



A Quantitative Analysis of Reproductive Rights and Right to Life Advocacy Organization Mission Statements

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A Quantitative Analysis of Reproductive Rights
and Right to Life Advocacy Organization Mission Statements

Anant Pai

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in partial fulfillment of the requirements
for a Bachelor of Arts degree with Honors

Harvard College
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Abstract

The debate between pro-choice and pro-life advocates has raged on for decades. Despite significant political and legislative action in the recent past, abortion remains one of America's most divisive and partisan issues. This thesis examines the mission statements of reproductive rights and right to life advocacy groups. Mission statements represent what an organization is and why it exists. This paper will aim to look at this intersection, to use quantitative methods to investigate the differences in mission statements between these groups; we find that both groups aim to portray themselves as supportive of women. In addition to signaling an organization's values and priorities, mission statements can be important in achieving positive organizational outcomes. Next, we consider the rhetoric used in and values espoused by organization mission statements, and attempt to identify their relationship with organizational success. While contributing to a growing body of literature surrounding this debate, we highlight the ways in which our findings suggest our country is moving toward equality.

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1 Introduction

1.1 Motivation

This thesis has three primary motivations following from the fact that mission statements, which are addressed to various audiences (e.g., members, potential members, staff), speak to an organization's values. First, by better understanding the missions of reproductive rights and right to life advocates, we hope to shed light on the pro-choice/pro-life divide. Second, while in many other contexts, non-profits advocate for a world that is almost universally agreeable (e.g., feeding the homeless, educating children), the abortion debate represents an area in which two groups of non-profits are actively working against one another. In this way, this paper will allow us to better understand how rhetoric and framing is used in a highly competitive and divisive environment. Third and finally, we hope to better understand what features of a mission statement are associated with positive organizational outcomes in the reproductive rights and right to life advocacy worlds.

1.2 Reproductive Rights vs. Right to Life

The definitions of “reproductive rights” and “right to life” will be fundamental in our analysis of those that advocate for these perspectives. As defined by the Oxford Dictionary of Public Health, reproductive rights are the “respect for female autonomy, the right of women to make decisions for themselves about whether to become and to remain pregnant (Porta, 2018).”[1] While this definition encompasses both the right to use contraceptives and to receive an abortion without constraint, these rights are differently regulated in different countries. “For example... in some countries, women can have abortions within certain constraints, in others not (Griffin, 2017).”[2] On the other hand, “right to life” literally means the right to live—it is a recognition that “all forms of human life will need a basic level of protection (Wicks, 2012).”[3] This definition is expanded to argue against the morality of abortion and other actions (e.g., capital punishment, euthanasia). Put more simply, reproductive rights advocates are “pro-abortion” amongst other stances, and right to life advocates are “anti-abortion” amongst other stances; these perspectives correspond to the popular vernacular of “pro-choice” and “pro-life.”

1.3 Questions to be Addressed

Within the National Taxonomy of Exempt Entities (NTEE) R codes (civil rights, social action, and advocacy) and E codes (Health Care), do the characteristics of the mission statements of Reproductive Rights (pro-choice) advocacy organizations differ from those of Right to Life (pro-life) advocacy organizations (e.g., use of emotion, word choice, beneficiary, length)? How do differences in these metrics relate to organizational success by the axes of visibility and support (e.g., mentions in media, gross receipts)?

1.4 Overview/ Roadmap to the Thesis

The thesis will be presented in three sections:

1. I will present an overview of the paper's research design and database. This will include an introduction to the paper's raw data, sampling methods, and an exploratory data analysis. I will present a methodology used to construct factors from English mission statements.
2. We will explore the differences between reproductive rights and right to life advocacy mission statements by considering differences in words, topics, and ideas across the two classes. For each level of our analysis, we will use different clustering and classification techniques.
3. We will determine relationships between our coded factors and "outcome" variables, such as gross receipts and newspaper mentions. I will introduce and defend my choice of outcome variables. Then, using regression techniques, we will come to understand how our features relate to these outcomes. We will end by analyzing the differences between each class in terms of the characteristics that constitute "successful" non-profits. Though our results and analysis will be primarily exploratory, we hope to use these results to better understand the similarities and differences in what effective advocacy looks like for each group.

2 Data/ Methods

2.1 Research Design and Database

Dr. Pamela Paxton at the University of Texas, Austin, has aggregated the first known collection of IRS Form 990 data. The IRS Form 990 and its variants are required annual filings for all organizations that receive tax exempt status. Dr. Paxton has graciously allowed me the opportunity to work with this database, which includes the name, mission statement, NTEE (National Taxonomy of Exempt Entities) code, and headquarter (state) for each non-profit.¹ In total, there are 211 abortion-related NGOs for the year 2015, of which 66 are reproductive rights organizations and the remaining 145 are right to life organizations.

All non-profit organizations are required to fill out one of three variations of the IRS 990 Form:[4]

- Organizations with gross receipts normally \leq \$50,000 must file Form 990-N (but may choose to file a complete Form 990 or Form 990-EZ). In prior years only organizations with gross receipts normally \leq \$25,000 could file the Form 990-N (“e-postcard”).
- Organizations with gross receipts \geq \$50,000 and \leq \$200,000 and total assets \leq \$500,000 must file Form 990-EZ or a complete Form 990.
- Organizations with gross receipts \geq \$200,000 or total assets \geq \$500,000 must file Form 990.

We include only organizations that have filled out the Form 990EZ and Form 990; this means that, generally, we are considering organizations that have gross receipts \geq \$50,000 or total assets \geq \$500,000, as these are the organizations included in Dr. Paxton’s original database.

I show some example organizations from the year 2015, along with their mission statements, in Table 1.

¹The National Taxonomy of Exempt Entities (NTEE) System is used by the IRS and NCCS to classify non-profit organizations. The NTEE classification system divides the universe of nonprofit organizations into 26 major groups under 10 broad categories (e.g., Education, Health, Human Services).

Table 1: Example Organizations from Year 2015

NTEE Category	Year	Organization	Mission Statement
R61	2015	The Center for Reproductive Rights	“The Center for Reproductive Rights [C] Inc. is a non-profit legal advocacy organization dedicated to promoting and defending women’s reproductive rights worldwide. The center uses the law to advance reproductive freedom as a fundamental human right that all governments are legally obligated to protect, respect, and fulfill.”
R61	2015	Project Defending Life	“To provide assistance to pregnant women in need.”
R62	2015	Life Matters Worldwide	“To proclaim the biblical profile message by distributing sanctity of human life materials, speaking at churches, and helping establish crisis pregnancy centers.”
R62	2015	Right to Life of Southern Indiana	“Education – Right to Life”

2.1.1 Sampling and Classification

Since there are multiple NTEE categories that may include reproductive rights/right to life advocacy non-profits, we begin by listing the potentially relevant NTEE categories in Table 2.

In a return to first principles, we define a set of inclusion-exclusion criteria (Appendix A). In general, we are interested in all organizations that do advocacy work related to this topic— this includes organizations that both offer health services and engage in advocacy. Since this is a particularly divisive issue, we consider “education” to be advocacy work as well.²

Of the organizations (211) included in our sample, we categorize each as either right to life or reproductive rights, relying mainly on their apparent stance toward abortion.³ Where possible and evident, we rely on information from the mission statement to classify an organization as either reproductive rights or right to life, but supplement this information with language and context provided by the non-profit website where necessary.

While the reproductive rights/right to life debate is more nuanced than pro-abortion vs. anti-abortion, this dichotomy provides us with an important framing that allows us to analyze these advocacy groups. If we think of policy as lying somewhere between two

²Individuals received this set of criteria along with no instructions and were told to make inclusion/exclusion decisions on borderline cases. With feedback and testing, these criteria were updated to ensure precision of language and applicability to the complicated world of possibilities.

³There were three non-profits listed as R61 (Reproductive Rights) that should have been classified as Right to Life; in the review, we changed this.

Table 2: Breakdown of Non-profits by NTEE Code

Subcategory Name and Number	Scope of Subcategory	# of Organizations (in 2015)	Example Organization
E01- Health Care: Alliances and Advocacy	Organizations whose activities focus on influencing public policy within the Health - General and Rehabilitative major group area. Includes a variety of activities from public education and influencing public opinion to lobbying national and state legislatures.	300	Alliance for a Healthier Generation
E03- Health Care: Professional Societies and Associations	Learned societies, professional councils, and other organizations that bring together individuals or organizations with a common professional or vocational interest within the Health - General and Rehabilitative major group area.	661	Southern New Jersey Perinatal Cooperative
E05- Research Institutes and Public Policy Analysis	Organizations whose primary purpose is to conduct research and/or public policy research within the Health - General and Rehabilitative major group area.	163	Guttmacher Institute, Inc.
E40- Health Care: Reproductive Healthcare	Organizations that provide medical, educational and counseling services which relate to the conception, delivery and care of offspring. Use this code for organizations other than family planning centers that offer reproductive health services.	157	Caring Families Pregnancy Services, Inc.
E42- Health Care: Family Planning	Organizations that provide assistance for people who want to control the size of their families and the spacing of their children, either through some form of birth control or naturally. Use this code for Planned Parenthood organizations.	177	Planned Parenthood of Southwest and Central Florida, Inc.
R61- Civil Rights, Social Action and Advocacy: Reproductive Rights	Organizations that support the passage and enforcement of laws and other social measures, which preserve a woman's right to terminate her pregnancy.	30	NARAL Pro-Choice Ohio Foundation
R62- Civil Rights, Social Action and Advocacy: Right to Life	Organizations that support the passage of legislation, which assigns legal rights to the unborn and seeks to criminalize the termination of unwanted pregnancies.	132	American Life League

poles, we can see reproductive rights groups as pushing to move the needle toward the pole of complete choice and right to life groups as pushing to move the needle toward the pole of complete commitment to life. While there is certainly more nuance in this conversation, we opt for a two-class system because it (1) simplifies our analysis and (2) still allows for a useful framing of the problem.

Though we look only at organizations that reach a certain revenue/net worth threshold, the results of this study remain important because they speak to trends that exist among the largest advocacy organizations, those with the most resources, and thus those that are best positioned to affect public policy.

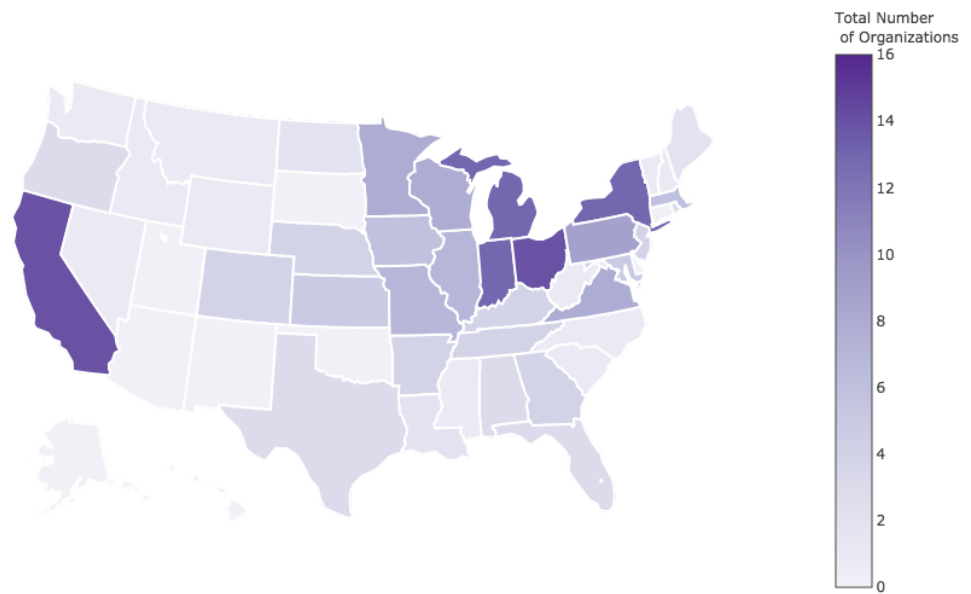
2.1.2 Exploratory Data Analysis

To begin, I will share a series of primary visualizations to illustrate the geographic breakdown of non-profits.

First, we look at a breakdown by state (Figure 1). California, New York, and Washington D.C. have the greatest number of advocacy non-profits. When differentiating between reproductive rights and right to life advocacy organizations, we see that Massachusetts, West Virginia, North Carolina, Indiana, Montana, Nevada, and Oregon have the greatest proportion of reproductive rights non-profits (Figure 2). One issue with this visualization, however, is that there are some states with only one or two NGOs, so the proportions seem to be highly skewed. We decide to break it down in another way that allows us to visualize both the total number and breakdown of NGOs. In Figure 3, we offer a more complete picture of the relationship between state, number of advocacy organizations, and the class of these organizations. Washington D.C. has the most organizations, most of which are reproductive rights. By contrast, Ohio and California have the second most organizations, most of which are right to life.

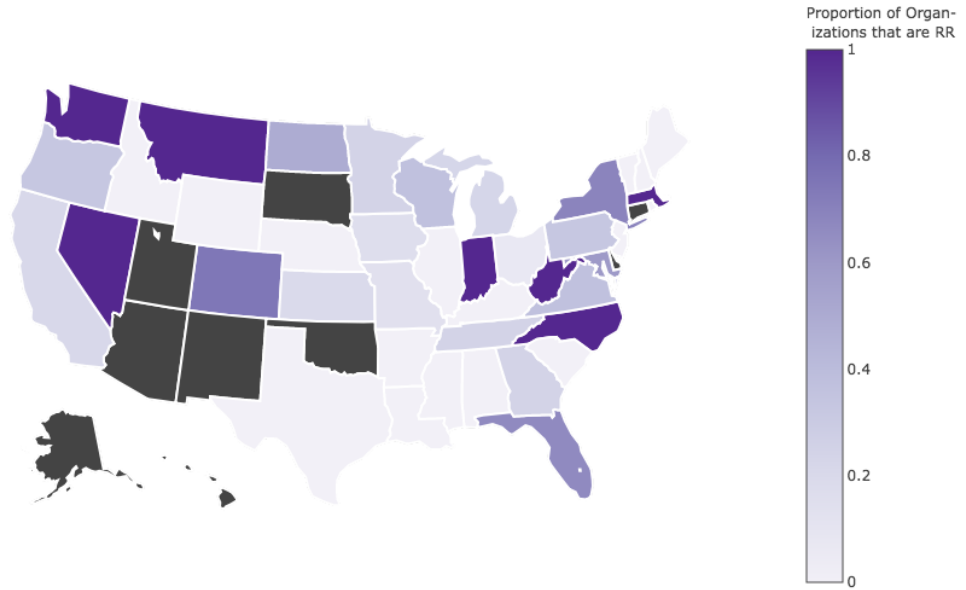
Aside from geographical data, the only other information that we have without beginning significant analysis is mission statement length (in characters). Reproductive rights advocacy organizations have mission statements that are about 275 characters long; on the other hand, right to life advocacy organizations have mission statements that are about 165 characters long.

