2 Moral Foundations Sacredness Scale: Measuring Morality

For the Moral Foundations Sacredness Scale, the five models were ran on the entirety of the scale. Table 7.3 shows the results of these linear regressions.

In the first model, I reproduce the results that were discussed in the earlier chapter related to this scale. As this model suggests, the aggregate difference between individualizing and binding foundations is moderated by politics such that liberals tend to value individualizing over binding foundations while conservatives tend to use all five foundations relatively equally ($F(1, 1486) = 37.86$, $p < .001$, $\eta^2 = .025$).

In the second model, the addition of gender showed that gender, in this case, was a significant predictor of moral foundation along with politics. Here, women were more likely to rely on the binding foundations than individualizing foundations such that women tend to be less likely to violate their binding foundations by an average of .123 (t = -2.417, p = 0.015). Even with gender, this model still predicts significance with regard to political ideology in moderating the relationship between the individualizing and binding foundations ($F(2, 1485) = 21.91$, $p < .001$)

However, in the third model with religious identity, gender did not seem to matter much any longer. People who were more religious tend to be less likely to violate the binding foundations. They were, quite on the contrary to research on religiosity and conservatism, more likely to be hesitant to violate their individualizing foundations by an average of .112 points (t = 5.259, $p <$ .001). This model also predicts politics as a strong moderating factor between the individualizing and binding foundations ($F(3, 1436) = 20.21$, $p < .001$).

In the fourth model, income is also a significant moderator for the difference between aggregate individualizing and binding foundation scores. In this model, gender is not a significant moderator (t = -1.306, p = .192) but religion remains significant (t = 4.982, $p < .001$). For income, people who make more money, like those who are more religious, tend to be more likely to, on average, hesitate to violate their individualizing foundations. In general, this model, like the other ones, shows politics as a chief moderating factor for the aggregate difference between individualizing versus binding foundations ($F(4, 1435) = 17.17$, $p < .001$).

Finally, the addition of education in this model shows that those who are more highly educated tend to value individualizing foundations more, on average, and thus less likely to violate them (t = 5.038, $p < .001$). In this model, people who are more religious tend to value individualizing foundations (t = 4.860, $p < .001$), but this is not the case for income (t = 0.279, p = .780), or gender (t = -1.318, p = .187). In this model, education and religiosity are stronger moderators of the difference between aggregate individualizing and binding foundations than political ideology (t = -3.220, p = .001; $F(5, 1434) = 19.05$, $p < .001$).

In this data and analyses, I find that, in the first model with political ideology and aggregate difference scores between the individualizing and binding foundations, the model itself explains

2.5% of the variation between the variables. This R^2 value does in increase in substantial ways with the addition of other factors, even if they do carry a significant result in the end. For example, with the consideration of religion in the third model, this significance adds 1.2% in its ability to explain the variation between the independent and dependent variables. Adding income adds .5% and adding education adds 1.6%. Overall, it could be the case that these factors are not great in explaining why people make issues in the individualizing foundation range more sacred than the binding foundation category, or vice verse. However, future research with different variables, or different ways of measuring these variables would be needed to understand this phenomenon in greater detail.

Table 7.3: *Moral Foundations Sacredness Scale: Linear Regressions*

	Dependent variable:				
	Dependent Variable				
	(1)	(2)	(3)	(4)	(5)
Ideology	−0.108	−0.109	−0.062	−0.062	−0.060
	t = −6.153***	t = −6.208***	t = −3.318***	t = −3.330***	t = −3.220***
Gender		−0.123	−0.071	−0.067	−0.067
		t = −2.417**	t = −1.375	t = −1.306	t = −1.318
Religion			0.113	0.107	0.104
			t = 5.259***	t = 4.982***	t = 4.860***
Income				0.016	0.002
				t = 2.790***	t = 0.279
Education					0.072
					t = 5.038***
Constant	0.981	1.047	0.475	0.292	−0.274
	t = 12.564***	t = 12.683***	t = 3.784***	t = 2.067**	t = −1.523
Observations	1,488	1,488	1,440	1,440	1,440
R^2	0.025	0.029	0.041	0.046	0.062
Adjusted R^2	0.024	0.027	0.038	0.043	0.059
Residual Std. Error	0.987 (df = 1486)	0.985 (df = 1485)	0.969 (df = 1436)	0.967 (df = 1435)	0.959 (df = 1434)
F Statistic	37.862*** (df = 1; 1486)	21.914*** (df = 2; 1485)	20.207*** (df = 3; 1436)	17.172*** (df = 4; 1435)	19.047*** (df = 5; 1434)
Note:					*p<0.1; **p<0.05; ***p<0.01

7.3 Discussion

There is no doubt that different models provide different information regarding the links that different independent variables have on a common dependent variable. In Graham et al. (2009), these demographic variables were introduced in various latent variable models to suggest that the only factor that moderates the relationship between the aggregate individualizing and binding foundations is self-identified political ideology. However, in this section, using several multiple linear regressions, we find that, perhaps, there is more moderating factors to morality than the paper would suggest and this might be able to open more paths to research in morality in the future.

From the analyses in this section, the results suggest that different demographic variables can also work to moderate the relationship between the dependent variable even though they may not explain the relationships as much as the political ideology variable. This, in many ways, also depends on the scale that is used to measure morality. For both of the subscales in the Moral Foundations Questionnaire, the only other factor that could be considered a significant moderating variable is education. However, in the Moral Foundations Sacredness Scale and depending on the model, all of the variables, at one point or another, have been significant such that they do influence the aggregate difference between individualizing and binging foundations. This includes gender, religious identity, income and education.

The Moral Foundations Sacredness Scale, as Graham and Haidt (2012) argue, measures the extent to which people would violate what they hold sacred. In this premise, the authors argue that, in the process of developing and consolidating their moral values, people make sacred the aspects that most closely align with their moral values. When someone who is more religious and places a greater emphasis on the individualizing foundation, it brings questions on the role of religiosity in determining moral values. In past research, people who are more religious tend to value sacredness or traditions (Putnam and Campbell, 2012). However, the results here suggest that the more religious someone is, the more they hesitate to violate foundations related to harm and fairness.

This is one example of the patterns that are observed in this chapter that do not necessarily come out in the previous ones. These patterns raise interesting questions for the future directions of moral foundations research. Specifically, what are other variables that can predict how someone defines morality? Does education influence how people define morality such that this concept is a result of schooling and not innate? Or is it just because those who are liberal tend to be more wealthy and highly educated such that these other moderating factors do not necessarily hold weight on their own in terms of moderating the effect between aggregate individualizing and binding foundations?

