

Who Has the Right to Life: Using Text Mining and Machine Learning to Examine Legal Framing Innovation

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DEDICATION

In memory of Cassia and Taloose. You will always be my safe place.

TABLE OF CONTENTS

| | |
|--|-------------|
| LIST OF TABLES | vi |
| LIST OF FIGURES | viii |
| 1. Introduction and Overview | 1 |
| 1.1 The Supreme Court Abortion Protest Cases and Social Movement Legal Framing | 2 |
| 1.2 Questions and Goals of My Research..... | 5 |
| 2. Legal Framing Innovation | 10 |
| 2.1 Defining Frames..... | 10 |
| 2.1.1 Frame Alignment | 12 |
| 2.2 Explaining Legal Framing Innovation | 14 |
| 2.2.1 Political Context..... | 16 |
| 2.2.2 Cultural Context..... | 19 |
| 2.2.3 Legal Context..... | 25 |
| 2.2.4 Internal Movement Characteristics | 28 |
| 3. Data and Methods..... | 32 |
| 3.1 Dependent Variable: Framing Innovation | 32 |
| 3.1.1 Protect Life Legal Frame | 34 |
| 3.2 Independent Variables and Measures | 38 |
| 3.2.1 Political Context..... | 40 |
| 3.2.2 Cultural Context..... | 41 |

| | |
|---|------------|
| 3.2.3 Legal Context..... | 45 |
| 3.2.4 Internal Context | 47 |
| 4. Text Mining: Sentiment Measure Construction and Legal Frame Extraction..... | 52 |
| 4.1 Importing and Preprocessing the Documents | 54 |
| 4.1.1 Structuring the Data and Tokenizing the Documents | 56 |
| 4.1.2 Removing Similar Sentences | 57 |
| 4.2 Sentiment Measure, Legal Frame Dictionary Creation, and Sentence Labeling | 59 |
| 4.2.1 Sentiment Measure Construction..... | 62 |
| 4.2.2 Dictionary Creation and Sentence Labeling | 70 |
| 4.4 Conclusion | 88 |
| 5. Machine Learning: Sentence Classification | 89 |
| 5.1 Machine Learning Language Models | 89 |
| 5.2 Fine-tuning Legal-BERT | 91 |
| 5.3 Results..... | 94 |
| 5.3.1 Model Evaluation..... | 98 |
| 5.3.2 Sentence Classification Results | 101 |
| 5.4 Conclusion | 114 |
| 6. Multilevel Logistic Regression: Predicting Incidents of “Protect the Lives of Patients” | 116 |
| 6.1 Model Variables..... | 116 |

| | |
|---|------------|
| 6.1.1 Dependent Variable | 117 |
| 6.2.2 Internal Movement Characteristics | 118 |
| 6.2.3 External Movement Factors | 120 |
| 6.2 Variable Selection | 124 |
| 6.3 Regression Results | 129 |
| 6.3.1 Internal Movement Factors | 130 |
| 6.3.2 External Movement Factors | 133 |
| 6.4 Conclusion | 139 |
| 7. Conclusion | 141 |
| 7.1 Summary of Findings..... | 141 |
| 7.2 Limitations | 144 |
| 7.3 Review of Contributions..... | 145 |
| REFERENCES..... | 148 |
| APPENDIX | 201 |

LIST OF TABLES

| | |
|--|-----|
| Table 1 Independent variables | 39 |
| Table 2 Cultural context: Number of newspaper articles by orientation and topic | 44 |
| Table 3 Preprocessing steps | 56 |
| Table 4 Sentences removed in feminist-supporting legal briefs by legal case | 60 |
| Table 5 Sentences removed in opponent-supporting legal briefs by legal case | 61 |
| Table 6 Examples of sentences labeled with “protect life” frames by supporting party .. | 77 |
| Table 7 Summary of manually labeled sentences by supporting party | 79 |
| Table 8 Distribution of manually labeled sentences by legal frame and supporting party | 81 |
| Table 9 Distribution of manually labeled sentences by legal case and supporting party . | 82 |
| Table 10 Summary of sentences in training and testing data..... | 92 |
| Table 11 Fine-tuned Legal-BERT multi-label classification results for three sentences . | 96 |
| Table 12 Ground-truth labels and predictions of sentences containing “protect life” frames..... | 97 |
| Table 13 Performance results of fine-tuned Legal-BERT | 101 |
| Table 14 Distribution of sentences by legal frame, legal case, and supporting party..... | 104 |
| Table 15 Regression results predicting the odds that the “protect the lives of patients” frame is the primary “protect life” frame in a legal brief | 128 |
| Table 16 Collinearity statistics..... | 203 |
| Table 17 Regression results predicting the odds that the “protect the lives of patients” frame is the primary “protect life” frame in a legal brief using author type and controlling for brief supporting party and brief type..... | 205 |

Table 18 Regression results predicting the odds that the “protect the lives of patients”
frame is the primary “protect life” frame in a legal brief using author type and controlling
for proportion of legal authors, brief supporting party, and brief type 207

LIST OF FIGURES

| | |
|---|-----|
| Figure 1 Number of legal briefs by brief type, supporting party, and legal case..... | 34 |
| Figure 2 Political context: Tracing measures by legal case | 41 |
| Figure 3 Cultural context: Number of newspaper articles by political orientation, article topic, and associated legal case..... | 44 |
| Figure 4 Legal context: Average Martin-Quinn score of Justices by legal case | 46 |
| Figure 5 Internal context: Proportion of authors feminist briefs by brief type | 50 |
| Figure 6 Internal context: Proportion of authors opponent briefs by brief type | 51 |
| Figure 7 Top 20 sentiment words in conservative newspaper articles | 65 |
| Figure 8 Top 20 sentiment words in liberal newspaper articles | 66 |
| Figure 9 Sentiment scores of newspaper articles by legal case, political orientation, and article topic..... | 68 |
| Figure 10 Distribution of manually labeled sentences by legal frame..... | 80 |
| Figure 11 Most common legal frame by legal case and supporting party among labeled sentences | 84 |
| Figure 12 Distribution of sentences in training and testing sets | 93 |
| Figure 13 Distribution of labeled sentences by legal frame and supporting party | 103 |
| Figure 14 Distribution of sentences by legal frame, legal case, and supporting party ... | 105 |
| Figure 15 Significant correlations among numeric variables | 126 |
| Figure 16 Distribution of all manually labeled sentence by legal frame, legal case, and supporting party | 201 |
| Figure 17 Confusion matrix for classified sentences | 202 |

CHAPTER 1

Introduction and Overview

Since the Supreme Court's landmark ruling in *Roe v. Wade* (1973), antiabortion activists have organized efforts to protest the legality of abortion and prevent women from obtaining abortions by physically blocking the entrance to clinics. Although the First Amendment protects the right to protest, antiabortion protesters and blockaders outside of clinics have periodically engaged in behaviors that cause their prochoice opponents to challenge in Court the First Amendment rights of the protesters to protest and that also extend beyond the scope of protections offered by the First Amendment. These antiabortion protests intensified especially during the years 1985 to 2000, and several important legal cases arose as a result. In response to the protests, the prochoice coalition developed an arsenal of legal tactics to confront clinic protesters that included temporary restraining orders (TRO)¹ and federal legislation aimed at rooting out organized crime². The prochoice legal responses initiated a series of legal cases, several of which were heard by the U.S. Supreme Court. In response, the abortion clinic protesters and their supporters rejected their opponents' claims along several legal grounds.

My dissertation considers legal framing innovations among both the antiabortion and prochoice lawyers and other legal actors involved in these abortion protest Supreme Court cases. Legal framing innovation refers to a shift in framing, or meaning making, in the legal document in these cases (see McCammon & Beeson-Lynch 2021). Specifically, my dissertation seeks to explain variation in legal framing occur in the briefs in these cases. I use Natural Language

¹ *Schenck v. Pro-Choice Network of Western N.Y.*, 519 U.S. 357 (1997)

² *National Organization for Women, Inc. v. Scheidler*, 510 U.S. 249 (1994); *Scheidler v. National Organization for Women, Inc.*, 537 U.S. 393 (2003); *Scheidler v. National Organization for Women, Inc.*, 547 U.S. 9 (2006)

Processing (NLP), machine learning (ML) and statistical methods for identifying variation in legal framing in the legal documents (briefs) for these Supreme Court cases on abortion clinic protests. I also identify environmental and movement factors that may account for different framing patterns in the legal briefs. Through identifying the limitations of existing literature on social movement framing and legal mobilization, an opportunity emerges to extend qualitative text analysis using NLP and ML methods.

1.1 The Supreme Court Abortion Protest Cases and Social Movement Legal Framing

The Supreme Court legal cases that I study involve protesters involved in a form of activism that they call “rescue work” (Gorney 1998). Activists that performed rescues sought to prevent abortions by blocking clinic entrances, invading clinic waiting rooms, or disrupting clinic operations by, for example, calling in a bomb threat³ (Haugeberg 2017). Picketing, blockades, and “sidewalk counseling” frequently accompanied rescues. This “counseling” involved walking alongside women heading into the clinics, handing them literature, and talking to them to dissuade them from getting an abortion. If the women continued toward the clinics, the counseling often devolved into yelling in the women’s faces, and sometimes pushing and grabbing them⁴. Initially, most of the grassroots antiabortion activism was performed by small groups of Catholic women, but by the 1980s, the radical flank of the antiabortion movement had multiplied exponentially, and many of them were protestant Evangelicals⁵.

³ Between 1977 and 1988, antiabortion activists were responsible for at least 110 attacks on buildings, peaking in 1984 when 29 clinics were damaged, typically by bombing or arson (Grimes et al. 1991). By the end of the 1980s, antiabortion activists had deployed coercive, confrontational, or violent tactics at almost every abortion clinic in the United States (Henshaw 1991).

⁴ *Schenck v. Pro-Choice Network of Western N.Y.*, 519 U.S. 357 (1997)

⁵ Rescues attracted anywhere from one to 2,000 participants, but there were about twenty activists that participated in most of the rescues that occurred throughout the 1980s. Although leaders of conventional

David Snow and colleagues' (1986) concept of frame bridging can help explain why thousands of previously moderate Catholics and evangelical Protestants were willing to participate in the loud, volatile, and even deadly activism that became the hallmark of the antiabortion movement in the 1980s (Luker 1985; Cuneo 1995; Risen & Thomas 1998). Movement leaders like Michael Bray, Joseph Scheidler, and Terry Randall built on the shared belief among their religious constituents that abortion is murder and, therefore, they are morally obligated to put an end to it (Luker 1985; Cuneo 1995; Risen & Thomas 1998; Radford & Shaw 1993). In addition, referring to clinics as "abortion mills," describing physicians as "baby killers" and clinic escorts as "deathscorts" allowed Operation Rescue and related groups to justify the violent acts perpetrated by their members (Radford & Shaw 1993). Eventually, Operation Rescue "became the biggest social protest movement since the antiwar and civil rights campaigns of the 1960s, accomplishing more than sixty thousand arrests at protests across the nation before it collapsed in the early 1990s" (Risen & Thomas 1998:220). The FBI, under the Reagan Administration, refused to classify abortion clinic violence as a form of terrorism, and as a result, the much smaller federal agency, the Bureau of Alcohol, Firearms and Tobacco (ATF), was tasked with investigating clinic attacks and warning clinics of potential threats.

The federal government's indifference to antiabortion violence forced clinics to depend on state and local authorities for protection, and since abortion legislation varies between states (Garrow 1994, 1999; Russo, Schumacher, & Creinin 2012), the prochoice coalition had to develop a number of different legal frames to utilize state and local law to combat clinic protesters. For example, during the politically hostile climate that characterized the 1980s,

antiabortion social movement organizations (SMOs) denounced violence, workshops at the 1982 National Right to Life Committee (NRLC) convention taught participants how to "blitz" clinic waiting rooms and show patients graphic images of fetuses, dig through trashcans to gather patient records, and organize mass demonstrations outside of clinics (Haugeberg 2017).

prochoice advocates framed their arguments in terms of protecting the health and safety of the public. In these cases, the prochoice side defended state laws restricting protesters' activities outside of the workplaces and homes of clinic staff. After the election of Democratic prochoice president Bill Clinton in the early 1990s, prochoice lawyers started describing protesters' activities as conspiracies. In *Bray v. Alexandria* (1993), prochoice lawyers argue that protesters conspired to violate women's equal protection under the law. Although the Court ruled in favor of the protesters, the prochoice legal activists continued to pursue a framing strategy involving the conspiracy frame but also began to incorporate an economic motive in their legal framing. In the mid-1990s and early 2000s, the National Organization for Women (NOW) filed a series of class action lawsuits alleging that protesters violated the Racketeer Influenced and Corrupt Organizations Act (RICO) by engaging in a conspiracy to shut down abortion clinics.

There are nine U.S. Supreme Court legal cases involving disputes over abortion clinic protesters. The cases were decided during the 1988 to 2014 period. Generally, the abortion clinic protest cases fall into one of two categories based on the legal questions presented to the Supreme Court. Cases in the first category deal with questions about First Amendment and Fourteenth protections⁶ available to protesters at health clinics providing abortion services⁷, and include: *Frisby v. Schultz* (1988), *Bray v. Alexandria Women's Health Clinic* (1993), *Madsen v. Women's Health Center, Inc.* (1994), *Schenck v. Pro-Choice Network of Western N.Y.* (1997), *Hill v. Colorado* (2000), and *McCullen v.*

⁶ *Bray v. Alexandria Women's Health Clinic*, 506 U. S. 263 (1993), does not deal with the First Amendment, but rather it concerns questions regarding gender discrimination and the application of the Fourteenth Amendment (see Banks 1994; Campbell 1993; Fischer 1993).

⁷ *Frisby v. Schultz* (1988) is the only exception to this, and it deals with protests outside the home of a local doctor who performed abortions.

Coakley (2014). Cases in the second category involve questions regarding the application of the Racketeer Influenced and Corrupt Organizations Act (RICO), and include: *National Organization for Women, Inc. v. Scheidler* (1994), *Scheidler v. National Organization for Women, Inc.* (2003), and *Scheidler v. National Organization for Women, Inc.* (2006). In all three of the cases in this second category, NOW alleged that several antiabortion groups, including Pro-Life Action League and Operation Rescue, and a pathology testing lab, Vital-Med, engaged in a nationwide conspiracy to intimidate and interfere with the business operations of abortion clinics (see Bradley 1994; Clayton & Love 1999; Golinski 1994; Mota 2003; Vitiello 1995).

On their surface, it may appear that these cases are a struggle over access to reproductive health care, but that is only half of the story. The pro-protest and prochoice coalitions in these cases are made up of a variety of groups with diverse and sometimes conflicting interests when it comes to women's access to abortion. Antiabortion groups like Operation Rescue and Life Legal Defense Foundation (LLDF) typically frame their arguments in terms of the state's interest in protecting human life (e.g., we can "rescue" more fetuses). However, most non-abortion groups involved in these cases on the prolife side develop pro-protest frames that emphasize the right to free speech and assembly. Such non-abortion groups include the American Civil Liberties Union (ACLU) and People for the Ethical Treatment of Animals (PETA)⁸.

1.2 Questions and Goals of My Research

My research seeks to fill theoretical and methodological gaps within the current social movements literature by bringing together literature on social movements, legal activism, and data science and information. As I discuss below, studies of social movement framing have not

⁸ The ACLU has filed amicus briefs supporting abortion clinic protesters (e.g., *Frisby v. Schultz*, *Hill v. Colorado*) and their opponents (e.g., *Schenck v. Pro-Choice Network*, *Bray v. Alexandra Women's Health Clinic*). PETA, on the other hand, has only filed amicus briefs in support of protesters.

fully theorized framing innovation. Additionally, while the majority of the work on social movement framing rely on qualitative approaches ranging from discourse analysis (Van Leeuwen 2007; Ravazzani & Maier 2017) to close readings (Makhortykh 2017) and content analysis (Olsen 2013), few scholars have used text mining methods to examine framing innovations⁹. My dissertation is, therefore, guided by three research questions as I use text mining methods to explore how various factors influence legal framing:

1. What external factors account for differences in legal framing in the legal briefs (party and amicus briefs) in abortion clinic protest Supreme Court cases? I consider the following external factors:
 - a) **Political context:** How do differences in the broader political structures and climates affect movement legal framing strategy? For example, does the presence of political opportunities – such as policy and political alignments – increase the likelihood that movements use different legal frames?
 - b) **Cultural context:** How do differences in the broader cultural context shape legal framing in these cases? For example, does public opposition toward abortion clinic protests increase the likelihood that movement lawyers will put forth different legal frames?
 - c) **Legal context:** How do differences in the legal context shape legal framing? For example, are changes to legal framing strategies more likely to occur when activists face a receptive judiciary?
2. What internal movement factors account for differences in legal framing? I consider the following movement factors:

⁹ See Johnston (2013) for a review of qualitative methods for studying social movement frames.

- a) **Coalition characteristics:** How do the characteristics of organizations that comprise the prochoice and abortion protest coalitions in the legal briefs shape legal framing? For example, are certain legal frames more likely to be used when traditionally prochoice groups such as the American Civil Liberties Union collaborate with abortion clinic protesters?
 - b) **Movement composition:** How does the presence or absence of a more radical group affect legal framing? For example, is a particular legal frame more likely to be used when a movement is comprised of more radical organizations?
3. How can **Natural Language Processing** (NLP) and **machine learning** (ML) tools be used to distill measures from text data, discover and predict novel patterns in text data, and provide new theory to explain them? I consider and develop the following NLP and ML techniques:
- a) **Sentiment measure:** Can an assessment of the sentiment of national newspaper coverage of abortion clinic protests provide an accurate measure of the broader cultural context?
 - b) **Text mining and dictionary creation:** Can a dictionary containing words and phrases associated with specific legal frames be used to identify the presence of new legal frames?
 - c) **Supervised machine learning:** Can a BERT-based machine learning model be used to identify sentences in legal briefs that contain specific legal frames?

In Chapter two, I discuss various theoretical perspectives that inform my research and then present a research outline for developing methods for analyzing legal framing innovation. In the chapter, I begin with an overview of social movement framing theory, specifically focusing on how movements frame their arguments in the legal arena. Next, I turn to a discussion of the

theoretical understanding of the relationship between movement framing and external and internal movement contexts. I use this discussion to outline the ways in which previous scholars have studied the effects of political, cultural, legal, and internal movement factors on changes in movement frames.

In Chapter three, I describe in detail the data and variables that I use in my regression analyses. In this chapter, I begin by discussing the data that I use to construct the dependent variable in my regression analyses, incidents of the “protect the lives of patients” legal frame. Then I turn to the data and variables that I use to explain legal framing innovation. The selection of variables is guided by prior social movement research on framing activity.

In the fourth chapter, I discuss the text mining methods that I use to create the cultural context measures and the training and testing data for the multilabel sentence classifier. In this chapter, I discuss how I measure cultural attitudes towards abortion and abortion protests by assessing sentiments¹⁰ toward abortion and antiabortion protests in newspaper articles published during the year preceding oral arguments in each case. I also discuss how I used text mining methods to create a sample of sentences that contain legal frames.

In Chapter five, I use the sentences that I identified in Chapter four to train and evaluate a multilabel sentence classifier. After I train the classification model, I use it to classify all of the sentences across all of the legal briefs in my study as either sentences with a particular frame contained in them or without any of the frames I examine.

¹⁰ Computational scholars sometimes refer to this as “sentiment analysis,” but my use of such a technique is to create measures of the cultural context.

In Chapter six, I use multilevel logistic regression to predict incidents of legal frames using the results of the machine learning model in Chapter five as the dependent variable, and the sentiment measures of the newspapers to assess the cultural context from Chapter four, in addition to the variables I discuss in Chapter three, as other independent variables in my regression analysis.

Finally, in Chapter seven, I conclude by discussing the limitations and contributions of my dissertation research. I argue that my dissertation, in addition to deepening our theoretical understanding about social movement framing, can speak to the ways in which NLP and ML can be applied and developed to broaden the sociological imagination.

CHAPTER 2

Legal Framing Innovation

2.1 Defining Frames

In the late 1980s and 1990s, social movement research took a cultural turn away from resource mobilization and political process theories that began to dominate in the late 1970s and 1980s (McCarthy and Zald 1977; McAdam 1982). Snow and his colleagues' (Snow et al. 1986; Snow & Benford 1988) work that applied Goffman's concept of "framing" to social movement activity was central to this turn. Rooted in symbolic interactionist and constructionist approaches, the framing perspective focuses its attention on the meaning making processes that social movement participants and others engage in (see Snow 2004).

Social movement scholars refer to the meaning making work as "framing" (Snow et al. 1986; Snow & Benford 1988). It entails the mobilization of symbols, claims, and identities by social movements in order to produce identities and grievances that resonate with their target audience (Snow et al. 1986:466). It is often strategic in the sense that it is a deliberate, goal-oriented process used by activists to inspire and legitimate specific goals and actions.

The products of framing are referred to as "collective action frames." Snow and Benford (1992) define collective action frames as sets of ideas that inspire action by articulating a problem and attributing responsibility in innovative and meaningful ways. Unlike issue framing, the goal of collective action frames is to inspire collective action rather than highlight specific issues and changing individuals' perceptions (Reese & Newcombe 2003). Movement actors, including legal activists, use framing to target a wide range of actors such as judges and justices and even the broader public (McCammon & Beeson-Lynch 2021). My dissertation focuses on

the process through which legal activists, that is, lawyers and amicus brief writers, create new types of collective action frames (i.e., legal frame innovations) that are intended to not only influence those adjudicating the court case but also send a message to members of the broader public that are interested in the case.

Collective action frames are constructed, at least in part, as social movement participants negotiate and produce a shared understanding of the problem, solution, and reasons why others should participate in the movement's activities. The form that they take is dependent upon the discursive field within which they emerge. Steinberg (1999:856) introduced the concept of discursive field to examine the context within which the framing process occurs. It includes the genres – or styles of speech, vocabularies, and meanings – that social movement actors draw upon to construct collective action frames.

Snow and Benford (1988) refer to the following as “core framing tasks.” Diagnostic framing identifies the problem and attributes responsibility, while prognostic framing offers a strategy and solution. The final core framing task, motivational framing, offers a rationale and vocabulary for action.

A prime example of diagnostic and motivational framing is illustrated in the case of abortion clinic protesters' attempts to make common cause with conservative Christian fundamentalists. Terry Randall, founder of the anti-abortion extremist organization, Operation Rescue, frequently credited dominion theologian Francis Schaeffer as a major source of inspiration. Schaeffer “brought two new ideas to contemporary fundamentalist theology. The first was an attack on the whole of Western Culture, which he saw as the seedbed of moral decay. The second was to raise a call to arms that would send fundamentalists back into the political arena” (Faux 1990:134). Embedded in these ideas is an attributional orientation towards Western culture

– that is, abortion is the result of a gradual renunciation of Christian principals. In addition, it provides a rationale and vocabulary for motive by invoking theological rhetoric aimed at combating “the philosophies and lifestyles that are destroying this nation” (Terry 1988:182). Meanwhile, referring to the invasion of abortion clinics as “rescues” (see Haugeberg 2017) enabled abortion protesters to attend to the prognostic framing task in a way that legitimized their behavior and upheld their moral convictions.

2.1.1 Frame Alignment

Strategic efforts by social movements to link their identities and grievances with potential constituents and/or resource providers have been conceptualized as “frame alignment processes” (Snow et al. 1986). The four basic alignment processes – frame bridging, frame amplification, frame extension, and frame transformation – involve connecting events and meanings together to provide a movement’s audience with a new interpretive lens. While a great deal of empirical attention has been paid to these processes, frame transformation is the most like the framing activity that my research will focus on.

The first alignment process, frame bridging, occurs when a social movement seeks to align itself with ideologically similar but structurally distinct individuals or groups. Several demonstrate how frame bridging can help SMOs to overcome structural differences and galvanize participants (Gerhards & Rucht 1992; Beamish & Leubbers 2009; Lichterman 1995; Van Dyke 2003). Ruzza’s (2003) study of movement advocacy and EU policy illustrates how this alignment process can be used to generate consensus between a diverse set of actors. By merging the concepts of sustainability and economic development, movement activists were able to create a frame that appealed to pro-industry actors and environmentalists.

The second process, frame amplification, invigorates existing values and beliefs held by a movement's target audience. As I will discuss in more detail later, since successful framing rests upon a frame's ability to resonate with culturally salient values, narratives, and attitudes, it appears as though all movements must rely on this strategy (see Benford and Snow 2000). Nevertheless, this alignment strategy works particularly well when a social movement's targets are different from the movement's beneficiaries. For example, McCammon and colleagues' (2004) analysis of frame amplification tactics employed by the woman suffrage movement revealed that the suffragists strategically countered oppositional claims by accentuating women and men's differences through the deployment of the reform frame.

Frame extension occurs when a movement extends its frame to include additional issues and concerns that are relevant to its targets. Empirical studies demonstrate that while movements often employ this strategy to broaden their constituency, frame extension has a tendency of generating conflict and instability among movement participants; they also tend to face intra-movement conflict (Benford 1993) and instability (Babb 1996) as a result. Melody (2011) documents the contemporary anti-abortion movement's use of frame extension to include the pro-woman narrative to draw in new constituents.

The final alignment process, frame transformation, involves reconstructing old meanings and understandings and/or creating new ones. Snow and colleagues' (1986) examples come from the reinterpretation of their biographies, not the structure of society, by members of religious movements. Not many scholars have dealt explicitly with this type of frame alignment which, as Snow (2004:393) states "is somewhat puzzling in light of... the fact that social movements are in the business of affecting change." A notable exception is Pedriana's (2006) study of efforts by the women's movement in the 1960s to challenge protectionist employment laws by

transforming the women's movement main framing from the protective frame, rooted in traditional gender expectations, to the equal treatment frame that rejected gender-based differences. In addition to constructing a powerful and successful legal argument recognizing women's rights in the workplace, women's advocates also set the stage for challenges to reproductive policies based on an individual's right to privacy (Pedriana 2006). While frame transformation has been the least studied alignment process, it is a good starting point for the discussion of frame innovation because, as McCammon and Beeson-Lynch (2021) note, both processes involve the presentation of a new definition of a social problem.