Figure 1: Number of Reproductive Rights and Right to Life Organizations by State



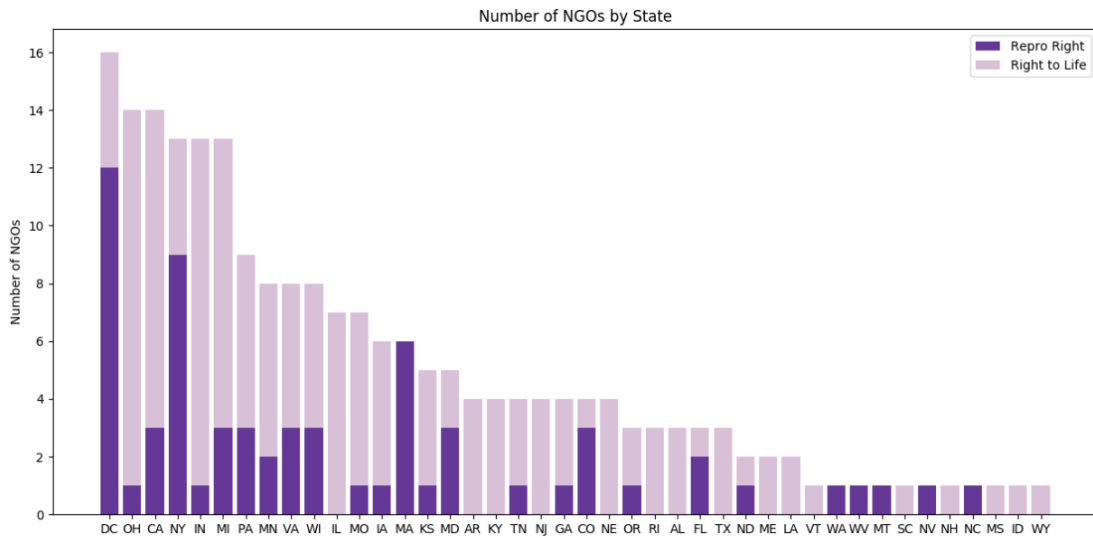
Note: Washington D.C. does not appear on this map.

Figure 2: Proportion of Reproductive Rights organizations by State



Note: Washington D.C. does not appear on this map; gray states are those that do not have any organizations registered.

Figure 3: Number and Proportion of Reproductive Rights and Right to Life organizations by State



2.2 Methodology

For both stages of our analysis, we need to extract variable features from the mission statements. We call these features the “idea” variables since they go beyond use of a particular word and attempt to capture broader themes that relate to the tone of communication, vision of the world, and priorities in justice. Since these idea variables will be used across both analyses— (1) to understand the differences between the two class’ mission statements and (2) to understand the relationship between certain ideas and outcomes— I will discuss their construction here. The algorithms used to test differences will be explained under “Analysis” in Part III, and those used to relate “idea” variables to organizational outcomes will be explained under “Analysis” in Part IV.

2.2.1 Sentiments Analysis

Sentiments analysis is a common natural language processing algorithm that, when implemented through Python’s TextBlob package, returns two variables: polarity and subjectivity. The algorithm works by assigning each word three weights, the first related to polarity, the second related to subjectivity, and the third related to intensity. In the end, a document’s polarity score and subjectivity score represent the average of its words, using intensity as the weight (e.g., “very” would indicate that the following word’s sentiment be multiplied by 2). In this way, the algorithm is able to go beyond simple word meaning and detect more complexity/nuance in text. The algorithm was trained using a movie review corpus— since reviews include text accompanied by a rating, the algorithm was able to learn which words indicated positive vs. negative and objective vs. subjective sentiments.

The first variable we are able to extract will be the polarity score, which varies on the range $[-1.00, 1.00]$, where values below zero indicate negative sentiment and values above zero indicate positive sentiment. A value closer to the pole expresses a sentiment of greater strength, and the scale is linear. For example, a document with a polarity score of -0.68 represents a negative sentiment that is twice as strong compared to that of a document with polarity score of -0.34 . Examples of positive words include “accepted”, “celebrated”, “ecstatic”, and “enjoy.”

Secondly, we will be able to understand the relative objectivity or subjectivity of a statement, which varies between [0.00, 1.00]. Lower scores indicate that a statement is objective, while higher scores indicate that a statement is subjective. We consider 0.5 to be threshold here, and all values above 0.5 are considered subjective while all values below are considered objective. For example, a score of 0.41 indicates that a statement is relatively objective while a score of 0.95 indicates that a statement is very subjective. Examples of subjective words include “a lot”, “occasionally”, and “sometimes.”

We hope to quantify our understanding of the tone used by these advocates by scoring each mission statement along these two axes.

2.2.2 Religious Language

Religious language is an indicator random variable, coded as 1 if the mission statement uses explicit religious language and 0 otherwise. A mission statement was flagged as containing “explicit religious language” if it contained even one word that could be found in a religious dictionary.⁴

While religious language can be determined exclusively from words, its implications go beyond words and speak to the priorities of and methods used by advocates.

2.2.3 Beneficiary

Beneficiary is a categorical variable that is meant to indicate who the intended beneficiary of the organization’s work is, according to the mission statement. It can take on any of the following values:

- **0:** Mother/ The Pregnant Woman is listed as the primary beneficiary of the organization’s services (e.g., “Support women who are going through a period of crisis”)
- **1:** Unborn Fetus is referenced as the primary beneficiary of the organization’s services (e.g., “Protect the right to life from conception to natural death”)
- **2:** Both the Mother and the Unborn Fetus are listed as the primary beneficiary of the organization’s services (e.g., “Protect life at all stages and assist young mothers”)

⁴The religious dictionary was created by aggregating words from two sources: (1) a religious glossary found online- religioustolerance.org and (2) a quick scan of the given mission statements to extract words that had religious meaning.

- **3:** The General Public is referenced as the primary beneficiary of the organization’s services (e.g., “Educate the public about right to life issues”)
- **4:** Some Other Beneficiary/No Apparent Beneficiary is mentioned as the primary beneficiary of the organization’s services (e.g., “Support the educational programs of X non-profit”)

This variable was hand-coded by reading the mission statement; borderline decision-making criteria are set forth in Appendix B. At a higher level, this variable allows us to better understand (1) with whom these advocates have aligned themselves and (2) which people in our society are in need of defense/advocacy in the view of a given organization.

2.2.4 Length

Finally, we code up a variable that represents the length of the mission statement; we use Python’s built in “len” functionality to find the length of the string containing the mission statement. Length is coded as a function of characters— we opt for the use of characters (rather than words) because this also takes into account punctuation and word length. Including punctuation and spaces makes sense because more detailed sentences tend to include more phrases and clauses, which require punctuation. Regardless, both length in words and length in characters would be highly correlated with one another, so we opt for characters for the slight advantages it may provide.

There are two plausible determinants of a mission statement’s increased length, more content or longer explanation. Therefore, I use this length variable as a proxy to understand these two important factors—detail and verbosity.

2.2.5 Summary

In the end, we have coded up 5 different variables: polarity, subjectivity, religious language, beneficiary, and length. I provide a table with descriptions for ease of reference alongside the relevant summary statistics (Table 3 and Table 4 respectively).

Table 3: Summary of Idea Variables

Variable	Description	Coding Schema
Polarity	Negative vs. Positive sentiments in the mission statement.	Continuous variable [-1.00, 1.00], where lower values mean negative and higher values mean positive
Subjectivity	Objectivity vs. Subjectivity in the mission statement.	Continuous variable [0.00, 1.00], where lower values mean objective and higher values mean subjective
Religious	Presence of religious language; used to understand if there are underlying religious motivations for the work.	Indicator random variable, where: <ul style="list-style-type: none"> • 1- religious language is used in mission statement • 0- otherwise
Beneficiary	The primary beneficiary of the work that the organization does; used to understand who the advocates aim to protect/ help.	Categorical variable, where: <ul style="list-style-type: none"> • 0- Mother • 1- Fetus • 2- Mother + Fetus • 3- Public • 4- Other
Length	The length of the mission statement (in characters); used as a proxy to understand verbosity and detail.	Continuous variable [0,inf) in the set of whole numbers.

Table 4: Summary Statistics for Idea Variables

	Polarity	Subjectivity	Religious	Beneficiary	Length	Class
count	211	211	211	211	211	211
mean	0.118867	0.286114	0.180095	1.601896	198.322275	0.696682
std	0.158097	0.219755	0.385180	1.339081	179.514319	0.460784
min	-0.200000	0.000000	0.000000	0.000000	11.000000	0.000000
25%	0.000000	0.075000	0.000000	0.000000	63.500000	0.000000
50%	0.094000	0.287000	0.000000	1.000000	168.000000	1.000000
75%	0.211000	0.421000	0.000000	3.000000	260.000000	1.000000
max	1.000000	1.000000	1.000000	4.000000	1031.000000	1.000000

3 Differences Between Mission Statements

3.1 The Debate between Pro- Life and Pro- Choice Advocates

While reproductive rights advocates and right to life advocates voice opinions on a wide variety of issues, the debate on abortion (pro-choice vs. pro-life) provides interesting context that generalizes to the organizations advocating for these perspectives. The techniques used by reproductive rights and right to life advocates to convince the broader public are varied and complicated and have evolved over time.

The external perception of the anti-abortion (pro-life, right to life) movement is that it is conservative—in all regards, religious, social, and political. This is perpetuated by pro-choice scholars, journalists, and politicians—for example Dallas Blanchard argues in his book *The anti-Abortion Movement and the Rise of the Religious Right: From Polite to Fiery Protest* that the most significant radicalizing force of the anti-abortion movement is religion, specifically the rightist ideology of cultural fundamentalism (Blanchard, 1994).[5] Paul Saurette and Kelly Gordon sum this up in their book *The Changing Voice of the Anti-abortion Movement*. They explain that anti-abortion advocates traditionally have been depicted as religious extremists. The most commonly described American anti-abortion movement, “has a largely male dominated public face, aims at limiting/banning abortion using... legislation and violence, defends its policy position using religious principles, is anti-woman in its tone, and... employs fetal-centric arguments to buttress its opinion,” (Saurette and Gordon 2015, p. 11).[6] This traditional representation of pro-life advocates, in large part, holds in the current political climate. One 2013 article published in Salon argues that the actions of pro-life protesters “have a propensity to lead to the killing, assaulting, harassing, and murder of clinic workers (Filipovic, 2011).”[7] Through time, the depiction of right to life advocates has remained consistent—extreme, violent, religious, and severely anti-female.

But while external perceptions have remained largely static, the self-representation of right to life advocates has evolved significantly. The religious representation of right to life advocates is not wholly false; after all, many countries that have a high level of religiosity also have strict pro-life policies (McCoyd, 2010).[8] While religious institutions have continued

to support the anti-abortion movement, advocacy has shifted away from religious language due to concerns that it has limited appeal (Saurette and Gordon 2015, p. 317-318).[6] Moreover, the traditional “pro-fetus” argumentation of pro-life advocacy has continued but now takes on a more “pro-woman” framing (Saurette and Gordon 2015, p. 318).[6] This rhetoric is consistent with an overall movement toward female empowerment. In general, it takes the form of a “nurturing, compassionate, metaphorical tone,” and positions itself as “more concerned with women than feminism itself (Saurette and Gordon 2015, p. 319).”[6] Similarly, Ntontis and Hopkins explain in their paper, *Framing a Social Problem: Emotion in anti-Abortion Activists’ Depiction of the Abortion Debate*, that the characterization of various social actors “frames the abortion debate and the parties involved so as to imply that if you are concerned about women’s interests you should ally with the anti-abortion camp (Ntontis and Hopkins 2018, p. 672).”[9] Despite the rise of pro-woman rhetoric on both sides of the debate, it is possible that conceptions and understandings of what a woman wants or should be are different for reproductive rights advocates and right to life advocates. In general, the literature says that the pro-woman, nurturing rhetoric employed by right to life advocates will differ significantly from the movement’s external representation as strictly conservative.

Interestingly, there is significantly less research on the tactics used by reproductive rights advocates, who also align themselves firmly with women. Casey Mank describes the tacit feminist undertones of the modern pro-choice movement, arguing that it can be alienating for both women of color and others who have “different ethical, practical, and personal frameworks (Mank and Luciano, 2017).”[10] Mank (2017) goes on to explain that while the discourse of pro-choice advocates is about female empowerment, it also avoids the normalization of graphic or jarring rhetoric to avoid alienating potential allies (Mank and Luciano, 2017).[10] For example, she explains that the movement’s choice of the name “pro-choice” (or “reproductive rights”) is intentional, reflecting an aversion to the use of the word “abortion” because “how could anyone be ‘pro-abortion’, only ‘pro-choice’?” (Mank and Luciano, 2017).[10] Perhaps this pandering does well by bringing others into the fold. Take, for example, a report published by the Pew Center, explaining that one prominent clergyman is “not pro-abortion, [but] pro-choice. And that is an important distinction

(Liu, 2013).”[11] In many ways it seems as though the pro-choice movement is both radical enough to be feminist but very intentionally palatable.