In line with demographics, a factor that was not considered in this section surrounded race and country of origin. There have been studies that suggest that the Moral Foundations questionnaire does well in Western, Educated, Industrialized, Rich, and Democratized (WEIRD) countries as well as non-WEIRD ones (Doğruyol et al., 2019). This scale has also been used to study political ideology

in different countries like Turkey (Yalçındağ et al., 2019; Yilmaz et al., 2016). This scale has also been used to study specific race demographics in the United States, like the Black population Davis et al. (2016). But can race and the experiences that come with being party of a racial or ethnic group influence one's definition of morality? Future research can analyze how people differ in their morality based on racial experiences to see if race matters in the conceptualization or morality. Additionally, more research can be done on the influence of cultural contexts and see how they influence morality and political ideology.

For future research, another interesting avenue to pursue can also consider factors beyond demographics that would influence one's conceptualization of morality. Research can consider how factors like Right Wing Authoritarianism and Social Dominance Orientation influence moral foundations and conceptualizations of sacredness (Federico et al., 2013). Additionally, research can analyze the influence of personality and religious devotion in the ways in which people define sacredness. Finally, research can also analyze the influence of emotional appeals on definitions of morality Landmann and Hess (2018). These external factors are not considered in the liberal-conservative dichotomy, but can provide greater insight to the factors that lead to the development and consolidation of moral foundations.

As I move to the general discussion to close off their project, it is worth reflecting what more there is to morality beyond the studies that are described in Graham et al. (2009) and the frontiers that moral psychology can still explore. This chapter begins to scratch that surface but there are more possibilities to come.

Chapter 8

General Discussion

Liberals and conservatives communicate their visions on political matters in different ways. They hold differing opinions on policy and different convictions on what is right or wrong about those policies. At it's core, these political views are backed by their sense of morality, an innate intuition of what is right versus what is wrong (Haidt, 2012). The studies in this thesis finds that liberals and conservatives simply define morality in different ways. As politicians and party insiders paint their own positions as morally superior and good, and depict the other side as morally evil and bad, party affiliates and the general public grow to conceptualize the parties in this light (Hatemi et al., 2019).

This thesis project explores morality using the three major ways that the literature defined for measuring conceptualizations of morality: using the Moral Foundations Questionnaire (Haidt, 2012), analyzing the Moral Foundations Sacredness Scale (Graham and Haidt, 2012), and finding these patterns as they naturally occur in text (Frimer, 2019; Garten et al., 2016; Lewis, 2019). In the introduction of this thesis, I propose three questions and four hypotheses. Each of these approaches and methods in the previous five chapters addresses these questions in their own ways. We will examine the conclusions in this chapter and discuss overall limitations and future directions of this work.

8.1 Question 1: Morality Between Left and Right

This first question predominantly addresses the main topic of the Graham et al. (2009) paper. This question looks at the differences between the conceptualization on morality in liberals and conservatives as defined by the Moral Foundations Theory.

> *Question 1: Morality Between Left and Right* – Do Liberals and Conservatives think of morality using different foundations?

The sections on the Moral Foundations Questionnaire, Moral Foundations Sacredness Scale and Morality in the convention speeches all address this question.

> *Hypothesis 1a: Different Foundations* – Liberals and conservatives perceive the world differently. As such, they conceptualize the concept of "moral" using different foundations.
>
> *Hypothesis 1b: Morality in Text* – In national convention speeches, liberals and conservatives will appeal to different moral foundations.

From the results in the Moral Relevance and Moral Judgment sections, there is sufficient evidence to support the *Different Foundations* hypothesis. In each of these sections, I employed three different data sets which had varying sampling methods to represent the American public. Throughout the data, liberals tend to be more likely to conceptualize morality in terms of the individualizing foundations (Harm and Fairness) rather than the binding foundations (Ingroup, Authority, and Purity). However, conservatives tend to be more likely to support the binding foundations rather than the individualizing ones. These conclusions can also be derived from the section on the Moral Foundations Sacredness Scale. There, we see that liberals tend to be less likely to violate the terms related to the individualizing foundation since that is what they find most sacred (Graham and Haidt, 2012). On the other hand, conservatives tend to hesitate to violate the terms related to the binding foundations.

While the *Morality in Text* hypothesis is supported by the results in this paper, it does not reflect the patterns that support the *Different Foundations* hypothesis. Democrat and Republican speakers do not necessarily differ significantly in the number of root words, minus the "noise" that applied to the individualizing foundation. However, Republicans use more binding foundations, especially in the Authority foundation across the board. These results suggest that liberals and conservatives do conceptualize morality differently and their party elites do work to reflect the moral values of their base.

8.2 Question 2: Measuring Morality in Different Ways

The second question focuses on the different mechanisms and scales that are used in research to capture one's conceptualization of morality.

> *Question 2: Measuring Morality in Different Ways* – How can we measure the differences in morality between liberals and conservatives and what do these scales tell us?

This question addresses the comparisons that can be made between the Moral Foundations Questionnaire and the Moral Foundations Sacredness Scale. While both were studied in Graham

et al. (2009), they are inherently measuring different aspects of how people conceptualize morality (Graham and Haidt, 2012).

> *Hypothesis 2: Universal Conceptualization of Morality* – Morality can be measured in different ways using different scales. Each scale will communicate different information related to morality.

While this project does not run a direct comparison between the Moral Foundations Questionnaire and the Moral Foundations Sacredness Scale, the patterns in the results that they generate shows the clear trend: Liberals tend to follow individualizing foundations while conservatives tend to abide by the binding ones. It must be noted that these two questionnaires were written with different goals in mind. Haidt et al. (2009) describes the Moral Foundations Questionnaire as a way to capture the ways that people embody the five foundations in their moral framework more generally. It was built to capture moral mindsets that people develop early on in their lives (Haidt et al., 2007). The wording in the questions, as seen in Appendix B, bring topics that are up to the interpretation of the respondent of the survey. What is fair or pure is subjective to the definitions of the participant, which can vary widely. The goal of this survey is to capture abstract morality, while the Moral Foundations Sacredness Scale aims to capture the concept in more concrete ways. This scale is based off the notion that what people find moral is also what they feel most sacred (Graham and Haidt, 2012). The scale, therefore, takes a snapshot of some concrete actions and asks participants whether or not they will violate them. While these topics are still in the same framework as the five foundations discussed in the Moral Foundations Questionnaire, they capture these topics in a different light.

Of course, there are other scales that are not analyzed in this study that might bring new insights to this question. To build on the work in this thesis project, future research can analyze different ways to measure morality and see if these scales provides different information for how people define morality. These can include the Moral Traditionalism scale (Mulligan, 2008), Model of Moral Motives (Janoff-Bulman and Carnes, 2016), and the Morality surrounding Culture War issues (Koleva et al., 2012). Perhaps these different ways to measure morality leads to the same patterns that the scales in this thesis suggests but more research can help bring more insight to this phenomenon.