McCammon and Beeson-Lynch (2021) define framing innovation as “activists introducing a relatively new ideational frame into the discursive field in which they operate.” My dissertation draws on the concept of framing innovation to account for the use of new frames in the legal context. Given that my dissertation examines how both external and internal shape frame innovation, I will begin the next discussion by reviewing work that considers external factors as the main cause of changes in framing strategy and then those that view internal factors as the main cause.

2.2 Explaining Legal Framing Innovation

Social movement researchers have spent a considerable amount of effort studying how collective action frames can change how people view an issue (e.g., Berbrier 1998, 2000; Ntontis & Hopkins 2018; Marshall 2006). However, as several researchers have noted (Johnston 1995; Steinberg 1998), it is still unclear how “frames get made” (Hart 1996:95). Nevertheless, scholars have looked at the way that context shapes the emergence of new movement tactics without always focusing on the emergence of a new

frame (see Tarrow 1998; Rucht 1990; McAdam 1983; McCammon 2012). Social movement researchers have also identified processes associated with the development and creation of frames. Some have found that social movement actors transform their discourse according to the institutional and/or cultural context that they are operating within (Triandafyllidou & Fotiou 1998; Kubal 1998; Neuman 1998; White 1999), while others suggest that frames emerge from changes within the movement itself (e.g., Valocchi 1996; King 2008; Capek 1993). For example, Valocchi (1996:116) found that internal struggles over “who controlled important sources of funding, which organization was able to court favor with political elites, and which organizations were actively repressed by those political elites.” Tarrow (1998:81), who does focus on a framing shifts, notes that movements often exhibit “strategic flexibility, and venue shopping” by shifting frames under different circumstances.

When it comes to explaining the emergence of new frames, some studies focus on internal movement processes like movement culture (e.g., Leachman 2013; della Porta & Rucht 1995) and collective identity (e.g., Hunt & Benford 1994; Hardy et al. 2005), but most of the work has focused on elements that are external to the movement. Movements do not exist in a vacuum, and the environment that they emerge in invariably shapes their goals, strategies, outcomes, and framing. Change in broader cultural, political, and legal structures may open and close the chance for certain frames to resonate with movement targets. Broad shifts in public sentiment, electoral changes, and developments in law and policy all can influence the emergence of collective action frames. My dissertation research focuses on the ways that contextual factors and internal movement characteristics may help explain changes in legal framing strategy and legal framing innovation. While empirical evidence shows that these factors

can work together to shape movement framing strategies (see Gamson & Wolfsfeld 1993), I am going to discuss them separately to highlight their analytical distinctions.

What follows is a review of the literature that explores how factors both outside and inside of a movement affect how the movement activists construct legal frames. I begin with a discussion of research that identifies components of the broader political context that may impact legal framing. Next, I review work that examines the relationship between legal framing and the broader cultural context, and then I highlight work that focuses on the effects of the legal context on legal framing. I conclude by reviewing work that addresses how internal movement characteristics may explain changes in legal framing strategy and legal framing innovation.

2.2.1 Political Context

The relationship between changes in the structure of political opportunities and movement mobilization has been a major foci of social movement research, and it has also been where the bulk of research on tactical shifts has focused its attention. The importance of the influence of political context on tactical shifts has been confirmed across a wide range of movements including the civil rights movement (McAdam 1983), U.S. women's movement (Costain 1992), labor movement (Cornfield & Fletcher 1998), and anti-nuclear movement strategies inside and outside of the U.S. (Maney, Woehrle & Coy 2005; Marullo, Pagnucco & Smith 1996; Boyle 1998). When movements face a united, hostile political establishment that is "largely immune to pressure from movement groups," tactical innovations are likely to be ignored or repressed rather than invigorate an expanded insurgency (McAdam 1983:737). On the other hand, in less repressive states, periods of social and structural change can offer "expanding political opportunities," (McAdam 1999:34) during which "cognitive and affective routines will be abandoned in the search for new interpretations of reality" (McAdam 1999:xxxiii).

With a Senate Republican majority and anti-abortion president, Ronald Reagan, in the White House in the 1980s, the anti-choice movement faced a much friendlier political context than the pro-choice movement. However, the political context became increasingly hostile after the election of Democratic president Bill Clinton in 1992 (Mason 2019). By the mid-1990s, women's roles in abortion protests had diminished quite dramatically due to a number of factors including the increased presence of evangelical men in the radical branch of the antiabortion movement and harsher sentencing by judges across the U.S. against protesters which turned people towards nonviolent protest tactics (Haugeberg 2017).

Although work that focuses specifically on the relationship between political context and movement framing is limited, it does suggest that the broad political context influence changes in framing (see McCammon 2012; Lemaitre & Sandvik 2015; McCammon & Beeson-Lynch 2021). Rohlinger's (2002) comparative study of framing strategies used by prochoice and antichoice SMOs during the 1980s and 1990s suggests that organizational frames shift in response to changes to the political climate. Specifically, she found that after a series of legislative losses at the state level during the mid-1980s, the National Organization for Women (NOW) shifted their framing strategy from a focus on countermovement activity to the failure of the state. Similarly, in a more recent study, Rohlinger (2006) found that prochoice SMOs, including NOW and Planned Parenthood, responded differently to political threats and opportunities. When facing political opportunities, prochoice organizations remained silent about allied organizations and, instead, focused on rebuking the tactics of their opponents. However, during political threats, prochoice organizations were more likely to cooperate with allies, but they tend to use coalition work to advance their own organizational goals. As such, I hypothesize that legal framing

innovation is more likely to occur in conservative political contexts that are more hostile to feminists when controlling for the brief's supporting party and type (either amicus or party).

Scholars have also explored the relationship between political contexts, organizational identity, and movement frames (e.g., Staggenborg 1991; Rohlinger 2002; Esacove 2004). For example, in an earlier study, Rohlinger (2002) demonstrates that prochoice and antichoice SMOs adapted their frames in response to changes in the broader political environment. Specifically, she found that the prochoice organization was much more flexible and capable of tailoring its message to the political environment compared to the antichoice organization. Other movement scholars have also considered the ways in which inter-movement conflict can result in framing shifts (see Hedley and Clark 2012; Stewart et al. 2017; Saguy & Riley 2005). For example, in their study of the fat acceptance movement, Saguy and Riley (2005) highlight how both the supporters and critics of the movement draw on notions of morality to bolster their own credibility and discredit their opponents. For instance, while fat acceptance activists emphasize the dangers of weight-loss treatments (e.g., diet pills and weight-loss surgery), their opponents frame obesity as an urgent health crisis. Instances in which movements and counter-movements put forth different ways of framing a situation are referred to by social movement scholars as “counter framing” (Benford 1987). As Benford and Hunt (1994) have observed, opponents’ counterframes often result in reframing activity by the movement. These “framing contests” (Ryan 1991) can be observed in contemporary U.S. abortion debates. Supporters of the pro-choice movement have framed abortion in terms of women’s right to choose if and when they want to reproduce. In contrast, the anti-abortion movement has framed abortion as murder of unborn babies (Luker 1984).

2.2.2 Cultural Context

Given that a frame's effectiveness is tied to its cultural resonance, it makes sense that changes in culture will produce changes in a frame's resonance. The importance of a frame's cultural resonance has been confirmed by studies on a wide range of social movements (see Babb 1996; Jasper & Poulsen 1995; Snow & Benford 1988; Zuo & Benford 1995), including the contemporary white supremacist movement¹¹ (Berbrier 1998, 2000), and post-9/11 U.S. peace movement (Maney, Woehrle, & Coy 2005). White's (1999) participant observation of the contemporary Black feminist movement's efforts to challenge sexist and racist myths surrounding rape and transform the public's view of the seriousness of rape illustrates how structural and cultural factors influence movement frames. In order to counter dominant cultural misconceptions about rape as something that "only some unlucky women fall victim" (Wriggins 1983:140), activists drew on "FBI statistics and social science research in an attempt to lend 'empirical credibility' to frame transformation efforts" (White 1999:86). By framing the issue of rape as a pervasive and well-documented issue, activists provided a compelling counter diagnosis of the problem of sexual assault – one that directly challenged the false beliefs held by most Americans during the early 1990s.

Swart's (1995:466) reconceptualization of "master frames" as "general symbolic frames that are culturally resonant to their historical milieux" is relevant here. During the 1980s,

¹¹ Contemporary white separatists operate in a much different context than their predecessors. The "crude bigotry centered around a belief system that maintained the racial superiority of whites" that appealed to constituents of the traditional White Movement (Dobratz & Shanks-Meile 1994:8) has all but lost its mobilizing power in contemporary U.S. society where the cultural pluralist master frame is highly valued (Berbrier 1998). That is, diversity is viewed as an asset by members across the political spectrum. Moreover, the notion that a person can take simultaneously pride in her racial or ethnic heritage and pledge allegiance to the U.S. has become increasingly culturally resonant. It is within this context, Berbrier argues, that contemporary white separatists deploy the cultural pluralist master frame and present themselves as a minority group.

antichoice activists operated in a context where the *Enlightenment master frame*¹² was highly valued. That is, science, reason, and individual liberty was viewed as invaluable Americans on the left and right. Therefore, the idea that abortion could be damaging to a woman's health fit squarely within the dominant cultural narrative, especially when the message was based in scientific language. In this context, the antiabortion movement presented itself as "pro-woman, pro-life," and it deployed the Enlightenment master frame in order to garner support from a broader constituency (Rose 2011).

The prolife movement has refrained from taking up frames that are not in line with contemporary American culture. For example, in her 1996 book, political scientist Eileen McDonagh framed the right to abortion as a tort issue. Specifically, she argues that the tort of trespass provides women with the right to eject the fetus, or "intruder" from her body (McDonagh 1996:13). Regardless of the legal strength of the tort frame, it was not in line with the culturally embedded narrative of pregnancy as a happy and joyous time. As such, McDonagh's tort frame was unlikely to attract new members from more mainstream sympathizers. To understand why shifts in news media coverage may explain variation in legal frames, we must first examine their relationship more broadly. At best, the relationship between the news media and social movements is transactional; social movements provide news media with content for their viewers, and the news media provide movements with a platform to convey their message to a broad audience that includes members of the general public and elites¹³ (Seale

¹² For Rose (2011:7), "Enlightenment master frame is understood as that eighteenth century Western philosophical tradition of disestablishment of church and state and reliance on self-governance through individual rationality that provided the bedrock of American founding documents."

¹³ Empirical research demonstrates that public perceptions and attitudes towards groups significantly shape their opinions about policy issues (Kinder & Sanders 1996; Nelson & Kinder 1996; Peffley et al. 1997; Winter 2008) and that public support is an important determinant of the passage of public policy (Jacobs & Shapiro 2000; Page & Shapiro 1983). However, research by Gollust and Lantz (2009) on the effects of news media coverage on

2003; Callaghan & Schnell 2001; Page & Shapiro 2010). Often, however, this relationship is marked by a power imbalance – movements generally depend on news media more than the reverse, and the asymmetrical relationship implies that the more powerful news media can have significant influence over movement behavior (Gamson & Wolfsfeld 1993). I begin by examining the needs of both, and then turn to recent work on pro- and anti-abortion groups’ media strategies to illustrate why news media coverage may influence legal framing innovation.

News media power holders (e.g., owners of newspapers and TV stations) attempt to produce media that serves two important functions: meeting the needs of the average, everyday news consumer, and maintaining the power of the ruling class¹⁴ (Moloch 1979:76). To accomplish the former, news media limit their coverage to stories that they anticipate their audience will find interesting (Gitlin 1980; Moloch 1979; Iyengar 1994). News media accomplish the latter by strategically selecting and framing news stories in ways that uphold, rather than threaten, hegemonic ideology. For example, news coverage of the civil rights movement focused on claims that “progress was being made,” and, when it came to African Americans’ claims of victimization, the news media placed the blame squarely on the victims’ shoulders (Moloch 1979). Student activists involved in the contemporary Black Lives Matter movement received parallel treatment from those who have questioned how children growing up in affluent households could rebel (Klein, Celona & Balsamini 2020).

public support for health policy action suggests that individuals’ interpretation of news messages varies along partisan lines.

¹⁴On this, Moloch (1979:75) provides four reasons to support his claim that the ruling class controls the owners of news media corporations. First, “because the owners of newspapers and of TV and radio stations either are themselves members of this class or aspire to such membership.” The second reason relates to profit - media revenues depend on advertisements and grants from members of this class. The third reason why members of the ruling class control the news media is “because they are the single most important social influence on the national government, which ‘controls,’ through its regulatory agencies, the electronic media, and through the courts, the rights of the print media as well.” Last, the ruling class – through education, religious organizations, films, and voluntary associations – structure the national ideology that socializes news producers and news consumers (Moloch 1979:75).

Scholars have identified a number of reasons why social movements need the news media including boosting morale, neutralizing opponents, recruiting new members, and presenting messages to elites (Molotch 1979; Rohlinger 2002; Gamson & Wolfsfeld 1993; Meyer 1995; Walgrave & Massens 2000). Empirical research also identifies a number of ways that movements strategically frame their message to align with mainstream media (Gamson & Wolfsfeld 1993), corporate elites (Raeburn 2004), or the general public (Rohlinger 2002, 2006).

A small body of work examines the relationship between the news media and the decision making of civil litigants (Robbenolt & Studebaker 2003; Daniels & Martin 2001, 2002, 2004; Kritzer 1998). While there is not much work that examines how the news directly impacts lawyers' decision making, there is a great deal of empirical evidence that demonstrates that the media can bias juror decision making which in turn shapes how lawyers handle cases (see Hans & Dee 1991; Cole & Dioso-Villa 2008). Daniels and Martin (2001) provide a rare examination of how public opinion may influence the work of lawyers. They study the effects of tort reform's public relations campaigns on litigation practices, suggesting that lawyers for plaintiffs and insurance companies have changed the way that they handle cases as a result of changes in public attitudes regarding civil litigation¹⁵. According to the authors, most lawyers believe that jurors have become more reluctant to award punitive damages in civil cases because of the aggressive media campaigns funded by insurance companies, interest groups, and advocacy organizations. In reaction to what is seen as an altered and more hostile

¹⁵ As evidenced by public polling data and shifts in media discourse surrounding civil litigation (Daniels & Martin 2001, 2002, 2004).

environment generally, lawyers have adjusted their practices – including downsizing and screening cases and clients more carefully (Daniels & Martin 2001).

While there is some evidence in the literature that public sentiment may influence the work of lawyers, no scholarship has examined how broader public culture may shape legal brief writing. For antichoice activists, media coverage was a critical resource needed to shape abortion policy at the state and federal level. By the 1980s, it was clear to antichoice leaders that no amount of letter writing or lobbying impacted congressional leaders, and the media were not covering antiabortion picketing. As such, the movement began to turn its attention toward increasingly more extreme forms of direct action¹⁶.

Abortion protesters were keenly aware of public perception, and they strategically framed their protest messages in ways they believed would generate sympathy from the public and government officials. For instance, protesters used frame extension¹⁷ to draw analogies between the antichoice movement and left-leaning movements including the Civil Rights, anti-war, and animal rights movements (Haugeberg 2017). It may be, then, that similar dynamics appear in the legal briefs. For example, when public opinion about abortion clinic protesters is relatively more positive, lawyers may develop legal arguments that emphasize the discriminatory nature of state laws that restrict protest behaviors, and they might be less likely to use frames that emphasize the

¹⁶Operation Rescue founder, Randall Terry, explained on the 700 Club, “[t]here’s a lot of politicians who don’t read their mail, but they do read the New York Times. They do watch the news” (Scanlan 1988). Similarly, a spokeswoman for protesters outside of a St. Petersburg clinic explained to reporters that the demonstrations were happening because letters and phone calls to legislators over the past 16 years had not succeeded (Brown & Allen 1989).

¹⁷ Another notable example of frame extension by antichoice activists is the deployment of the fetal frame. Framing abortion as genocide has become an integral part of the movement’s discourse, and its power rests in its cultural salience that spans across generations – from slavery to the Holocaust – anti-abortion activists strategically deploy the fetal-centered genocide frame to tap into individuals’ moral concerns (see Haugeberg 2017; Fried 2013). Similarly, progressive Catholics drew from earlier women’s reform movements including suffrage and temperance to frame abortion as a moral issue that cut through partisan politics. Juli Loasch, a prominent anti-abortion activist and member of Prolifers for Survival, stated, “I think the real power is in making abortion and a nuclear holocaust not merely illegal but unthinkable” (Haugeberg 2017:63).

need to protect the unborn. Therefore, I hypothesize that movement lawyers on both sides of the cases in my study are more likely to put forth different legal frames when the cultural context is more friendly towards abortion clinic protests or abortion.

The antiabortion protesters were also cognizant of how cultural understandings of gender shaped news coverage as well as public and government response to antiabortion protests. Aware that the public would be much more critical if they thought most rescuers were men trying to take rights away from women, antiabortion activists framed men's protest activities as taking "responsibility for babies and taking risks to protect babies" (Risen & Thomas 1998:194)¹⁸.

Antichoice lawyers were including framing innovations in their briefs to tap into broader cultural themes in the public and news media regarding other movements and protecting babies. For example, in 1987, antiabortion activist Karen Grumke placed an advertisement in a local newspaper in Jamestown, North Dakota, in which she compared abortion services to Nazi's systematic annihilation of Jews during the Holocaust: "Much like in the days of the holocaust [when] undesirable Jews were incinerated under Nazi Rule, so are our 'unwanted' babies who have been dismembered by a machine, burned in the ... incinerator and their blood washed into the city sewer!" Similarly, in *Schenck v. Prochoice Network* (1997), lawyers for antiabortion protesters compared legalized

¹⁸ Placing women rescuers at the forefront of the demonstrations provided protesters with less government oversight. Not only was the federal government apathetic to abortion rights during this period, but local police were hesitant to handcuff and arrest hundreds of women abortion protesters. Many but not all of the women were white, and allegations of police brutality against women protesters angered the pro-life community (Andrews 1989:114). Moreover, even when they were arrested, women protesters faced negligible consequences in court; when they were charged and convicted, black women protesters received harsher sentences than white women (Smith 2004).

abortion, or “the mass killing of children,” to a hypothetical situation in which the Supreme Court sanctioned the “mass murder of Jews”¹⁹²⁰.

The use of newspaper data to study the relationship between media and movement activity has a long history in social movement research²¹ (Koopmans 2004; Oliver & Meyers 1999; McAdam 1983). While many scholars have stressed the importance of the media in shaping public opinion about movements (Gamson & Modigliani 1989; Gamson & Wolfsfeld 1993; Molotch 1979; Cole 2010; Gamson 1995; Kolker 2004; Carvalho & Burgess 2005; Hewitt 2000; Wange & Soule 2016; Ellingson 1995; Hartmann 1979), I consider the media’s role in shaping legal efforts before the Supreme Court.

2.2.3 Legal Context

Just as changes in political and cultural contexts can act as catalysts for changes in a movement’s tactics, changes in the legal context can produce changes in movement framing. For example, in his development of the legal framing perspective, Pedriana (2006) demonstrates how Title VII provided the women’s movement with the means to shift from the protection frame, which emphasized protections exclusively for women, to the equal treatment frame, which argued for an equal standard for women and men. In the following section, I review literature

¹⁹ In *NOW v. Scheidler* (1994), antichoice protesters framed the murder of abortion provider, Dr. David Gunn, as a noble attempt to bring about social change by referencing the Court’s decision in a civil rights case brought by the NAACP: “[I]f respondents must take responsibility, based on their pro-life stance, for the death of Dr. David Gunn, then Charles Evers who participated in the civil rights boycott that this Court reviewed in *NAACP v. Claiborne Hardware Co.*, 458 U.S. 886 (1982), was responsible for the shots that were fired at houses, the brick that was thrown through the windshield, the slashed tires, and the threatening phone call... Neither vicarious attribution of responsibility is appropriate.”

²⁰ In their party brief in *Bray v. Alexandra* (1993), protesters attempted to discredit opponent claims of sex discrimination by strategically framing the behaviors of Operation Rescue founder, Terry Randall, as paternal and moralistic “... by documenting that his religious beliefs forbid him to condemn others, including ‘abortion-bound women;’ that he has a loving relationship with his wife and daughters; that he works along with women to help other women who face crisis pregnancies; and that ‘rescues’ aim at stopping the business of abortion itself by preventing entry of anyone into the abortion facility” (p. 14).

²¹ See Earl et al. (2004) for a review of the use of newspaper data in social movement research.

that empirically demonstrates how changes in the legal context, specifically important changes in the law and the composition of the Court, affect framing innovation.

2.2.3.1 Prior Law and Precedent

Research shows that prior law and precedent influence the types of legal frames that can be made (Andersen 2004). We can see this as well in the abortion protest cases. In the cases²² brought by NOW against Joseph Scheidler and other protest organizations for violations under RICO, both sides had to contend with whether or not RICO required that an organization must be acting in pursuit of an economic motive in order to be defined as a racketeering enterprise.

Legal precedent and legal norms also shape subsequent legal mobilization efforts (Andersen 2004; Zemans 1983). In *Roe v. Wade* (1973), the Court accepted the individual privacy framing and most abortion litigation since *Roe* has been concerned with the state's ability to limit the right to privacy. Had the Supreme Court framed its decision differently²³, abortion litigation would have been altered (Andersen 2004). Work by Vanhala (2011) and Meyer and Boutcher (2007) parallel this assertion. In her comparison of legal frames used by disability rights activism in Canada and the United Kingdom, Vanhala (2011) attributes the emergence of different legal frames regarding reasonable accommodation to differences in Court understandings of accommodation²⁴. Similarly, Meyer and Boutcher (2007) contend that the

²² 510 U. S. 249 (1994), 537 U. S. 393 (2003), 547 U. S. 9 (2006)

²³ Koppelman (1990), for example, argues that the Court erred in its decision to frame *Roe* in terms of the right to privacy, and instead, should have anchored the right to abortion on the equal protection clause of the fourteenth amendment.

²⁴ In Canada, reasonable accommodation was developed around the basis of religion while in the UK it was developed in case law on disability and later applied to discrimination based on pregnancy and race. As a result, argues Vanhala (2011), disability rights activists in Canada framed reasonable accommodation in terms of the experiences of marginalized groups while activists in the UK emphasized the distinction between disability discrimination and other forms of discrimination.

Supreme Court’s decision in *Brown v. Board of Education* (1954) encouraged subsequent civil rights litigants to borrow legal frames from the civil rights movement.

In short, prior research suggests that activists may adjust their litigation strategies – particularly their legal frames – in response to important Court decisions. Turning to the abortion clinic protest cases in my dissertation research, the Supreme Court’s landmark ruling²⁵ on “buffer zones” that prohibited protest demonstrations within fifteen feet of abortion clinic entrances represented a significant change in the law regarding abortion protests. Therefore, I hypothesize that legal framing innovation is more likely to occur in cases involving disputes over buffer-zone laws when the brief’s supporting party and type are held constant.

2.2.3.2 Court Composition

In addition to access to political institutions, scholars of political opportunity structure have paid attention to what Doug McAdam refers to as “the stability or instability of that broad set of elite alignments that typically undergird a polity” (1996:27). Several scholars have pointed out that the instability of political alignments, in particular, create the opportunity for successful mobilization (e.g., Tarrow 1994; Kriesi 1995). A similar dynamic may occur in the legal context, concerning the makeup of the Supreme Court. Much of the work that examines the effects of the court composition – that is, the ideology of the members of the judiciary – have used it to explain other movement outcomes such as the decision to litigate (Perry 1991; Andersen 2004) and litigation strategies and tactics (De Fazio 2012). When it comes to the effects of judicial attitudes on legal framing specifically, McCammon and Beeson-Lynch (2021) found that prochoice cause lawyers engage in framing innovation when facing a more hostile judiciary. As such, I

²⁵ *Schenck v. Pro-Choice Network of Western N.Y.*, 519 U.S. 357 (1997)

hypothesize that legal framing innovation is more likely to occur in legal contexts that are more hostile towards feminists.

Prior research strongly suggests that the perspectives of individual justices influence the trajectory of legal mobilization, and activists, usually aware of judges' ideologies, plan their legal framing strategies accordingly (Andersen 2004; McCammon & Beeson-Lynch, 2020). There is a great deal of research that indicates that judicial decisions/trial outcomes tend to reflect ideological preferences of judges (Segal & Cover 1989; Segal 1997; Segal & Spaeth 1993; Segal, Epstein, Cameron, & Spaeth 1995; Gely & Spiller 1990; Spiller & Gely 1992; Epstein 1995; de Figueiredo & Tiller 1996; McCubbins, Noll, & Weingast 1989, 1995; Cross & Tiller 1998), and studies commonly use the Martin-Quinn score as a measure of judicial ideology.

2.2.4 Internal Movement Characteristics

Research also suggests that social movement tactical innovation is shaped by internal movement characteristics. In particular, McCammon (2012:7) argues particular characteristics of movement activists – specifically, the extent to which movement actors are “tactically flexible” – determines the extent to which they are able to strategically adapt to external changes. On the other hand, other researchers suggest that activists transform legal strategies to adapt to changes in the movement's broader purpose (Eskridge 2001; Marshall 2006). In this discussion I will consider various internal movement characteristics that may influence the prochoice and antiabortion legal activists' framing innovations.