There is also significant literature surrounding the relative complexity of arguments made by those on both sides of this debate. The Rigidity of the Right hypothesis, advanced in the mid to late 1900s, argues that conservatives take a more rigid and authoritarian stance on issues than do liberals (Tetlock, 1983).[12] If extended to the reproductive rights – right to life debate, this would suggest that right to life advocates are more rigid and authoritarian than are reproductive rights advocates who are more forgiving and nuanced in their views. Michelle Dillon (1993) tests this claim in her paper *Argumentative Complexity of Abortion Discourse*. [13] She finds that there were no differences in argumentative complexity between pro-life and pro-choice advocacy groups. She explains that, “the relatively low complexity of abortion arguments may reflect each side’s attempt to negate rhetorically the legitimacy of an opposing perspective... simplicity begetting simplicity (Dillon 1993, p. 312).”[13] This would cause us to expect relatively simple mission statements on both sides of the abortion debate. Interestingly too, the current and simplistic use of advocacy alienates certain groups of women, including women of color and women who terminate pregnancy due to foetal anomaly (McCoyd, 2008 and Smith, 2005).[8]

3.2 Overview/ Roadmap

To begin, we will attempt to understand how the mission statements of reproductive rights and right to life advocacy non-profits are different from one another. This part will attempt to answer our first question – “within the National Taxonomy of Exempt Entities (NTEE) R codes (civil rights, social action, and advocacy) and E codes (Health Care), do the characteristics of the mission statements of Reproductive Rights (pro-choice) advocacy organizations differ from those of Right to Life (pro-life) advocacy organizations (e.g., use of emotion, word choice, beneficiary, length)?” (See Section 1.5). In this section, I will first advance and defend a framework that will allow us to better understand the differences between non-profits and then provide a structure for the rest of this chapter.

As a framework for our analysis, we will move from the micro to the macro, beginning first with the differences in use of words, moving then to topics, and finally concluding with

higher-level ideas.

At the most granular level, it makes sense to understand the difference in words that these two groups of advocates use. Both sides speak about the same issue, choosing to prioritize different aspects of the debate and using different words that help them gain favor with the public. Understanding which words tend to be the most predictive in identifying a mission statement's class will help us understand how these advocates differ in their representation of and thoughts regarding this polemic.

Moving toward the macro, we will attempt to understand what topics these mission statements draw from. Here, we define a topic as a set of related words (e.g., the “health” topic may contain words such as “doctor”, “access”, “medical”). In the context of advocacy non-profits, we expect to see that mission statements will draw differentially from these different topics, since reproductive rights and right to life advocates will tend to emphasize different parts of the issue. As an example, right to life advocates have historically emphasized the religious implications of abortion in their advocacy (Saurette and Gordon, 2015). Understanding the differential topic compositions of each mission statement will allow us to understand both the priorities of advocates for these issues and the likely religious convictions of their followers.

Finally, the ideas that a mission statement espouses are greater than the meaning derived from any of its words in a vacuum (though these ideas may be inferred from the composition and arrangement of words). As described above, these broader ideas for each mission statement attempt to capture the tone of communication, vision of the world, and priorities in justice. Using the idea variables defined above, we will understand what ideas are more likely to be held by reproductive rights advocates and what ones correspond more closely to right to life advocates.

This chapter will follow a simple structure. First, I will discuss the algorithms used in each level of this analysis— words, topics, ideas (See Section 3.3). Next, I will explain the results of these analysis, moving from words to ideas (See Section 3.4). Finally, I will discuss the broader significance of these results (See Section 3.5).

3.3 Methodology

This analysis requires the use of different clustering and classification algorithms in each of its three stages— words, topics, and ideas. For much of this work, we use Python’s sklearn and Natural Language toolkits. For regression, we use R’s GLM package.

3.3.1 Words

To analyze the ways in which words are used differently in reproductive rights vs. right to life mission statements, we create two models. The first is a K-Nearest Neighbors classification algorithm and the second is a Naive Bayes classification algorithm.

For both algorithms, we use a bag of words algorithm, which allows us to represent text data in a numerical fashion. Through the bag of words algorithm, we split up each mission statement into a collection of tokens, where each token represents one word. For example, [“It was the best of times”, “It was the worst of times”] would become a list of tokens [“It”, “was”, “the”, “best”, “of”, “times”, “worst”]. Then, using the CountVectorizer() feature, I create a vector for each document, where each entry in the vector corresponds to the count for some word. In the given example, the first document would have count [1,1,1,1,1,1,0]. The vectors for each document are put together to create an $N \times J$ sparse matrix, where N is the number of documents (observations) and J is the number of unique words in the full corpus. We remove English stop words (e.g., “the”, “a”) since these words will be common in both groups and set max features = 750 to save computational space. This is equivalent to manually setting $J = 750$, meaning that our model will look only at the 750 most used words in the corpus (D’Souza, 2018).[14] We process our data in this way and then create a 70/30 train/test split. This means that the data is trained on 70 percent of the data and tested on 30 percent of the data to tune parameters and avoid overfitting; in the end, the algorithm with the tuned parameters is used to predict all of the data.

The K-Nearest Neighbors (k-NN) algorithm functionally maps each of our mission statements into a 750-dimensional space and classifies points by taking the mode of the n nearest observations (e.g., if a majority of the n nearest neighbors are right to life, it will be classified as right to life; otherwise, reproductive rights). Distance between points is measured

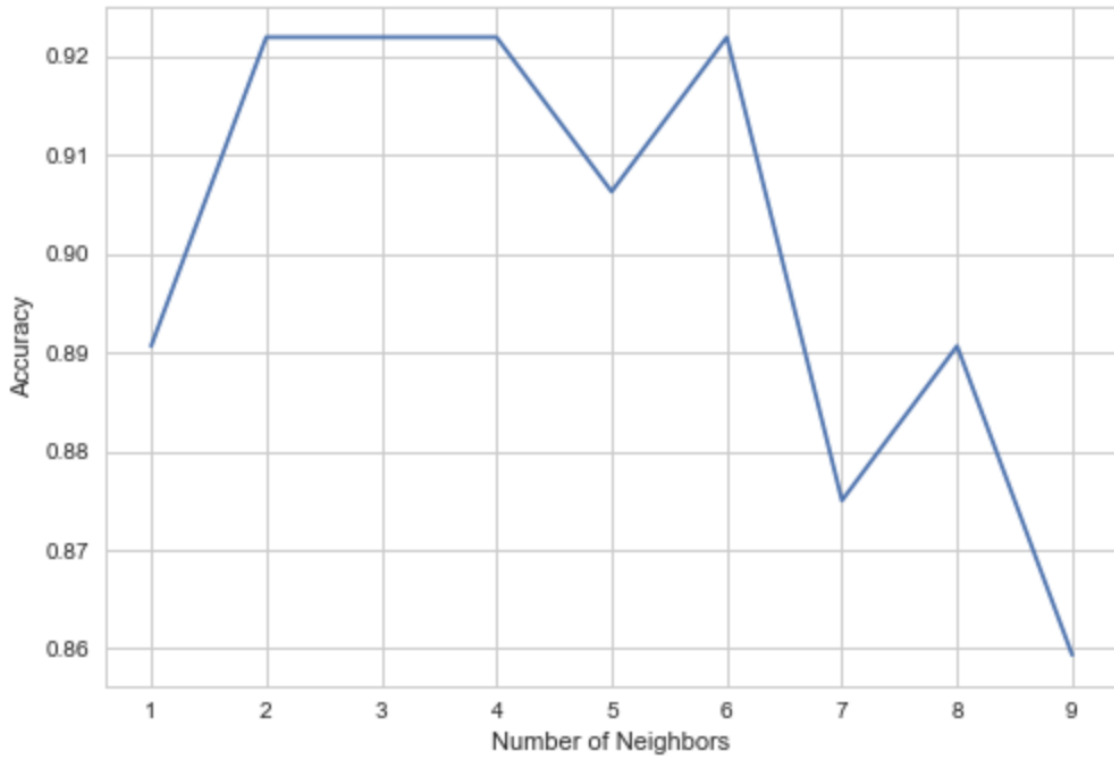
using Euclidian Distance. The distance between point p and point q can be calculated using the formula:

$$d(\mathbf{p}, \mathbf{q}) = d(\mathbf{q}, \mathbf{p}) = \sqrt{(q_1 - p_1)^2 + (q_2 - p_2)^2 + \dots + (q_n - p_n)^2}$$

$$= \sqrt{\sum_{i=1}^{750} (q_i - p_i)^2}$$

We tune the model using our training data and test different n values to determine the best fit for our model (Sehra).[15]

Figure 4: KNN: Number of Neighbors by Accuracy



Based on Figure 4, we set the n parameter to 2, as this maximizes our accuracy (percent classified correctly) on the test set. We are able to achieve over 90% accuracy, meaning that we are able to predict class based exclusively on word counts over 90% of the time. From here, to determine which words are the most predictive, we create a similar one-dimensional k -NN algorithm for each word, returning those words which, alone, are able to correctly predict an organizations' class at greater than 70% accuracy.

In addition to k-NN, we use a Naive Bayes algorithm, a commonly used probabilistic classifier that has often been used for text classification. As suggested in its name, a Naive Bayes classifier relies on Bayes rule:

$$P(Cause|Evidence) = \frac{P(Evidence|Cause)P(Cause)}{P(Evidence)}$$

In this case, we are functionally trying to find the value of a query variable C (class = 0, class = 1) given some observed evidence E (mission statement word counts). So we rewrite the above as:

$$P(Class = c_1|Evidence = \text{Word Counts}) = \frac{P(\text{Word Counts}|c_1)P(c_1)}{P(\text{Word Counts})}$$

Using one feature for each word, we have N features, where $N = 750$.

$$P(c_i|x_0, \dots, x_{n=750}) \propto P(x_0, \dots, x_{750}|c_i)P(c_i)$$

$$\propto P(c_i) \prod_{j=1}^{N=750} P(x_j|c_i)$$

where each x_j corresponds to the count of some word and c_i refers to the class, 0 for reproductive rights and 1 for right to life.

Now that we can estimate the probability of an observation falling in some class, we simply choose the class that has the highest probability given the data point's features, the Maximum A Posteriori (MAP) Decision Rule (Soni, 2018).[16]

Using the sci-kit learn package, we train our Naive Bayes classifier using the same sparse matrix used for k-NN classification and find that it has over 95% accuracy on the test data. From here, we are able calculate the probability of a word, given a class. $P(x_j|c_i = 0)$ gives us the probability a word will appear given the reproductive rights class and $P(x_j|c_i = 1)$ gives us the probability a word will appear given the right to life class. Taking the x_j s corresponding to the highest value given a class will tell us which words are most likely to appear in one class versus the other.

3.3.2 Topics

To determine how mission statements draw differentially from different topics, we will use a Latent Dirichlet Allocation (LDA) topic model, which classifies text in a document to a particular topic.

Before we are able to implement our topic model, we use the Natural Language Tool Kit (NLTK) and gensim packages to process our words, removing stop words as above. This time, we stem/lemmatize our mission statements. The goal of these processes is to “reduce inflectional forms and sometimes derivationally related forms of a word to a common base form.”[17] For instance:

```
am, are, is ⇒ be
car, cars, car's, cars' ⇒ car.
```

We decide to do this here but not for the word-level analysis. This is because for the word-level analysis we are also interested in the use of different parts of speech for a word, while for the topic analysis, we are moving away from the actual word and toward the meaning of the word. Since removing suffixes allows us to better get at a word's meaning rather than its form, we do this. I present the mission statement of observation 118 in Figure 5.

Figure 5: Example Mission Statement after being Stemmed and Lemmatized.

```
original document:
['', 'the', 'pennsylvania', 'pro', '-', 'life', 'federation', ';', 'inc', '.', ';', 'is', 'co
mmitted', 'to', 'promoting', 'the', 'dignity', 'and', 'value', 'of', 'human', 'life', 'from',
'conception', 'to', 'natural', 'death', 'and', 'to', 'restoring', 'legal', 'protection', 'fo
r', 'the', 'unborn', '.', 'through', 'legislation', ';', 'education', 'and', 'other', 'lega
l', 'means', ';', 'we', 'proclaim', 'the', 'truth', 'about', 'abortion', ';', 'infanticide',
';', 'and', 'euthanasia', '.', '']

tokenized and lemmatized document:
['pennsylvania', 'life', 'feder', 'commit', 'promot', 'digniti', 'valu', 'human', 'life', 'co
ncept', 'natur', 'death', 'restor', 'legal', 'protect', 'unborn', 'legisl', 'educ', 'legal',
'mean', 'proclaim', 'truth', 'abort', 'infanticid', 'euthanasia']
```

After using the same bag of words algorithm to create document counts for each processed word, we begin to create our LDA model. Since we have no prior topic structure, we rely on LDA to generate a set of topics, where each topic contains some number of words from the overall corpus. The algorithm for topic generation relies on random initialization, meaning every word is randomly assigned to some topic (t). Iterating through each word

(w) in each document (d), one must compute the proportion of words in document d that are assigned to topic t — $p(t|d)$ — and the proportion of assignments to topic t over all documents that come from this word w — $p(w|t)$. Finally, one reassigns the word w a new topic t with probability $p(t|d) \times p(w|t)$ which is the probability that some topic generated some word. After repeating this thousands of times, the process reaches a steady state where each word has been assigned to some topic and words are not moving between topics as frequently.[18]

For our LDA model, we set the number of topics to equal four. Having manually tested many other values for the number of topics, four offers best convergence, a set of interpretable topics, and a manageable number of topics to discuss. We train the model and see the words corresponding to each topic.

We are now able to calculate the topic composition of each mission statement. From this, we split our mission statements between reproductive rights and right to life organizations. We calculate the average topic composition of each and use statistical tests to determine whether or not the mission statements for the two groups have statistically significant different compositions.