8.3 Question 3: Moderating Factors of Morality

In the third question, the goal focuses on the other factors that can influence one's conceptualization of morality from childhood (Haidt et al., 2007).

> *Question 3: Moderating Factors of Morality* – Are the observed differences between liberal and conservative morality moderated by other demographic factors other than

political ideology?

This last question is explored in Chapter 6, where I run regression models that add key demographic factors such as gender, religion, income and education to the models.

> *Hypothesis 3: Other Moderating Factors* – There are other factors, in addition to self-identified political ideology, that can predict differences in moral foundations between individuals.

For the two subscales on the Moral Foundations Questionnaire, there is no support for the *Other Moderating Factors* hypothesis. In these analyses, different gender, levels of religiosity and income do not predict differences in one's moral foundations on top of politics. However, there is some support for the education component such that those who are more educated tend to be more likely to support the individualizing foundations than binding foundations.

On the other hand, for the Moral Foundations Sacredness Scale, there are other demographic factors, other than politics, that influences one's definition of sacredness, and hence morality. Here, gender, religion, income and education influence morality. Women tend to be more likely, than men, to see items in the binding foundations as more sacred. Those who are more religious, have a higher income, and those with more education tend to find items in the individualizing foundations to be more sacred than the binding foundations. Thus, from the results of the Moral Foundations Sacredness Scale, there is evidence to support the *Other Moderating Factors* hypothesis but more research can be conducted on this front to understand the differences between the scales and why this trend was observed.

8.4 Limitations and Future Directions

In each of the chapters of this thesis, I discussed some of the limitations of the analyses in the particular chapter as well as future directions for research on the topic in that chapter. Here, I will discuss the limitations of this project as a whole and propose future directions for research that considers morality as a broad topic for research.

While this thesis concludes that liberals generally are more likely to prefer the individualizing foundations, and that conservatives tend to prefer the binding foundations, there are also patterns that emerge in this project to suggest that conservatives can also conceptualize morality in terms of the individualizing foundations at the same rate as liberals. For example, we see this trend in the analyses on the Moral Foundations Sacredness Scale under Figure 5.1. This has been confirmed in several past studies (Cornwell and Higgins, 2013; Schein and Gray, 2015) but has also not been explored as much as the main conclusion of this thesis. In the text analysis section of this project, the results showed that numerous Republican speakers also tend to appeal to the Harm and Fairness

foundations just as the Democrats. Additionally, Democrats also appeal to some of the binding foundations like Ingroup and Purity at similar rates compared to Republicans. In future studies, research can be dedicated to finding which set of foundations carries a greater effect when it comes to the variation between liberal and conservative morality. Additionally, this research can also understand the motivational underpinnings for liberals and conservatives to appeal to individualizing and binding foundations (Cornwell and Higgins, 2013).

In general, the data for this paper come from three well powered and representative studies conducted by researchers around the country (Ansolabehere and Schaffner, 2012; Haidt, 2012; Smith, 2014). However, as I discussed in the individual chapters, these datasets each carry shortcomings in terms of the overall sample size, sample methodology and items relevant to the Moral Foundations Questionnaire. Additionally, the creators of the Moral Foundations Questionnaire recommend that the 30-item set be used as a standard across all surveys that study this measure in lieu of the 20-item measure (Graham et al.). This thesis considers each of the data sets above including it's sample size, methodology and Moral Foundations Questionnaire separately. Future studies can analyze the influence that these factors have on the outcomes that are observed in moral psychology research.

As I mentioned in the Morality in Text chapter, there is not much research that considers morality within parties. From the results in the Moral Foundations Questionnaire and Moral Foundations Sacredness Scale, it is easy to see how this might be the case since the averages show that there is no discernible difference between people who are very liberal, liberal and somewhat liberal. Additionally, this pattern seems to hold true for those who are somewhat conservative, conservative, or very conservative. However, political parties and ideologies are not monoliths even if they can be characterized under general trends (Abramowitz, 2010; Ellis and Stimson, 2012; Grossmann and Hopkins, 2016; Noel, 2014). While there are general trends to describe people who are politically liberal, there are differences in their opinions, especially as a function of their participation in politics (Bishin, 2009; Leighley and Nagler, 2013; Miler, 2018). Future research in moral psychology can work to understand whether party affiliates and ideologues are "echo-chambers" within their own parties or whether there are subtle differences that might matter to policy support of members in one's own party. For example, there might be a reason to suggest that the Republicans in the era of the Tea Party differed on what they deemed to be suitable policies, which might be the reason for their ideologically diverse set of candidates in the 2016 election (Lewis, 2019). Additionally, Democrats seem to be experiencing this trend as the party is split between supporting a more radical left wing candidate as Bernie Sanders or someone who is more moderate like Joe Biden or Amy Klobuchar (Relman and Hickey, 2019)[1]. In this diverse field of Democratic candidates, research can analyze moral appeals between the most and least liberal of the candidates to see if they differ.

[1]Business Insider ranks the candidates based on their political ideology on a line from most liberal to least liberal: `https://www.businessinsider.com/2020-democratic-presidential-candidates-political-spectrum-ranking-2019-5`

8.5 Conclusion

Looking forward to the 2020 Presidential Election, many of the same patterns that are observed in the results of this paper, and in past studies continue to hold. In his presidential bid, Vermont Senator Bernie Sanders builds a case for the immorality of the income distribution in the United States, as seen in his positions in the 9th Democratic Debate in Nevada. Here he insists

> "I'll tell you what I mean. We have a grotesque and *immoral* distribution of wealth income. Mike Bloomberg owns more wealth than the bottom 125 million Americans. That's wrong. That's *immoral*."

It is clear that Senator Sanders is appealing to the fairness foundation in this statement as a way to bolster his positions that relate to social equity. In the works of politics, these moral appeals have become, and are increasingly becoming, ever more important in ensuring that the candidates can connect to their constituency.

In its core, the foundations of the partisan divide lies in the moral divide (Clifford, 2014) for people on the left and on the right (Ditto et al., 2019). As people start to moralize their political leanings, we see greater affective partisan polarization, just as Garrett and Bankert (2018) emphasized. In this project, we saw how liberals and conservatives differ from one another in their definitions on morality based on the foundations established in the Moral Foundations Theory, both for party elites and the mass public. These core intuitions can help us understand how supporters of any candidate in a presidential or congressional election treat fellow supporters or supporters of the opponent. Their emotions are not their fault; it's simply the outcome of their morality. As Lakoff (2010) argues:

> Conservatives simply see the world differently than do liberals, and both often have a difficult time understanding accurately what the other's worldview is

So I close this thesis in the same fashion that Haidt (2012) closed his book, *The Righteous Mind*, and that is with a warning against righteousness. This is also how Lukianoff and Haidt (2019) advises each of us to live our lives in *The Coddling of the American Mind*: Liberal and conservative, or people in general, conceptualize morality in different ways and this is often as a reflection of their circumstances and upbringing. We should not be quick to call out someone else's morality as immoral or degenerate them as racist, sexist, homophobic, xenophobic, or otherwise "bad-for-the-country" in any way. Rather, it is the duty of people to come to a greater understanding of each other and put these labels aside. It is, as Haidt and Joseph (2004) advises, the only way people can build a greater tolerance for each other.