There is an array of movement organizational features that may influence legal framing innovation. By their very definition, framing processes involve the use of shared meanings and

definitions to invoke claims on behalf of a movement's members (Snow & Benford 1988). To that end, scholars have empirically demonstrated that movement and organizational identity²⁶ influence framing strategies (Evans 1997; Steinberg 1999). For example, Rohlinger (2002) found that while NOW altered its framing strategies in response to changes in the broader political and cultural context, antichoice SMO, Concerned Women for America (CWA) did not. Her interviews with SMO representatives reveal that organizational identity likely plays a role in explaining the differences in framing strategies. According to a CWA representative, its members viewed abortion as a moral absolute that did not change over time (Rohlinger 2002:492).

Scholars that study interest group litigation have examined a range of organizational factors including the available legal organizational resources and group ideology. In terms of the former, there is a great deal of research that explores the role of resources as an important factor in shaping a group's litigation strategy and decision-making (Wasby 1995; Songer, Kuersten & Kaheny 2000; Epp 1998)²⁷. In regard to group ideology, several researchers empirically demonstrate that organizational identity and group ideology shape litigation strategy (Vanhala 2009; Levitsky 2007; Krishnan & den Dulk 2002). Both areas of research have important implications for the effects of internal movement characteristics on legal framing innovation in abortion clinic protest cases. The prochoice movement has a long history of engaging in legal advocacy, and their experience may enable them to absorb immediate losses relatively more easily than their opponents. This experience may also help them gather intelligence and establish

²⁶ McCammon (2012:48) defines organizational identity as a "group's core political values and assumptions."

²⁷ External groups influence judicial decisions, but "only where the support structure is sufficiently strong to generate continued litigation... [because it can] reassure judges that if they do support rights claims, they will not be bereft of allies in the event of political attack" (Epp 1998:201).

long-term alliances with other organizations (see Galanter 1974; McCann 1994; Handler 1978). On the other hand, some of the most prominent religious groups in the abortion protest coalition have only recently begun to engage in legal advocacy (Krishnan & den Dulk 2002; Hoover & den Dulk 2004; Heinz et al. 2003). Moreover, movement ideology provides its supporters with a framework for how to identify, understand, and combat a particular issue or set of issues by linking a movement's identity with the frames that its members adopt (Hunt, Benford, & Snow 1994; Klandermans 1997). By their very definition, framing processes involve the use of shared meanings and definitions to invoke claims on behalf of a movement's members (Snow & Benford 1988). To that end, scholars have empirically demonstrated that movement and organizational identity²⁸ influence framing strategies (Evans 1997; Steinberg 1999; Esacove 2004).

For example, Rohlinger (2002) found in her interview data with Concerned Women for American (CWA) representatives that organizational identity likely plays a role in explaining framing strategies. According to a CWA representative, its members viewed abortion as a moral absolute that did not change over time and the group then consistently framed the issue as the murder of unborn babies, despite changes in the political context and its opponents tactics (Rohlinger 2002). On the other hand, Rohlinger (2002) found that the National Organization for Women (NOW), a public policy group that supports abortion access, typically framed abortion in terms of protecting women's rights which was in line its organizational identity. As such, I

²⁸ McCammon (2012:48) defines organizational identity as a "group's core political values and assumptions."

hypothesize that legal framing innovation is more likely to occur in feminist- and opponent-supporting briefs when there is an increased presence of SMOs committed to a specific cause²⁹.

²⁹ For example, if there was an increase in the proportion of SMOs whose broader ideological- and organizational-agendas include a commitment to protecting the lives of the unborn, then I would expect an increase in the use of legal frames that emphasize the need to restrict abortion in order to protect fetal life.

CHAPTER 3

Data and Methods

In this chapter I discuss the data and variables that I use to study legal framing in amicus and party briefs associated with nine U.S. Supreme Court cases related to abortion clinic protests. The nine abortion protest cases I consider are *Frisby v. Schultz* (1988), *Bray v. Alexandria Women's Health Clinic* (1993), *NOW v. Scheidler* (1994), *Madsen v. Women's Health Center* (1994), *Schenck v. Pro-Choice Network* (1997), *Hill v. Colorado* (2000), *Scheidler v. NOW* (2003), *Scheidler v. NOW* (2006), and *McCullen v. Coakley* (2014). I begin this chapter by discussing the data I use to construct the dependent variable in my regression analysis (Chapter six). Then I discuss the data and variables that I use to examine legal framing variation in Chapters five and six of my dissertation.

3.1 Dependent Variable: Framing Innovation

In Chapters four, five, and six, I use text mining, machine learning, and multilevel logistic regression to study legal framing in amicus and party briefs submitted in nine Supreme Court cases related to abortion clinic protests. The amicus and party brief data come from a larger project that I worked on under the direction of Professor Holly McCammon and with research assistants in addition to myself. The data were gathered using multiple sources: LexisNexis Academic/Nexis Uni, Westlaw, and United States Reports³⁰. I situate the framing activity in the broader political, cultural, and legal contexts in Chapters five and six to examine how the external environment influences legal framing strategy. In the regression portion of my

³⁰ The last of these is the official case reports of Court decisions.

analysis (Chapter six), I also consider how internal movement characteristics affect legal framing.

The legal brief data include a total of 182, party briefs, including reply- and supplemental-briefs, submitted by the parties, and amicus briefs filed in the nine abortion clinic protest cases. Party briefs are written documents in which the attorneys present their arguments to the Court. Party reply briefs provide litigants with an opportunity to refute their opponents' arguments and persuade the Court to decide in their favor (Vail 2000; Wolfman 2023). Parties to the case may also file a supplemental brief that calls attention to new cases or other relevant matter while a petition for the Court to hear the case (i.e., writ of certiorari) is pending³¹. Amicus curiae, or "friend of the court," briefs are briefs submitted to the Court by individuals and/or groups that are not directly involved with the legal case (Collins 2018). These briefs allow amici to present new or different legal positions and perspectives to the Court (Banner 2003; Harris 2000).

Figure 1 illustrates the distribution of the number of briefs by case (in chronological order, by the Supreme Court decision date), brief type (party, party reply and supplemental arguments, or amicus brief), and supporting party (either feminist or opponent). Of the 71 legal briefs that support the feminists in the cases, nine are party briefs, one is a party reply brief, and 61 are amicus briefs. There are 111 briefs that support the opponents (i.e., abortion clinic protesters), and of those 111, 12 are party briefs³², 15 of the briefs are party replies and supplemental arguments, and 84 are amicus briefs. Over time, the total number of feminist- and

³¹ Per U.S. Supreme Court Rule 15.

³² In *Scheidler v. NOW* (2003) and *Scheidler v. NOW* (2006), the petitioners, Joseph Scheidler and the Pro-Life Action League (PLAN), wrote separate party briefs.

opponent-supporting amicus briefs has increased, and in most of the cases, the total number of opponent briefs, including both party and amicus briefs, outnumbers the feminist briefs.

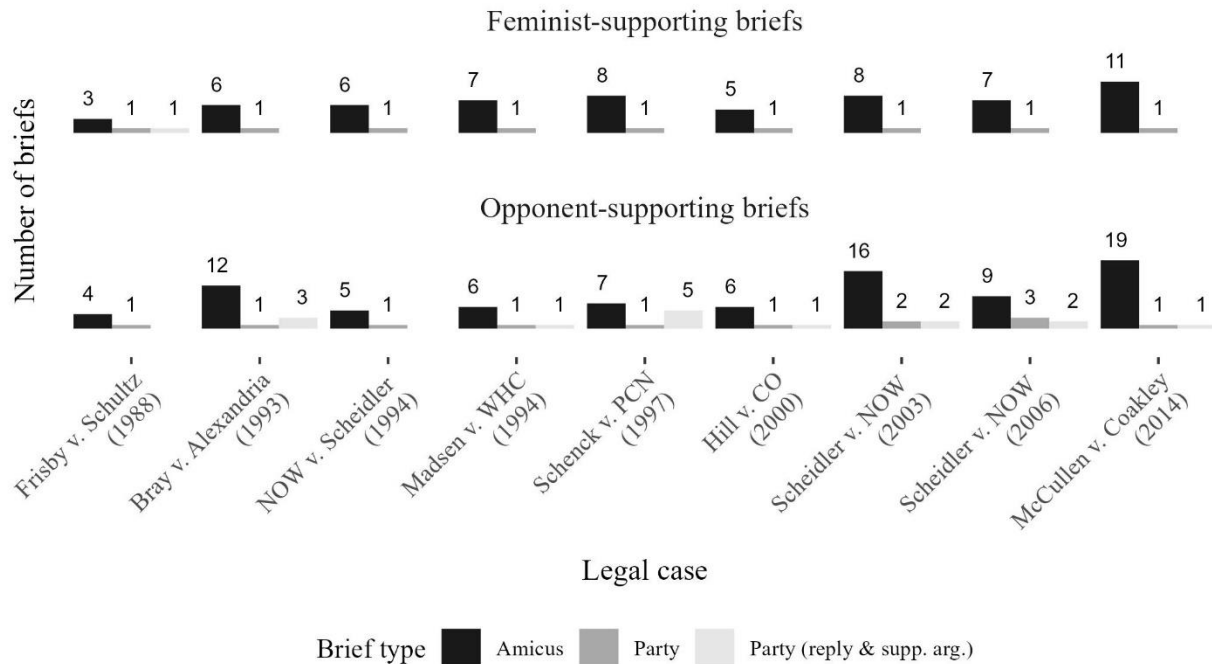


Figure 1 Number of legal briefs by brief type, supporting party, and legal case

3.1.1 Protect Life Legal Frame

In order to examine legal framing, I focus on a how parties on both sides of the cases emphasize the need to protect the lives of particular groups of citizens, or what I refer to as “protect life” legal frames. There are two reasons why I focus on the “protect life” frame. First, during my close reading of the briefs, I found that parties and amici on both sides of the cases often referred to the state’s compelling interest in protecting the life of one or more groups in society to further their positions in the abortion clinic protest cases. This is because the cases in

my study deal with questions about First Amendment and Fourteenth protections³³ available to protesters at health clinics providing abortion services³⁴. The U.S. Supreme Court has a longstanding tradition of protecting citizen’s right to free speech under the First Amendment (Gora 2016). For the government to curb expression, it must convince the Court that restricting speech is the least drastic means of achieving its compelling interest in eliminating the threat of serious harm (e.g., the threat to public safety). In order to accomplish this, the government must persuade the Court of each: (1) the compelling nature of the government’s interest; (2) the absence of a less restrictive means to protect its interest; (3) the seriousness of the harm; (4) the inevitability of the harm; (5) a clear causal link between the speech and the harm; (6) the restriction’s effectiveness in achieving the government’s interest in eliminating the harm.

The second reason I chose to focus my attention on the “protect life” frame is because I noticed that framing innovation appears in briefs supporting both sides of the cases when this argument is invoked, and in Chapters four and five, I use text mining and machine learning to identify instances of “protect life” framing innovation.

In order to identify legal framing innovation in the nine Supreme Court cases in my study, I began with close and multiple readings of all party and amicus briefs to generate a list of words and phrases associated with the “protect life” frame in Atlas.ti. My coding scheme was iteratively developed in several stages using inductive reasoning and open coding at the sentence level (Ferree et al. 2002; Nelson et al. 2018).

³³ *Bray v. Alexandria Women’s Health Clinic* (1993) does not deal with the First Amendment, but rather it concerns questions regarding gender discrimination and the application of the Fourteenth Amendment (see Banks 1994; Campbell 1993; Fischer 1993).

³⁴ *Frisby v. Shultz* is the only exception to this, and it deals with protests outside the home of a local doctor who performed abortions.

I chose to analyze the legal briefs at the sentence level for three reasons. First, the machine learning model that I use to identify legal frames in Chapter five can only handle texts that are less than or equal to 512 characters, and the average length of a legal brief in my dataset is 38,019 characters whereas the average sentence length is 155 characters. Second, classifying sentences rather than briefs increased the size of my text classification dataset from 182 legal briefs to 1,502 sentences in the text mining (Chapter four) and machine learning (Chapter five) portions of my analyses, and it is well-documented that enlarging the sample size can help reduce over-fitting (see Turton et al. 2020 and Zhao et al. 2022).

My coding scheme also allowed me to distinguish between the different ways that litigants use the “protect life” frame. During my close reading and open coding of the legal briefs in Atlas.ti, I noticed that the brief authors pointed to several distinct groups that needed protection. In order to capture these differences in Atlas.ti, I categorized sentences based on whom the sentence claimed needed protection. After several iterations of this process, I found that most sentences fell into one or more of the following five categories: protecting the life of (1) women; (2) unborn; (3) clinic workers; (4) patients; and (5) public. If a sentence did not receive any of these codes, it received the code, “no frame.” To receive any of the “protect life” codes, a sentence must explicitly discuss the need to defend the physical health and/or safety of one of the five groups. That is, if a sentence discusses protecting rights or access to clinics then it would not receive a “protect life” code. Each sentence could receive either a single, “no frame,” code or up to five protecting life codes, although in practice, the maximum number of codes a sentence received was three.

In order to construct this measure, I manually coded 1,105 (2.5%) of the 44,711 sentences in my legal brief dataset (Chapter four), and I used a masked language model, a process that I

discuss in more detail in Chapter five, to classify the remaining legal brief sentences. After classifying the sentences, I built a multilevel regression model in order to study the impact of the legal, political, cultural, and internal movement contexts on the use of the “protect life” frame.

In Chapter six, I use multilevel logistic regression to predict legal framing innovation, and I use the appearance of the “protect the lives of patients” frame as the dependent variable in my model. The binary measure is equal to 1 if the frame is the most common “protect life” frame (i.e., primary frame) in the brief, and 0 otherwise. As such, the unit of analysis in Chapter six is the legal brief, and there are 182 amicus and party briefs filed in the nine abortion clinic protest cases.

I chose to use incidents of the “protect the lives of patients” frame as a measure of legal framing innovation in my regression analyses because it allows me to explore what might cause a particular legal frame to be used. That is, by predicting if the “protect the lives of patients” will appear as the most common “protect life” frame in a brief, I can empirically study which external- and internal-movement factors constrain or facilitate instances of a particular legal frame.

However, while this measure can aid in understanding what contributes to use of the “protect the lives of patients” frame, this measure does not allow us to see the first use of the frame. That is, because this is a cross-sectional measure, a measure that indicates use of the frame in different legal briefs, it does not tell us what causes the frame to be used for the first time³⁵. Thus, nor can this measure tell us what causes variation in movement framing strategy. As such, it leaves open the question of what causes legal framing innovation to occur. As several

³⁵ To explore influences on changes over time (i.e., framing innovation), future work could consider building a longitudinal measure.

researchers have noted (Johnston 1995; Steinberg 1998), it is still unclear how “frames get made” (Hart 1996:95); I argue that my dependent variable and the results in Chapter six help to address this gap in the literature by identifying important internal- and external-movement factors that influence movement framing strategy.

3.2 Independent Variables and Measures

In this section, I describe the data and variables that I use to situate the findings of the machine learning model in Chapter five. These are also the variables that I use in my regression analysis (Chapter six) to examine how political, cultural, legal, and internal movement contexts may influence legal framing in amicus and party briefs in all nine US Supreme Court abortion clinic protest cases. **Table 1** summarizes the variables (Column two) according to their context (Column one). In addition to the broader contextual- and internal-movement factors, I also include the brief’s supporting party (feminist or opponent) and brief type (party or amicus) as independent measures in the multilevel logistic regression models in Chapter six.

| Context | Variable |
|------------------|---|
| Political | Proportion of Democrats in Senate |
| | Proportion of Democrats in House |
| | Proportion of states with Democrat majority in both state-level chambers |
| | Proportion of states with Democrat majority in at least one state-level chamber |
| Cultural | Average sentiment of conservative newspapers |
| | Average sentiment of liberal newspapers |
| | Average sentiment of abortion newspaper articles |
| | Average sentiment of abortion protest newspaper articles |
| Legal | Average Martin-Quinn score |
| | Direction of lower court ruling (1 = favors feminists; 0 = favors protesters) |
| | Case type (1 = buffer-zone case; 0 = not buffer-zone case) |
| Internal | Proportion of medical authors |
| | Proportion of right social movement authors |
| | Proportion of left social movement authors |
| | Proportion of government authors |
| | Proportion of legal authors |
| | Proportion of religious authors |
| | Proportion of labor union authors |
| Other | Supporting party (0 = opponents, 1 = feminists) |
| | Brief type (0 = party brief ³⁶ ; 1 = amicus brief) |

Table 1 Independent variables

³⁶ This includes party briefs, party reply briefs, and supplemental argument briefs submitted by parties on either side of the case.

3.2.1 Political Context

I hypothesize that legal framing innovation is more likely to occur in conservative political contexts that are more hostile to feminists when controlling for the brief's supporting party and type (either amicus or party). In order to test this hypothesis, I include four measures to explore the role of the political context in influencing legal framing. The first two are measures of the percent of Democrats in the House of Representatives and the Senate in the year that the Court decides the case³⁷. The third measure is the proportion of states with a Democrat majority in both state-level congressional chambers, and the fourth measure is the proportion of states³⁸ with a Democrat majority in at least one state-level congressional chamber.

Figure 2 illustrates the political context measures over time by legal case. Broadly, the political context has become more conservative and, as such, become more hostile towards pro-choice legal arguments. Over time, the Democrats have lost majority control over the House and Senate, although they did regain control of the Senate when the Court heard *McCullen v. Coakley* (2014). However, the proportion of states with a Democrat majority in at least one state-level chamber has decreased over time; again, with a slight increase during the time period between when the Court decided *Scheidler v. NOW* (2006) and *McCullen*.

³⁷ The House and Senate both maintain public statistics of party divisions immediately following national elections (House: <https://history.house.gov/Institution/Party-Divisions/Party-Divisions/> and Senate: <https://www.senate.gov/history/partydiv.htm>)

³⁸ Nebraska is omitted because it is a non-partisan, unicameral legislature.

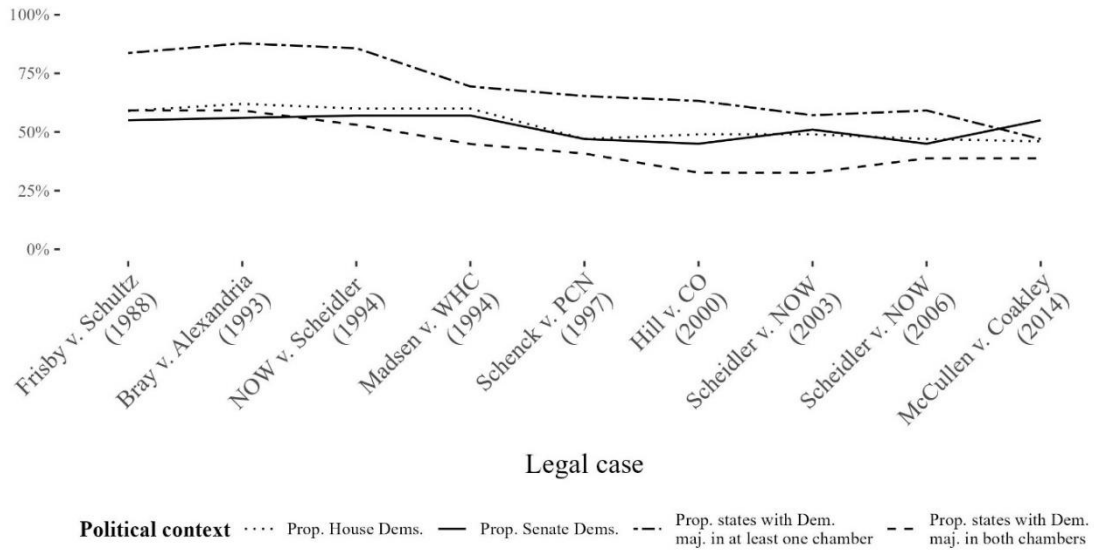


Figure 2 Political context: Tracing measures by legal case

3.2.2 Cultural Context

Public support for abortion has remained relatively stable since the Court ruled on *Roe v. Wade* (1973), and Democrats and those who lean toward the Democratic Party tend to think that abortion should be legal and accessible to everyone. On the other hand, Republicans and those who lean toward the Republican Party tend to favor policies that restrict people’s access to abortion (Pew Research Center 2022); often these restrictions are upheld on the basis of protecting women’s health³⁹.

Therefore, I hypothesize that feminist and opponent lawyers are more likely to put forth legal arguments that emphasize the health and safety of patients when conservative attitudes toward abortion and abortion protests are more negative. Conversely, when liberal attitudes toward abortion and abortion protests are more positive, I expect lawyers on both sides of the

³⁹ See Friedman (2013:48) for further discussion on how the Supreme Court’s jurisprudence since *Roe v. Wade* (1973) has facilitated the “abuse of the argument that the law is protecting women’s health as a pretense to limit access to abortion.”

cases in my study to develop legal arguments that highlight patient health and safety. I also hypothesize that in cultural contexts that are less hostile towards abortion clinic protesters and more hostile towards abortion, legal framing innovation is more likely to occur when controlling for the brief's supporting party and type. In order to test these hypotheses, I constructed a dataset of news coverage of abortion protest events and legal cases published by national newspapers provide both political perspectives (Chapter four). Much of the news coverage of the abortion legal cases (but not yet the protest events) was already collected as part of the larger project with Professor McCammon.

I used Lexis-Nexis/Nexis Uni and ProQuest to locate 696 newspaper articles reporting on abortion and abortion clinic protests for the time period of my analysis. I searched for articles in four conservative newspapers and one liberal newspaper; I searched for articles in four conservative newspapers so that the sample size of conservative articles would be closer to the large number of articles published by *The New York Times*. These news sources generally provide different political views on the protests and the abortion cases (with *The New York Times* providing a more liberal perspective and the remaining a more conservation perspective). All of the newspapers have national circulations and can be said to be national newspapers for the United States.

I manually read through newspaper articles and categorized each into one of two mutually exclusive categories: articles about (a) abortion or (b) anti-abortion protests. Abortion articles are articles that explicitly discuss the topic of abortion, but do not mention abortion clinic protests. Articles that discuss abortion clinic protests can also discuss abortion, but they are categorized as abortion protest articles.

Table 2 presents the descriptive results tallying the number of abortion and abortion protest newspaper articles that I use to construct the cultural context measures in Chapter four. Of the 696 newspaper articles, 166 were published by one of the four politically conservative newspapers (*Christian Newswire*, *National Review*, *The Christian Science Monitor*, or *The Wall Street Journal*), and 530 articles were published by *The New York Times*. Moreover, 143 of the 696 articles covered abortion, while 533 covered antiabortion protests.

| Newspaper | Topic | | Total |
|---------------------------------------|------------|------------------|------------|
| | Abortion | Abortion protest | |
| Conservative | 33 | 133 | 166 |
| <i>Christian Newswire</i> | 2 | 20 | 22 |
| <i>National Review</i> | 13 | 7 | 20 |
| <i>The Christian Science Monitor</i> | 11 | 72 | 83 |
| <i>The Wall Street Journal</i> | 7 | 34 | 41 |
| Liberal (<i>The New York Times</i>) | 110 | 420 | 530 |
| Total | 143 | 553 | 696 |

Table 2 Cultural context: Number of newspaper articles by political orientation and topic

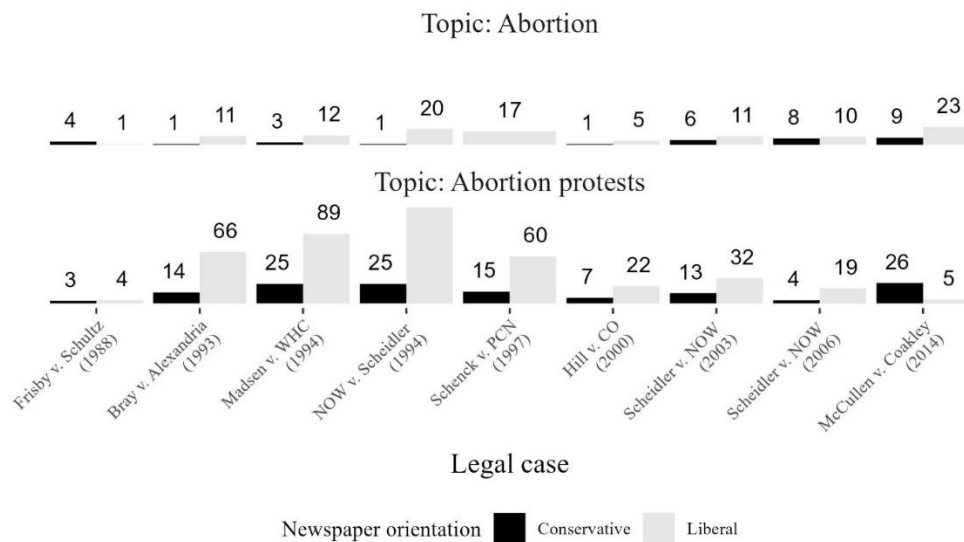


Figure 3 Cultural context: Number of newspaper articles by political orientation, article topic, and associated legal case

Figure 3 shows the distribution of news articles by legal case, newspaper orientation, and article topic. Overall, my sample includes more articles that cover abortion protests compared to abortion. In three of the cases in my study, *Bray v. Alexandria* (1993), *NOW v. Scheidler* (1994),

and *Hill v. Colorado* (2000), I was only able to find one article published by a conservative newspaper that discussed abortion⁴⁰.

After collecting the articles, I measured the sentiment of the newspaper articles to assess the type of coverage that abortion and abortion protesters received. I describe how I measured newspaper sentiment in greater detail in Chapter four. After measuring the newspaper sentiment, I created four numeric cultural context measures. The first and second measures are the average sentiment⁴¹ of conservative and liberal article separately. The third and fourth measures are the average sentiment of all abortion and abortion protest articles.