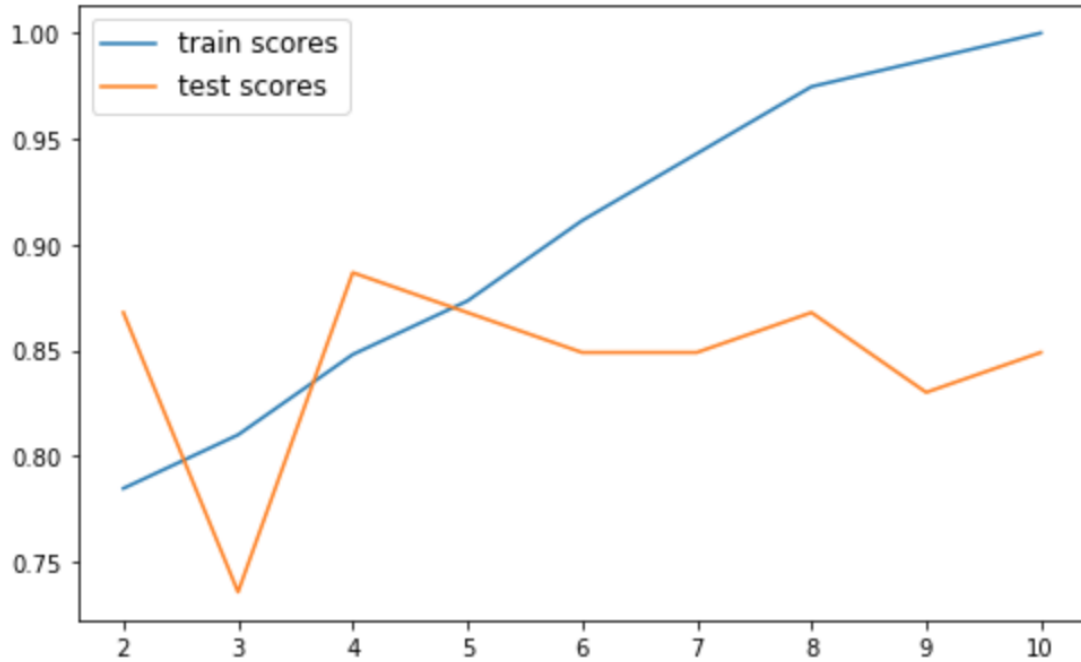
3.3.3 Ideas

Finally, in the ideas-level portion of the analysis, we look at how successfully our idea-level variables are able to predict class, and more importantly at the extent to which these variables affect our prediction of class. We test two classification algorithms— a decision tree and a logistic regression model. The coding of our five idea variables is explained above (see 2.2 Data and Methods - Methodology).

First, we use decision trees to predict class, reproductive rights or right to life. Decision trees are a regression/ classification algorithm that is relatively easy to interpret. After converting our beneficiary variable into a dummy variable, we use a 75/25 training/ test split to train the tree. We run our model with different tree depths to determine which hyper parameter value works best and settle for 4, as it maximizes testing accuracy at over 80% (Figure 6).

In addition to the decision tree, I fit a logistic regression model in R, which is used

Figure 6: Decision Tree: Determining Depth based off of Test Accuracy



when the dependent variable is binary (0 or 1). Logistic regression is a form of generalized linear model that uses a logit link function. We assume that the response variable has a Bernoulli distribution $y_i \sim \text{Bernoulli}(p_i)$ for $i = 1, 2, \dots, N$ where the expected value of y_i is $E(Y) = p_i$. The general equation for a logistic regression model with J predictors can be written as:

$$\text{logit}(p) = \log\left(\frac{p(y = 1)}{1 - p(y = 1)}\right) = \beta_0 + \beta_1 x_{i1} + \dots + \beta_j x_{i,j}$$

In our logistic regression model, we have $J = 7$ predictor variables. We use a treatment contrast for the beneficiary categorical variable:

1. **Religious:** Binary variable; 1 if religious, 0 if not
2. **Polarity:** Continuous variable [-1.00,1.00] describing the negativity/ positivity of the mission statement, with higher scores indicating more positivity
3. **Subjectivity:** Continuous variable [0,1.00] describing the objectivity/ subjectivity of the mission statement, with higher scores meaning increasingly subjective

4. **Length:** Continuous variable describing the length of the mission statement in characters
5. **Beneficiary = Fetus/Mother:** Binary variable; 1 if only fetus or both mother and fetus are beneficiary of mission statement, 0 if not
6. **Beneficiary = Public:** Binary variable; 1 if public is beneficiary, 0 if not
7. **Beneficiary = Other:** Binary variable; 1 if no/ other beneficiary, 0 if not

From the above, we see that *Beneficiary* = 0 (woman), *Beneficiary* = 1 (fetus), and Subjectivity do not appear in our regression. This is because we are using *Beneficiary* = 0 (woman) as the baseline, allowing it to function as the control group. We combined the previously existing category of *Beneficiary* = 1 (fetus) with *Beneficiary* = 2 (mother and fetus) because fetus as beneficiary was a perfect predictor of class. After calculating the General Variance Inflation Factors (GVIFs) for each variable and confirming that all values are less than 10, we conclude that there is no need to drop variables on account of severe multi-collinearity. We fit our logistic regression model using the data and analyze predictors that are significant with over 95% confidence (that have p values less than 0.05).

3.4 Results

3.4.1 Words

Our K-NN algorithm returns an accuracy of 0.92, meaning that we are able to predict class based exclusively on an organization’s choice of words in its mission statement over 90% of the time. We are able to conclude that an organization’s word choice speaks volumes about its stance on the reproductive rights - right to life debate. Next, we determine which words are the most predictive. The top 10 words are so predictive that each alone can predict class at over 70% accuracy. These words and their number of mentions in reproductive rights vs. right to life mission statements are illustrated in Table 5.

We see that “reproductive”, “health”, “life”, “advocacy”, and “access” are predictive at over 73%. Four of these top five words are most indicative of the reproductive rights class. The only word on this list that is indicative of the right to life class is the word “life.” This may be a result of the fact that our dataset is unequally distributed (There are more right to life organizations than reproductive organizations.); it could be that our algorithm

Table 5: KNN: Most Predictive Words Based

Word	Accuracy	RR Mentions	RTL Mentions
“reproductive”	0.8843	44 (0.98)	1 (0.02)
“health”	0.8502	45 (0.88)	6 (0.12)
“life”	0.7353	0 (0.00)	100 (1.00)
“advocacy”	0.7348	12 (0.92)	1 (0.08)
“access”	0.7343	16 (1.00)	0 (0.00)
“including”	0.7274	13 (0.81)	3 (0.19)
“policy”	0.7214	11 (0.92)	1 (0.08)
“choice”	0.7144	18 (0.86)	3 (0.14)
“healthcare”	0.7143	8 (1.00)	0 (0.00)
“rights”	0.7073	12 (0.63)	7 (0.37)

functionally “assumes” that an organization belongs to the right to life class unless there is evidence to indicate that it belongs to reproductive rights. This would cause us to over-predict the right to life class while under-predicting the reproductive rights class. While this analysis is helpful in pointing out which words point to the reproductive rights class, we use the Naive Bayes classifier to determine which words correspond to the right to life class.

Our Naive Bayes Classifier has an accuracy rate of 0.9531, meaning that it outperforms our k-NN classifier; it is important to point out, however, that this high accuracy confirms our finding that reproductive rights and right to life organizations are significantly different in their use of words. In Table 6, we include a table of the words that are most likely to appear given a class— that is, the empirical probability of each feature given a class, $P(x_i|Class)$. Roughly, this means that we are able to calculate the probability a word will appear in a class; the sum of the probabilities assigned for one class for all words will equal 1.

We see that the words most likely to appear in reproductive rights mission statements

Table 6: Naive Bayes: Most Likely Words Given a Class

Reproductive Rights Words		Right to Life Words	
Word	Word Prob.	Word	Word Prob.
“reproductive”	0.0266	“life”	0.0507
“health”	0.0266	“human	0.0220
“women	0.0165	“education	0.0153
“education”	0.0122	“public”	0.0148
“care”	0.0106	“abortion”	0.0139
“abortion”	0.0101	“promote”	0.0110
“public”	0.0080	“death”	0.0105

are “reproductive”, “health”, and “women” while the words most likely to appear in right to life mission statements are “life”, “human”, and “education”. In large part, this confirms our findings from the k-NN classifier. Both “abortion” and “education” make the top 7 list for words most likely to appear in both classes.

Using the Naive Bayes Classifier, there were two organizations in the test set that were mis-classified. We list them below:

- **Right to Life of Michigan - “Support the educational programs of RTL of Michigan educational fund.”**
- **Human Development Resources Council Inc. - “HDRC utilizes medical sourcing to produce educational curriculum and media on sexual health, fetal development, and reproductive options.”**

The two mis-classified organizations seem to have been mis-classified for different reasons. The first organization has a very short mission statement that reveals very little about the organization’s priorities. The word ”support” is used but not in the context of helping a pregnant mother or the unborn fetus but rather with reference to another organization. This short mission statement likely does not provide enough information for our model to classify it correctly. By contrast, the HDRC mission statement uses very medical language

to explain the organization’s work. By using words such as ”reproductive” and ”education”, this mission statement stands a decent chance of belonging to the reproductive rights class. We further explore this relationship between topic composition and class in the following sub-section.

3.4.2 Topics

From our LDA Analysis we generate 4 topics; the most prominent/predictive lemmatized words in each topic are shown in Table 7.

Table 7: Latent Dirichlet Allocation: Topic Definition

Topic 1: Health	Topic 2: Morality	Topic 3: Policy	Topic 4: Services
“reproduct”	“life”	“public”	“women”
“health”	“human”	“right”	“health”
“choic”	“promot”	“reproduct”	“provid”
“issu”	“right”	“abort”	“pregnanc”
“life”	“death”	“famili”	“care”
“public”	“natur”	“legal”	“life”
“organ”	“abort”	“protect”	“servic”
“access”	“concept”	“sexual”	“support”
“center”	“protect”	“polici”	“abort”
“famili”	“sanctiti”	“decis”	“inform”

From the above topic representation, we are able to extrapolate topic meaning. The first topic is related to women’s health— the highest ranked words indicate that this topic discusses locations where women receive health services (“center”), medical terms (“organ”), and the ability to receive treatment (“access”). The second topic represents morality— words such as “human”, “life”, “natur”, “protect”, and “sanctiti” illustrate these higher level, theoretical arguments. The third topic relates to public policy— words such as “public” and “right” indicate this commitment to the common good while “legal” and “police” demonstrate a way of working to advance legislative change. Finally, the fourth topic relates to protection and services that these organizations provide to women. Many of these words –“provide”, “protect”, “care”, “support”, and “inform”—represent the ways in which advocates hope to help women.

The topic composition of the Guttmacher Institute, a reproductive rights advocacy research organization, helps us understand how a mission statement breaks down into its topics. The mission statement of the organization is as follows:

The Institute’s overarching goal is to advance sexual and reproductive health and rights in the United States and globally through an interrelated program of research, policy analysis, and communications and publications designed to generate new ideas. The institute produces a wide range of resources on topics pertaining to sexual and reproductive health, including two peer-reviewed journals (*Perspectives on Sexual and Reproductive Health* and *International Perspectives on Sexual and Reproductive Health*), The Guttmacher Policy Review, and a multitude of reports, issue briefs, fact sheets, and infographics.

The Guttmacher Institute has a topic composition of (0.33, 0.01, 0.65, 0.01). This means that 65 percent of the words in its mission statement are drawn from the third topic on public policy, 33 percent from the first topic related to women’s health, and one percent are drawn from each of the morality and services categories. This makes sense given that the Guttmacher Institute works primarily to influence “public policy” around “women’s health” without focusing on offering services directly to pregnant people.

Having checked our topics and their meanings, we calculate the frequency at which each mission statement draws from each topic. After, we take the mean topic composition of all reproductive rights and right to life advocacy mission statements separately, comparing to determine if the two groups have significantly different values. The results of this analysis are provided in Table 8.

Table 8: LDA: Topic Composition for Reproductive Rights and Right to Life Classes

Topic	Sample Average	RR Average	RTL Average	Two-sided p-val
Topic 1: Health	0.1712	0.3396	0.0979	1.6661e-06 ***
Topic 2: Morality	0.3568	0.0520	0.4890	1.0234e-29 ***
Topic 3: Policy	0.2065	0.2929	0.1694	0.0094 ***
Topic 4: Services	0.2653	0.3152	0.2434	0.1447

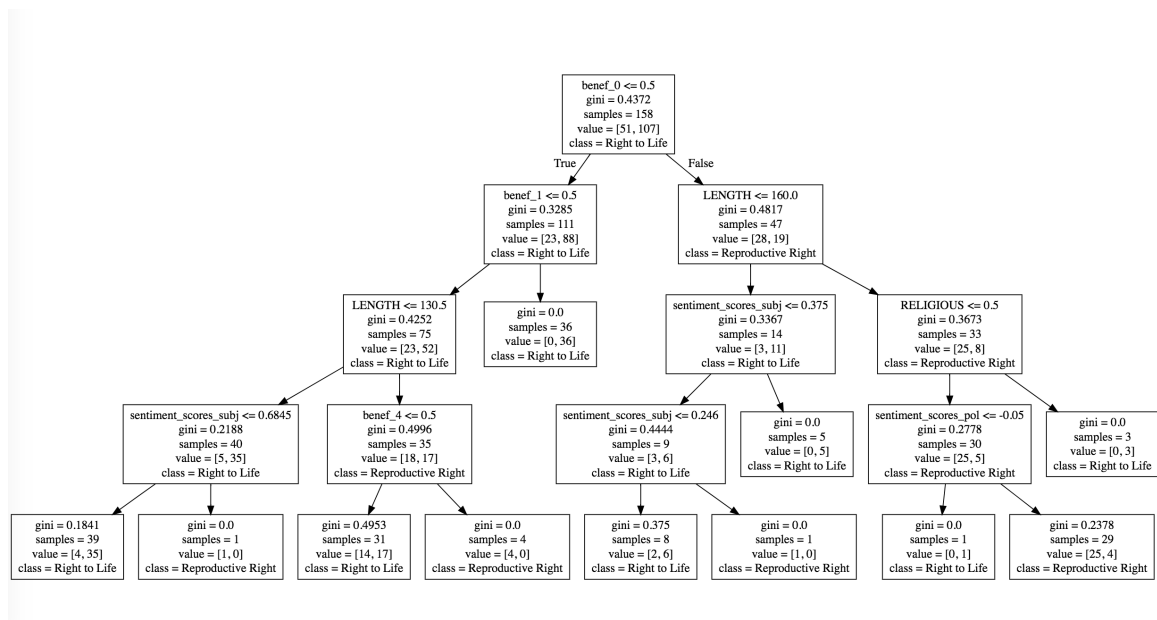
We conclude that the two groups draw differently from three of the topics, but not the fourth. Specifically, it appears as though reproductive rights groups draw more often from the Health and Policy topics while right to life groups draw more often from the Morality

topic. We cannot conclude that the two groups draw in different proportions from the Services topic.