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Appendix A

Reproduction of Graham et al. (2009) Results

The paper published by Jesse Graham, Jonathan Haidt and Brian Nosek on differences in morals between liberals and conservatives (Graham et al., 2009) is widely cited and lauded for its comprehensive analysis of the moral underpinnings of different political ideologies. This paper is cited over 2500 times on Google Scholar and 400 times on PsycInfo, earning considerably more citations than other papers in the field and by these authors. The goal of this thesis project is to understand the mechanisms that were implemented by the authors to achieve their conclusions through a variety of different pathways and different texts. However, this cannot be done without a through analysis and understanding of the original methods implemented by the authors. By understanding how the authors got their answers using the methods they chose, it is easier to identify limitations to their methodology that may not be mentioned in their general discussion, and find extensions to apply to the modern understanding of morality.

This paper was published in 2009 with a slightly dated version of the Moral Foundations Questionnaire. Here, the authors implemented the original 40-item questionnaire but it has since been cut to 30, and even 20 items for research. While the main text of the thesis explores to differences between the 30 and 20 item questionnaire presently used in morality research, the reproduction reported in this appendix considers the data as the authors originally presented in their paper.

The original paper consists of 4 empirical studies with all data posted on Harvard Dataverse, a comprehensive repository for academics to post their datasets and relevant code for reproduction. For this paper, the authors included the survey responses for studies 1-3 to its entirety and the LIWC printout for Study 4. Each dataset was posted as an SPSS data file with options to convert to R from the dataverse. In their files, they did not include a codebook for the variables nor a syntax file that details the commands utilized to create their graphs or analyze the data. However,

the text of the paper provides some clues, along with dataset comments, that can help determine the analyses used and understand the reported statistics.

A.1 Study 1: Moral Relevance

In the first study, the authors were interested in the moral relevance scale, which is the first half of the Moral Foundations Questionnaire. Here, the data consists of 1,548 respondents from Project Implicit, 65 less than the original 1,613 respondents who originally entered the study. They were excluded for using the higher end of the response scale for the question on whether someone believed in astrology.

To display the trends in moral foundations, the authors created a linegraph with self-identified political ideology on the x-axis and average score on the y-axis. There were five lines, one for each foundation in the graph. The conclusion drawn from these descriptive statistics was that liberals were more likely to score higher on the Harm and Fairness foundations, but as one becomes more conservative, they were more likely to score similarly on all five values. Figure A.1 shows the recreated graph using the data the authors posted. To arrive at the results, the authors averaged the scores on items pertinent to each foundation and found the average on each foundation by people who identified in each political ideology category. To achieve the political ideology variable, the questions were asked in three steps than combined for a comprehensive variable. First, respondents were asked whether they were liberal, moderate, or conservative. Then, if they chose a side, they were asked how strongly they felt the identified with the side (strong versus not very strong). Finally, if they selected "moderate" originally, they were asked if they were truly moderates or they leaned towards one side ever so slightly more than the other. In the combination, participants who were conservative were assigned a negative score while those who were liberal were assigned a positive one. Higher numbers were given to stronger identifiers than weaker ones. In the graphics, these were recoded to the labels shown in Figure A.1.

The recreated figure shows that, even without a codebook, we were still able to understand and apply the same variables used by the authors.[1] The trends reflect the conclusions drawn by the authors such that liberals scored higher on Harm and Fairness while conservatives increasingly used all five. It is also interesting to note that the individualizing foundations of Harm and Fairness hang together while the binding foundations of Ingroup, Authority and Purity likewise do the same.

Furthermore, the researchers conducted a latent variable model analysis to test the factors that influence the differences in foundations, and to verify that ideology was the driving force over other demographics in predicting these differences. In this model, they incorporated factors such as gender, age, income and ideology. They also conducted a repeated measures GLM that compared the

[1] For the original figure, please reference the original paper.

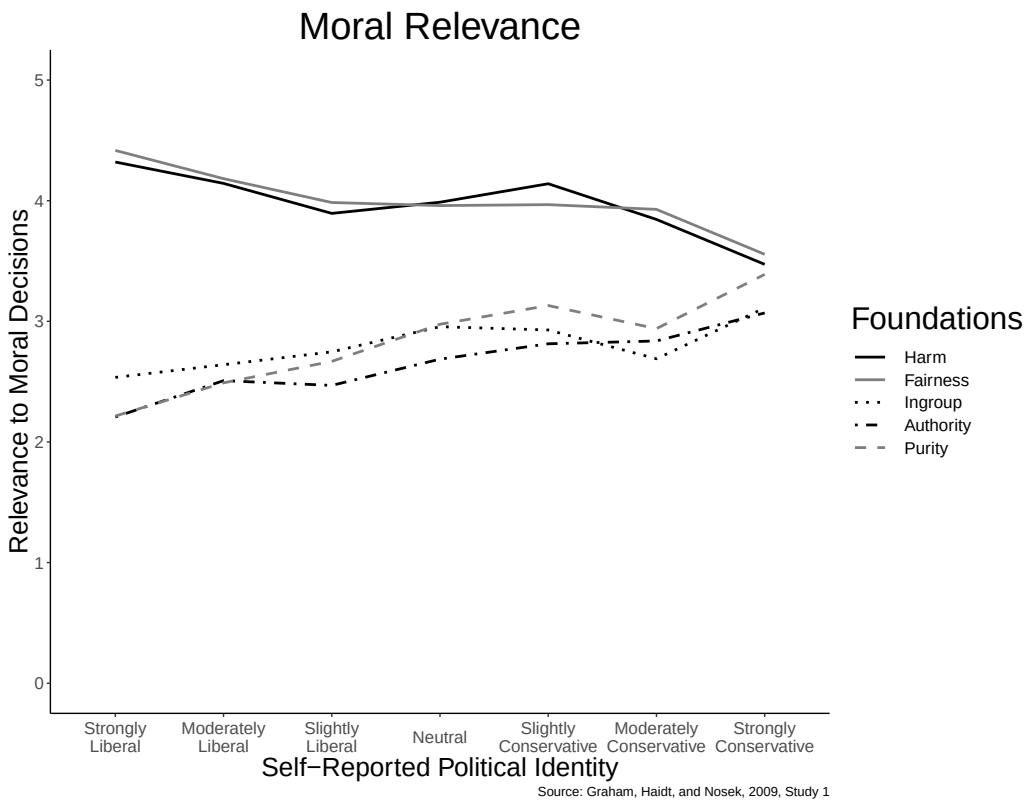

Figure A.1: *Moral Relevance Distribution – Study 1*

aggregate individualizing and binding foundation scores between respondents. They also generated a model that analyzes how political ideology moderates the relationship between the aggregate scores.