3.2.3 Legal Context

I hypothesize that legal framing innovation is more likely to occur in cases involving disputes over buffer-zone laws when the brief's supporting party and type are held constant. I also hypothesize that legal framing innovation is more likely to occur in legal contexts that are more hostile towards feminists. In order to test these hypotheses, I use three measures to assess the impact of the legal context on legal framing: (a) average Martin-Quinn score and (b) the disposition of the lower court, and (c) whether or not the case is a "buffer-zone" case. I used the Martin-Quinn scores (Martin & Quinn 2002) to measure the ideological orientation of each Supreme Court Justice. The commonly used scores are based on each Justice's voting record, and several researchers have tested and confirmed the score's validity (Sprunk & Kovac 2019; Jacobi & Sag 2009). Justices with higher Martin-Quinn scores are more conservative, and

⁴⁰ I discuss the implications of the lack of newspaper data when I discuss the sentiment measures in Chapter four.

⁴¹ As I discuss in greater detail in the methods section of my paper, article sentiment is measured at the sentence level, and the sentiment scores were aggregated to the case level. That is, for a given case and newspaper political orientation, the average sentiment score refers to the mean sentiment score of all of the news article sentences for that particular case and associated articles.

Justices with lower scores are more liberal. Because the scores are based on judicial voting behavior over time, a Justice’s Martin-Quinn score can vary across cases if the Justice’s voting behavior changes. **Figure 4** traces the average Martin-Quinn score across the legal cases in my study, and it shows that the Court has become more ideologically liberal over time as the average score becomes increasingly more negative.

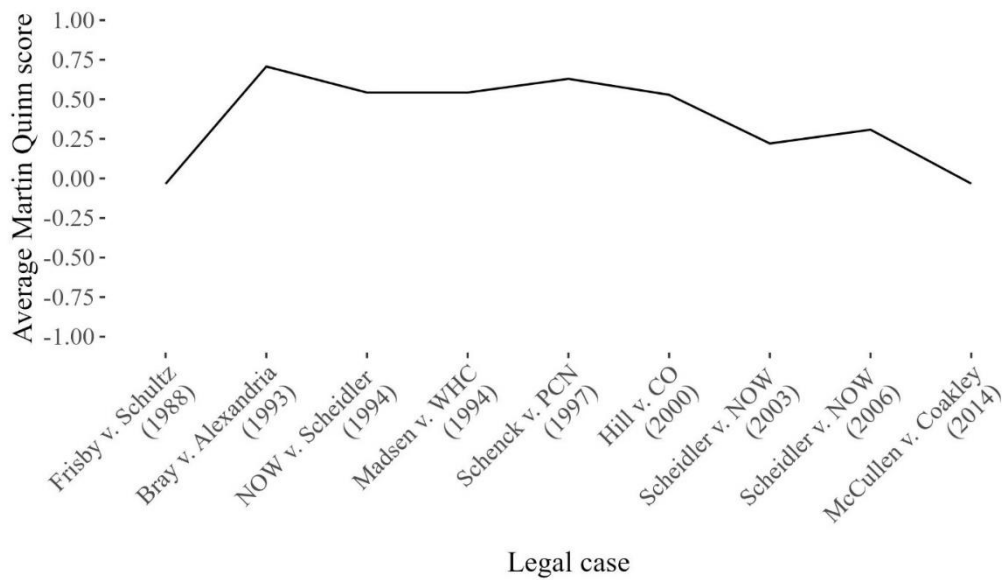


Figure 4 Legal context: Average Martin-Quinn score of Justices by legal case

I also include a measure of the impact of the lower court decision on legal framing. In order to accomplish this, I used case-level data from the Supreme Court Decision Database⁴² to measure the disposition of the lower court decision (either liberal or conservative). The final legal measure that I use is whether or not the legal case

⁴² Source: http://scdb.wustl.edu/_brickFiles/2021_01/SCDB_2021_01_justiceCentered_Citation.csv.zip

involves disputes over a buffer-zone⁴³; the measure = 1 if it is a “buffer-zone” case, and 0 otherwise.

3.2.4 Internal Context

The unit of analysis for the external movement factors is the legal case, while the unit of analysis for the internal movement context measures is the legal brief⁴⁴. I drew on a data set of party and amicus brief authors and signatories to assess internal movement characteristics⁴⁵. The data set includes proportions of seven specific types of protest- and feminist-supporting authors on the legal amicus briefs. These include labor unions, left social movements, right social movements, government authors, and medical, religious, and legal groups.

These data will allow me to understand the types of authors that exist in the legal cases and on the amicus and party briefs and test whether or not legal framing innovation is more likely to occur in feminist- and opponent-supporting briefs when there is an increased presence of SMOs committed to a specific cause. For example, the National Organization for Women (NOW), a left social movement, generally files amicus briefs supporting the feminists parties in the legal cases in my study, and it also represented the feminist party in *Bray v. Alexandria* (1993). On the other hand, the American Center for Law and Justice, a politically conservative,

⁴³ The four cases in my study involve disputes over buffer-zone laws are *Madsen v. Women’s Health Center, Inc.*, 512 U. S. 753 (1994), *Schenck v. Pro-Choice Network of Western N. Y.*, 519 U. S. 357 (1997), *Hill v. Colorado*, 530 U. S. 703 (2000), and *McCullen v. Coakley*, 573 U. S. 464 (2014).

⁴⁴ While I do not include a measure for inter-movement conflict in my regression analysis (Chapter six), I do consider its effects in my discussion of the sentence classification results (Chapter five).

⁴⁵ The data originally included measures for amicus brief authors; I manually coded the authors of the party briefs and included these codes in the final dataset that I use to measure internal movement characteristics.

Christian-based legal organization, generally files amicus briefs supporting antiabortion protesters' right to protest; it also represented the opponents in several of the cases⁴⁶ in my study.

Figures 5 and 6 illustrate the proportion of authors in feminist- and opponent-supporting briefs by brief type, either amicus or party briefs⁴⁷.

As **Figure 5** shows, the majority of the feminist amicus authors are associated with left social movements (15%) or are government actors (8%), and none of the amicus authors are associated with right social movements or labor unions. **Figure 5** also reveals that the majority of the authors in feminist party briefs are associated with legal organizations (92%), but there are several feminist parties to the case associated with left social movements (14%) and the government⁴⁸ (14%).

Figure 6 shows the distribution of author types in opponent amicus and party briefs. Most of the opponent-supporting amici are associated with religious groups (19%) and right social movements (15%), and all of the opponent party brief authors are associated with legal organizations (100%), over half are also associated with right social movements (68%), and nearly half are associated with religious organizations (48%). For example, both lawyers

⁴⁶ American Center for Law and Justice represented the opponent parties in *Bray v. Alexandria* (1993), *Schenck v. Pro-choice Network* (1997), *Hill v. Colorado* (2000), *Scheidler v. NOW* (2003), *Scheidler v. NOW* (2006).

⁴⁷ I do not distinguish between the three types of party briefs (party briefs, party reply briefs, and parties' supplemental arguments) in these figures given the small number of total party briefs, including reply and supplemental briefs, submitted by the feminists (n = 10) and opponents (n = 27). Moreover, for any given case and supporting party, the author types are the same across the party brief types (party briefs, reply briefs, and supplemental argument briefs), including the opponents in *Scheidler v. NOW* (2003) and *Scheidler v. NOW* (2006) who submitted two separate party and party reply briefs.

⁴⁸ Lawyers from the National Organization for Women (NOW), a left-leaning social movement organization, represented the feminist parties in three cases, *Bray v. Alexandria* (1993), *Madsen v. Women's Health Center* (1994), and *Schenck v. Pro-Choice Network* (1997). Additionally, the district attorneys (i.e., government authors) represented the feminist parties in two cases, *Hill v. Colorado* (2000) and *McCullen v. Coakley* (2014).

representing the opponents in *Frisby v. Schultz* (1988) worked at the Catholic League for Religious and Civil Rights, a religious and right-leaning legal advocacy group.

Overall, **Figures 5** and **6** illustrate that there is much more variation in the author types among the amicus briefs compared to the party briefs, and the bulk of party briefs are written by lawyers (i.e., “legal” authors). However, lawyers from the National Organization for Women (NOW), a left-leaning social movement organization, represented the feminist parties in three cases, *Bray v. Alexandria* (1993), *Madsen v. Women’s Health Center* (1994), and *Schenck v. Pro-Choice Network* (1997). Additionally, district attorneys (i.e., government authors) represented the feminist parties in two cases, *Hill v. Colorado* (2000) and *McCullen v. Coakley* (2014).

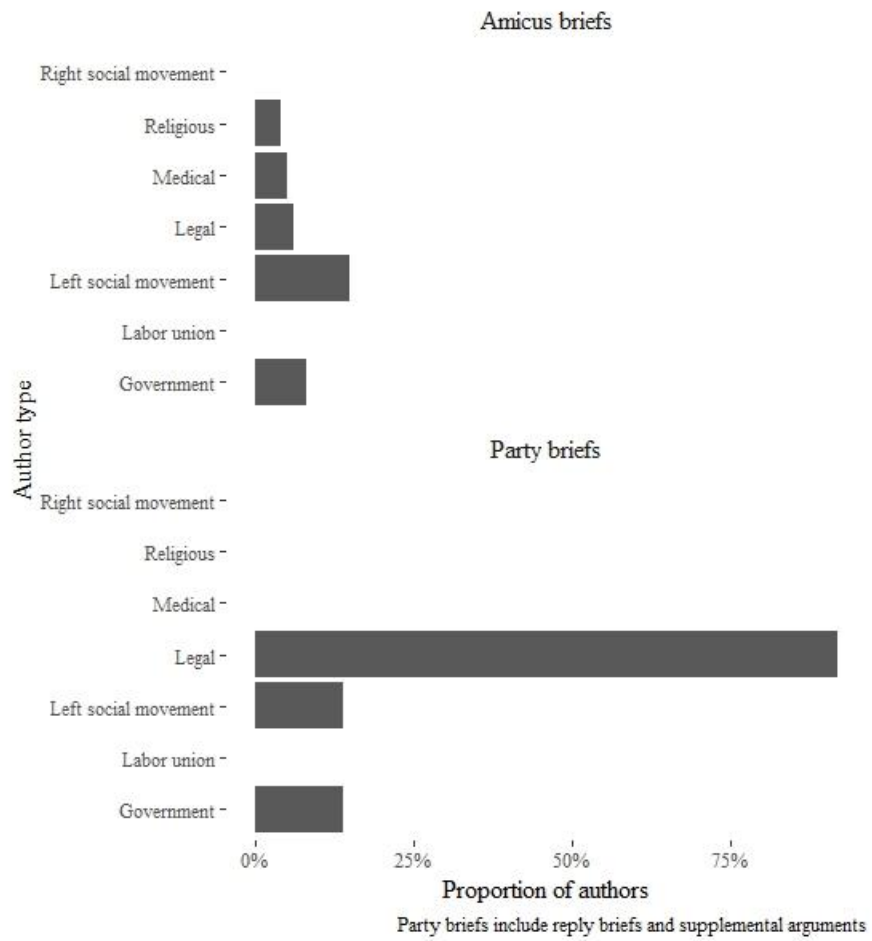


Figure 5 Internal context: Proportion of authors feminist briefs by brief type

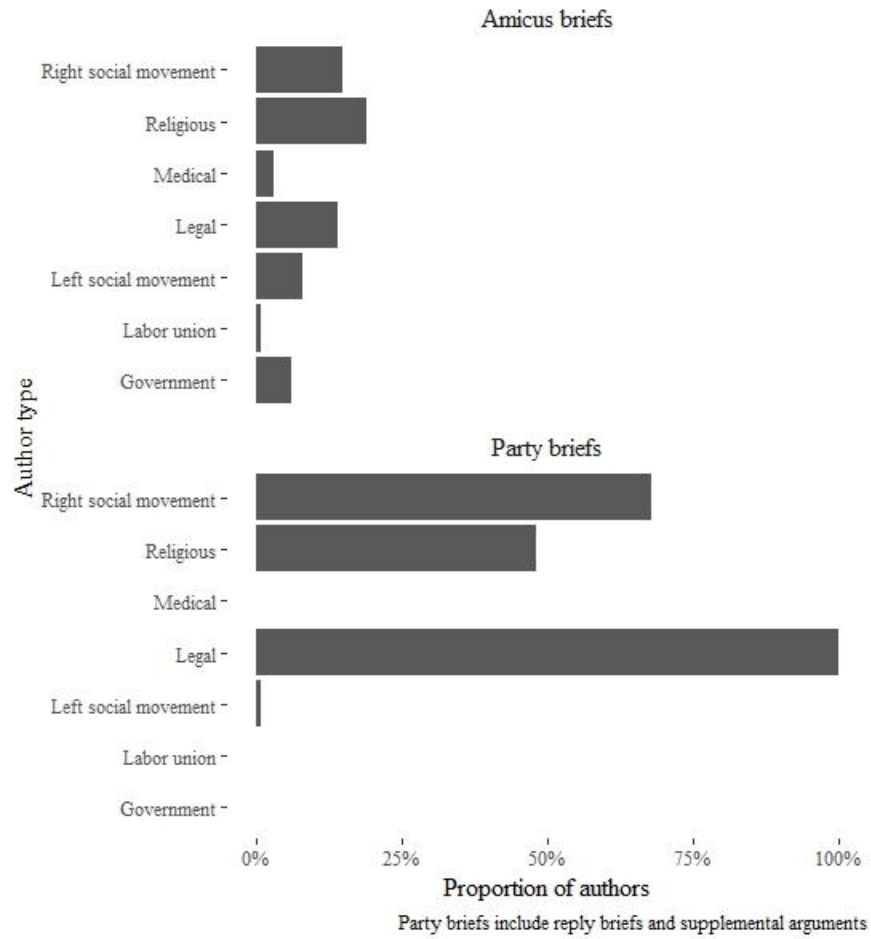


Figure 6 Internal context: Proportion of authors opponent briefs by brief type

CHAPTER 4

Text Mining: Sentiment Measure Construction and Legal Frame Extraction

In this chapter I discuss how I employed text mining to construct the cultural context measures that I use in Chapter six to study variation in legal framing. I also discuss how I use text mining to identify legal frames in the sentences of legal briefs submitted in the abortion protest Supreme Court cases in my study. I use the labeled sentences data to train and evaluate the machine learning model in the Chapter five. Throughout this chapter I will elaborate, on a conceptual level, important terms related to the tasks that I performed. In my discussion, I describe the steps that I took to develop methods for measuring the cultural context and identifying legal frames. I conclude this chapter by situating the framing measures from my text mining of the legal briefs within Snow and Benford's (1988, 2000) core movement framing tasks.

Assigning text to categories (i.e., content analysis) has a rich history in sociological research (Hardt 2001). Since the 1960s, sociologists have used computers to automate this process (Hays 1960; Weber 1984). For example, researchers have used a content analysis of arrest records to examine gender differences in styles of speech in mixed group settings (Aries 1977), abortion discourse in Canada (Saurette & Gordon 2013), and elite opinions in newspapers (Namenwirth 1970). In each instance, the goal is to identify the categories in each document, the documents associated with each category, or both.

Over the past two decades, social scientists have begun using computerized text mining techniques to perform increasingly more powerful and accurate analyses of text data. Text mining refers to the process of discovering patterns in text data (Weiss et al. 2010; Gaikwad et al. 2014). Researchers have developed a wide range of text mining techniques that often integrate

statistical and Natural Language Processing (NLP) techniques. Statistical applications of text mining include detecting themes in the Supreme Court opinions that appear in the party briefs (Corley 2008), identification of relevant legal statutes (Liu, Chen & Ho 2015), and tracing key topics in environmental sociology over time (Bohr & Dunlap 2018). NLP is an area of research that explores how computers can be leveraged to assess text in the same way that humans do (Jusoh & Alfawareh 2007; Khan et al. 2010). NLP tasks include part-of-speech (POS) tagging (Petrov, Das & McDonald 2011; Charniak 1997), stemming (Lovins 1969), and terminology extraction (Pazienza, Pennacchiotti, & Zanzotto 2005).

In order to identify legal framing innovation in the nine Supreme Court cases in my study, I began with close and multiple readings of all party and amicus briefs to generate a list of possible legal frames as well as words and phrases associated with each frame in Atlas.ti. While I identified multiple frames in the legal briefs, I focused my attention on the ways in which parties on both sides of the cases justified their positions on the basis of the government's significant interest in protecting the health and safety of its citizens.

All of the legal cases in my study are concerned, to varying degrees, with the First Amendment. Any attempt to regulate expression based on content requires the government to demonstrate a compelling interest, including the protection of public health and safety, in order for the regulation to be upheld by the Court⁴⁹⁵⁰. During my close reading of the texts, I found that supporters and challengers to protesters' activities outside of abortion clinics invoked the

⁴⁹ The Court has long held that regulation to speech is permissible as long as the government can prove that such regulations are vital to the protection of public health and safety (see, e.g., *Wisconsin v. Yoder*, 406 US 205 (1972); *City of Los Angeles v. Alameda Books, Inc.*, 535 US 425 (2002)).

⁵⁰ For further discussion on the origin of the compelling state interest test, see Siegel (2006). Also, for further discussion on the First Amendment and states' compelling interests, see Bunker et al. (2011) and Randall (2016).

government’s interest in protecting the lives not only of the public but also of patients, women, and/or the unborn to support their claims. I refer to these types of frames as “protect life” legal frames, and I discuss how I identified sentences that fit within these five categories later in this chapter.

My coding scheme for the “protect life” frames, iteratively developed in several stages using inductive reasoning and open coding (Ferree et al. 2002; Nelson et al. 2018), served several purposes. First, it allowed me to generate a broad list of words and phrases associated with each type of “protect life” legal frame; that is, protect the public, patients, women, healthcare workers, and/or unborn. Second, it guided my decision-making during the text mining phase of my analysis, which I describe next, particularly when it came to preprocessing the briefs and creating a legal frame dictionary.

4.1 Importing and Preprocessing the Documents

After deciding that I would focus my analysis on the “protect life” legal frame, I began preparing for the text mining step by importing, cleaning, and structuring the text data.

I imported the texts into R based on their file format. The newspaper articles that I collected from Lexis-Nexis/Nexis Uni and ProQuest were contained in Excel.csv files, and the legal documents were contained in .pdf and .docx formats. Therefore, I used two different R functions⁵¹ to load the data into R based on the documents’ file formats.

Applying methods for cleaning and structuring text data plays a key role in text mining, and this is referred to as **preprocessing**. Effective preprocessing enables the researcher to

⁵¹ I used the `read_csv()` function from the `readr` R package (Wickham 2023) to load the newspaper documents; I used the `readtext()` function from the `readtext` R package (Benoit 2023) to load the legal texts into R.

represent documents efficiently and accurately (Srividhya & Anitha 2010). Because preprocessing involves the transformation of the text, the choices early on can substantively affect the interpretation of models (Denny & Spirling 2018; Chandrasekar & Qian 2016; Gelman & Loken 2014). While scholars have invested considerable effort in exploring the best way to proceed (e.g., Sebastiani 2002; Srividhya & Anitha 2010; Sergienko et al. 2017), ultimately the researcher must decide which steps will perfect the trade-off between reducing data complexity and minimizing information loss. Typically, the specific preprocessing steps need to be linked to the type of document being used. For instance, legal documents (especially electronic versions downloaded from legal data sources like Westlaw) contain ellipses (...), and these need to be removed as a preprocessing step.

My selection of preprocessing steps was guided primarily by my specific knowledge of the texts and the NLP task at hand⁵². **Table 3** lists the preprocessing cleaning steps and the documents that each step was applied to. Because text mining and machine learning methods have different requirements regarding the structure of the textual inputs, I distinguish between legal briefs used in the text mining and machine learning portions of my analysis. For example, I limited the sentence lengths of the legal briefs to 40-512 characters because the multilabel classifier cannot handle texts greater than 512, and, based on my close reading of the texts, sentences shorter than forty characters were often section headers and other textual “noise.”

⁵² While it is common practice to perform very minimal preprocessing to the text before passing it through BERT based models (Alzahrani and Joloian 2021), some researchers suggest that noises in the data such as typos and non-standard deviations can affect model accuracy (Maharani 2020; Srivastava et al. 2020; Zahera et al. 2019).

| Preprocessing step | Newspapers | Legal briefs |
|--|-------------------|---------------------|
| Tokenized documents. | X | X |
| Limited to sentences between 40 and 512 characters. | | X |
| Removed similar sentences. | | X |
| Removed hyperlinks and URLs | X | X |
| Replaced contractions (e.g., “wouldn’t,” “would not”). | X | X |
| Developed a list of the most common words appearing in the documents (i.e., “stop words” ⁵³) and removed them. | X | |
| Corrected capitalization and punctuation errors (e.g., “[p]lanned parenthood,” “Planned Parenthood”). | X | X |

Table 3 Preprocessing steps

4.1.1 Structuring the Data and Tokenizing the Documents

In order to perform text mining and machine learning on the texts, I had to transform the unstructured texts into structured formats that NLP models can interpret. For most text mining tasks, this involves the creation of a “**term-document matrix**” (TDM)⁵⁴. In TDMs, each row contains a token, each column contains a document identifier, and cell values represent the number of times that the token appears in each document. A **token** is the unit of analysis in text mining, and it often represents a single word (Leopold & Kindermann 2002; Caropreso et al. 2001). However, researchers can separate the text into larger chunks such as sentences, paragraphs, or entire documents (see Grefenstette 1999), and their decision making is often guided by the particular NLP techniques that they use. For the purposes of my dissertation, texts in both newspaper and legal brief corpuses were chunked into sentences prior to performing any further preprocessing steps. I chose to analyze the newspapers at the sentence level because the

⁵³ Stop words are frequently occurring words that do not carry any information about the text. Some examples are: “and,” “or,” and “the.”

⁵⁴ When the text under consideration is analyzed without regard to the word order or sentence structure, documents are formally modeled as a “bag-of-words” (BoW). Alternatively, word sense disambiguation techniques, such as parts-of-speech and named entity tagging can be used when word sequential order is important. However, several studies have found that imposing higher-order structure does not yield significantly more effective models (Apte et al. 1994; Dumais et al. 1998).

SentimentR R package that I used to perform the sentiment analysis relied on each sentence to determine its sentiment score, and I discuss this in greater detail in the sentiment analysis section of this chapter. Because the multilabel classifier cannot analyze texts longer than 512 characters, separating the legal briefs into sentences was the most appropriate unit of analysis.

Researchers have proposed several methods for analyzing long texts given BERT's 512-character limit (Gao et al. 2021). Chalkidis et al. (2019) compared the performance of several neural classifiers, including BERT, and they found that the fine-tuned BERT outperformed all other models even though it only considered the first 512 characters of each legal document. On average, two sentences in each brief were greater than 512 characters and removed from the brief.

4.1.2 Removing Similar Sentences

Both sides of the case often state lower court rulings as well as their opponents' arguments in their own briefs, and sometimes court and opponent opinions can contain legal frames. In order to reduce the chance of conflating legal frames in a brief with those put forth by the lower courts or put forth by the opposing side, I removed sentences that were similar to those in briefs written by the opposing party. For example, in *Bray v. Alexandria* (1993), the protesters, in their reply brief for the petitioners (p. 13), argue, "Opposition to abortion is not the legal equivalent of discrimination against women." The feminists in *Bray* reference the protesters' argument in their own party brief, writing, "Thus, petitioners' long argument that opposition to abortion is not the per se equivalent of discrimination against women is off the point" (p. 25). Both of these sentences were removed from their respective briefs due to their high degree of similarity, but it is important to note that had the sentence(s) only appeared in briefs submitted on behalf of one party in *Bray*, it would not have been removed.

After carefully considering the impact that removing sentences that appear in briefs submitted on behalf of both parties to the case, I decided that the cost of leaving the sentences in the briefs was greater than the cost of removing them. Had I left the sentences that appear in briefs supporting both parties to the case, the fine-tuned multilabel sentence classifier would likely have a great deal of difficulty differentiating between sentences containing one party's arguments and the arguments of its opposition and lower court rulings. Moreover, based on my close readings of the briefs, I was aware that litigants often restate their arguments multiple times in a variety of ways throughout their briefs⁵⁵. Therefore, the information loss due to removing similar sentences was minimal compared to the reduction in accuracy that would have occurred if I kept the similar sentences in the briefs.

In order to measure the degree of similarity between sentences in feminist- and opponent-supporting briefs so that I could identify and remove sentences that appeared in briefs supporting both sides of each case, I began by controlling for sentence lengths by weighting them based on the number of characters in each sentence (because correlation is sensitive to variation in document, or here, sentence, length). Next, I computed the similarity scores across all sentences using a correlation-based method⁵⁶, and I limited the results to sentences that were similar to sentences in briefs by the opposing party. Finally, I removed sentences in briefs that had at a similarity score⁵⁷ greater than or equal to 0.85. **Tables 4 and 5** summarize the total number of sentences in all of the feminist- and opponent-supporting briefs for each case and the percent of

⁵⁵ The protesters in *Bray v. Alexandria* (1993) argue that opposition to abortion is not the equivalent of discrimination towards women in a number of ways throughout their four party briefs (e.g., "...respondents have established no facial discrimination, nor even an impact on childbearing capacity, much less on pregnancy"). Additionally, the word "discrimination" appears over 50 times throughout the protesters' party briefs in *Bray*.

⁵⁶ Specifically, I used the `textstat_simili` function from the `quanteda.textstats` R package. For a full documentation of this function, see Benoit et al. (2018).

⁵⁷ For more information on measuring the similarity of texts, see Corley and Mihalcea (2005).

sentences that remained in the final legal text dataset after removing sentences that were extremely similar to sentences in the opposing party and/or amicus briefs. **Table 4** shows that on average 31.7% of sentences were removed from the feminist briefs, and **Table 5** shows that on average 34% of sentences were removed from opponent briefs.