3.4.3 Ideas

After implementing a decision tree with 4 layers, as explained above (see 3.2.3 Methodology - Ideas), we see that our algorithm has 88.67% accuracy on the test data. To visualize our 4 layer decision tree, we use graphviz to generate Figure 7 reproduced below.

Figure 7: Predicting Class based on “Idea” factors using a Decision Tree



The decision tree tells us about the relative importance of each of our idea factors, with factors that best split our data closer to the top. Based on our visualization of the decision tree, we see that whether or not the mother is listed as the primary beneficiary is the first important split, with reproductive rights groups tending to be more likely if the answer is yes and right to life groups more likely if the answer is no. Then, the fetus as beneficiary ends up being important— organizations that list the fetus as beneficiary are all listed as right to life groups (We do not combine Fetus as beneficiary with Fetus and Mother as beneficiary for the Decision Tree because perfect prediction is not a problem for this algorithm.). Other important factors include the length, subjectivity, and religious affiliation of the mission statement. An observation is more likely to be a reproductive rights

group if the mission statement has a larger number of characters (over 130.5 characters for one branch and over 160 for another). The subjectivity of the mission statement seems to have mixed effects on an observation’s classification— sometimes higher subjectivity scores indicate a reproductive rights organization, and other times they indicate a right to life organization (this is largely dependent on other variables). Finally, a religious mission statement almost immediately indicates a right to life organization but the reverse is not necessarily true.

In addition to the decision tree analysis, we train a logistic regression model, which while having moderate predictive power (with accuracy around 77%) offers easy interpretability. With *Beneficiary* = Woman as the baseline, we compare all beneficiary classes to this value. The output of our regression has been included as Table 9.

From our logistic regression we see that the estimated odds a mission statement is of class 1 (right to life) if it indicates the fetus is a beneficiary are $e^{4.465} \approx 86.92$ times larger than if it indicates the woman is the primary beneficiary holding all other factors constant. Similarly, the estimated odds a mission statement is of class 1 (right to life) if it indicates the public is a beneficiary are $e^{1.218} \approx 3.38$ times larger than if it indicates the woman is the primary beneficiary holding all other factors constant. Additionally, the estimated odds that a mission statement is of class 1 (right to life) if it includes religious language are $e^{4.578} \approx 97$ times larger than if it does not include religious language, holding all other factors constant. Finally, increasing the length of the mission statement by 10 characters, decreases the log odds of a mission statement being classified as class 1 (right to life) by 0.096 holding all other factors constant. The other variables (*Beneficiary* = Public, *Beneficiary* = Other, polarity score, and subjectivity score) do not have significant relationships with class.

3.5 Discussion

In this section we attempted to conceptualize the differences between reproductive rights groups’ and right to life groups’ mission statements by understanding differential usage of words, breaking down mission statements into topics, and finally working to parse out their different ideas. The words level of analysis allows us to better understand the rhetorical choices that these advocates make despite talking about the same problem. Next, the topic

Table 9: Logistic Regression Output based on Idea Variables

	<i>Dependent variable:</i>
	CLASS = RTL
BENEFICIARY_Fetus_Mother ^a	4.465*** (0.902)
BENEFICIARY_Public ^a	1.218*** (0.467)
BENEFICIARY_Other ^a	0.017 (0.807)
RELIGIOUS_LANGUAGE	4.578*** (1.537)
POLARITY_POSITIVE	-2.438 (1.769)
SUBJECTIVITY	1.571 (1.265)
LENGTH	-0.010*** (0.002)
CONSTANT	0.936* (0.496)
Observations	211
Log Likelihood	-73.486
Akaike Inf. Crit.	162.972

Notes:

*p<0.1; **p<0.05; ***p<0.01

Standard errors in parentheses

a *Reference category for beneficiary comparisons is to woman as the sole beneficiary.*

level of analysis illustrates the priorities and tactics for persuasion that the organizations use. Finally, the ideas level analysis informs our understanding of these organizations' conception of self and view of the world.

As a result of our analyses, we are able to confirm the widely held and academically supported view that right to life organizations tend to be conservative and religious; we add that they tend to draw more strongly on moralistic argumentation, drawing clear distinctions between right and wrong. This is demonstrated by the fact that religious language in the mission statement drastically increases the probability that an organization is right to life. In addition to a religious nature, these organizations tend more often to speak about and prioritize morality. This is illustrated by the fact that the morality topic composes fifty percent of all right to life mission statements. By using these normative words, right to life advocates are able to make clear their perspectives on what is right and wrong.

Our analysis finds that right to life organizations are likely to use pro-fetus rhetoric and frame their work as being beneficial to the unborn child. We see this in the fact that right to life organizations are likely to use words such as "life", "death", and "human" underscoring their belief that the fetus, despite being unborn, is still alive and thus fundamentally human. The modern pro-life movement, however, has begun a trend toward using pro-female framing (Saurette and Gordon 2015).[6] Our results conflict with this analysis; it seems as though right to life groups use pro-fetus framing more often than pro-female framing, and, in general, pro-female framing tends to indicate that an organization espouses reproductive rights. The only way to reconcile this difference is to conclude that while there may be a shift toward pro-woman rhetoric, at base, a care/protection of the fetus is fundamental to and irremovable from organizations of the right to life class.

Unlike right to life organizations, reproductive rights organizations tend, by and large, to be liberal and pro-woman, as demonstrated at the word level by the use of the word "women." We see this same trend at the idea level because all of the beneficiary categorical levels indicate a decrease or maintenance of the log odds that the organization is right to life as compared to the woman beneficiary treatment.

The results of our study also indicate that reproductive rights argumentation and

rhetoric has become increasingly radical while remaining fiercely pro-female, a conclusion we are able to draw by understanding past conceptions of women. We see this in the language that activists use; Mank explains in her paper that it is impossible to be “pro-abortion”, only “pro-choice” (Mank and Luciano 2017).[10] Historically, reproductive rights groups have avoided using the word abortion for fear of alienating potential supporters. However, as demonstrated in our word-level analysis, these organizations seem to have reclaimed this word, so much so that it is the sixth most likely word to appear in a reproductive rights mission statement. Even the use of the words “reproductive rights” and “reproductive justice” represent a change in rhetoric compared to the movements popular portrayal as “pro-choice”. These new labels of self-identification imply that this is not just about allowing people to make choices but more about a commitment to fairness as a society and respecting the rights of people.

Our topic level analysis demonstrates the ways in which reproductive rights advocates frame their cause as a matter of public health. We see that the reproductive rights advocacy mission statements draw heavily from both the health and public policy topics, moving away from political controversy and attempting to portray it as medical.

The tonal composition of mission statements signifies a similarity between reproductive rights and right to life advocates— the two groups tend to rely on relatively similar tone in their mission statements. While reproductive rights groups have historically been portrayed as fear-mongering and morality-preaching, we observe that tone tends to be an insignificant predictor of class (Filipovic 2011).[7] This means that by the two axes we used to measure the tone of mission statements, we cannot conclude that reproductive rights mission statements are significantly more positive in their tone nor are they significantly more subjective. In fact, both groups of organizations tend to use tone that tends toward positivity and remains relatively objective. Though it is possible that this is only the case for the organization mission statements and that other media used to communicate with the public employ different tone, we view mission statements as being amongst the documents most central to an organization’s identity and expect that they are, by and large, representative of organizations’ communication styles.

At base, it seems as though organizations on both sides of the debate compete to portray

women as the beneficiary of their services. From our topic level analysis, we see that reproductive rights and right to life advocacy groups tend to draw at rates that are fairly similar for the topic related to "services." This means that both groups of organizations want to be perceived as supportive of women. I hypothesize that supporting women may be a rhetorical asset; that is, organizations that demonstrate a commitment to helping women will be more successful. This is an idea to be further explored in the following chapter related to outcomes. At this point, however, I would be remiss if I did not mention that the ways in which support is offered and the type of woman to whom support is offered can be different. It is possible that the images of women to be supported may be very different for the two classes. For example, it may be that right to life organizations aim to support women in pursuing futures as homemakers while reproductive rights groups aim to support women in pursuing responsibilities outside the home.

While both reproductive rights and right to life organizations remain largely true to their popular conception, they have evolved new techniques in their efforts to sway public opinion and garner popular support. The extent to which these techniques and framings are successful will be discussed in the next section.

4 Relationship between Mission Statement Factors and External Factors

4.1 The Importance of Mission Statements in NGOs

Mission statements have been proven to have significant impacts on NGO performance, for both within-organization dynamics and outward-facing performance. Within an organization, mission statements serve to unite employees behind a common set of values and goals, influencing the behavior of organizational participants (Macedo et al., 2016).[19] Mission statements that inspire organizational members, promote shared values, and provide a common direction have also been shown to increase organizations' performance (Macedo et al., 2016).[19] We find evidence for this in the corporate world—the factors that most differentiate mission statements of effective firms from ineffective firms were: philosophy ("values,

aspirations, and priorities”), self-concept (“company’s view of itself”), and public image (“firm’s desired public image”) (Pearce 1987, p. 111-112).[20] Pearce (1987) explains that “it is at least as important for a firm to demonstrate concern for a particular content issue as it is to express a particular preference for outcomes (p. 113).”[20] Another study highlights the effect of mission statements on the financial performance of firms: mission statements orient employees, and employee behavior is seen to impact firm performance most significantly—this is in line with the 2016 findings of Macedo (Bart et al., 2001).[21] While these results use private sector firms to analyze the importance of mission statements, the results are generalizable to public agencies as well (Weiss, 1999).[22] Weiss’s results, however, are confined mostly to the content of mission statements rather than rhetorical style.

In her paper *The Value of Mission Statements in Public Agencies*, Janet Weiss demonstrates that rhetorical style also has a relationship with performance. She explains, “[These] results suggest that mission statements written in an activist style may be more helpful than other mission statements in enhancing school performance,” based on educational outcomes (Weiss 1999, p. 212).[22] This is just one example of how the rhetoric, tone, and style of an organization’s mission statement can relate to the actual performance of that organization, though the causal link is unidentifiable.

Aside from performance, we can look to mission statements as a reflection of an organization’s core values and priorities. In terms of defining values, Hailey explains that mission statements can be important in informing potential supporters of an organization’s beliefs (Hailey, 2000).[23] For example, use of the word “participation” in an organization’s mission statement demonstrates a commitment to evaluation and monitoring of programs and cultivating relationships with the community served (Hailey 2000, p. 405).[23] In the way of priorities, van Nimwegan finds that stakeholders who provided organizations with resources were more likely to appear in mission statements than stakeholders who were dependent on the organization (van Nimwegan et al., 2008 p. 77).[24] This generalizes to the case of advocacy non-profits— we expect mission statements to include reference to populations that support the organization’s advocacy work; this may be via explicit mention of these groups or simply by aligning organizational priorities and messaging with those of its supporters. We also expect the converse to be true, that an organization’s mission statement

mentions or references the intended beneficiary of the advocacy, as illustrated in our coding of the beneficiary variable. Thus, we can look to mission statements as being reflective of an organization’s desired self-representation and beliefs, which may come about due to a desire to align themselves with a certain group of supporters.

The use of mission statements to speak to organizational priorities is not novel. As a result of both the compelling effects of mission statements and their important signaling power, one study used the language of mission statements to evaluate the priorities and self-representation of international environmental NGOs (Campagna, 2007).[25] While the results of the paper are specific to the field of environmentalism, the underlying assumption of the analysis is that “mission statements were considered expressions of the culture of an organization” (Campagna 2007, p. 371), an assumption I too must make in my analysis of reproductive rights–right to life advocacy NGOs.[25] This means that the results of the analysis can necessarily speak both to the self-conception of these groups and also their values and priorities.

4.2 Overview/ Roadmap

Our next set of analyses aim to link these higher-level idea variables to organizational outcomes. This part will answer the second of our questions— “How do differences in these metrics [describing mission statements] relate to organizational success by the axes of visibility and support (e.g., mentions in media, gross receipts)?” (See Section 1.5). Having already reviewed the literature linking mission statements to organizational outcomes, I will now discuss our choice for indicators of outcomes and provide the structure for the rest of the analysis.

Our aim is to understand which values, priorities, and rhetorical styles are most closely related to positive organizational outcomes. Mission statements are written with the intention of reflecting the values and priorities of an organization (Tabone, 1998; Weiss and Piderot, 1999).[21][22] Furthermore, they are carefully crafted and thus exemplify a tone that the organization believes to be suitable to the cause. Values, priorities, and rhetorical style are encapsulated within our mission statement idea factors— the idea factors encompass tone and style (polarity, subjectivity, and length) and priorities (beneficiary and

religion). Thus, we aim to look at the relationship between these variables and some as yet unspecified “outcome” variables, despite knowing that it will be impossible to prescribe a causal link.

In attempting to determine which factors are most indicative of non-profit performance, we consider the objectives of advocacy groups. Since these groups attempt to impact public opinion/policy, I propose two outcome variables. The first, mentions in newspapers, is important because it is indicative of a non-profit’s ability to adequately publicize itself and have wide reach. The second, amount of money raised, is relevant because the contribution of money is a powerful demonstration that an individual or institution agrees with/has been convinced by an organization’s work and world view. Together these two outcome variables tell us about an organization’s (1) visibility and (2) support.

Before proceeding further, I offer a cautionary note— none of the relationships we have been able to identify are causal; as a result of this analysis we cannot say that some feature of a mission statement causes some organizational outcome. I do, however, want to highlight the importance of a suggestive model. American public policy broadly has become increasingly polarized. The results from the non-causal model we develop help to speak to what types of rhetoric, ideation, and prioritization tend to be valued by individuals that come down on either side of this polemic. To know what tends to work and what tends not to across these two viewpoints will help us bridge the bitter divide between pro-choice and pro-life advocates.

This chapter will follow a parallel structure to the previous one. First, I will discuss my coding of the outcome variables and the regression methods used in my analysis for both visibility (mentions) and support (gross receipts from the public) (See Section 4.3). Next, I will explain the results of this analysis, focusing first on visibility and then on support (See Section 4.4). Finally, I will discuss the broader significance of these results (See Section 4.5).