For the reproduction, I generate a linear regression model to understand the relationship between the aggregate individual and binding foundations between people with different political ideologies. The results are displayed in Table **??**. This model was generated by creating a difference score, which is reflected as the difference between the aggregate individualizing and binding foundation score.

For this analysis, the authors found that the aggregate individualizing foundation scores differ from the aggregate binding foundation score ($F(1, 1207) = 1895.05$, $p < .001$). In my reproduction, I get the value by squaring the t-statistic associated with the *Constant* category. Therefore, for this analysis, my reproduction finds that the aggregate subscale scores differ such that $F(1, 1207) = 1893.99$, $p < .001$.

For the moderation model with politics, the authors reported that political ideology moderates the relationship between the aggregate individualizing and aggregate binding foundation score such that $F(1, 1207) = 224.34$, $p < .001$. For my reproduction, I found $F(1, 1207) = 224.53$, $p < .001$.

Like the descriptive statistics line graph, the results of the linear model reproduces the ones

Table A.1: *Study 1: Moral Relevance Linear Regression*

	Dependent variable:
	Difference Score
Ideology	−0.225
	t = −14.984***
Constant	1.212
	t = 43.520***
Observations	1,209
R^2	0.157
Adjusted R^2	0.156
Residual Std. Error	0.833 (df = 1207)
F Statistic	224.531*** (df = 1; 1207)
Note:	*p<0.1; **p<0.05; ***p<0.01

published by the authors in the paper. As such, I apply this model in the analyses used in the main body of this paper.

A.2 Study 2: Moral Judgment

In Study 2, the second half of the Moral Foundations Questionnaire is explored. Here, the researchers recruited 2,212 participants from Project Implicit. In the analysis, only 2,135 participants were included since some used the higher end of the scale for the astronomy item that was discussed in Study 1. For the reproduction, I incorporate the linear model and descriptive statistics for the moral judgment items only. I will also consider these methods for the moral relevance items as discussed in the first study and incorporated in this one. However, the implicit association tests will not be considered as the variables were not labeled and scales were not as clearly explained in the paper nor in the dataset.

For the moral judgment items, participants were presented with items that addressed dilemmas related to values and each item was answered on the scale from strongly disagree to strongly agree. Examples of these items include questions like: *"If a friend wanted to cut in with me on a long line, I would feel uncomfortable because it wouldn't be fair to those behind me."* Figure A.2 shows the reproduced version from the publicly available dataset. Similar to Figure A.1, this is an exact reproduction with some differences in aesthetics. Here, the data displays the average score on each foundation as a function of self-identified political ideology.

Just like the Moral Relevance analyses in the first study, a latent variable model and a repeated measures GLM was conducted to understand the differences between the individualizing and binding moral foundation scores across different demographic domains. For the repeated measures GLM, I

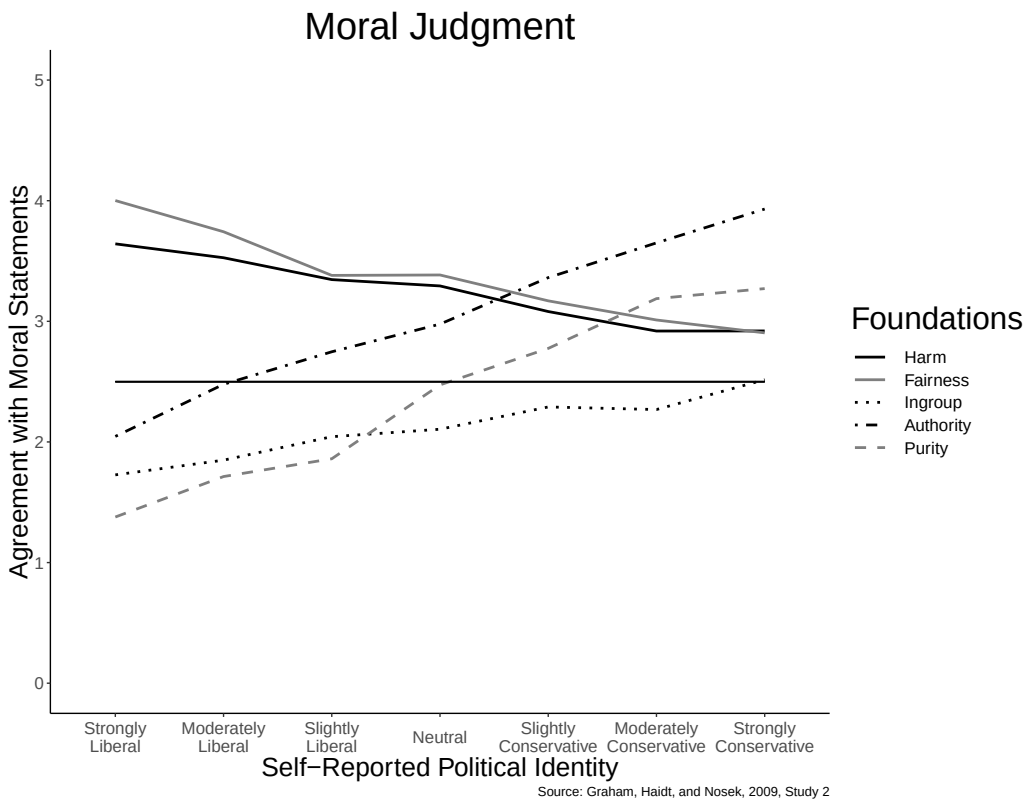

Figure A.2: *Moral Judgment Distribution – Study 2*

reproduce the results using a similar line of logic that was applied to the Moral Relevance analyses earlier in this appendix. The results are displayed in Table A.2.