4.2 Sentiment Measure, Legal Frame Dictionary Creation, and Sentence Labeling

The primary structure for managing documents is denoted in linguistics as a **corpus**. A corpus contains a collection of **text documents**; each text document contains the text itself and local **metadata**. Metadata are information (e.g., the name of the newspaper) related to the specific document (Meyer et al. 2008). The text documents used in my dissertation are contained in one of two corpuses: (1) legal (i.e., amicus briefs and party briefs used to identify legal frames) or (2) newspaper articles. For the purposes of my research, the metadata for the news articles included the name of the newspaper, its political orientation (e.g., liberal, or conservative) and its associated legal case⁵⁸. The metadata for the legal briefs included the associated legal case and supporting party. That is, if a party brief was written by the feminists in the case or if an amicus brief was filed in support of the feminists in the case, then the brief was considered supportive of the feminists. After I imported the texts into R and organized the texts, I preprocessed the documents.

⁵⁸ The newspaper article's legal case was determined by the article's publication date.

| Legal case | Number of briefs | Number of sentences | Number of sentences after removing similar sentences | Proportion of sentences remaining |
|---|-------------------------|----------------------------|---|--|
| <i>Frisby v. Schultz</i> (1988) | 5 | 1,381 | 995 | 72.0% |
| <i>Bray v. Alexandria</i> (1993) | 7 | 3,839 | 2,993 | 78.0% |
| <i>NOW. v. Scheidler</i> (1994) | 7 | 2,835 | 2,087 | 73.6% |
| <i>Madsen v. Women's Health Center</i> (1994) | 8 | 3,813 | 2,474 | 64.9% |
| <i>Schenck v. Pro-Choice Network</i> (1997) | 9 | 3,961 | 2,531 | 63.9% |
| <i>Hill v. Colorado</i> (2000) | 6 | 2,235 | 1,463 | 65.5% |
| <i>Scheidler v. NOW</i> (2003) | 9 | 4,042 | 2,638 | 65.3% |
| <i>Scheidler v. NOW</i> (2006) | 8 | 2,219 | 1,620 | 73.0% |
| <i>McCullen v. Coakley</i> (2014) | 12 | 4,733 | 2,744 | 58.0% |

Table 4 Sentences removed in feminist-supporting legal briefs by legal case

| Legal case | Number of briefs | Number of sentences | Number of sentences after removing similar sentences | Proportion of sentences remaining |
|---|-------------------------|----------------------------|---|--|
| <i>Frisby v. Schultz</i> (1988) | 5 | 1,968 | 1,406 | 71.4% |
| <i>Bray v. Alexandria</i> (1993) | 16 | 4,844 | 3,329 | 68.7% |
| <i>NOW. v. Scheidler</i> (1994) | 6 | 2,518 | 1,732 | 68.8% |
| <i>Madsen v. Women's Health Center</i> (1994) | 8 | 3,402 | 2,311 | 67.9% |
| <i>Schenck v. Pro-Choice Network</i> (1997) | 13 | 5,435 | 3,444 | 63.4% |
| <i>Hill v. Colorado</i> (2000) | 8 | 3,118 | 2,145 | 68.8% |
| <i>Scheidler v. NOW</i> (2003) | 20 | 6,886 | 4,314 | 62.6% |
| <i>Scheidler v. NOW</i> (2006) | 14 | 6,347 | 3,641 | 57.4% |
| <i>McCullen v. Coakley</i> (2014) | 21 | 7,252 | 4,665 | 64.3% |

Table 5 Sentences removed in opponent-supporting legal briefs by legal case

4.2.1 Sentiment Measure Construction

I used the lexicon-based approach⁵⁹ to examine the sentiment in newspaper articles on abortion and abortion protests and generate the cultural context measures. Abortion articles are articles that explicitly discuss the topic of abortion, but do not mention abortion clinic protests. Articles that discuss abortion clinic protests can also discuss abortion, but they are categorized as abortion protest articles. The lexicon-based approach uses a list of words, often referred to as either a lexicon or dictionary⁶⁰, corresponding to semantic orientation (SO) values to determine a document's orientation (Taboada et al. 2011; Maks & Vossen 2012; Tsytsatau et al. 2014; Black et al. 2011; Black et al. 2016; Sim et al. 2013; Hasan et al. 2014; Jelveh et al. 2014). I used the *SentimentR*⁶¹ (Rinker 2021) and lexicon (Rinker 2018) R packages to apply a combined version of Jockers (2015) and Rinker's augmented Hu and Liu (2004) polarity word list that I manually augmented to trace the evolution of the tone associated with abortion clinic protests in newspaper articles published during the time period of my analysis. I manually augmented the polarity word list by removing words that were commonly used in the articles, such as "abortion," "protesters," and "right" from the list, as I discuss below⁶².

The *SentimentR* R package analyzes sentiment at the sentence level (Rinker 2021).

Therefore, prior to measuring newspaper article sentiment, I split the news articles into sentences

⁵⁹ The alternative text classification approach involves supervised or unsupervised ML classification to detect sentiments contained in text (e.g., Deng et al. 2014; Puteh et al. 2013; Kim & Hovy 2006; Rao & Ravichandran 2009; Pepescu & Etzioni 2005; Lu & Zhai 2008). However, experimental results are mixed regarding the reliability and accuracy of supervised ML classification techniques. Moreover, while ML classification approaches appear to be quite sensitive to the quantity and quality of the dataset, lexicon-based methods are not (Zhang et al. 2014). For a survey of both approaches, see Hailong, Wenyan & Bo (2014).

⁶⁰ In text mining, dictionaries and lexicons can also contain a list of terms of interest and all of their potential synonyms, spelling variations, and/or acronyms (Cook & Jensen 2019). The meaning of the term is based on how it is being used.

⁶¹ I chose the *SentimentR* package because it automatically performs negation handling. For more information on the effect of negation in sentences on sentiment and polarity detection see Mukherjee et al. (2021).

⁶² For methods to adapt existing sentiment lexicons for domain-specific texts, see Deng et al. (2017) and Shalunts et al. (2016).

using the `get_sentences()` function from the *SentimentR* package. In order to improve the accuracy of the sentiment measures, I updated Jockers (2015) and Rinker’s augmented Hu and Liu (2004) polarity word list so that it would not incorrectly classify words that were commonly used in the newspaper articles I was studying⁶³. For example, the polarity word list identified the term “abortion” as negative, and because all of the news articles covered abortion and abortion protests, I removed all of the terms that contained “abort” (e.g., aborted, abortion, and aborts) from the polarity word list.

During the sentiment analysis, each word was given a score from -1 to 1 based on the degree of positive or negative emotions; words with sentiment scores closer to -1 are considered more negative, and words with sentiment scores closer to 1 are more positive. In the final step of the sentiment analysis, I used the `sentiment_by()` function from the *SentimentR* package to calculate the average sentiment score by legal case, article topic, and the newspaper’s political ideology.

⁶³ Typically, in order to establish the reliability of a coding scheme in a qualitative study, two or more individuals will independently annotate (or code) the same set of texts, and then the researchers will calculate the inter-rater reliability score; some of the most commonly used metrics include Krippendorff’s alpha and the intraclass correlation coefficient (Salminen et al. 2018; Takala et al. 2014). A small number of studies have used similar techniques to assess the reliability of automatic sentiment analysis by comparing the computer-aided sentiment annotations with the annotations of one or more human coders (e.g., McKenny et al. 2016; Byrne et al. 2021; Imtiaz et al. 2018). The results of these studies are mixed. Imtiaz and colleagues (2018) found that substantial disagreement between the sentiment scores produced by automatic sentiment classification tools and human coders. On the other hand, Byrne and colleagues (2021) found a high level of agreement between three automatic sentiment analysis tools and three human reviewers. Moreover, to date, an even smaller number of scholars have assessed the reliability of *SentimentR*, the R package that I used to measure the sentiment of the newspaper articles in my study. Wijngaards and colleagues (2020) assessed the reliability of the sentiment measures produced by the *SentimentR* package by examining their convergence with the measures produced by human annotators, and they found relatively high agreement between the sentiment scores produced by the *SentimentR* package and those of human coders. Their results also highlight the “importance of transforming context-free dictionaries into domain-specific dictionaries to guarantee optimal reliability of text measures” (Wijngaards et al. 2020:400).

4.3.1.1 Sentiment Measures

Now I turn my attention to the construction of the four cultural context measures: a measure of the average newspaper sentiment in (a) conservative newspaper articles, (b) liberal newspaper articles, (c) abortion articles, and (d) abortion protest articles. I begin by presentation of the sentiment analysis results by discussing patterns in the most common words in the newspaper articles, and then I discuss the changes in the sentiment of the newspaper articles over time by legal case because changes in newspaper sentiment in articles that cover abortion and abortion protests may be linked to frame innovation in the legal briefs.

Figures 7 and 8 show the top 20 sentiment words in the conservative and liberal news articles. Words that appear to the right of the dashed line received a positive sentiment score during the sentiment analysis and words that appear to the left of the dashed line received a negative sentiment score during the sentiment analysis. In **Figures 7 and 8**, the word's distance from the dashed line indicates the strength of the positive or negative emotion. That is, words farther to the right received a higher sentiment score (i.e., the words are deemed more positive), and words farther to the left are received a lower sentiment score (i.e., the words are deemed more negative). In addition, the frequency that each word appears is illustrated by its size and vertical position on the graph. Words with larger font sizes occur more frequently than words with smaller font sizes, and words that are placed higher along the y-axis occur more frequently than words that are placed lower on the y-axis.

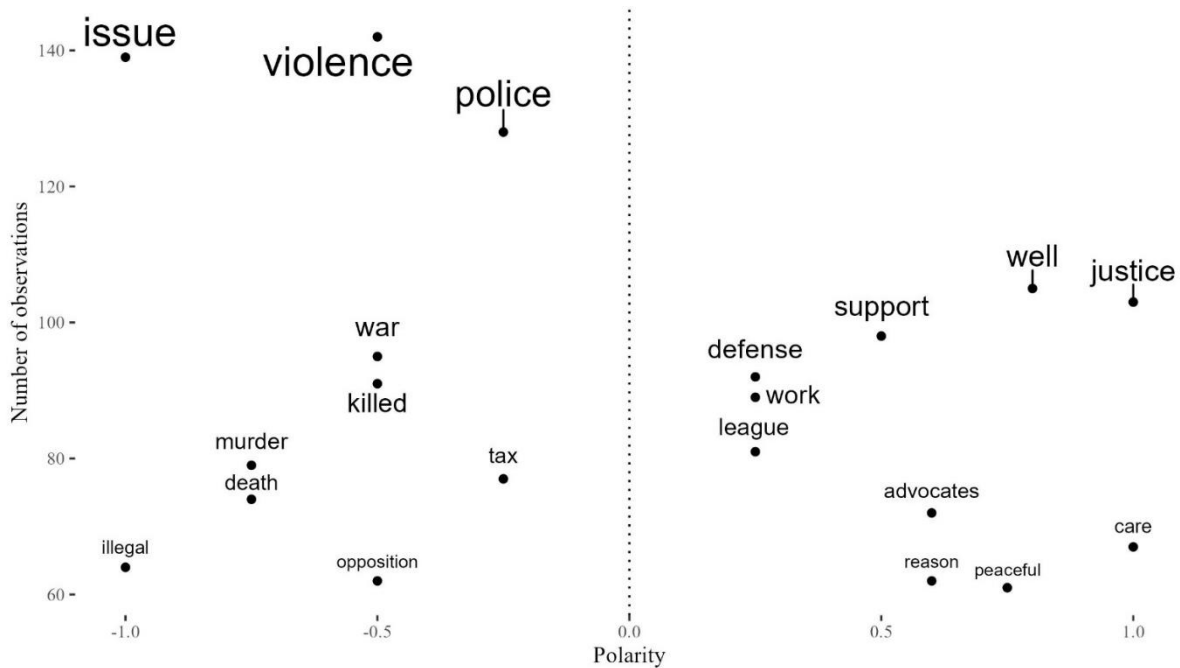


Figure 7 Top 20 sentiment words in conservative newspaper articles

Figure 7 shows the most common sentiment words in conservative articles, and it reveals that the most commonly used words (“issue,” “violence,” and “police”) are negative. Both the negative and positive words also appear to reference themes of law and order; one of the most common positive words, “justice,” appears over 100 times throughout the conservative articles, and “police” appears over 120 times.

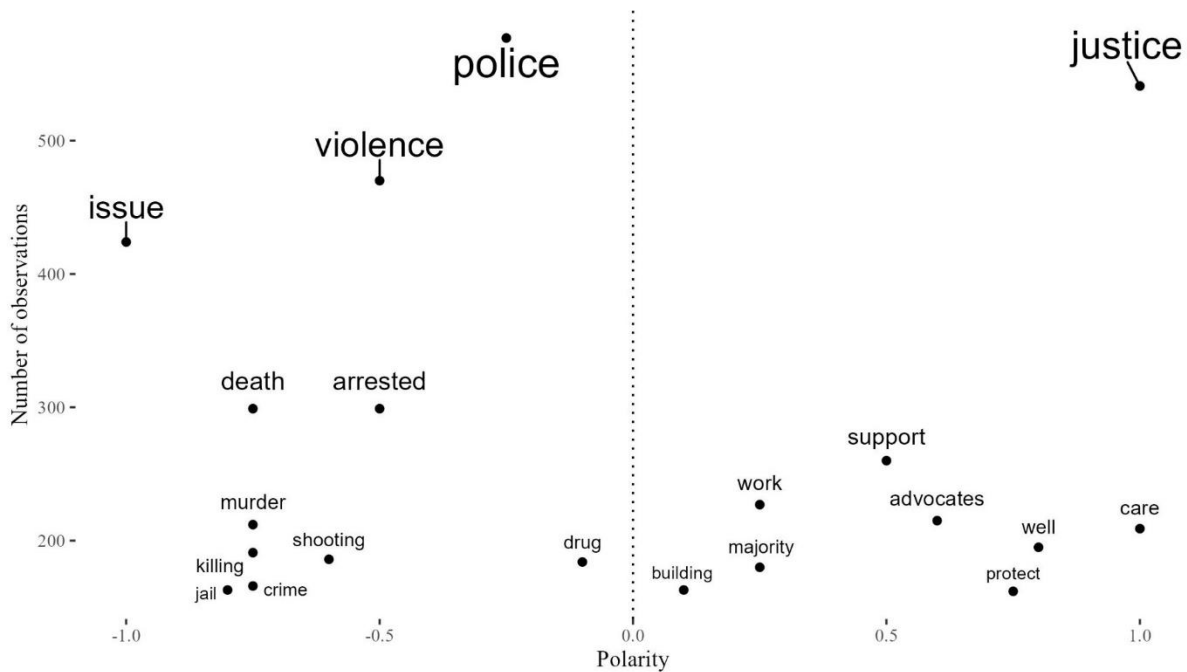


Figure 8 Top 20 sentiment words in liberal newspaper articles

Figure 8 shows the most common sentiment words in liberal newspaper articles. The word “justice” is the most common positive term; it appears more than 500 times in the liberal articles, while the second most common positive word, “support,” appears a little less than 300 times. The figure also reveals that “police,” “violence,” and “issue” are the top three most common negative term in liberal newspaper articles.

When comparing the results of the liberal and conservative newspapers, it appears that there is a great deal of similarity between the sentiment words in both liberal and conservative newspaper articles on abortion and abortion protests. In terms of the negative emotion words, both liberal and conservative articles commonly refer to police and violence. Additionally, the results indicate that that “justice” is one of the most commonly used positive terms in both liberal and conservative newspaper articles on abortion and abortion protests.

Newspaper articles appearing in outlets from both types of newspapers, both conservative and liberal, commonly reference murder, crime, and shootings; and the tendency towards using negatively charged words to discuss abortion and abortion protests is further illustrated in **Figure 9** which traces the average sentiment of newspaper articles by legal case, newspaper orientation, and article topic.

Figure 9 shows the average sentiment score of conservative and liberal news articles covering abortion and abortion protests published during the year preceding oral arguments in each Supreme Court case. The top graph shows the average sentiment of articles that discuss abortion protests, and the bottom graph shows the average sentiment of articles that cover abortion. Beginning with the top graph, with the exception of conservative newspaper articles published during *McCullen v. Coakley* (2014), the average sentiment score is negative across all cases and newspaper orientations. In general, liberal articles tend to have a lower average sentiment score than conservative articles. However, there are some notable exceptions. The average sentiment score of conservative newspaper articles is lower (i.e., more negative) than liberal newspaper articles during *Frisby v. Schultz* (1988), *Scheidler v. NOW* (2003), and *Scheidler v. NOW* (2006). However, the average sentiment score of conservative newspaper articles dramatically increases, becoming more positive, during the final case, *McCullen v. Coakley* (2014).

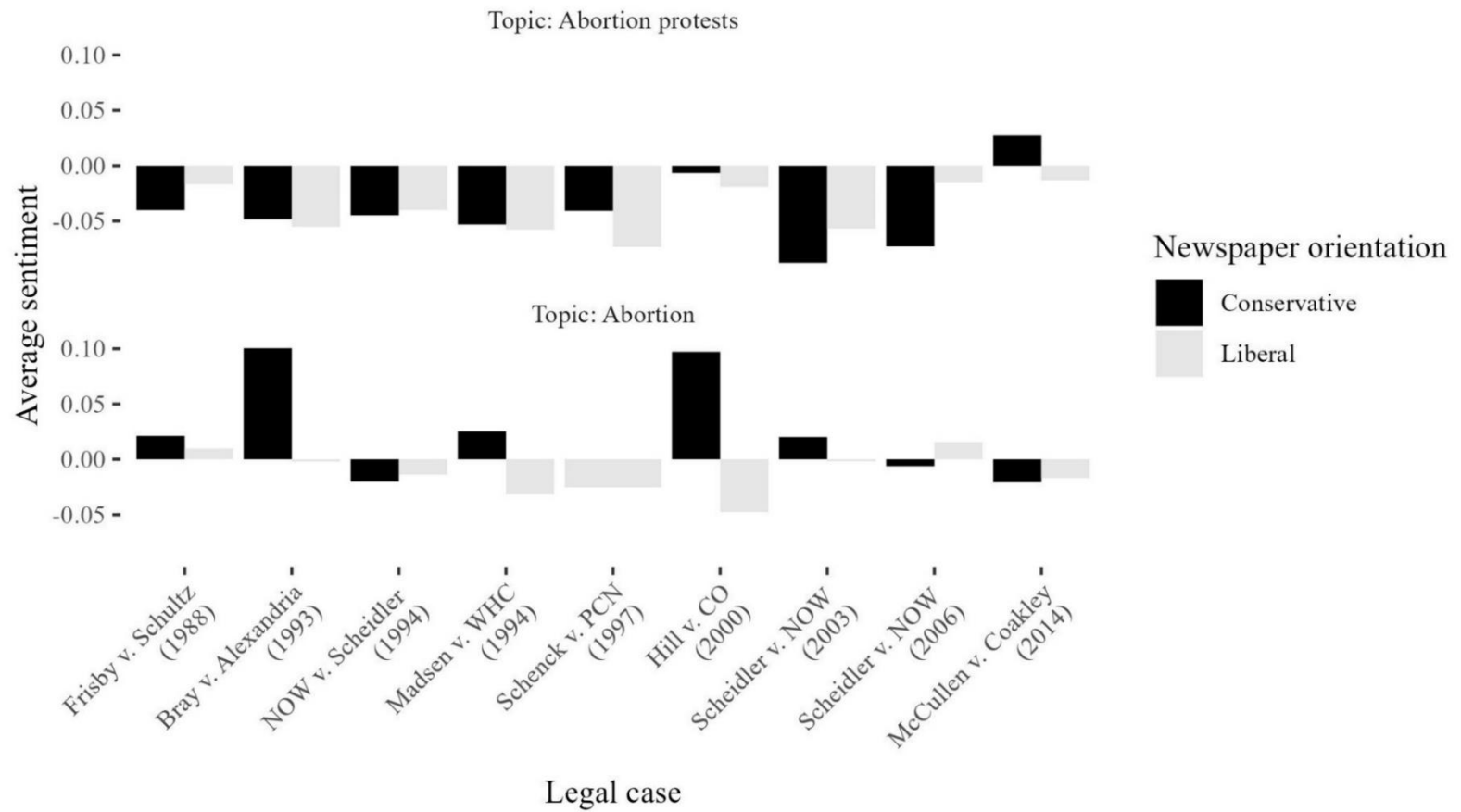


Figure 9 Sentiment scores of newspaper articles by legal case, political orientation, and article topic

The lower graph in **Figure 9** indicates that the average sentiment of abortion articles is more positive than the average sentiment of abortion protests. Unexpectedly, the sentiment of conservative articles is much more positive than the liberal newspaper articles during *Bray v. Alexandria* (1993) and *Hill v. Colorado* (2000). However, this could be due to the low number of abortion articles published by the conservative newspapers included in my study (see **Figure 3**). I was only able to find one newspaper article on abortion that was published by a conservative newspaper during the year preceding oral arguments in both *Bray* and *Hill*. The bulk of the newspaper articles that I collected were focused on abortion protests.

Overall, the results of the examination of the newspaper article sentiment suggest that not only do conservative and liberal news articles that cover abortion and abortion protests use the same type of language, particularly when it comes to expressing negative sentiment, but they also publish articles with similar sentiment over time. On average, the sentiment of both conservative and liberal newspaper articles that covered abortion and abortion protests was negative until the final case, *McCullen v. Coakley* (2014). Research by Boyle and Armstrong (2009) may help shed light on the shift from negative to positive coverage in the conservative newspapers. In their analysis of news coverage of abortion protests in four newspapers (*The New York Times*, *Washington Post*, *Wall Street Journal*, and *Christian Science Monitor*) between 1960-2006, they found that groups that used more extreme tactics were more likely to be criticized by the media, regardless of public support or legal position. Given that most of the cases in my study occur during the height of abortion clinic violence, it makes sense that news coverage of protests is negative. The plots of the top twenty sentiment words in **Figures 7 and 8** support this; conservative and liberal news articles tend to use similar language, albeit at varying rates, to discuss abortion and abortion clinic protests. By 2014, when the Court decided

McCullen v. Coakley, the number of terrorist attacks against abortion clinics per year had dropped considerably, so it is possible that conservative news outlets felt more comfortable expressing more positive sentiments towards the protesters.

The results of the sentiment analysis also indicate that there is variation in the average sentiment of newspaper articles that cover abortion and abortion protests, and this may reflect changes in how the public views both topics. Therefore, in order to examine how the broader cultural context shapes legal framing innovation, I constructed four measures based on the sentiment analysis of the newspapers using the `sentiment_by()` function from the *SentimentR* R package⁶⁴. The first two measure the average sentiment of (a) liberal and (b) conservative news articles that cover abortion. The last two measure the average sentiment of liberal and conservative newspaper articles that cover (c) abortion and (d) abortion protests.

4.2.2 Dictionary Creation and Sentence Labeling

After creating the sentiment (cultural context) measures for the newspaper articles, I turned my attention to classifying legal frames contained in the amicus and party briefs for each of the cases in my study. This process was developed iteratively.

Initially, I planned to create a dictionary that contained the words and phrases associated with legal frames and using **term extraction** to automatically detect frames in legal briefs. However, it can take a significant amount of work to create a new dictionary from scratch, and most are built from existing ontologies or databases (Cook & Jensen 2019). Ontologies define the vocabularies and relationships among terms within a

⁶⁴ The `sentiment_by()` function returns the average sentiment score for the grouping variable(s) defined by the user. For the purposes of my dissertation, the grouping variables were the legal case and the newspaper political orientation (conservative or liberal) or article topic (abortion or abortion protests).

specific domain (Gruber 1993), and for some time for legal scholars, they were considered the missing link between AI and the computerized study of law (Valente & Breuker 1994). While there are currently very few legal ontologies⁶⁵ researchers have begun to propose methods for identifying legal ontology components (Lame 2005; Navigli & Velardi 2004; Casellas 2011). Ontologies are particularly useful for assembling the frame dictionary because they provide a list of all possible synonyms for legal terms. Despite growing work focused on developing and implementing legal ontologies, it was difficult to find any that were open-source or publicly available. As such, I revised my approach and decided to manually create my own framing dictionary based on my close reading of the texts.

During my close and multiple readings of all party and amicus briefs, I generated a list of words and phrases associated with the “protect life” frame in Atlas.ti. My coding scheme was iteratively developed in several stages using inductive reasoning and open coding at the sentence level, and I applied the same annotation rules throughout my coding once I finalized the coding scheme (Ferree et al. 2002; Nelson et al. 2018). This approach allowed me to distinguish between the different ways that litigants use the “protect life” frame. During my close reading and open coding of the legal briefs in Atlas.ti, I noticed that the brief authors pointed to several distinct groups that needed protection. In order to capture these differences in Atlas.ti, I categorized sentences based on whom the sentence claimed needed protection. After several iterations of this process, I found that most sentences fell into one or more of the following five categories: protecting the life of (1) women; (2) unborn; (3) clinic workers; (4) patients; and (5) public. If a sentence did not receive any of these codes, it received the code, “no frame.”

⁶⁵ These include the functional ontology of law by Valente (1995), and frame-based ontology by van Kralingen (1997). Leon et al. (2018) recently created a system prototype for a tool called InvestigatiOnt that helps users appropriately select from twelve ontologies that belong to six different legal fields. For an overview of the types and functions of legal ontologies see Valente (2005).