4.3 Methodology

The independent variables for this stage in the analysis will be the idea factors whose coding was specified above (See Section 2.2). When running our regressions, we will have $J = 8$

predictor variables, using a treatment contrast for the beneficiary categorical variable:

1. **Religious**: Binary variable; 1 if religious language present, 0 if not
2. **Polarity**: Continuous variable [-1.00,1.00] describing the negativity/ positivity of the mission statement, with increasing scores indicating increased positivity
3. **Subjectivity**: Continuous variable [0,1.00] describing the objectivity/ subjectivity of the mission statement, with increasing scores indicating increased subjectivity
4. **Length**: Continuous variable describing the length of the mission statement in characters
5. **Beneficiary = Fetus**: Binary variable; 1 if fetus is beneficiary of mission statement, 0 if not
6. **Beneficiary = Mother and Fetus**: Binary variable; 1 if both mother and fetus are beneficiary of mission statement, 0 if not
7. **Beneficiary = Public**: Binary variable; 1 if public is beneficiary, 0 if not
8. **Beneficiary = Other**: Binary variable; 1 if no/ other beneficiary, 0 if not

After calculating the General Variance Inflation Factors (GVIFs) for each variable in all regressions and confirming that all values are less than $\sqrt{10}$, we conclude that there is no multi-collinearity in our model. This set of factors represents a slight modification from the logistic regression defined earlier because *Beneficiary = Fetus* is no longer a perfect predictor of the response variable and thus no longer needs to be combined with *Beneficiary = Fetus* and *Mother* (see Section 3.2.3). We make a final note that *Beneficiary = Mother* only is once again the reference category.

4.3.1 Visibility

The outcome factor relating to an advocacy group’s visibility is number of newspaper mentions. This information was calculated using the number of mentions that a non-profit received in the NewsLibrary database. Newslibrary is an “archive of virtually every article published by award winning newspapers from across the country.” Using the tool requires a simple interface with a search-bar along with more advanced filters— as its website explains, “NewsLibrary will let you find old newspaper articles by finding the words or phrases that appear in those articles. You will be presented with a list of dates and headlines, along with the first few lines of each article.” [26] Rather than looking at newspaper mentions since the

birth of the organization, we opt to look for mentions between January 1, 2005 and December 31, 2015. This ten year window corresponds to the ten years preceding the 990 Form whose filing we are considering. We opt to put a limit on the time to (1) equalize across non-profits since some organizations have existed for longer than others and (2) because mission statements of organizations change over time; we feel a 10 year window is large enough to accurately capture a non-profit’s publicity (allowing for variation between years) while considering the challenges presented above.

Where necessary, non-profit names are edited to ensure that we consider the name that would be mentioned in a newspaper— for example, in many cases, “Inc.” is removed from the non-profit name before searching the database. To further narrow our search, we eliminate non-profits whose names consist of a common string of words. For example, a search for “A Woman’s Concern” would return a set of articles that do not necessarily mention this non-profit. A full list of omitted organizations is offered in Appendix C. The summary statistics for the response variable, broken down by class, are included in Table 10 below.

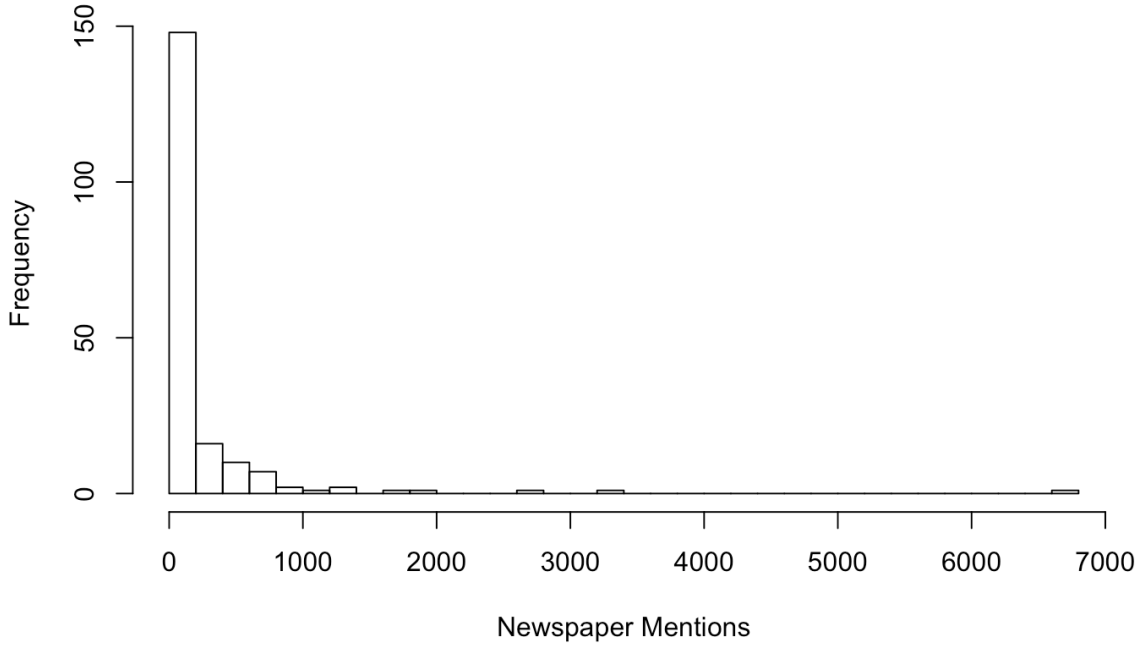
Because linear regression assumes a normal distribution of error residuals, we visualize our dependent variable here to see if this assumption holds (Figure 8). We see that newspaper mentions do not, in fact, follow a normal distribution. A Poisson distribution makes the most sense here for two reasons: (1) we are modeling the number of occurrences in some set space/time, which is consistent with a Poisson distribution and (2) the histogram in Figure 8 seems to roughly resemble a Poisson distribution.

Following from O’Hara and Kotze we know not to use a log transformation for count data; thus we think first to use Poisson regression to model our data (2010).[27] This is a type of Generalized Linear Model that uses a log link function. We assume that the response variable has a Poisson distribution $y_i \sim Poisson(\mu_i)$ for $i = 1, 2, \dots, N$ where the expected count of y_i is $E(Y) = \mu$. The general equation for a Poisson regression model with J predictors can be written as:

$$g(\mu_i) = \log(\mu_i) = \beta_0 + \beta_1 x_{i1} + \dots + \beta_j x_{ij}$$

One key assumption of the Poisson regression is that the mean of our data approximately

Figure 8: Histogram of Mentions



equals the variance. In this case, this does not hold ($E(Mentions) = 221$, $Var(Mentions) = 389083$). Given the large amount of dispersion combined with the inflated number of zeros, we choose a different set of distributions to model our data.

Next, we consider a Zero Inflated Negative Binomial model, which is used for count data that exhibit over-dispersion and excessive zeros. The two parts of a zero-inflated model are a logit model, which predicts a binary 0 or 1 indicator for whether the count is zero or positive and a negative binomial model, which returns non-negative integers for all observations that received an indicator variable value of 1.

We suppose that for each observation, there are two possible cases. If the first occurs, then the count is zero (occurs with probability p), if the second occurs, then the counts can be modeled using a negative binomial model (occurs with probability $1 - p$). We can thus write the probability distribution of a Zero Inflated Negative Binomial distribution as:

$$P(\mu_i = j) = \begin{cases} p_i + (1 - p_i)g(\mu_i = 0), & \text{if } j = 0 \\ (1 - p_i)g(\mu_i), & \text{if } j > 0 \end{cases}$$

where p_i is the logistic link function defined below and $g(\mu_i)$ is the negative binomial dis-

tribution with PDF:

$$g(\mu_i) = P(Y = y|\mu_i, \alpha) = \frac{\Gamma(y_i + \alpha^{-1})}{\Gamma(\alpha^{-1})\Gamma(y_i + 1)} \left(\frac{1}{1 + \alpha\mu_i} \right)^{\alpha^{-1}} \left(\frac{\alpha\mu_i}{1 + \alpha\mu_i} \right)^{y_i}$$

The negative binomial component includes a set of k regressor variables (the x 's corresponding to our idea variables). The expression relating these quantities is:

$$\mu_i = \exp(\beta_0 + \beta_1 x_{1i} + \dots + \beta_j x_{ji})$$

Then the logistic function p_i is given by:

$$p_i = \frac{\lambda_i}{1 + \lambda_i}$$

where

$$\lambda_i = \exp(\beta_0 + \gamma_{Length} z_{Length,i})$$

The logistic component includes set of $m = 1$ regressor variables (the z 's). In our case, the logistic regression relies only on the length variable.[28]

Finally, to fit the models we split our organizations into their two classes, reproductive rights and right to life, because we hope to see if and how the relationship between these idea features and boosted visibility (higher mentions) is different for reproductive rights groups compared to right to life groups. We fit our two regressions (one for each class) and analyze the results. Before deciding on our final models, we undertake a number of tuning steps to ensure the best fit possible.

For each step along the way, we plot residuals and Cook's distances and drop observations that either (1) have very large residuals or (2) were very influential. For this model, the organizations that presented the greatest challenge were those that had values greater than 1200.

Then, we conduct a Vuong test to determine if our final models are better than their predecessors. We considered a number of models, from Poisson regression, Negative Binomial Regression, Zero Inflated Poisson Regression, and finally Zero Inflated Negative

Binomial Regression. The Vuong non-nested test is based on a comparison of the predicted probabilities of two models that do not nest. Examples include comparisons of zero-inflated count models with their non-zero-inflated analogs (e.g., zero-inflated Poisson versus ordinary Poisson, or zero-inflated negative-binomial versus ordinary negative-binomial). A large, positive test statistic provides evidence of the superiority of model 1 over model 2, while a large, negative test statistic is evidence of the superiority of model 2 over model 1. Under the null hypothesis that the models are indistinguishable, the test statistic is asymptotically distributed standard normally. Having compared all reproductive rights and right to life models to our reproductive rights and right to life Zero Inflated Negative Binomial models, we are certain that these models are the best of the interpretable options presented (all p-values are less than 0.05).

We are able to conclude that the Zero-Inflated Negative Binomial models are, in fact, the best to model the number of newspaper counts based on the idea-level factors. To compare the β values for the two models, we construct a Z-statistic using the formula defined by Clogg, Petkova, and Haritou (1995):[29]

$$Z = \frac{\beta_1 - \beta_2}{\sqrt{(SE\beta_1)^2 + (SE\beta_2)^2}}$$

We calculate the p-value for a two sided hypothesis test, with the null hypothesis being that the coefficients are the same and the alternate hypothesis being that they are different. We end by paying careful attention to how the coefficients are different for the two classes.

4.3.2 Support

The outcome factor relating to an advocacy group's support is the number of dollars it receives in funding; since we are looking for 990 forms for the year 2015, we look at dollars raised in 2015. This information is calculated using IRS 990 forms, the same forms from which we obtained the organizations' mission statements. Since organizations that file both 990 and 990EZ forms are on our list, we must select quantities that are reported on both forms.

For IRS 990 Forms, we consider quantities listed under Part VIII, Statement of Revenue:

- b. Membership Dues
- c. Fundraising Events
- d. Government grants (contributions)
- e. All other contributions, gift, grants, and similar amounts not included above

For IRS 990EZ Forms, we consider quantities listed under Part I, Revenue, Expenses, and Changes in Net Assets or Fund Balances:

- 1. Contributions, gifts, grants, and similar amounts received
- 3. Membership dues and assessments

We imagine these categories to equate to roughly the same funding sources; in general, these quantities represent the amount that an organization raises from individuals and governments, not in exchange for any services. This will allow us to see the relationship between the mission statement factors and the amount of money that an organization is able to receive not in return for a good or service.

While linear regression assumes normal error distribution, we visualize our dependent variable and find that it is very right skewed ($E(\text{Amt Raised}) = 221$, $Var(\text{Amt Raised}) = 389083$); after a log transformation, however, the distribution looks just about normal (Figure 9).

Thus, we fit a normal linear regression on our transformed response variable, $\log(\text{Amount Raised} + 1)$ to account for the small number of zero values in our data set.

For each step along the way, we plot residuals and Cook's distances and drop observations that either (1) had very large residuals or (2) were very influential. We include mission statements of these dropped observations in our Results section below. We end by conducting a two-sided hypothesis test to determine how the coefficients are different for the two classes.

The summary statistics for the response variables are included as Table 10.