Table A.2: *Study 2 Linear Regressions*

	Dependent variable:	
	Relevance	Judgment
	(1)	(2)
Ideology	−0.272	−0.422
	t = −20.964***	t = −25.473***
Constant	0.809	0.792
	t = 33.491***	t = 25.180***
Observations	1,207	1,202
R^2	0.267	0.351
Adjusted R^2	0.267	0.350
Residual Std. Error	0.771 (df = 1205)	1.001 (df = 1200)
F Statistic	439.497*** (df = 1; 1205)	648.893*** (df = 1; 1200)
Note:		*p<0.1; **p<0.05; ***p<0.01

For the difference between the aggregate individualizing and binding foundation scores, the au-

thors published significant results such that there was a difference between individualizing and binding foundation scores for Moral Relevance ($F(1, 1205) = 1215.62$, $p < .001$) and for Moral Judgment ($F(1, 1200) = 635.58$, $p < .001$). My reproduced results suggest that there are significant differences between the aggregate individualizing and binding moral foundations for Moral Relevance ($F(1, 1205) = 1121.58$, $p < .001$) and Moral Judgment ($F(1, 1200) = 634.03$, $p < .001$). Again, the F-statistics are obtained by squaring the t-statistics under the *Constant* section of the table. For this portion of the analysis, I was able to reproduce the Moral Judgment statistic fairly closely, but not for Moral Relevance.

The moderation model with political ideology was also conducted. The authors report significant results for the Moral Relevance ($F(1, 1205) = 450.42$, $p < .001$) and Moral Judgment ($F(1, 1200) = 649.40$, $p < .001$) models. In my reproduction, I also find significant results for the Moral Relevance ($F(1, 1205) = 439.50$, $p < .001$) and Moral Judgment ($F(1, 1205) = 648.89$, $p < .001$) models. For this moderation model, I was fairly close on Moral Judgment but not on Moral Relevance. I apply these analyses logic to the ones used in the paper for Moral Judgment.

A.3 Study 3: Moral Tradeoffs

In the third study, the researchers were interested in whether people would adhere to moral values and under what conditions would they adhere to them. The design of this study utilized dollar values in base 10 increments attached to actions such that individuals were asked to consider how much money they were willing to take as a compensations for completing an act that would violate their values. These acts address each of the five foundations and include acts like kicking a dog or refusing to help a friend.

The study recruited 8,193 participants from yourmorals.org, a platform ran by the authors of the paper where participants opt in to complete quizzes related to understanding their moral values. In this survey, participants completed a questionnaire that asked them to trade off moral violations in exchange for an amount of money. The entirety of the questionnaire is hypothetical, but participants were asked to imagine if this situation were real. For each act that aligned with each of the moral foundations, participants chose a minimum value that they would accept to do the task.

Figure A.3 shows the distribution of scores on each foundation across political ideology. This is an exact reconstruction of the figure in the original paper, and the trends here show similar patterns as observed in the original paper. Liberals tend to desire a higher level of compensation to violate their morals related to harm and fiarness, but are not as demanding when it comes to the other foundations. On the other hand, people who are more conservative tend to value the foundations equally and desire a similar amount of money for actions that violate each of the foundations.

A latent variable model was conducted, and it incorporates gender, age, education, and religious

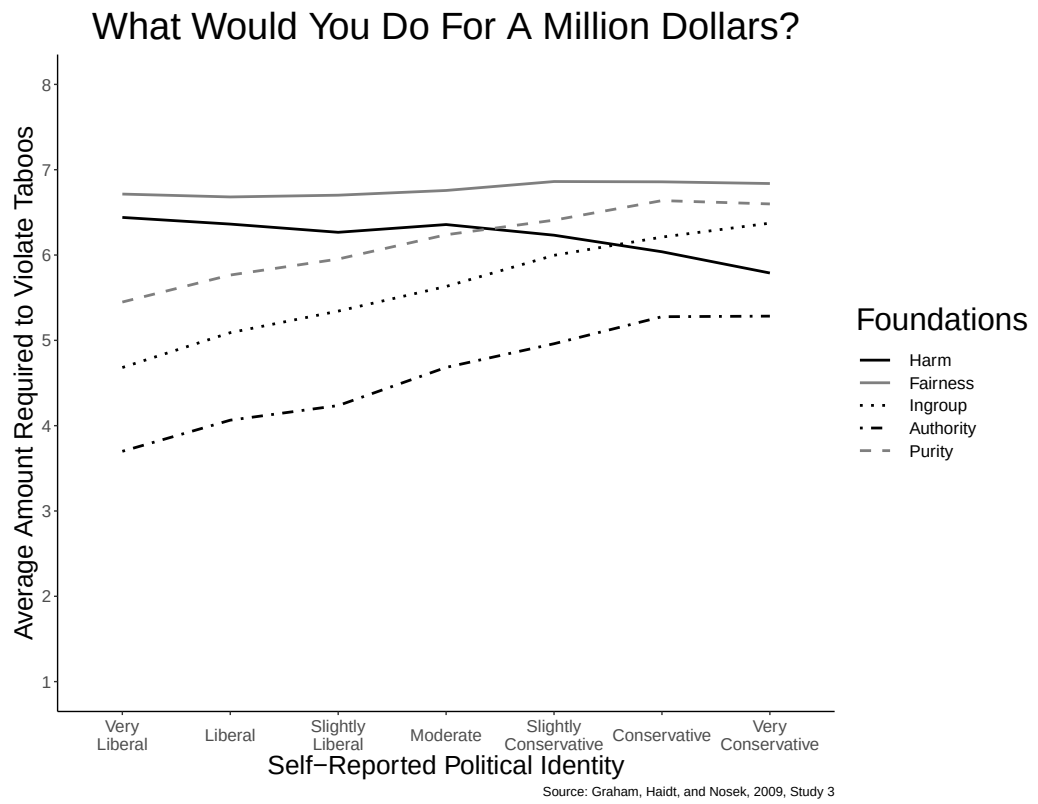

Figure A.3: *Moral Tradeoff Distribution – Study 3*

attendance on top of political ideology to better understand the reasons why different people show stronger preferences to different foundations. Additionally, a repeated measures GLM was also conducted to find the difference between the aggregate individualizing foundation scores and the aggregate binding foundation scores.

I reproduce the linear model and the results are shown in Table A.3. For this analysis, the authors reported a significant difference between the aggregate individualizing and binding foundation score such that $F(1,\ 6596) = 3689.66$, $p < .001$ and this effect is moderated by politics such that $F(1,\ 6596) = 236.28$, $p < .001$. In my results, I find that the aggregate individualizing and binding foundations scores are significantly different such that $F(1,\ 6595) = 7298.28$, $p < .001$ and that this result is moderated by political ideology such that $F(1,\ 6595) = 1407.90$, $p < .001$. These results, while using the same analysis mechanism as the previous studies, are different from the ones reported in the paper. However, I still apply this model in the analysis used in the paper given that it has accurately reproduced the results in the past studies[2]

[2]I also reached out the the authors of this paper to see if they did anything that was different than what I did. The code that they sent me did not align with the reported analysis and this model that I constructed came the closest to the published results.