After I identified the five “protect life” framing categories, I finalized my coding rules, and I applied these rules throughout the subsequent iterations of the manual coding. To receive any of the “protect life” codes, a sentence must explicitly discuss the need to defend the physical health and/or safety of at least one of the five groups. That is, if a sentence discusses protecting rights or access to clinics then it would not receive a “protect life” code. Each sentence could receive either a single, “no frame,” code or up to five protecting life codes. During my second attempt at identifying sentences that contained “protect life” legal frames, I generated a list of words and phrases associated with each “protect life” frame (e.g., protect the public, patients, healthcare workers, women, and unborn), and I created an R function that converted the most common words in the newly constructed frame dictionary into regular expressions. My reasoning for this was twofold: first, it reduced the number of search terms in my frame dictionary⁶⁶, and second, it allowed me to maximize my search parameters. That is, I did not have to produce every form of every word in my frame dictionary. For example, the regular expression, “defend\\w*” includes the word “defend” as well as any words that begin with “defend” and end with other letters (e.g., “defended,” “defends,” and “defending”).

After creating the “protect life” legal frame dictionary with regular expressions, I searched for sentences that contained the words and phrases associated with each “protect life” frame in R. As I read through the results of the dictionary-based search, I noticed that it often failed to identify sentences with multiple “protect life” frames when the subjects were discussed together (e.g., “Rescue participants blocked access to the clinics

⁶⁶ For example, the terms “protect woman” and “protect women” can be represented as a single regular expression, “protect wom(e|a)n”

and assaulted staff, patients, and police trying to get through⁶⁷” only received the “protect the lives of healthcare workers” frame when it should have also been labeled as “protect the lives of patients”).

Indeed, while most sentences only contained one frame, some sentences contained more than one. For example, in an amicus brief written by the Victim Rights Law Center et al. in support of the feminist party in *McCullen v. Coakley* (2014), the authors state, “Accordingly, Massachusetts' recognized interest in protecting the health and safety of its citizenry, and particularly the health and safety of the subset of its citizenry that has been victimized by rape, justifies a special focus on unimpeded access to health care facilities and the avoidance of potential trauma to patients associated with confrontational protests.” This sentence was labeled with two “protect life” frames, “protect the lives of patients” and “protect the lives of the public,” because this sentence emphasizes the need to protect the health and safety of both groups.

In order to correct for the inability of my dictionary-based search to identify multiple “protect life” frames in a sentence, I decided to revise my approach. Instead of using a dictionary-based search to identify all of the sentences that contained “protect life” frames, I would, instead, use it to assist me in identifying sentences that contained at least one “protect life” frame. I would then use these as the training and testing data to fine-tune the multilabel sentence classifier that I discuss in Chapter five. In order accomplish this, I used a function from the *quanteda* R package (Benoit et al. 2018) that accepts words or phrases as inputs and returns words⁶⁸ that come before and after the input. I used the words and phrases from the “protect life”

⁶⁷ Brief For NAACP Legal Defense and Educational Fund, Inc. as Amicus Curiae in Support of Respondents in *Bray v. Alexandria Women's Health Clinic*, 506 U. S. 263 (1993).

⁶⁸ Users can select the number of words to be displayed around the context word; for my research, I limited the number of words to five.

frame dictionary as inputs, and I used the output to narrow down the sentences that likely contained “protect life” frames.

After identifying sentences that might contain “protect life” frames, I manually read and labeled them according to my coding scheme, and I extracted phrases associated with one or more “protect life” frames. For example, one of the ways that I identified sentences that contained the “protect the lives of women” frame was by searching for sentences that contained the words “health” and “women.” After gathering all of the sentences that contained both words, I manually read through the sentences, and I labeled them as either containing the “protect the lives of women” frame or “no frame.” The following sentence from the protesters’ party brief in *Scheidler v. NOW* (2006) contains the words “health” and “women,” but it does not contain the “protect the lives of women” frame:

Respondents the National Organization for Women, Inc. (NOW), Delaware Women's Health Organization, Inc. (DWHO), and Summit Women's Health Organization, Inc. (Summit), are, respectively, a national nonprofit organization that supports the legal availability of abortion and two affiliated clinics that perform abortions.

On the other hand, the following sentence from an amicus brief filed by People for the American Way in support of the feminists in *Madsen v. Women’s Health Center* (1994) contains “health” and “women,” and it does contain the “protect the lives of women” frame (see **Table 6** for additional examples of sentences that contain each “protect life” frame):

First, the injunction protects the health of women undergoing abortions by reducing noise levels during the period of surgery and recovery and by ensuring that women who want abortions can obtain them in a timely manner.

The purpose of identifying potential “protect life” sentences was to efficiently identify a large number of sentences that contained each “protect life” frame so that I would be able to train the multilabel sentence classifier. The goal of this step of my analysis was not to identify every

sentence that contained “protect life” frames. The goal was to identify sentences that expressed the frames in a variety of ways so that the multilabel classification model would be able to learn how to identify all of the brief sentences that contained “protect life” frames⁶⁹.

⁶⁹ I implemented two strategies to ensure the reliability and accuracy of the manually labeled sentences. First, I applied the same coding rules throughout the final iteration of my manual coding of the legal brief sentences. Second, I randomly selected sentences and checked for anomalous annotations several times throughout the manual coding process. A similar approach was taken by Chen and colleagues (2022) in their study of how the quality of text data impacts the performance of legal AI algorithms. Moreover, the authors found that data with low inter-rater agreement (i.e., reliability) does not significantly distort model performance (Chen et al. 2022).

| Protect life frame | Supporting party | Sentence |
|--------------------|------------------|--|
| Healthcare workers | Feminist | This injunction was issued in response to a persistent campaign of violence, harassment, and intimidation targeted at women who seek abortions and the clinic, physicians and staff who provide abortion services in Melbourne, Florida ⁷⁰ . |
| Patients | Opponent | Second, the physician's testimony that patients were harmed because they left to return at a later date, cannot be the basis of an injunction ⁷¹ . |
| | Feminist | Rather, it simply takes the position that it is the obligation of the City to protect the established rights of the protestors to express their view and to protect the patients of the clinic when they are unlawfully impeded or even prohibited from exercising their federal and state rights to reproductive services ⁷² . |
| Women | Opponent | The Court intended this assertion to prove that physicians were killing so many women with abortions that women needed legislation to protect them from the medical profession ⁷³ . |
| | Feminist | Amici curiae have a particular interest in halting the concerted violence, harassment and intimidation being directed against women seeking abortions ⁷⁴ . |
| Public | Opponent | Statutes regulating disturbance of the peace already protect public safety and order ⁷⁵ . |
| | Feminist | Because of the significant governmental interest in protecting public safety and the peace and tranquility of those in their homes, the legitimate sweep of the ordinance encompasses most, if not all, residential picketing ⁷⁶ . |

⁷⁰ Brief of the Center for Reproductive Law & Policy et al. as Amici Curiae in Support of the Respondents, *Madsen v. Women's Health Center, Inc.*, 512 U. S. 753 (1994)

⁷¹ Brief for the Southern Center for Law & Ethics et al. as Amici Curiae in Support of the Petitioners, *Madsen v. Women's Health Center, Inc.*, 512 U. S. 753 (1994)

⁷² Brief for Falls Church, Virginia Amicus Curiae in Support of Respondents, *Bray v. Alexandria Women's Health Clinic*, 506 U. S. 263 (1993)

⁷³ Amicus Curiae Brief by Legal Defense for Unborn Children in Support of Neither Party, *Scheidler v. National Organization for Women, Inc.*, 547 U. S. 9 (2006)

⁷⁴ Brief of the Center for Reproductive Law & Policy et al. in Support of the Respondents, *Madsen v. Women's Health Center, Inc.*, 512 U. S. 753 (1994)

⁷⁵ Brief for the Petitioners, *Madsen v. Women's Health Center, Inc.*, 512 U. S. 753 (1994)

⁷⁶ Brief of The National Institute of Municipal Law Officers as Amicus Curiae in Support of Appellant, *Frisby v. Schultz*, 487 U.S. 474 (1988)

| | | |
|--------|----------|--|
| | Opponent | The passive presence of persons within 35 feet of an abortion clinic doesn't pose a risk to public safety or hinder patient access ⁷⁷ . |
| Unborn | Opponent | On the contrary, the life of a conceived unborn being a constitutional person is entitled to protection, and on the record below, it cannot be said that the conduct of the Petitioners was unreasonable but the result of accidents that inevitable occur when there is a confrontation ⁷⁸ . |

Table 6 Examples of sentences labeled with “protect life” frames by supporting party

⁷⁷ Brief for the Cato Institute as Amicus Curiae in Support of the Petitioners, *McCullen v. Coakley*, 573 U. S. 464 (2014)

⁷⁸ Brief of Catholics for Life, Sacramento, as Amicus Curiae in Support of Petitioners, *Scheidler v. National Organization for Women, Inc.*, 537 U.S. 393 (2003)

4.3.2.1 Output from Text Mining the Legal Briefs

In this and the next section, I present the output from text mining the legal briefs. I begin this section by discussing patterns in the number of sentences that I labeled by legal case, supporting party, and “protect life” frame. In the next section, I take a closer look at the sentences that contain the “protect life” frame, and I situate the sentences within the social movement framing literature. Drawing explicitly on collective action frames and the social movement framing tasks⁷⁹ identified by Snow and Benford (1988), I identify and describe how both sides of the cases in my study use the “protect life” frames to achieve different framing tasks. In doing so, I demonstrate the analytic value of social movement concepts to interpret and understand the results of text mining legal documents. I focus my discussion of the findings on the broad framing patterns because my text mining analysis was limited to a small portion of all of the sentences in the legal briefs, the majority of which contain the “protect life” frame⁸⁰, and the sample does not necessarily reflect all of the sentences in the briefs.

Table 7 summarizes the sentences that I manually labeled by supporting party. After preprocessing legal briefs there were 18,933 sentences in the feminist briefs and 25,778 sentences in the opponent briefs. My dictionary-based search returned 20,580 sentences from both the feminist and opponent briefs that potentially contained at least one “protect life” frame; of these sentences, I randomly selected, read, and manually labeled 709 feminist sentences and 396 opponent sentences. Each sentence received at least one of six possible frames: no frame or protect the life of women, healthcare workers, patients, unborn, or the public. On average, each

⁷⁹ The three core social movement tasks identified by Snow and Benford (1988; also see Benford and Snow 2000) are identifying a problem (diagnostic framing), identifying a solution (prognostic framing), and rationale for action (motivational framing).

⁸⁰ Of the 1,105 sentences that I manually read and labeled, 859 (77.7%) contained one or more “protect life” frames, and 246 (22.3%) did not any “protect life” frames.

sentence received one frame label, but the maximum number of unique frames in a single sentence in the feminist- and opponent-supporting briefs was three and two, respectively.

| | Feminist briefs | Opponent briefs |
|--|----------------------------|----------------------------|
| Total number of sentences | 18,796 | 25,942 |
| Total number of labeled sentences (prop. of total sentences) | 707 (3.7%) | 398 (1.5%) |
| Minimum number of labels/sentences | 1 | 1 |
| Average number of labels/sentences | 1.1 | 1.1 |
| Maximum number of labels/sentence | 3 | 2 |

Table 7 Summary of manually labeled sentences by supporting party

Figure 10 shows the distribution of the sentences among the roughly 1,000 sentences that I manually labeled according to my “protect life” frame coding schema. The “protect the lives of patients” was the most commonly assigned frame (n = 277) among all of the 1,105 labeled sentences. Meanwhile, the “protect the lives of women” (n = 154) and “protect the lives of the unborn” (n = 156) were the least common frames that appeared among all of the sentences that I manually labeled with “protect life” frame.

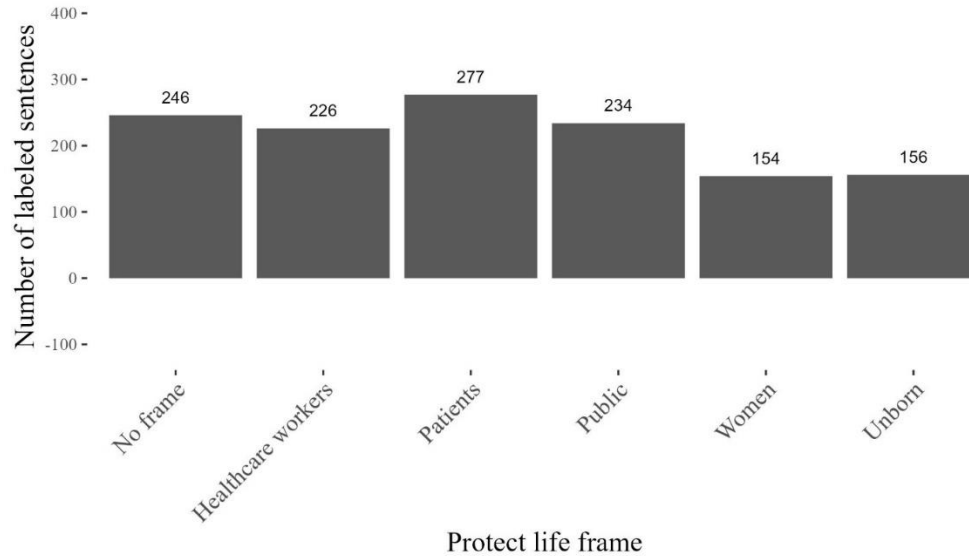


Figure 10 *Distribution of manually labeled sentences by legal frame*

Table 8 provides a more detailed summary of the distribution of the “protect life” frames by legal frame and supporting party. The first column contains the number of labeled sentences in feminist briefs that were labeled with each frame. The second column is the number of labeled feminist sentences divided by the total number of labeled feminist sentences⁸¹. The third and fourth columns are the same numbers for labeled sentences in opponent briefs⁸². One hundred and seven (15%) of the labeled feminist sentences contained the “protect the lives of women” frame, and 47 (12%) of the labeled opponent sentences contained this frame. While 248 (35%) of the labeled feminist sentences contained the “protect the lives of patients” frame, only 29 (7%) of labeled opponent sentences contained this frame. The “protect the lives of healthcare workers” appeared in 212 (30%) of the labeled feminist sentences and 14 (4%) of the labeled opponent sentences. The “protect the lives of the public” frame appeared in 182 (26%) of the labeled sentences in feminist briefs and 25 (13%) of the labeled sentences in opponent briefs. Four (1%)

⁸¹ The number of labeled feminist sentences is 707.

⁸² The number of labeled opponent sentences is 398.

of the labeled feminist sentences contained the “protect the lives of the unborn” frame, but 152 (38%) of sentences in opponent briefs contained this frame. Finally, 108 (15%) and 138 (35%) of labeled feminist and opponent sentences, respectively, did not contain any “protect life” legal frame.

| Protect life frame | Feminist briefs | | Opponent briefs | |
|--------------------|-----------------------------------|---|-----------------------------------|---|
| | Total number of labeled sentences | % of all labeled feminist sentences ⁸³ | Total number of labeled sentences | % of all labeled opponent sentences ⁸⁴ |
| Women | 107 | 15% | 47 | 12% |
| Patients | 248 | 35% | 29 | 7% |
| Healthcare workers | 212 | 30 % | 14 | 4% |
| Public | 182 | 26% | 52 | 13% |
| Unborn | 4 | 1% | 152 | 38% |
| No frame | 108 | 15% | 138 | 35% |

Table 8 *Distribution of manually labeled sentences by legal frame and supporting party*

Table 9 shows the distribution of labeled sentences by legal case and supporting party. In addition to the total number of labeled sentences by supporting party for each case, I also included the proportion of feminist and opponent sentences that are labeled for each case. That is, the percentage refers to the total number of labeled sentences in all of the feminist- and opponent-supporting briefs divided by the total number of sentences in all feminist- and opponent-supporting briefs. For example, I labeled 24 feminist brief sentences in *Frisby v. Schultz* (1988), and these sentences make up 2.5% of all of the sentences in feminist briefs (n = 944) filed in *Frisby*. On the other hand, 1.1% of opponent brief sentences were labeled in *Frisby*. Feminist briefs filed in *McCullen v. Coakley* (2014) had the largest proportion of labeled

⁸³ The number of labeled feminist sentences is 707.

⁸⁴ The number of labeled opponent sentences is 398.

sentences (6.0%, n = 161), and opponent briefs filed in *NOW v. Scheidler* (1994) had the lowest proportion of labeled sentences compared to the labeled sentences in other cases.

| Legal case | Feminist sentences (% of total sentences) | Opponent sentences (% of total sentences) |
|---|--|--|
| <i>Frisby v. Schultz</i> (1988) | 24 (2.5%) | 15 (1.1%) |
| <i>Bray v. Alexandria</i> (1993) | 78 (2.7%) | 57 (1.8%) |
| <i>NOW v. Scheidler</i> (1994) | 45 (2.3%) | 11 (0.7%) |
| <i>Madsen v. Women’s Health Center</i> (1994) | 141 (5.9%) | 43 (1.9%) |
| <i>Schenck v. Pro-Choice Network</i> (1997) | 115 (4.7%) | 54 (1.6%) |
| <i>Hill v. Colorado</i> (2000) | 61 (4.3%) | 62 (3.0%) |
| <i>Scheidler v. NOW</i> (2003) | 54 (2.2%) | 40 (1.0%) |
| <i>Scheidler v. NOW</i> (2006) | 28 (1.8%) | 37 (1.1%) |
| <i>McCullen v. Coakley</i> (2014) | 161 (6.0%) | 79 (1.7%) |

Table 9 Distribution of manually labeled sentences by legal case and supporting party

Overall, these findings indicate that the proportion of manually labeled sentences differs across briefs by supporting party as well as by the “protect life” frames. In terms of variation by supporting party, the results in **Table 7** indicate that 64% of the manually labeled sentences come from feminist briefs. Additionally, the results in **Table 9** show that proportion of manually labeled sentences in the opponent briefs is relatively similar across the nine cases in my study, the proportion of labeled sentences in the feminist briefs across the cases ranges from 1.8% in *Scheidler v. NOW* (2006) to 6% in *McCullen v. Coakley* (2014). In regard to the variation of manually labeled sentences across the “protect life” frames, the results in **Figure 10** indicate that the number of sentences manually labeled with the “protect the lives of patients” frame (n = 277)

is nearly twice as high as the number of sentences that were manually labeled as “protect the lives of women” (n = 154) and “protect the lives of the unborn” (n = 156). Nevertheless, the results of the evaluation of the machine learning model in Chapter five indicate that these differences did not have a major impact on the model’s ability to accurately classify sentences that contain one or more of the “protect life frames.”

4.3.2.2 Patterns in the Protect Life Legal Frame

In this section, I take a closer look at the sentences that I manually read through and labeled with one or more of the “protect life” frames. I begin my discussion by focusing on the counterframing/framing contest between the feminists and their opponents that began in *Frisby v. Schultz* (1988). I draw heavily on the collective action frames and the social movement framing tasks⁸⁵ identified by Snow and Benford (1988), in order to demonstrate how both sides of the cases in my study use the “protect life” frames to convince the Court to decide in their favor. Then I turn my attention to how both sides use the “protect life” frames as diagnostic and prognostic framing tools throughout all nine cases in my study. In doing so, I demonstrate the analytic value of social movement concepts to interpret and understand the results of text mining legal documents.

⁸⁵ Snow and Benford (1988) refer to the following as “core framing tasks.” Diagnostic framing identifies the problem and attributes responsibility, while prognostic framing offers a strategy and solution. The final core framing task, motivational framing, offers a rationale and vocabulary for action.

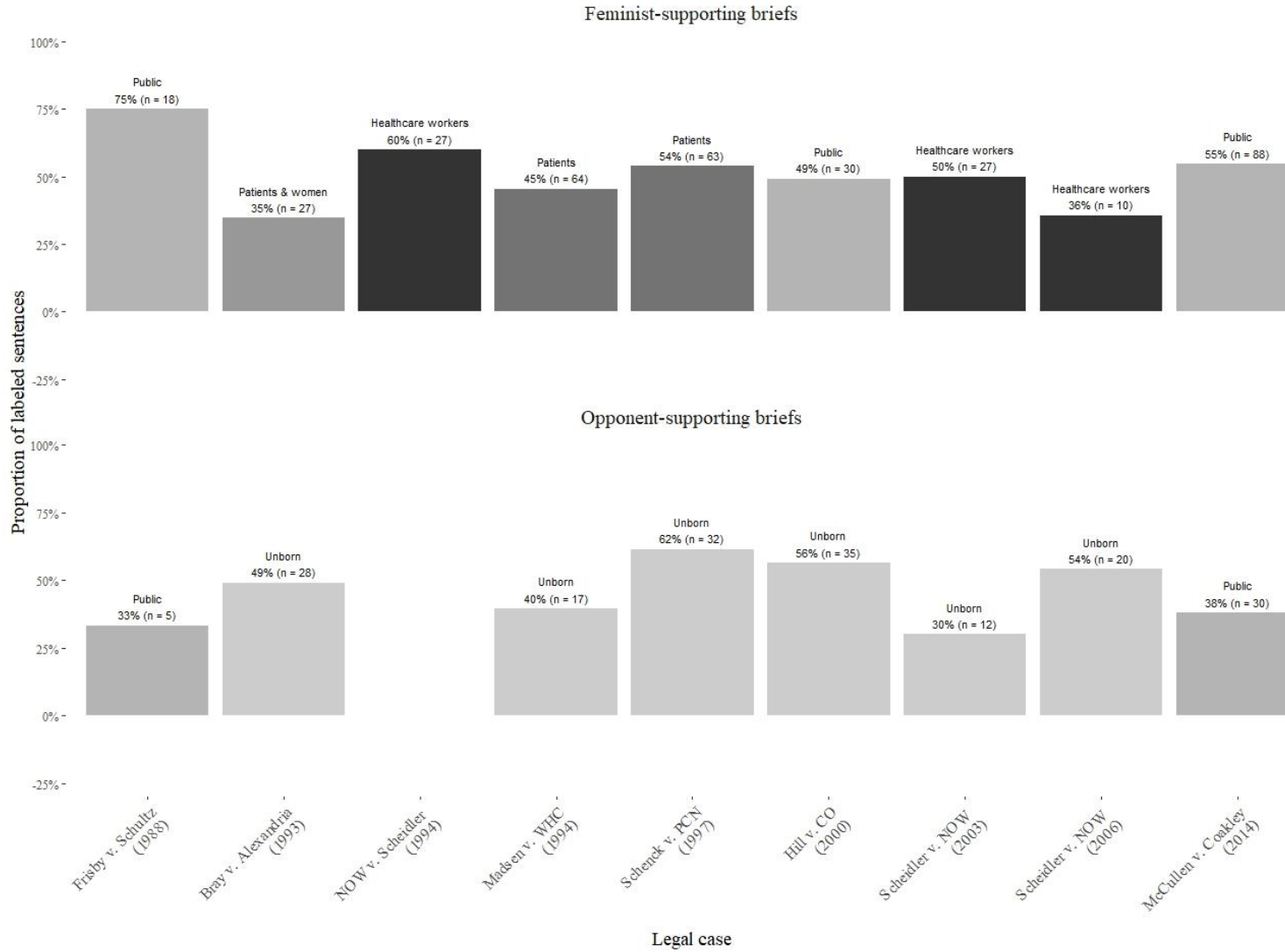


Figure 11 Most common legal frame by legal case and supporting party among labeled sentences

The key findings of the manual sentence labeling are presented in **Figure 11**; the graph shows the proportion of sentences that contain the most common “protect life” frame(s) among the labeled sentences in each case by supporting party⁸⁶⁸⁷, and the results suggest that the “protect life” counterframing/framing contest began with the feminist’s introduction of the “protect the lives of the public” frame in *Frisby v. Schultz* (1988). The “protect the lives of the public” was the most common frame in the feminist sentences in *Frisby*; it appeared in 75% (n = 18) of the 24 labeled feminist sentences. While the majority (67%, n = 10) of the labeled opponent sentences in *Frisby* did not contain any “protect life” frames⁸⁸, the remaining 33% (n = 5) of sentences contained the “protect the lives of the patients” frame.

The feminists in *Frisby* wanted the Court to uphold the town of Brookfield’s picketing ordinance that prevented protests in residential areas. In order to accomplish this, they used the “protect the lives of the public” as a *diagnostic frame* to identify and articulate the risks that the anti-abortion protesters posed to the safety of the community at large. As the National Institute of Municipal Law Officers argue in their amicus brief in support of the feminist party in *Frisby*, that the “behavior [by the protesters] is inherently distracting and poses a significant risk to public safety.” By using the “protect the lives of the public” frame to place the blame squarely on the shoulders of the protesters, the feminists in *Frisby* highlight the diagnostic dimension of this frame.

⁸⁶ Because my analysis is focused on patterns in the “protect life” frame, I omitted sentences that did not contain a frame. There is no frame associated with the labeled opponent sentences in *NOW v. Scheidler* (1994) because none of the labeled sentences contained a “protect life” frame.

⁸⁷ In *Bray v. Alexandria* (1993), two frames tied for the most common “protect life” frame among the labeled feminist briefs. The “protect the lives of patients” and “protect the lives of women” each appeared in 35% (n = 27) of the labeled feminist sentences in *Bray*, and together they made up 70% of all of the labeled feminist sentences in the case.

⁸⁸ Please see the Appendix for a graph illustrating the distribution of all of the manually labeled sentences by legal frame, case, and supporting party.

While the majority (67%, $n = 10$) of the 15 labeled opponent sentences in *Frisby* did not contain a “protect life” frame, the remaining five sentences contained one frame: “protect the lives of the public.” After reading through these sentences, it is clear that anti-abortion protesters used the “protect life” frames to deflect the feminists’ accusations that protesters’ words and actions threatened the health and safety of the public. For example, in their amicus brief supporting the protesters in *Frisby*, the ACLU contends that the ordinance does not effectively address concerns around public safety “because it is not aimed directly at the purported effects of picketing, such as traffic congestion and pedestrian safety.” By refuting the efficacy of the feminists’ solutions to the public safety problem, the opponents are engaging in what social movement scholars refer to as “counterframing” (Benford 1987). As Benford and Hunt (1994) have observed, opponents’ counterframes often result in reframing activity by the movement. Such “framing contests⁸⁹” (Ryan 1991) can be observed in *Frisby*.