Figure 9: Histogram of Amount Raised; Histogram of Log of Amount Raised

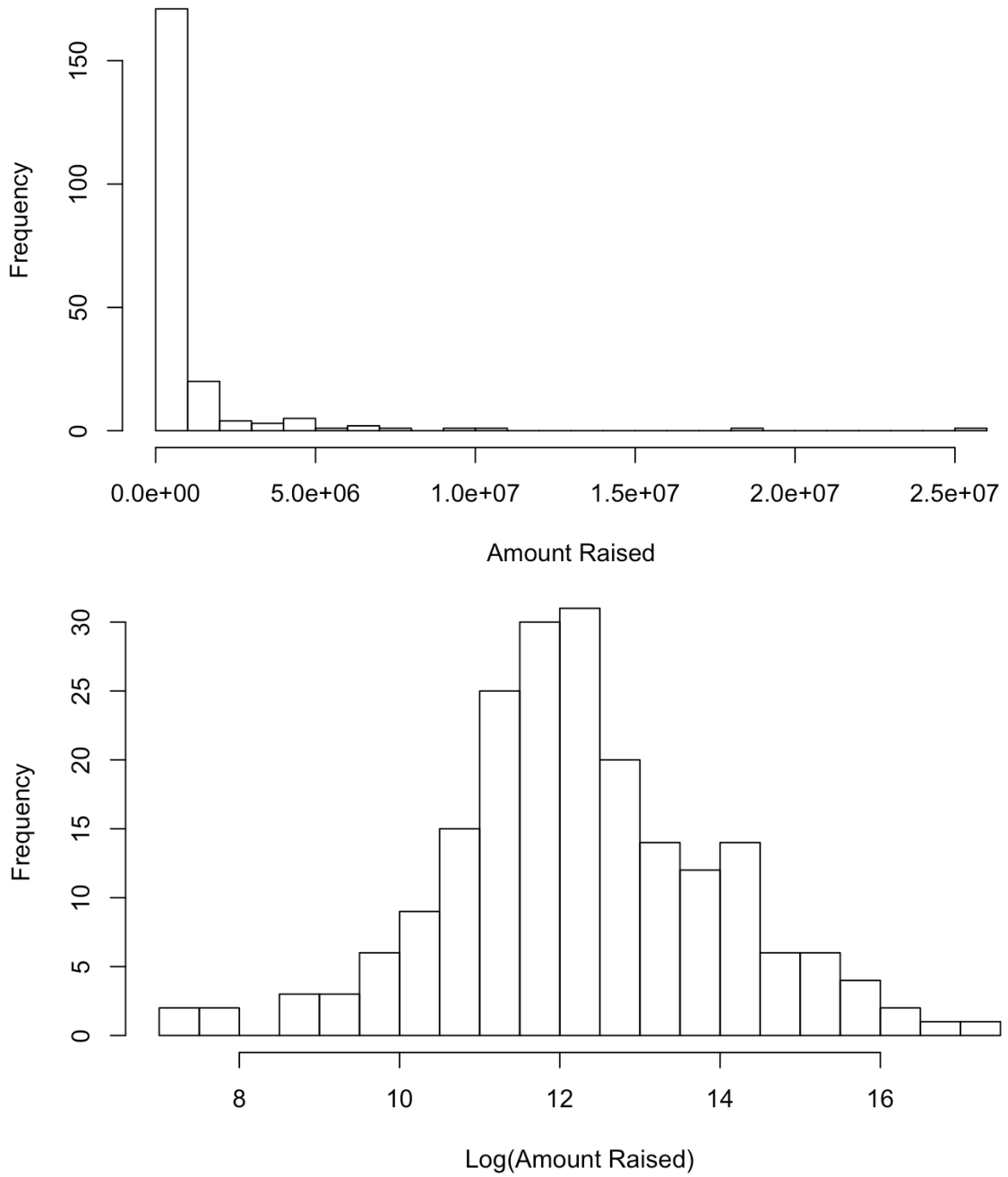


Table 10: Summary Statistics for Response Variables by Class

		Reproductive Rights	Right to Life
Mentions	Mean	289.02	203.64
	Std. Dev.	1,013.51	406.84
Amount Raised	Mean	\$1,658,334	\$636,059.7
	Std. Dev.	\$4,380,652	\$1,280,245

4.4 Results

4.4.1 Visibility

We fit our Zero Inflated Negative Binomial regression model for the two different data sets, the first including only reproductive rights advocacy groups and the second including only right to life advocacy groups. We include the regression results as Table 11.

From the results of our regression, we see that the idea variables have different relationships with mentions for reproductive rights groups and right to life groups.

To begin, I offer an important reminder to contextualize the following analyses. All of the effects explained above are only suggestive—that is, we are unable to nail down a causal link. Due to the potential biases caused by omitted variables—we have not controlled for all potential influences of mentions—we cannot conclude that the difference in mentions is attributable to the 8 variables defined here alone. At the very base, we are able to establish correlation and relationships, which is an important first step in the long journey toward establishing causality. In the discussion section, we hypothesize about the potential effects of variables that are not included in this model and attempt to explain how our results may have come to be. Additionally, I offer the caveat that the results of a two-sided test of statistical significant illustrate that some coefficients may not be significantly different from one another

We begin by analyzing the relationship between beneficiary and mentions. While there is no *Beneficiary* = 1 (Fetus) for reproductive rights nonprofits, we see that for right to life nonprofits, organizations listing the fetus as the primary beneficiary have a mention rate that is $e^{0.363} \approx 1.437$ times greater than organizations that list the women as the primary beneficiary. For reproductive rights organizations, listing both women and fetus as the beneficiary results in a mention rate that is $e^{-2.178} \approx 0.113$ times smaller than is mentioning women only and for right to life groups in a mention rate that is $e^{0.051} \approx 1.052$ times greater than listing women as the primary beneficiary. Listing the public as the beneficiary seems to have a split relationship with mentions for the two classes—listing the public as the beneficiary correlates with rate of mentions that is $e^{-0.068} \approx 0.934$ times as large for reproductive rights groups but one that is $e^{0.543} \approx 1.721$ times greater for right to

Table 11: Zero Inflated Negative Binomial Regression Predicting Mentions based on Idea Variables

	<i>Dependent variable:</i>		P-VALUE <i>two-sided test^b</i>
	MENTIONS		
	(RR)	(RTL)	
BENEFICIARY_Fetus ^a	NA	0.363*** (0.030)	NA
BENEFICIARY_Fetus_Mother ^a	-2.178*** (0.302)	0.051 (0.040)	0.557
BENEFICIARY_Public ^a	-0.068* (0.035)	0.543*** (0.029)	0.076*
BENEFICIARY_Other ^a	-0.675*** (0.075)	1.207*** (0.043)	8.31e-16***
RELIGIOUS_LANGUAGE	-0.833*** (0.151)	-0.695*** (0.025)	2.239e-30***
POLARITY_POSITIVE	-0.103 (0.126)	0.309*** (0.080)	0.184
SUBJECTIVITY	-0.482*** (0.084)	-0.117* (0.063)	0.002***
LENGTH	0.001*** (0.0001)	0.001*** (0.0001)	0.964
CONSTANT	4.399*** (0.033)	4.713*** (0.031)	3.413e-04***
Observations	51	132	
Log Likelihood	-2,768.115	-12,898.870	

Note:

*p<0.1; **p<0.05; ***p<0.01

Standard errors in parentheses

a Reference category for beneficiary comparisons is to woman as the sole beneficiary.

b Two-sided test to determine if coefficients are significantly different.

life groups.

Interestingly, the presence of religious language correlates with a relative decrease in mentions for both classes— a much greater decrease for reproductive rights non-profits than for right to life non-profits. Reproductive rights organizations that include religious language in their mission statements have $e^{-0.833} \approx 0.435$ the rate of mentions compared to those that do not. Similarly, right to life organizations that include religious language in their mission statements have $e^{-0.695} \approx 0.499$ the rate of mentions compared to those that do not.

Increasing the polarity score (i.e., making it more positive) correlates with an increase in mentions for right to life nonprofits but a decrease in mentions for reproductive rights nonprofits. Holding all other factors constant, increasing the polarity score by 0.15 (one standard deviation), corresponds to an increase in the rate of mentions by an order of $e^{0.309*0.15} \approx 1.047$ for right to life non-profits. However, holding all other factors constant increasing the polarity score by 0.15 for reproductive rights organizations relates to $e^{-0.103*0.15} \approx 0.985$ times the number of mentions. The results of our two sided test indicate that these values may not actually be significantly different from one another, so we cannot conclude that positive tone in mission statements has a different relationship with mentions for reproductive rights organizations compared to right to life organizations. Increasing subjectivity by 0.23 (one standard deviation) correlates with decreases in mentions for both classes: $e^{-.482*0.23} \approx 0.895$ for reproductive rights organizations and $e^{-.117*0.23} \approx 0.973$ for right to life organizations. We do observe that increasing subjectivity relates to a more pronounced decrease in mentions for reproductive rights organizations compared to right to life organizations.

Finally, the length of the mission statement seems to be positively related to mentions for both reproductive rights and right to life groups, though the magnitude of the expected increase is larger for reproductive rights groups than for right to life groups. Increasing the mission statement by one standard deviation corresponds with an increase in rate of mentions by an order of $e^{0.001*221} \approx 1.247$ for reproductive rights non-profits. Similarly, increasing the mission statement by one standard deviation corresponds with a slight increase in rate of mentions by an order of $e^{0.001*159} \approx 1.172$ for right to life non-profits.

These values are comparable for reproductive rights and right to life advocacy groups.

All effects described above assume that all other factors are held constant, whether specified or not.

4.4.2 Support

We fit our linear regression first on only reproductive rights advocacy groups and then on only right to life advocacy groups. We include the regression results as Table 12. Much like for the previous section, we warn that the results here are merely suggestive—no causation can be attributed as a result of this model.

The reference to various beneficiaries has different relationships with the log of amount raised for reproductive rights groups and right to life groups. From the results of the regression we see that referencing the fetus or public as the primary beneficiary relates to a decrease in the log of amount raised by 0.789 and 0.745 respectively for right to life organizations compared to listing the woman as the beneficiary; interestingly, these same variables demonstrate no significant relationship for reproductive rights organizations. By contrast, referencing both the mother and fetus as the beneficiary and listing some other beneficiary seems to have a negative relationship with the log of amount raised for reproductive rights organizations, decreasing it by 1.994 and 1.72 respectively; these beneficiary terms, however, have no significant relationship with the log of amount raised for right to life organizations.

The other idea variables, religious language in the missions statement, positivity, and subjectivity, have no significant relationship with the amount of money earned. However, for both reproductive rights and right to life groups, funds raised have positive associations with length of the mission statement. For reproductive rights organizations, increasing the length by 180 characters, or one standard deviation, correlates with an increase of the log of amount raised by .5391. Similarly, for right to life organizations, increasing the length of the mission statement by one standard deviation increases the log of amount raised by 0.437.

With this model, it is difficult to speak to the different relationships between the variables on account of the relatively large standard error. We cannot say that any of the coefficients are significantly different for the two classes at a 95% confidence level. Thus,

Table 12: Linear Regression for Log(AMTRAISED + 1) based on Idea Variables

	<i>Dependent variable:</i>		P-VALUE <i>two-sided test^b</i>
	log(AMTRAISED + 1)		
	<i>OLS</i>		
	(RR)	(RTL)	
BENEFICIARY_Fetus ^a	NA	-0.789* (0.406)	NA
BENEFICIARY_Fetus_Mother ^a	-1.994** (0.818)	-0.325 (0.564)	0.093*
BENEFICIARY_Public ^a	-0.822 (0.544)	-0.745* (0.387)	0.907
BENEFICIARY_Other ^a	-1.718* (0.890)	-0.248 (0.747)	0.206
RELIGIOUS_LANGUAGE	-0.675 (0.645)	-0.184 (0.365)	0.507
POLARITY_POSITIVE	0.965 (2.111)	0.676 (1.230)	0.906
SUBJECTIVITY	-1.264 (1.513)	-0.105 (0.938)	0.515
LENGTH	0.003*** (0.001)	0.002** (0.001)	0.605
CONSTANT	12.937*** (0.477)	12.153*** (0.414)	0.214
Observations	59	147	
R ²	0.284	0.112	
Adjusted R ²	0.169	0.060	

Note:

*p<0.1; **p<0.05; ***p<0.01

Standard errors in parentheses

a *Reference category for beneficiary comparisons is to woman as the sole beneficiary.*

b *Two-sided test to determine if coefficients are significantly different.*

in discussing the two groups relative to one another, we focus on similarities between the two groups. In particular, we see that painting the woman as the beneficiary seems to be associated with the greatest increase in the amount of money raised; we can conclude this on account of the fact that all other beneficiary variables have negative values. Similarly, increased length seems to have a similar magnitude of relationship for both reproductive rights and right to life groups.

4.5 Discussion

In this section, we explored the relationships between mission statements and two measures of organizational success—visibility and support. Specifically, we analyzed the ways in which features of mission statements relate to the number of times an organization is mentioned in a newspaper and the number of dollars that an organization receives as support. These two variables can generally be thought of as demonstrations of visibility and support, which are crucial goals, especially for advocacy organizations that are attempting to sway public opinion and policy. The number of mentions that an organization receives in newspapers can broadly be thought of as an indication of its visibility because mentions demonstrate that the organization is a part of the ethos/ fabric of a community; simply put, increased press corresponds to increased public awareness of an organization and its message. In a similar vein, the amount of dollars an organization receives in funding is demonstration of an organization’s ability to procure resources by convincing donors that their world-view and vision is worth financial investment.

As a result of the previous section, which demonstrates the extent to which mission statements can illustrate organizational affiliation, and following from significant academic literature on this topic, we see that mission statements speak for the organization at large. For example, an organization that says in its mission statement that the fetus is the beneficiary of its work, believes in the importance of advocacy for the unborn fetus. It is important that we maintain this lens as we discuss the results of our analyses: Our results indicate not just relationships between mission statement features and advocacy outcomes, but between features of an organization—its values, self-conception, priorities—and their relationship with an organization’s success. This broader view allows us to speak more

convincingly about this debate; it is the backbone of the analysis. In the end, we see that these features of organizations actually can help explain some part of the variation in our data.

We are able to successfully identify relationships between our features and an organization’s visibility, looking specifically at newspaper mentions. In some cases, we see that the characteristics that are more likely to make an organization belong to some class are the same characteristics that increase mentions. In other words, we see the prototypical reproductive rights and right to life advocacy groups being those that are mentioned most often. This is supported through joint interpretation of our two sets of analyses. For example, for right to life organizations, viewing the beneficiary as the fetus of the work, increases the likelihood that an organization is of the right to life class but also corresponds to an increase in the number of newspaper mentions for that organization. This is true for reproductive rights organizations for viewing the woman as the primary beneficiary of their work and having longer mission statements. In some ways, it seems to help a cause to go in the direction of the grain. We include Table 13, which illustrates the prototypical features of mission statements by class, allowing us to conceptualize what characteristics are the norm for organizations belonging to each class.

Table 13: Prototypical Features of Mission Statements for Reproductive Rights and Right to Life NGOs

Variable	Reproductive Rights	Right to Life
Beneficiary	Mother as Beneficiary	Fetus as Beneficiary
Religious	Not Religious	Religious
Polarity	Slightly Positive Tone	Slightly Positive Tone
Subjectivity	Relatively Objective	Relatively Objective
Length	Longer Mission Statements	Shorter Mission Statements

We advance one suggestive hypothesis for this phenomenon: newspapers that must choose carefully about which non-profits to represent when discussing this sensitive political issue select organizations that can meet the public’s expectations for some perspective. This would explain why organizations that are prototypical of a class are more likely to be mentioned, and as a result why certain features that are indicative of a class are likely to

result in increased visibility. We find evidence for this idea in academic writing. Newspapers are political and cater to a political audience— Hansen explains this in his discussion of supply- and demand-driven media bias (Hansen and Tho, 2017).[30] In general, people want to buy news that confirms their view of the world, so newspapers benefit from telling people what they already believe to be true (Hansen and Tho, 2017).[30] In this case, this mechanism involves selecting as representatives for a group those organizations that meet the criteria for what readers believe that group to be.