Table A.3: *Study 3: Moral Tradeoffs*

	Dependent variable:
	Difference Score
Ideology	−0.291
	t = −37.522***
Constant	2.171
	t = 85.433***
Observations	6,597
R^2	0.176
Adjusted R^2	0.176
Residual Std. Error	0.979 (df = 6595)
F Statistic	1,407.898*** (df = 1; 6595)
Note:	*p<0.1; **p<0.05; ***p<0.01

A.4 Study 4: Morality in Text

In this study, the researchers analyzed the presence of moral appeals in the texts of Southern Baptist and Unitarian churches. A reproduction of this is rather difficult since the exact tests of the sermons were not provided nor was the original Moral Foundations Dictionary and LIWC commands. However, the output was incorporated and we were able to understand how the percentages per foundation, t-statistics and effect size values are calculated based on the descriptions in the paper.

When the Moral Foundations Dictionary is used in LIWC, the words are split such that foundation adhering words, or virtue, were separate from those that speak on the foundation using a negative connotation, or vice. For the analysis, the two scores were combined and average across the foundations by the type of church (liberal or conservative).

In their paper, the authors also mentioned using blind raters to rate 23 words in context from both the groups of churches. However, the data for this part was unclear and so were the explanations that accompanied the results. This step was omitted from the analysis of national convention speeches in the main text and in this reproduction. However, in my analysis of the national convention speeches, I manually check 10% of the speeches in each corpus to see how they align with the Moral Foundations Dictionary.

While I am not able to directly reproduce the results published by the authors, I was able to access the version of the Moral Foundations Dictionary that they used and compare it to the one adopted for this paper. In their analysis, they generated the original version of the Moral Foundations Dictionary using conceptual representations of each foundation, but this was perfected in Frimer et al. (2019) using machine learning techniques that gave each foundation a wider conceptual coverage. To view the effect of these changes, we can consult the differences in the number of words per foundation, as shown in Table A.4. Between the new version of the Moral Foundations Dictionary

and the original, the number of words in each foundation increased over 9 times for Harm/Care, 7 times for Fairness/Reciprocity, 3 times for Ingroup, 5 times for Authority/Loyalty, and 7 times for Purity/Sanctity.

Table A.4: *Number of Words in Original versus New Moral Foundations Dictionary*

Foundation	Original	New
Care		
Virtue	16	182
Vice	35	288
Total	51	470
Fairness		
Virtue	26	115
Vice	18	236
Total	44	351
Ingroup		
Virtue	29	142
Vice	23	49
Total	52	191
Authority		
Virtue	45	301
Vice	37	130
Total	82	440
Purity		
Virtue	35	272
Vice	54	388
Total	89	660
Morality General	41	NA

For comparison, Tables A.5 and A.6 shows the differences in results between the two versions of the Moral Foundations Dictionary. The results that I am comparing in these tables reflect the analyses of the corpus minus the invocations and benedictions. I reproduce the results reported in the main text for convenience followed by the results outputted from the original MFD as the dictionary for analysis.

Looking into these results more closely, I start with the Word Count Analysis in Table A.5. The results posted under the new MFD showed significant differences between Democrats and Republicans on Harm and Authority, with slight significance on Purity. For Harm, Democrats used slightly more appeals than Republicans, and for Authority, Republicans used more appeals to this foundation than Democrats. Similarly, Republicans used ever so slightly more appeals to Purity than Democrats. However, in the original Moral Foundations Dictionary, the significant differences are in Fairness and Authority. While the effect sizes are similar for Authority foundation appeals between the versions, the original MFD picks up significance in the Fairness Foundation for Democrats rather than Harm, conveying a different story in the analyses.

Turning to the token analysis results, we also see these differences. In the results reported in the

Table A.5: *Word Count Analysis Results by Dictionary*

(a) New Moral Foundations Dictionary

	Percentage			
Foundation	Democrat	Republican	t	Effect Size (d)
Harm	1.54	1.1	3.719***	0.464
Fairness	0.52	0.44	0.997	0.152
Ingroup	1.42	1.32	0.812	0.114
Authority	1.01	1.33	-2.983**	-0.454
Purity	0.51	0.56	-1.826(*)	-0.276

(b) Original Moral Foundations Dictionary

	Percentage			
Foundation	Democrat	Republican	t	Effect Size (d)
Harm	0.93	0.91	0.268	0.039
Fairness	0.34	0.15	4.416***	0.517
Ingroup	1.18	1.14	0.350	0.052
Authority	0.62	0.86	-2.833**	-0.426
Purity	0.09	0.06	1.537	0.183

Notes: The percentage of words is calculated as a function of the instances words in each foundation, established by the Moral Foundations Dictionary, appeared in text divided by the total number of words in the speech.
(*)$p = .1$, *$p = .05$, **$p = .01$, ***$p \leq .001$

Table A.6: *Token Analysis Results by Dictionary*

(a) New Moral Foundations Dictionary

	Instances			
Foundation	Democrat	Republican	t	Effect Size (d)
Harm	9.03	10.7	-0.867	-0.144
Fairness	2.04	2.84	-1.260	-0.222
Ingroup	3.34	5.34	-2.487*	-0.431
Authority	3.20	8.97	-5.053***	-1.007
Purity	1.88	4.06	-4.347***	-0.714

(b) Original Moral Foundations Dictionary

	Percentage			
Foundation	Democrat	Republican	t	Effect Size (d)
Harm	6.03	9.36	-1.981(*)	-0.369
Fairness	0.96	0.97	-0.037	-0.006
Ingroup	4.02	6.92	-2.943**	-0.524
Authority	3.68	8.08	-3.602***	-0.685
Purity	0.39	0.33	0.586	0.084

Notes: The instances of each foundations appears as a function of the number of times the stem of the word matches stems in the Moral Foundations Dictionary.
(*)$p = .1$, *$p = .05$, **$p = .01$, ***$p \leq .001$

main text, we see significant differences between Republicans and Democrats in Ingroup, Authority and Purity. These results confirm the results of Schein and Gray (2015) where they find that liberals and conservatives do not differ on individualizing foundations since conservatives are also appealing to these foundations. However, these results are not seen in the original MFD. From these analyses, we get results that show Republicans using more appeals in Harm, Ingroup and Authority.

These analyses do not necessarily go to show the superiority of one dictionary over another. However, they demonstrate the differences between the ability for the dictionaries to detect appeals when used in a linguistic analysis software. This thesis uses the argument of Frimer et al. (2019) that the new version is more robust than the first. However, the original version of the Moral Foundations Dictionary can still provide interesting information regarding the text patters of interest.

Appendix B

Questionnaires

B.1 Moral Foundations Questionnaire

The Moral Foundations Questionnaire was developed by Jesse Graham, Jonathan Haidt, Brian Nosek and others and was revised in July 2008 to the 30-item scale, with options for a 20-item scale in research. The questions with an asterisk (*) denote items included in the 30-item scale but not in the 20-item scale.