The feminists accurately anticipated the state of the counterframing by the protesters, and they deflected such frames by addressing the ways in which less restrictive measures on picketing would not solve the public safety problem. In their amicus brief supporting the feminist party in *Frisby*, the National Institute of Municipal Law Officers argues, “In light of the distracting actions of picketers, the narrow streets, lack of sidewalks, and small police force available to adequately regulate traffic problems, limiting the time and number of picketers would not eliminate the risk to public safety.” By using the “protect life” frame as a prognostic tool to undermine their opponents’ claims that public safety can be achieved through less

⁸⁹ For more work on framing contests see Hedley and Clark (2007), Stewart et al. (2017), and Saguy et al. (2005).

restrictive means, the feminists in *Frisby* demonstrate how a movement's constituents can extend a movement's frame to achieve multiple framing tasks.

Oftentimes, the feminists used the “protect life” frame as a diagnostic tool again to identify the protesters as the source of the problem. As NARAL argues in its amicus brief in support of the feminist party in *Bray*, “Their [the protesters'] main business is physically blocking access to a range of health care facilities for women and bullying and intimidation of patients, clinic staff, and pro-choice supporters.” Similarly, in their brief to the Court, the feminist party in *Bray* place the blame squarely in the hands of their opponents, writing, “They [the protesters] choose to blockade clinics as a mob and intimidate the women patients rather than debating women about their choices and trying to persuade women to their view.” By focusing on the threat to the health and safety of women and patients that enter abortion clinics, and identifying anti-abortion protesters as culpable agents, the feminists' use of the “protect life” frames constitutes a diagnostic frame.

Some research suggests that the specific problems that a movement identifies in its diagnostic frame(s) constrain the range of potential prognostic frames and advocated solutions (Futrel 2003; Gerhards & Rucht 1992; Nepstad 1997; McVeigh et al. 2004). Generally, feminists' prognostic framing activity in relation to the “protect life” frame often involves refuting the efficacy of their opponents' solutions regarding how best to protect the health and safety of others as well as a legal rationale for their proposed solution.

Throughout the cases in my study, feminists used the “protect life” frame to illustrate how protesters actions threatened the lives of women and patients seeking reproductive healthcare. This led to reframing by the opponents, and it appears that this occurred in a two-step process. The opponents began by extending the “protect life” frame to include the unborn in the

second case decided by the Court in my study, *Bray v. Alexandria* (1993). After extending the “protect life” frame to include the unborn, the protesters attempted to reverse feminist accusations that protesters were to blame for the harms done to clinic goers. They did this by reframing abortion as the “the killing of an innocent human person⁹⁰.” The findings in **Figure 11** support this; after the Court ruled on *Frisby v. Schultz* (1988), the “protect the lives of the unborn” appeared as the most common “protect life” legal frame among the labeled opponent sentences in six of the remaining eight cases⁹¹. Moreover, just as the feminists used various iterations of the “protect life” frame as diagnostic and prognostic tools, the opponents used this frame to highlight the lack of protections for the unborn as well as undermine the feminists’ tactics while justifying their own actions to the Court.

4.4 Conclusion

This chapter used text mining methods to create four cultural context measures and identify legal frames in amicus and party briefs. Using 696 newspaper articles from four conservative news outlets and one liberal news outlet, I was able to trace the average sentiment of articles published during the year preceding each Supreme Court case in my study, and I used this to construct four measures that assess the role that variation in news sentiment plays in the use of particular legal frames in Chapters five and six of my dissertation. Also in this chapter, I labeled 1,105 sentences based on the appearance of one or more “protect life” legal frames in order to create a dataset that I use to train and evaluate a machine learning model that classified the remaining > 40,000 sentences in the legal briefs in my study.

⁹⁰ Brief the Southern Center for Law & Ethics et al. as Amici Curiae Supporting the Petitioners, *Madsen v. Women’s Health Center, Inc.*, 512 U. S. 753 (1994).

⁹¹ The “protect the lives of the public” appeared as the most common “protect life” frame among the labeled opponent sentences in the final case, *McCullen v. Coakley*, and there were no “protect life” frames in the labeled opponent sentences in *NOW v. Scheidler* (1994).

CHAPTER 5

Machine Learning: Sentence Classification

In the following section, I describe how and why I used supervised machine learning, specifically Legal-BERT for **multilabel sentence classification**⁹², to identify the “protect life” frames in the legal texts in my study. While the dictionary-based text mining method can be a quite lengthy process, supervised machine learning methods can quickly generate a list of results that are often evaluated in terms of their accuracy and precision (Terry et al. 2019).

5.1 Machine Learning Language Models

Historically, machine learning language models could only read text sequentially, from left to right, and these “context-free” models, such as word2vec and GloVe, lacked the ability to distinguish between words with multiple meanings (see Beekhuizen et al. 2021). For example, the term “right” will have the same vector (i.e., numeric) representation in the following sentences: (a) “Petitioners support the unborn child’s right to life” and (b) “The woman was right when she contacted authorities about being harassed by protesters.” In the first sentence, the term “right” refers to constitutional protections, but in the second sentence, “right” is used to explain that the woman is correct. In 2018, Google introduced and open-sourced a new family of language models, **BERT**⁹³, which stands for Bidirectional Encoder Representations from Transformers. BERT is the first **bidirectional, unsupervised deep-learning** system for pre-training NLP. BERT’s **bidirectionality** enables it to read text both left to right and right to left

⁹² For further discussion on the classification of multilabeled data see Herrera et al. (2016).

⁹³ See Vaswani et al. (2017) for a detailed discussion on transformers and BERT.

(Devlin et al. 2018). As a result, BERT will produce a **contextual embedding**⁹⁴ (i.e., numeric representation) of the term “right” that is different according to the sentence.

However, because BERT was pretrained on generic texts, researchers have found that it underperforms when applied to domain-specific texts⁹⁵ (Zheng et al. 2021; Elwany et al. 2019). To overcome this limitation, scholars have fine-tuned BERT on domain-specific texts. While the bulk of this work has focused on scientific and biomedical texts, there is a small but growing number of researchers that have contributed to improving the performance of legal NLP tasks including legal judgement prediction (Chalkidis et al. 2019), and Court opinion aggregation (Ye et al. 2018).

In 2020, Chalkidis et al. introduced **Legal-BERT**⁹⁶, a family of BERT models that Chalkidis and colleagues trained from scratch by on US, EU, and UK legal corpora that are aimed at assisting in legal NLP tasks. Since then, a number of researchers have fine-tuned Legal-BERT for topic modeling in legal documents (Silveira et al. 2021) and legal document classification (Limsopatham 2021; Pal et al. 2023).

Several scholars have compared the performance of general domain BERT-based models (e.g., BERT, ALBERT, and RoBERTa) to Legal-BERT, and the results are mixed. Caballero et al. (2022) found that BERT and ALBERT achieved better performance than Legal-BERT on

⁹⁴ See Liu et al. (2020) for a review of contextual embedding models and their applications.

⁹⁵ Work by Caballero et al. (2022) found that general domain BERT-based models (e.g., BERT and ALBERT) achieved better performance than Legal-BERT on question answering tasks when applied to the SQuAD V2 and PolicyQA datasets. It is important to note that neither of these datasets, however, appear to be related to law or government policy. Instead, the SQuAD V2 dataset is based on a set of Wikipedia articles (Rajpurkar et al., 2016, 2018), and the PolicyQA dataset contains reading comprehension examples created from 115 website privacy policies (Ahmad et al., 2020).

⁹⁶ The neural network architecture and pre-training steps of the Legal-BERT-base-uncased model are similar to the standard BERT-base-uncased model (Devlin et al. 2018). It has 12 layers, 786 hidden layers, and 12 attention heads. The pre-training was conducted on over 350,000 legal texts with batch sizes of 256 and maximum sentence lengths of 512 character (Chalkidis et al. 2020).

question answering tasks when applied to the SQuAD V2 and PolicyQA datasets. It is important to note that neither of these datasets, however, appear to be related to law or government policy. Instead, the SQuAD V2 dataset is based on a set of Wikipedia articles (Rajpurkar et al., 2016, 2018), and the PolicyQA dataset contains reading comprehension examples created from 115 website privacy policies (Ahmad et al., 2020). Indeed, most work supports the notion that BERT models that are pre-trained on large legal text corpora outperform models pre-trained on general documents across a variety of legal NLP tasks including statute law retrieval (Wehnert et al. 2021), legal document classification (Limpsopatham 2021), evaluation of legal case note writing (Rakovic et al. 2022), and legal judgement prediction (Masala et al. 2021).

5.2 Fine-tuning Legal-BERT

The overruling machine learning task for my dissertation is multilabel text classification, where sentences could be classified as “no frame” or up to five protecting life frames. In order to accomplish this, I began by separating the sentences that I manually labeled in the Chapter four into training (70%) and testing (30%) datasets. In machine learning, the data are partitioned into two (sometimes three⁹⁷) groups: **training** and **testing** sets. The training data, often the largest in terms of size, are used to train the model, and the testing data used to evaluate model performance⁹⁸. Then I used the training and testing data to fine-tune and evaluate Legal-BERT so that it would be able to classify all of the sentences in the legal briefs in the same way that I classified the sentences in the training and testing data. **Table 10** provides a summary of the

⁹⁷ Researchers will sometimes include a validation set if they need to perform model selection; another option is to perform k-fold cross validation on the testing set.

⁹⁸ See Hindman (2015) and Grimmer et al. (2021) for further discussion on machine learning in the social sciences.

number of sentences and sentence lengths in the training and testing data, and it shows that the characteristics of the training and testing datasets are nearly the same.

| | Training data | Testing data |
|-------------------------|----------------------|---------------------|
| Number of sentences | 779 | 326 |
| Min. sentence length | 41 | 41 |
| Max. sentence length | 504 | 512 |
| Average sentence length | 202 | 204 |

Table 10 Summary of sentences in training and testing data

Figure 12 shows the distribution of the sentences in the training and testing sets by their frame and supporting party. Overall, the distributions in the training and testing data are similar, and feminist sentences make up a larger portion of most of the data compared to the opponent sentences in both datasets. In total, 615 feminist and 309 opponent sentences were used to create the training dataset, and 248 feminist and 121 opponent sentences were used to create the testing dataset. Among these sentences, 74 feminist and 98 opponent sentences in the training data and 36 feminist and 38 opponent sentences in the testing data were labeled “no frame.” There were 126 feminist and 32 opponent sentences in the training data and 56 feminist and 20 opponent sentences in the testing data that contained the “protect the lives of the public” frame. There were 173 feminist and 22 opponent sentences in the training data and 75 feminist and seven opponent sentences in the testing that contained the “protect the lives of the patients” frame. There were 160 feminist and 13 opponent sentences in the training data, and 52 feminist sentences and one opponent sentence in the testing data that contained the “protect the lives of healthcare workers” frame. There were 79 feminist and 36 opponent sentences in the training data, and 28 feminist and 11 opponent sentences in the testing data that contained the “protect the lives of women” frame. Finally, there were 108 opponent and three feminist sentences in the training data, and

one feminist sentence and 44 opponent sentences in the testing data that contained the “protect the lives of the unborn” frame.

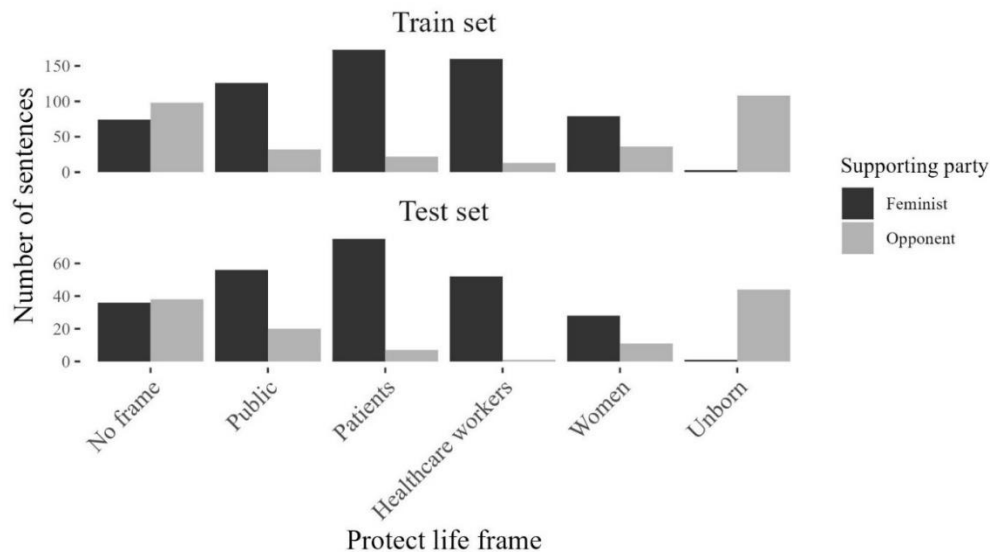


Figure 12 *Distribution of sentences in training and testing sets*

I imported the testing and training data into Python, and I used the HuggingFace⁹⁹ pre-trained Legal-BERT *AutoTokenizer* to pad the sentences and create numeric representations of the sentences (i.e., **sentence embeddings**¹⁰⁰). BERT-models require that all of the sentences have the same length, and **padding** adds special tokens to shorter sentences to ensure that all sentences have the maximum length accepted by the model. Next, I fine-tuned Legal-BERT for multilabel sentence classification on the training dataset using the *AutoModelForSequenceClassification* from HuggingFace.

⁹⁹ The HuggingFace open-source transformer library consists of a wide array of transformer architectures under a single API. For further discussion see Wolf et al. (2019).

¹⁰⁰ There is a great deal of literature focused on sentence embeddings and proposed methods; see Reimers and Gurevych (2019) for an overview.

After I fine-tuned Legal-BERT, I used the test dataset to evaluate the model’s performance; to accomplish this, I followed Chalkidis et al. (2021) and evaluated the classification performance in terms of the micro-averaged F1-score¹⁰¹. Finally, I used the fine-tuned model to classify all of sentences in the legal briefs. Each sentence received six probability scores, one for each “protect life” frame as well as the probability that it did not contain any frame. Anytime a sentence received a probability score of at least 0.5¹⁰² for a particular frame, then the frame was considered present in the sentence.

5.3 Results

In order to understand the evaluation metrics, it might be helpful to consider the output of the model the same way that one would interpret the output of multinomial logistic regression; every sentence is an independent variable, the six frames are the dependent variables, and part of the output is the natural log of the odds (i.e., logit) that the sentence is in each category. After converting the logit scores to probabilities, I used the probabilities to determine which frame(s) to assign to each sentence. If the probability was greater than the conventional 0.5 threshold (see Haghghian Roudsari et al. 2022), the sentence was classified as that frame. If the probability was less than or equal to 0.5, then the sentence was not classified as that frame.

To illustrate this, **Table 11** shows the model output for three sentences that were classified using the fine-tuned Legal-BERT for multilabel classification, and all of the logit values have been converted to probabilities; an asterisk (*) next to a probability indicates that the

¹⁰¹ The F1 score is the harmonic mean of precision and recall, and its three variants, micro averaging, macro averaging, and weighted averaging, are commonly used to evaluate multilabel models (see Lipton et al. 2014 for a detailed discussion on the F1 score and its variants).

¹⁰² There is no standard or agreed upon cut-off value; I chose 0.5 because it made the most intuitive sense. others (e.g., Pillai et al. 2013; Triguero and Vens 2016) tested multiple cut-off values and selected the one that produced the smallest possible micro-averaged F1-score.

sentence was classified as the column frame. The first sentence is from the opponent party brief in *Schenck v. Pro-Choice Network* (1997), and it received the “No frame” (probability = 0.84) frame because that was the only frame that received a probability score greater than or equal to 0.5. The second sentence is an amicus brief filed in support of the feminist party in *Bray v. Alexandria* (1993), and it was classified as “protect the lives of women” frame because that was the only frame (probability = 0.57) that received a probability greater than or equal to 0.5. Finally, the last sentence, an amicus brief filed in support of the opponents in *McCullen v. Coakley* (2014), received two frames: the first, “protect the lives of the unborn” (probability = 0.66), and the second, “protect the lives of women” (probability = 0.51).

| Sentence | Unborn | Women | Healthcare workers | Patients | Public | No frame |
|---|--------------|--------------|--------------------|----------|--------|--------------|
| In the Spring of 1992, the Court became involved in the Pro-Life Movement's convergence on Buffalo, New York for what was termed the Spring of Life ¹⁰³ . | 0.12 | 0.08 | 0.07 | 0.07 | 0.11 | 0.84* |
| There is also the incalculable injury to a woman's sense of well-being when she is forced to see that local law enforcement officials were, even temporarily, unable to protect her rights ¹⁰⁴ . | 0.16 | 0.57* | 0.12 | 0.10 | 0.19 | 0.07 |
| Indeed, this Court has recognized a state's interest in protecting the health of the woman and the life of the fetus ¹⁰⁵ . | 0.66* | 0.51* | 0.10 | 0.11 | 0.13 | 0.10 |

Table 11 Fine-tuned Legal-BERT multi-label classification results for three sentences

¹⁰³ Brief for Petitioners, *Schenck v. Pro-Choice Network of Western N.Y.*, 519 U. S. 357 (1997)

¹⁰⁴ Brief for Falls Church, Virginia Amicus Curiae in Support of Respondents, *Bray v. Alexandria Women's Health Clinic*, 506 U. S. 263 (1993)

¹⁰⁵ Brief Of Bioethics Defense Fund, et al. as Amici Curiae in Support of Petitioners, *McCullen v. Coakley*, 573 U. S. 464 (2014)

| Sentence | Ground truth: Women | Prediction: Women | Ground truth: Unborn | Prediction: Unborn | Ground truth: Patients | Prediction: Patients |
|--|---------------------|-------------------|----------------------|--------------------|------------------------|----------------------|
| Rescues involve the intent to nonviolently protest abortion, to protect unborn human life and the mother, which has not been proscribed for purposes of Section 1985 ¹⁰⁶ . | 1 | 0 | 1 | 1 | 0 | 0 |
| On some days, patients would be able to enter the clinic only with the help of police and escorts ¹⁰⁷ . | 0 | 0 | 0 | 0 | 0 | 1 |
| In evaluating the reasonableness of the restrictions imposed by the injunction, it is essential to consider the factual circumstances in the present case, including the history of past anti-abortion conduct, the unique functions of a medical facility, and the need to protect patient health and safety ¹⁰⁸ . | 0 | 0 | 0 | 0 | 1 | 1 |
| This Court has noted that each State has an interest from the on-set of pregnancy in protecting the health of the woman ¹⁰⁹ . | 1 | 1 | 0 | 0 | 0 | 0 |

Table 12 Ground-truth labels and predictions of sentences containing “protect life” frames

¹⁰⁶ Brief of The Rutherford Institute and The Rutherford Institute of Connecticut as Amici Curiae in Support of Petitioners, *Bray v. Alexandria Women’s Health Clinic*, 506 U. S. 263 (1993)

¹⁰⁷ Brief for the National Abortion Federation and Planned Parenthood Federation of America, Inc. as Amici Curiae in Support of Respondents, *Bray v. Alexandria Women’s Health Clinic*, 506 U. S. 263 (1993)

¹⁰⁸ Brief of NOW Legal Defense and Education Fund, et al. as Amici Curiae in Support of Respondents, *National Organization for Women, Inc. v. Scheidler*, 510 U. S. 249 (1994)

¹⁰⁹ Brief of 40 Days for Life as Amicus Curiae in Support of Petitioners, *McCullen v. Coakley*, 573 U. S. 464 (2014)

5.3.1 Model Evaluation

I used three metrics to evaluate the fine-tuned model’s performance on the test data (recall that the training data was used to fine-tune the model): precision, recall, and micro-F1¹¹⁰. The basis of these metrics comes from the concepts **true positive**, **true negative**, **false positive**, and **false negative**. **Table 12** illustrates these concepts; it shows the ground-truths and predicted frames for four sentences in the training and testing datasets. The first sentence is from the opponent party brief in *Bray v. Alexandria* (1993), and it received two “protect life” frames: “protect the lives of women” and “protect the lives of the unborn.” However, the model only predicted the “protect the lives of the unborn” frame. This is an example of a **false negative** or **Type II error**; this occurs when a classifier misses a frame that exists in the sentence.

The second sentence in **Table 12** is from an amicus brief supporting the feminist party in *Bray v. Alexandria* (1993) that does not contain any “protect life” frames (i.e., it was classified as “No frame”), but the model predicted that the sentence contained a “protect the lives of patients” frame. This is an example of a **false positive** or **Type I error**, and it occurs when a classifier predicts a frame that does not exist in the sentence.

The final sentence comes from an amicus brief filed in support of the feminist party in *Madsen v. Women’s Health Center* (1994), and the model correctly predicted the existence of the “protect the lives of patients” frame. When a classifier correctly predicts the existence of a frame it is referred to as a **true positive**. Similarly, a **true negative** occurs when a classifier correctly predicts the non-existence of a frame. This can be observed in the fourth sentence, an amicus

¹¹⁰ For an overview of metrics used to evaluate multiclass classification models see Grandini et al. (2020.)

brief supporting the opponents in *McCullen v. Coakley* (2014), when the classifier correctly predicts that “protect the lives of patients” does not exist in the sentence.

Precision is the number of true positives for a certain frame divided by all of the positive predictions belonging to that frame. In other words, precision measures the model’s ability to correctly identify instances of a particular frame.

$$\text{Precision} = \frac{\textit{True positive}}{\textit{True positive} + \textit{False positive}}$$

For example, the number of times the model predicted the “protect the lives of patients” frame in **Table 12** is two but only one was a correct prediction. Therefore, the precision for the patients frame would be $\frac{1}{2} = 0.5 = 50\%$.

Recall is the proportion of true positives for a given frame divided by all of the true examples for that frame. Practically, recall is the ability of a model to find all of the sentences with the frame in a dataset.

$$\text{Recall} = \frac{\textit{True positive}}{\textit{True positive} + \textit{False negative}}$$

For example, the classifier missed the “protect the lives of women” frame in the first sentence in **Table 12**, but it correctly predicted it in the fourth sentence. Therefore, the recall for the women frame would be $\frac{1}{1} = 1 = 100\%$.

While an in-depth discussion of the trade-off between precision and recall is outside the scope of this paper, it is important to note that typically there is a negative relationship between precision and recall; that is, when one metric increases the other decreases. Because precision only considers observations that were classified as a particular frame, it is a useful metric when

we only care about the *predicted* target frame being correctly classified. On the other hand, recall is useful when we are interested in the model correctly classifying the sentences that *actually* contain a particular frame.

The F1 score is the weighted average between precision and recall for each frame. Given that most researchers want to balance precision and recall, the F1-score is typically the preferred metric, and it is calculated using the following formula:

$$\text{F1-score} = \frac{2}{\text{Precision}^{-1} + \text{Recall}^{-1}} = 2 \cdot \left(\frac{\text{Precision} \cdot \text{Recall}}{\text{Precision} + \text{Recall}} \right)$$

When it comes to evaluating the overall model performance of multilabel classifiers, the F1-score must involve all of the frames. The **micro F1-score** accomplishes this by calculating the total true positives, false negatives, and false positives globally, or for all of the frames.

Table 13 shows the evaluation metrics¹¹¹ for all six frames and the overall performance of the fine-tuned Legal-BERT for multilabel sentence classification. The micro-averaged precision, recall, and F1-scores for the overall model are all 87.35%. Impressively, the results indicate that the fine-tuned model outperforms the original Legal-BERT in terms of its micro F1-score¹¹². The precision, recall, and F1-score for the “No frame” classification are 96.60%, 77.99%, and 85.70%, respectively. The precision, recall, and F1-score for the “Patients” frame are 88.37%, 92.68%, and 90.48%, respectively. The “Unborn” frame has the highest recall (100.00%) and F1-score (98.90%) among all of the frames, and it has a precision of 97.83%. The “Public” frame has the highest precision (100.00%) among all of the frames, and the recall and F1-scores are 90.79% and 95.17%, respectively. The precision for the “Women” frame is

¹¹¹ See the Appendix for the confusion matrix for all six labels.

¹¹² Chalkidis et al. (2020) reported a maximum F1-score = 59.2 for the multilabel task.

75.68%. Moreover, the “Women” frame received the lowest recall (71.79%) and F1-score (73.68%). Finally, the “Workers” frame received the lowest precision score (66.67%), and its recall and F1-score are 90.57% and 76.80%, respectively.

| Protect life frame | Precision | Recall | F1-score |
|--------------------------------------|------------------|---------------|-----------------|
| Fine-tuned Legal-BERT ¹¹³ | 87.53% | 87.53% | 87.53% |
| No frame | 96.61% | 77.03% | 85.71% |
| Patients | 88.37% | 92.68% | 90.48% |
| Unborn | 97.83% | 100.00% | 98.90% |
| Public | 100.00% | 90.79% | 95.17% |
| Women | 75.68% | 71.79% | 73.68% |
| Workers | 66.67% | 90.57% | 76.80% |

Table 13 Performance results of fine-tuned Legal-BERT

5.3.2 Sentence Classification Results

In the following section, I discuss the results of the multilabel sentence classifier.