In other cases, however, we see that the characteristics that relate to improved visibility are those that would be unexpected for an organization. For some features on both the reproductive rights and right to life side, it is the qualities that make an organization less likely to belong to its class that make it more visible. Being religious in nature makes an organization less likely to be classified as a reproductive rights group but for reproductive rights groups, being religious in nature correlates with an increase in newspaper mentions. For right to life groups, having a religious nature makes it more likely to belong to its class but has a negative relationship with visibility as defined by newspaper mentions.

A slight modification to Table 13, Table 14 demonstrates the ways in which these prototypical features relate to newspaper mentions. The checkered table helps us understand that while oftentimes, the prototypical characteristics are those that relate to increased visibility, they are sometimes not.

Table 14: Relationship between Prototypical Features and Visibility

Variable	Reproductive Rights	Right to Life
Beneficiary	Mother as Beneficiary	Fetus as Beneficiary
Religious	Not Religious	Religious
Polarity	Slightly Positive Tone	Slightly Positive Tone
Subjectivity	Relatively Objective	Relatively Objective
Length	Longer Mission Statements	Shorter Mission Statements

Note: Green indicates that the feature has a positive relationship with increased visibility; Red indicates that the feature has a negative relationship with increased visibility; All conclusions are approximations, paying attention only to the sign of the coefficients from the regressions

A second hypothesis would explain these apparently contradictory results: newspapers that must choose carefully about which organizations to include in their stories, are interested in arousing controversy; in doing so, they select organizations that run counter to people's beliefs. This would cause them to represent and highlight organizations that disrupt our common understanding of what it means to be an advocate for one side or the other.

Ultimately, these hypotheses are not contradictory to one another. Surely there are times when newspapers aim to reinforce our already-existing ideas, but creating controversy and muddying the waters of a clear debate also has its place amongst the objectives of journalists. Thus, the two hypotheses we advance may be effects pulling our results in different directions, sometimes causing us to see increased mentions for prototypical features and sometimes causing us to see increased mentions for controversial features. This hypothesis presents one causal explanation for the trends we see.

On the other hand, we see that there are few relationships between mission statement features and amount of funds raised. We advance one potential hypothesis for this. We hypothesize that this may be less linked to the ethos of the organization because donors do not have the public pressure of choosing an organization. We might say that donors care less about giving to the prototypical or controversial organization because they prioritize alignment with their own beliefs, nepotism, or some other such factor. If this is the case, we may conclude that those supporting these advocacy organizations represent diverse and varied viewpoints, and that their giving patterns cannot be generalized at a macro level. Alternatively, it may be the case that donors tend to prioritize based off of some feature that is not included in this model.

Donor support, however, does seem to fall in line with the general trend that pro-woman rhetoric is effective, for both reproductive rights and right to life organizations. We can say this because our model demonstrates that the observed change in donations is either negligible or negative when converting from a pro-woman framing to a pro-fetus, pro-public, or pro-other framing. While reproductive rights groups still tend to view the fetus as the beneficiary of their work more often, as seen in the results of the previous section, the results of this analysis illustrate that a pro-woman framing has a positive relationship with positive

organizational outcomes by measure of the support that an organization receives.

We observe one final trend that is, despite simplification, generally in line with academic literature on the topic— more developed, better ideated mission statements have positive relationships with organizational outcomes. Though it is not always the case, longer mission statements tend to illustrate an organization’s ability to (1) explain with clarity and nuance their stance on a topic and (2) summarize to themselves and the public what they aim to do and how they aim to do it. In general, and after subjective spot-checking, we conclude that in our sample, longer mission statements tend to be “better”, by the metrics defined by Pearce (Pearce, 1987).[20] Thus, it follows that organizations with longer, better mission statements are more successful in achieving their goals.

5 Conclusion

This paper attempts to advance existing literature on the similarities and differences in rhetorical tactics and self-conception between pro-choice and pro-life advocates. A quantitative, text-based approach to this question largely confirms the popular conception of organizations on both sides of this debate. We take this one step further by analyzing the relationships between the framings used in mission statements and organizational outcomes.

To start, the groups of organizations do not differ significantly in the tone of mission statements, by the axes of negativity-positivity and objectivity-subjectivity. This dispels the common conception that right to life advocacy groups often evoke fear. Our study highlights their reliance on moralistic arguments. By drawing distinctions between “good and bad” and “life and death,” right to life advocates attempt to convey to the public that the pro-life perspective is the more morally sound one.

Unsurprisingly, religious language is used much more often for right to life groups, despite the fact that it has negative associations with visibility for both groups and insignificant but still negative associations with financial support. Though we are unable to make causal conclusions about this relationship, we imagine that these trends may be the product of a decreasingly religious nation, a nation less likely to subscribe to the religious ideals many right to life organizations espouse (Wormald, 2018).[31] This may underscore the strategic

importance of moving away from religious language in public messaging— secular argumentation that relies on pro-woman rhetoric may be more successful in achieving the twin goals of visibility and support.

According to our analyses, reproductive rights organizations largely tend to portray women as the primary beneficiary of their work, drawing on feminist undertones to make their point about the importance of supporting women. In contrast, right to life organizations tend to portray the fetus as the beneficiary despite significant literature highlighting the group’s shift toward pro-female rhetoric. Organizations on both sides use language that highlights the services they offer to women; both view the support of women as contested ground.

With relation to organizational outcomes, this proves to be an important tactical decision. On both sides of the debate, we note that pro-female rhetoric (portraying the woman as the beneficiary of one’s work) tends to correlate with positive organizational outcomes in terms of both visibility and support.

While it goes without saying that pro-woman rhetoric is the way of the future given its positive relationship with organizational outcomes, we draw a distinction between pro-woman rhetoric and feminist rhetoric. That is, it is possible to support women without necessarily holding strong feminist convictions— organizations can uphold their ideals of women as being mothers and homemakers by using pro-woman rhetoric. In the reproductive rights-right to life debate, I hypothesize that there is a distinction between the type of pro-woman rhetoric used by the two groups. Reproductive rights pro-woman rhetoric may be more closely aligned with the feminist movement given these organizations’ commitment to fairness, justice, and equality, as evidenced by the words they use and the topics from which they draw. By contrast, the popular conception of right to life advocates as conservative would suggest that they are not just pro-woman but rather pro-mother, ascribing to more traditional views that women should be mothers and homemakers.

5.1 Limitations/ Future Research

When parsing the difference between reproductive rights and right to life advocates, we focused exclusively on these organizations’ mission statements. This offers important insight

into the ways in which these organizations understand and present themselves; since mission statements are often listed on organization websites and since they are often used to unify employees, these documents provide important insight into how organizations communicate with a broad range of stakeholders. Mission statements, however, tend to be rather short—a couple of sentences—meaning that the complexity and nuance in argumentation may be lost in mission statements compared to other forms of communication. Further analysis may consider textual and quantitative analysis of different media, ensuring that the media type is consistent across organizations (e.g., almost all organizations have a “Donate Now” page on their website). This would allow for further contribution to the literature by (1) allowing for more nuanced analysis and (2) consideration of different tactics used in more targeted communication (i.e., are rhetorical strategies different in communication to vulnerable populations, legislators, employees, and other stakeholders?).

By looking at mission statements for the year 2015, we understand the language that organizations use at a snapshot in time—in order to speak about the evolution of these rhetorical tactics, we put our findings in conversation with other authors on the topic. Though it is certainly the case that mission statements do not change with high frequency, it is true that a nontrivial contingent of new organizations incorporate and old organizations shut their doors annually. To confirm the findings of this study with regard to change over time, one may consider using these methodologies on mission statement corpora for multiple years.

Finally, the models used for inference in the second section of this paper are only suggestive due to omitted variable bias; to move this work forward, one ought to control for other organizational factors that would influence the outcomes of interest. Potentially explanatory variables that are missing from the analysis may include: controls for organization size, net worth, organization age, number of supporters, or breadth of network. We might expect increases in all of these to correspond to increases in both the number of mentions and the amount of money an organization is able to raise. Still, an experiment-like design may not be feasible due to the large number of confounding factors, some of which are mentioned above and many of which are difficult to quantify. Furthermore, rigorous testing of the hypotheses advanced in the discussion may consider the visibility or performance of organi-

zations that are either demonstrative of the prototype—“expected”—or not—“controversial”—based on the beliefs they hold.

5.2 Final Remarks

Reproductive rights and right to life advocacy organizations largely conform to their popular conceptions, with minor evolutions. Putting the results of this study in conversation with literature on this topic allows us to conclude that reproductive rights groups have become increasingly unabashed in their advocacy while using framing that makes abortion a matter of public health rather than politics. Right to life organizations draw distinctions between right and wrong, relying heavily on moral rhetoric; furthermore, they use this tactic in conjunction with more modern pro-woman framing techniques that attempt to portray the pro-life position as both morally right and mutually beneficial to both the woman and the unborn fetus.

By putting the rhetoric, priorities, and values of reproductive rights and right to life organizations in conversation with their organizational success, we are able to advance the work of others by discussing which techniques are efficacious and which are not. In gaining visibility, we hypothesize that organizations that fit the mold for “normalcy” and those that are highly controversial are those that receive the most media attention. By contrast, gaining financial support seems to have a less obvious relationship with the values and priorities of an organization as presented in its mission statements.

As political polarization pulls people apart, it seems increasingly improbable that there is an obvious and satisfying compromise to this debate. Despite this, policy regarding women’s health will continue to evolve in the coming decades, with many of the organizations included in this study playing a key role in influencing legislators and rallying public opinion. Understanding the values of both pro-choice and pro-life advocates is the first step in attempting to create meaningful dialogue that moves past the simple argumentation that has historically been used (Dillon, 1993).[13]

Most importantly, this thesis is hopeful— it imagines a world in which men and women are truly equal and uses the reproductive rights-right to life divide to highlight the ways in which the world is moving in that direction. We see organizations on both sides of

the divide focusing on offering services to women, portraying themselves as supporters of women, and making rhetorical choices to align themselves with women. For reproductive rights organizations, this takes the form of being unabashedly feminist, fighting ardently for justice, and being outspoken in their view of women as deserving of choices. For right to life organizations, this means offering women the resources necessary to make a morally right choice. A cynic may say that these rhetorical tactics or values demonstrate little real change; they may contend that the use of pro-woman rhetoric is only an attempt to defend a point of view; they may argue that this does not demonstrate real commitment to equality. But, at the very least, the position acknowledges the fact that supporting women or appearing to support women is important. That acknowledgement, that it is important to portray yourself as supporting women, is demonstrative of a positive shift in background conditions towards female empowerment (i.e. Society will no longer stand for people that explicitly tread upon or hurt women.).

My hope is grounded in these groups' mutual understanding that there is power in empowering women. While empowerment looks deeply different from organization to organization, some recognition that the future is female is progress. Through a common understanding of the importance of women, we hope to sow the seeds for understanding in place of the existing discord.

Appendices

A Sample Selection

- I. IRS Form 990/ 990EZ exists for 2015
 - a. If it falls within NTEE Codes R61, R62, it is automatically included
 - i. These organizations have been checked to make sure they are properly classified as “Right to Life” or “Reproductive Rights” by the meaning of their mission statement
 - ii. **Note:** Where mission statements are vague or unclear, organization websites were used (3 misclassifications)
 - b. If it falls within NTEE Codes E01, E03, E05, E40, E42, it is included if it meets both of the two below criteria:
 - i. Interest in pregnancy as a primary issue
 1. Can have other focuses as well (e.g., many right to life organizations are also concerned about euthanasia)
 2. Includes the words “abortion”, “reproductive rights”, “reproductive freedom”, “pro-choice”, “pro-life”, “family planning” in mission statement or title
 - ii. Demonstrates commitment to at least one advocacy activity:
 1. Advocacy can take the form of (not exhaustive):
 - a. Community Education
 - b. Research
 - c. Organizing, lobbying
 2. Advocacy cannot take the form of (not exhaustive):
 - a. Confidential Counseling
 - b. Individual resource sharing (e.g., crisis line)
 - c. Medical Services (e.g., pregnancy tests, surgery)
 - iii. **Note:** Where mission statements are vague or unclear, organization websites were used
 - c. If it falls outside of these NTEE Codes, it is not included
- II. If IRS Form 990/ 990EZ does not exist for 2015, it is not included in sample

B Beneficiary Coding

- A. Where “education” is mentioned as a primary activity of the organization, it is presumed that the organization will be educating the public. In these cases, the organization generally
- B. In situations where both the public and the mother or fetus is mentioned, the mother or fetus are chosen as the primary beneficiary. This is because the goal is to educate the public on the importance of supporting the fetus/ mother.
- C. Where one organization mentions another organization as the beneficiary of their work (e.g., “support the activities of X non-profit”), this is taken to be a “4 - Other” beneficiary.
- D. Where there was mention of “human life,” this was taken to mean that the organization was protecting the unborn fetus. In general, this term is coded language meant to remind/persuade readers that the unborn fetus is also human.

C Organizations Omitted from Newspaper Mentions Search

- 1. Foundation for Life
- 2. A is For
- 3. Family Council
- 4. Project Love Inc.
- 5. Rewire
- 6. Provide Inc.
- 7. American Academy of Family Physicians
- 8. Northwest Center Inc.
- 9. Choices in Childbirth Inc.
- 10. sparrows nest
- 11. West Virginia Free Inc.
- 12. Care Net Pregnancy Center of the Monadnock Region
- 13. Life Choices Inc.
- 14. Birth Center
- 15. Life International Inc.
- 16. Femhealth USA Inc.
- 17. Mother and Unborn Baby Care Inc. DBA Advice and Aide Pregnancy Prob

18. Womankind Inc.
19. A Woman's Choice
20. Pro-choice Resources

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