B.1.1 Moral Relevance – Chapter 2

Part 1: For each item, please respond using the following options: not at all relevant, not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant.

1. Whether or not someone suffered emotionally (Harm)
2. Whether or not some people were treated differently than others (Fairness)
3. Whether or not someone's action showed love for his or her country (Ingroup)
4. Whether or not someone showed a lack of respect for authority (Authority)
5. Whether or not someone violated standards of purity and decency (Purity)
6. Whether or not someone cared for someone weak or vulnerable (Harm)
7. Whether or not someone acted unfairly (Fairness)
8. Whether or not someone did something to betray his or her group (Ingroup)
9. Whether or not someone conformed to the traditions of society (Authority)
10. Whether or not someone did something disgusting (Purity)
11. Whether or not someone was good at math (Attention Check)
12. Whether or not someone was cruel* (Harm)
13. Whether or not someone was denied his or her rights* (Fairness)
14. Whether or not someone showed a lack of loyalty* (Ingroup)
15. Whether or not an action caused chaos or disorder* (Authority)
16. Whether or not someone acted in a way that God would approve of* (Purity)

B.1.2 Moral Judgment – Chapter 3

Part 2: For each item, please respond using the following options: strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree.

17. Compassion for those who are suffering is the most crucial virtue (Harm)
18. When the government makes laws, the number one principle should be ensuring that everyone is treated fairly (Fairness)
19. I am proud of my country's history (Ingroup)
20. Respect for authority is something all children need to learn (Authority)
21. People should not do things that are disgusting, even if no one is harmed (Purity)
22. One of the worst things a person could do is hurt a defenseless animal. (Harm)
23. Justice is the most important requirement for a society (Fairness)
24. People should be loyal to their family members, even when they have done something wrong (Ingroup)
25. Men and women each have different roles to play in society (Authority)
26. I would call some acts wrong on the grounds that they are unnatural. (Purity)
27. It is better to do good than to do bad. (Attention Check)
28. It can never be right to kill a human being* (Harm)
29. I think it's morally wrong that rich children inherit a lot of money while poor children inherit nothing* (Fairness)
30. It is more important to be a team player than to express oneself* (Ingroup)
31. If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty* (Authority)
32. Chastity is an important and valuable virtue* (Purity)

B.2 Moral Foundations Sacredness Scale

The Moral Foundations Sacredness Scale was created as a way to ascertain whether people would be willing to get hypothetical money in exchange for them to complete an act that violates a specific moral foundation. This scale is used for the analysis in Chapter 4.

For each item, please respond using the following options:
1 = $0 (I'd do it for free)
2 = $10
3 = $100
4 = $1,000
5 = $10,000
6 = $100,000
7 = a million dollars
8 = never for any amount of money

1. Kick a dog in the head, hard (Harm)

2. Shoot and kill an animal that is a member of an endangered species (Harm)
3. Stick a pin into the palm of a child you don't know (Harm)
4. Cheat in a game of cards played for money with some people you don't know well (Fairness)
5. Throw out a box of ballots, during an election, to help your favored candidate win (Fairness)
6. Sign a secret-but-binding pledge to only hire people of your race in your company (Fairness)
7. Burn your country's flag, in private (nobody else sees you) (Ingroup)
8. Say something bad about your nation (which you don't believe to be true while calling in, anonymously, to a talk-radio show in a foreign nation (Ingroup)
9. Break off all communications with your immediate and extended family for 1 year (Ingroup)
10. Curse your parents, to their face (you can apologize and explain 1 year later) (Authority)
11. Make a disrespectful hand gesture to your boss, teacher, or professor (Authority)
12. Throw a rotten tomato at a political leader you dislike (remember, you will not get caught) (Authority)
13. Sign a piece of paper that says "I hereby sell my soul, after my death, to whoever has this piece of paper" (Purity)
14. Get a blood transfusion of 1 pint of disease-free, compatible blood from a convicted child molester (Purity)
15. Attend a performance art piece in which all participants (including you) have to act like animals for 30 minutes, including crawling around naked and urinating on stage (Purity)

Appendix C

Online Appendices

The data, code, codebook, and other materials used in this thesis are located online at `https://lin-jennifer.github.io/MeasuringMorality/` to facilitate the replication process. This appendix serves as a quick guide to the contents on the website, making materials easier to access.

The links in this appendix are best used on the electronic version of this thesis project. If you are someone reading this paper in print at the Jane Bancroft Cook Library and have stuck with me until this point (thank you, by the way), you can access an electronic copy of this thesis, along with this appendix online at `https://lin-jennifer.github.io/MeasuringMorality/appendices.html`[1]. Or, you can download/clone this GitHub repository (`https://github.com/lin-jennifer/MoralityReplication/tree/master`) to have all the files loaded onto your working directory of choice.

C.1 Processed Data

For each of the data sets, the `.csv` files are attached. When the link is accessed, the data set is automatically downloaded and saved to the user's download directory on their device. All of the data files are ready to be used for analysis and match the variable labels in the R code.

- Cooperative Congressional Elections Study (`.csv`)
- The American Panel Study (`.csv`)
- YourMorals data (`.csv`)[2]
- Measuring Morality (`.csv`)
- 2016 Democrat and Republican National Convention Speeches (GitHub)[3]
  - New Moral Foundations Dictionary (`.dic`) (PDF)[4]
  - For Reference: Original Moral Foundations Dictionary (`.dic`) (PDF)

[1] Or, if you are on my committee (thank you, also), it is probably better to read this part online too ...

[2] The raw `.sav` file for SPSS is available on the Harvard Dataverse. This file differs because it is cleaned to include the relevant variables for the MFQ analyses.

[3] Leads to a GitHib Repository. To use this data, it would require rearranging all the text files out of the folders to one main directory for each of the conventions, along with the metadata, which is stored as a `.csv` file.

[4] In the Online Version, the Moral Foundations Dictionary is located in its own section.

C.2 Commented Code

- Moral Relevance
  - CCES 2012: PDF
  - TAPS Wave 10: PDF
  - YourMorals: PDF
- Moral Judgment
  - CCES 2012: PDF
  - TAPS Wave 10: PDF
  - YourMorals: PDF
- Moral Foundations Sacredness Scale
  - Measuring Morality: PDF
- Morality in Text
  - Word Count: PDF
  - Token: PDF
  - Extension Analyses
    - Word Count: PDF
    - Token: PDF

C.3 The Codebook

The Codebook is available as a PDF.

C.4 Reproduction of Graham et al. (2009) Details

- Reproduction R Code
  - Study 1: PDF
  - Study 2: PDF
  - Study 3: PDF
- SPSS to R Translation Work
  - Study 1: PDF
  - Study 2: PDF
  - Study 3: PDF