According to the results of the fine-tuned Legal-BERT model, the majority of the sentences in the feminist (n = 12,574) and opponent (n = 21,350) briefs do not contain a “protect life” frame, and I limit the discussion of the results to sentences that were classified as one or more “protect life” frames. I begin by identifying patterns in legal framing innovation. Because social movement framing is an ongoing, dynamic, and contested process, I also attend to the ways in which broader contextual factors may constrain and facilitate the use of particular “protect life” frames.

¹¹³ For the overall model, all three metrics have been micro-averaged and include the true positive, false positive, and false negative predictions across all classes.

Throughout my discussion, I draw on the frame alignment and social movement framing tasks identified by Snow and Benford (1988), in order to demonstrate how social movement supporters engage in legal framing innovation to convince the Court to decide in their favor. In doing so, I demonstrate the analytic value of social movement concepts to both identify patterns in legal framing innovation as well as understand the results of machine learning algorithms.

Figure 13 shows the distribution of sentences classified by the fine-tuned transformer model by legal frame and supporting party. The majority of feminist sentences were classified as “protect the lives of patients” (n = 1,311), while the majority of opponent sentences were classified as “protect the lives of women” (n = 862). The “protect the lives of the unborn” frame is the least common frame among the feminist sentence (n = 23), but it is the second most common frame among the opponent sentences (n = 455). Meanwhile the “protect the lives of healthcare workers” is the least common frame in the opponent sentences (n = 159), but it is the third most common feminist sentence frame (n = 962).

Table 14 and **Figure 14** show the distribution of the proportion of sentences¹¹⁴ that contain “protect life” frames by legal case and supporting party. **Figure 14** uses a Sankey diagram¹¹⁵ to illustrate changes in the proportion of sentences that contain each “protect life” frame across the legal cases in my study by supporting party; the top graph in **Figure 14** traces the changes in the proportion of feminist sentences that contain the “protect life” frames, and the bottom graph traces the proportion of opponent sentences that contain the frames. The width of

¹¹⁴ The results are limited to frames that occurred in at least 0.05% of the brief sentences for a given case and supporting party.

¹¹⁵ While bar are great tools for illustrating changes across categories, they do not do a great job at displaying relative changes over time. Traditionally, line graphs have been used to illustrate how values across different categories vary over time, but I find them difficult to interpret when the number of categories is greater than 3. Therefore, I chose to display the results in a Sankey diagram in order to emphasize the relative changes in each frame’s frequency over time rather than focus on the exact proportion of sentences that contain each frame.

each frame's line is equivalent to the proportion of sentences that contain that particular frame. The order of the lines is also based on the relative proportion of sentences that contain each frame; for each case, the frame with the highest proportion of sentences is on top, and the frame with the lowest proportion of sentences is on the bottom.

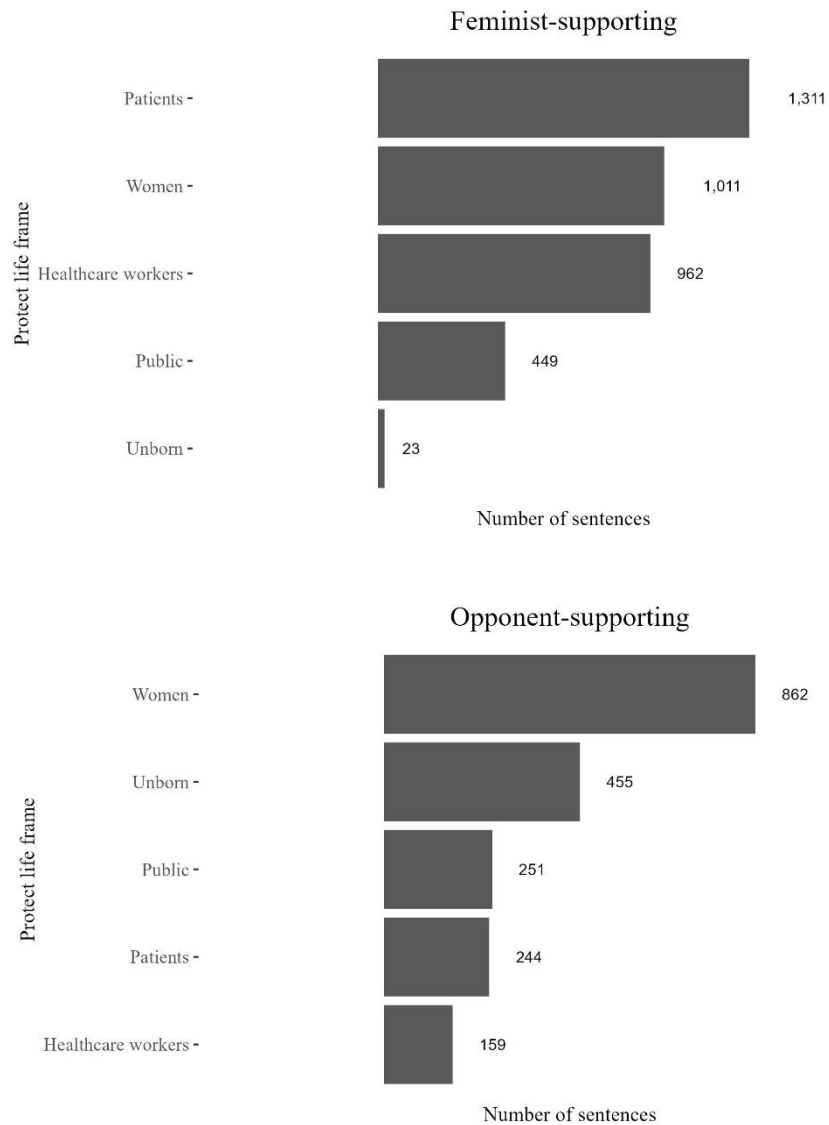


Figure 13 Distribution of labeled sentences by legal frame and supporting party

| Supporting party, Legal case | Healthcare workers | Patients | Public | Unborn | Women |
|---|---------------------------|-----------------|---------------|---------------|--------------|
| Feminist-supporting briefs | | | | | |
| <i>Frisby v. Schultz</i> (1988) | 0.0% | 0.0% | 8.8% | 0.0% | 0.0% |
| <i>Bray v. Alexandria</i> (1993) | 2.8% | 6.2% | 0.0% | 0.0% | 12.6% |
| <i>NOW. v. Scheidler</i> (1994) | 4.5% | 3.3% | 0.0% | 0.0% | 6.3% |
| <i>Madsen v. Women's Health Center</i> (1994) | 9.0% | 11.5% | 2.5% | 0.0% | 3.9% |
| <i>Schenck v. Pro-Choice Network</i> (1997) | 7.7% | 10.9% | 1.9% | 0.0% | 3.7% |
| <i>Hill v. Colorado</i> (2000) | 5.7% | 10.2% | 4.9% | 0.0% | 3.3% |
| <i>Scheidler v. NOW</i> (2003) | 4.2% | 3.7% | 0.0% | 0.0% | 2.8% |
| <i>Scheidler v. NOW</i> (2006) | 3.7% | 2.5% | 0.6% | 0.0% | 4.2% |
| <i>McCullen v. Coakley</i> (2014) | 5.0% | 8.7% | 6.0% | 0.0% | 5.4% |
| Opponent-supporting briefs | | | | | |
| <i>Frisby v. Schultz</i> (1988) | 0.0% | 0.0% | 3.7% | 0.0% | 0.0% |
| <i>Bray v. Alexandria</i> (1993) | 0.0% | 0.0% | 0.0% | 2.5% | 12.5% |
| <i>NOW. v. Scheidler</i> (1994) | 0.0% | 0.0% | 0.0% | 0.0% | 0.6% |
| <i>Madsen v. Women's Health Center</i> (1994) | 1.0% | 1.3% | 1.5% | 1.7% | 3.6% |
| <i>Schenck v. Pro-Choice Network</i> (1997) | 0.8% | 1.8% | 0.9% | 3.6% | 2.6% |
| <i>Hill v. Colorado</i> (2000) | 1.3% | 2.1% | 1.4% | 3.6% | 1.0% |
| <i>Scheidler v. NOW</i> (2003) | 0.5% | 0.0% | 0.0% | 1.0% | 1.0% |
| <i>Scheidler v. NOW</i> (2006) | 0.0% | 0.0% | 0.0% | 2.2% | 0.7% |
| <i>McCullen v. Coakley</i> (2014) | 0.9% | 1.7% | 2.1% | 0.6% | 4.4% |

Table 14 Distribution of sentences by legal frame, legal case, and supporting party

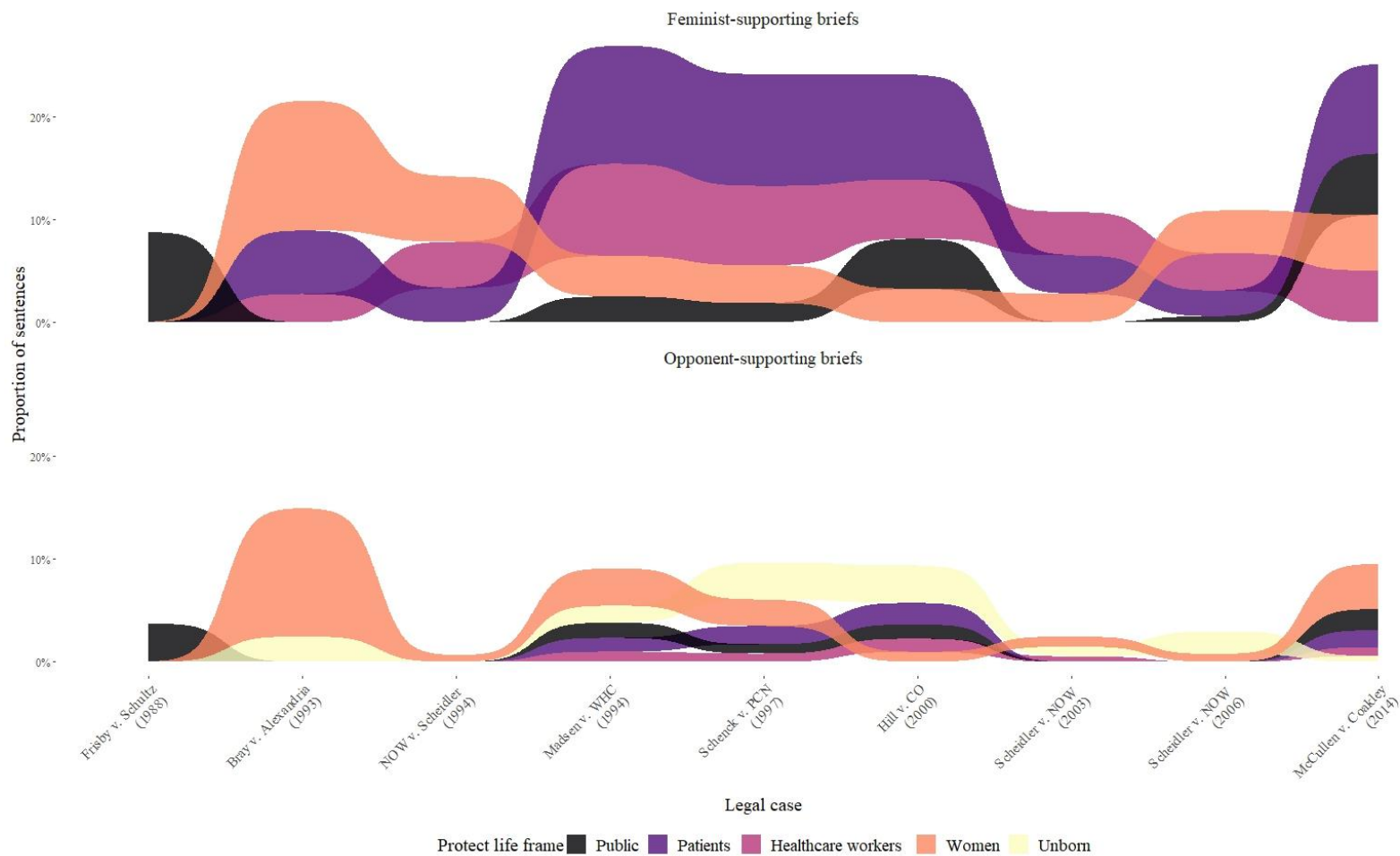


Figure 14 *Distribution of sentences by legal frame, legal case, and supporting party*

5.3.2.1 Identifying Legal Framing Innovation

The findings of the multilabel sentence classifier presented in **Figure 14** reveal four instances of framing innovation. I consider framing innovation to occur anytime a new “protect life” frame is used as the most common (i.e., “primary”) “protect life” frame. **Figure 14** shows that the “protect life” frame was initially used by feminists and anti-abortion protesters in *Frisby v. Schultz* (1988) to emphasize public safety. Then, in the following case, *Bray v. Alexandria* (1993), the feminists and their opponents transform the “protect life” frame from emphasizing public safety to emphasizing the health and safety of women. The third instance of framing innovation occurs in *Madsen v. Women’s Health Center* (1994); during this case the feminists transform the “protect life” frame from one that focuses on women’s health and safety to one that pays particular attention to the health and safety of clinic patients. The final instance of legal framing innovation occurs during *Schenck v. Pro-Choice Network* (1997), when the opponents change their focus from protecting the lives of women to protecting the lives of the unborn.

5.3.2.1.1 Protect the Lives of the Public

In 1985, the town of Brookfield, Wisconsin enacted an ordinance restricting picketing in residential neighborhoods in response to a group of anti-abortion protesters that were picketing in front of the home of a local doctor that performed abortions. After the law was enacted, the protesters filed suit, claiming that the ordinance violated the First Amendment. When the Court heard the case, *Frisby v. Schultz* (1988), the “protect the lives of patients” frame was the most common frame in both the feminist and opponent briefs submitted in the case. The difference the widths of the black lines above *Frisby* in **Figure 14** indicate that the feminists used the “protect the lives of patients” more frequently than the opponents in *Frisby*.

In *Frisby*, the feminists used the public safety frame as a diagnostic tool to highlight how protesters actions are putting public safety at risk. In an amicus brief filed in support of the feminist party to the case, the National Institute of Municipal Law Officers write that the law “is narrowly tailored to achieve its goal of protecting public safety and welfare concerns because even one picker would disrupt traffic and tranquility in the neighborhoods.”

Meanwhile the opponents in *Frisby* used the “protect the lives of the public” frame as a prognostic tool to reject the notion that the town’s ordinance provides substantial protection for its citizens. On this, the ACLU writes in their amicus brief supporting the anti-choice picketers, “The ordinance is not narrowly tailored to effectively serve public safety concerns because it is not aimed directly at the purported effects of picketing, such as traffic congestion and pedestrian safety, of which the town complains.” Thus, by acknowledging and identifying the ways in which the government can achieve its goal of protecting the health and safety of the public and refuting the solutions proposed by the feminists in the cases, anti-abortion protester supporters are using the “protect the lives of the public” as a prognostic frame.

The political, legal, and cultural contexts during *Frisby* favored the feminists. The average Martin-Quinn score for the Justices (score = -0.03) was the lowest (i.e., most liberal) average score for all of the cases in my study. While the Republicans had control of the executive branch, the Democrats held the majority in the House and Senate, and 86% of states had Democrat majority in at least one state-legislature. Moreover, the average sentiment of newspaper articles covering abortion clinic protests during the year leading up to the oral arguments in *Frisby* was negative which suggests that the cultural context was hostile towards the protesters.

A number of studies demonstrate how changes in culture can result in changes in a frame's potency (see Johnston and Snow 1998; Kubal 1998; Snow et al. 2013; White 1999; King 2008). For example, in her study of framing processes within the Black feminist movement's anti-rape campaign, White (1999) found that the movement was able to increase its frame's mobilizing potential by reframing their message so that it was more aligned with the cultural sentiments shared by their target audience. By presenting a message that was consistent with their target audience's concerns about the Black family, the movement was able to attract more support. Similarly, the opponents' prognostic use of the "protect the lives of patients" frame in a hostile socio-political context appears to be a strategic attempt to align their message with the dominant understandings of the abortion protests at that time.

5.3.2.1.2 Protect the Lives of Women

The central question in *Bray v. Alexandria* (1993) was whether or not anti-abortion protesters conspired to deny women their right to abortion and interstate travel. According to the feminist party to the case, clinic protesters had violated 42 U.S.C. 1985(3), which prohibits conspiracies to deprive "any person or class of persons of the equal protection of the laws, or of equal privileges and immunities under the laws." The protesters asserted that they had not violated section 1985(3) because the statute requires class-based discrimination. In their amicus brief supporting the clinic protesters in *Bray*, the Rutherford Clinic maintained that "Rescues involve the intent to nonviolently protest abortion, to protect unborn human life and the mother, which has not been proscribed for purposes of Section 1985." In response, the feminist supporters in *Bray* argued, "The purpose of petitioners' conspiracy is to deprive women, through

force, violence, and intimidation, of the equal protection of the laws and equal privileges and immunities under the law¹¹⁶.”

In terms of the broader legal, political, and cultural contexts, *Bray* was decided by the Court at a time when the average Martin-Quinn score (0.701) was at its highest, and thus its most conservative, compared to other terms in my study. At the same time, the political and cultural contexts generally favored the feminists. Democrats held control of the House and Senate, the majority of states had a Democrat majority in both state legislatures, and public opinion generally opposed abortion clinic protesters¹¹⁷. It is within a legal context that was much more receptive to the anti-abortion protesters than feminists, and political and cultural contexts that favored the feminists, both sides of *Bray v. Alexandria* (1993) transformed the “protect life” frame from emphasizing concern for public safety to emphasizing the need to protect women.

The feminists continued to rely primarily on the “protect the lives of women” frame during *NOW v. Scheidler* (1994), and during this time period the legal, political, and cultural contexts become more favorable towards the feminists. The average Martin-Quinn score of the Justices decreased from 0.71 to 0.54 indicating a more ideologically liberal judiciary. In terms of the political context, the Democrats remained in control of the Senate and House, and the majority of states had a Democrat majority in both state-level chambers. The cultural context appeared favorable as well; the average sentiment score of newspaper articles that covered abortion protests was negative (-0.04), suggesting that the public held a generally negative attitude towards the protesters.

¹¹⁶ Brief of 29 Organizations Committed to Women's Health and Women's Equality as Amici Curiae in Support of Respondents, *Bray v. Alexandria Women's Health Clinic*, 506 U. S. 263 (1993).

¹¹⁷ The sentiment measures indicate that the average sentiment of newspaper articles on abortion clinic protests during the year before legal arguments in *Bray* was negative.

The results displayed in **Table 14** and **Figure 14** indicate that around 12% of sentences in briefs supporting both sides of *Bray* used the “protect the lives of women” frame. The “protect the lives of women” frame remains the most common “protect life” frame in *NOW v. Scheidler* (1994), appearing in 6.3% of feminist sentences and 0.6% of opponent sentences. It reemerges as the most common “protect life” frame in 4.2% of sentences in feminist briefs in *Scheidler v. NOW* (2006), and then it reappears as the most common “protect life” frame in the opponent briefs in the final case, *McCullen v. Coakley* (2014).

Throughout the cases in my study, the feminists typically used the “protect the lives of women” frame to both identify the source of the problem and justify their proposed solutions. When the feminists use the frame as a diagnostic tool, they do so by attributing women’s lack of safety at abortion clinics to the protesters’ activities. In their amicus brief supporting the feminists in *Bray v. Alexandria* (1993), the states of New York et al. argue, “When protestors reach the site and block the entrance before the police can be notified and respond, the duration of blockades and thus the period during which women are denied health care is prolonged and could be life threatening.” When the feminist-supporters used “protect the lives of women” as a prognostic frame, they did so by articulating how protecting women’s access to abortion is fundamental to protecting women’s health and safety. For example, in a brief by the Religious Coalition for Reproductive choice et al. written in support of the feminist party to the case in *Scheidler v. NOW* (2006), the authors write, “Enjoining violence, blockades, invasions, harassment, and noise are well-established, effective means of protecting women's health clinics.”

The anti-abortion protesters primarily used the “protect the lives of women” as a prognostic tool to not only rebuke feminists’ claims that their actions harm women, but also to

demonstrate how protests actually help protect women from abortion’s “damaging effects on women.”¹¹⁸ For example, in their amicus brief supporting the protesters in *Bray*, the Rutherford Institute, uses the “protect the lives of women” as a counterframe to dismiss the notion that protests are violent or disruptive and reframe the protesters’ actions as “[r]escues [that] involve the intent to nonviolently protest abortion, to protect unborn human life and the mother.”

In *Bray* and *NOW v. Scheidler* (1994), the political and cultural contexts favored the feminists, and the legal context favored the opponents, and the feminists and protesters both primarily used the “protect the lives of women” frame. However, while the feminists used the frame to diagnose the problem and prescribe a solution, the protesters primarily used it prognostically to deflect accusations by the feminists. As such, I argue that the use of the “protect the lives of women” frame in the protesters’ briefs was the result of a framing contest between the feminists and protesters. As I discuss in greater detail in the following section, the feminists’ framing innovations appear much more closely linked to changes in the legal context.

5.3.2.1.3 Protect the Lives of Patients

During *Madsen v. Women’s Health Center* (1994), the first “buffer-zone” case heard by the Supreme Court, the feminists transformed the “protect life” frame from emphasizing the health and safety of women to drawing attention to the ways in which protesters activities posed a significant threat to the health and safety of clinic patients. Similar to *Bray*, the feminists faced a hostile legal context¹¹⁹, and receptive political and cultural contexts¹²⁰ when they presented

¹¹⁸ Brief of Women Exploited by Abortion et al. as Amicus Curiae in Support of Petitioners, *Bray v. Alexandria Women’s Health Clinic*, 506 U. S. 263 (1993)

¹¹⁹ The average Martin-Quinn score of the justices deciding *Madsen* was positive (0.54), indicating a conservate-leaning Court.

¹²⁰The Democrats had control of both the House and Senate, the majority of states had a Democrat majority in both state-level chambers, and the average sentiment of newspaper articles covering abortion protests was negative (-0.06).

their new “protect life” frame to the Court during *Madsen*. The primary contextual difference is the central legal question in both cases. In *Bray*, the feminists were tasked with convincing the Court that the anti-abortion protesters were infringing on women’s civil rights. In *Madsen*, the feminists had to convince the Court that the buffer-zones surrounding abortion clinics did not infringe on the First Amendment right to free speech. In order to accomplish this, the feminists strategically shifted their “protect life” framing activity away from women’s health and safety and towards the government’s compelling interest in protecting the health and safety of patients. The feminists and their supporters use the frame both diagnostically and prognostically. In their amicus brief in support of the feminists in *Madsen v. Women’s Health Center* (1994), the College of OBGYNs et al. strategically use the “protect the lives of patients” frame to justify the feminists’ proposed solution (the buffer-zone) while also attributing the blame to the protesters, arguing, “The injunction serves a substantial, indeed compelling, government interest in restricting conduct that has a demonstrably harmful effect on the health and welfare of patients at a medical facility.”

Figure 14 shows that the feminists continue to use the “protect the lives of patients” as the primary (i.e., most common) “protect life” frame in the remainder of the buffer-zone cases in my study. It is important to note that the central questions in the two cases¹²¹ after *Madsen* that the feminists do not use the “protect the lives of patients” more often than the other “protect life” frames are not concerned with the government’s compelling interests. The opponents use of the “protect life” frames, on the other hand, does not follow the same pattern.

¹²¹ *Scheidler v. NOW* (2003) and *Scheidler v. NOW* (2006) are concerned with the application of the Racketeer Influenced and Corrupt Organizations Act (RICO) and Hobbs Act.

5.3.2.1.4 Protect the Lives of the Unborn

Figure 14 shows that after the Court decided *Frisby v. Schultz* (1988), the anti-abortion protesters vacillate between primarily using one of two “protect life” frames: “protect the lives of women” and “protect the lives of the unborn.” While the anti-abortion protesters and their supporters include the “protect the lives of the unborn” frame in nearly every case in my study, it does not become the most common “protect life” frame in the anti-abortion protesters’ briefs until *Schenck v. Pro-Choice Network* (1997).

This innovation occurred at the same time that the legal and political contexts were becoming increasingly more receptive to the protesters¹²². The average Martin-Quinn score became increasingly more conservative, going from 0.54 during *NOW v. Scheidler* (1994) and *Madsen v. Women’s Health Center* (1994) to 0.63 during *Schenck v. Pro-Choice Network* (1997). In addition, during *NOW v. Scheidler* (1994) and *Madsen*, the Democrats had control of both the House and Senate and the majority of states had a Democrat majority in both state-level chambers. By the time the Court heard *Schenck* in 1997, Republicans held the majority in the Senate and House, and most states had a Republican majority in the state-level legislative chambers. A similar pattern of increasingly more open political and legal contexts appears when “protect the lives of the unborn” reemerges as the most common “protect life” frame in the protesters’ briefs in *Scheidler v. NOW* (2006). Between *Scheidler v. NOW* (2003) and *Scheidler v. NOW* (2006), the average Martin score increases from 0.22 to 0.31. During the same period, the Democrats lost control of the Senate and House, lost 6 seats in the House.

¹²² The cultural context remained hostile towards the protesters; the average sentiment of newspaper articles that covered abortion protests during the year preceding *Schenck v. Pro-Choice Network* was negative (-0.07).

5.4 Conclusion

In this chapter I used the sentences that I labeled in Chapter four to fine-tune Legal-BERT for multilabel sentence classification. I situated the findings within the broader political, legal, and cultural contexts, and I drew on social movement literature in order to identify potential influencers on legal framing innovation.

I found that feminists and anti-abortion protesters generally innovate in very distinct ways. Feminists tend to innovate by transforming the “protect life” frame to include new definitions of the problem and/or solution in response to changes in the fundamental legal questions of the case. In their initial work on the core framing tasks of social movements, Snow and Benford (1988:205) contend that a frame’s “appeal and mobilizing potency are affected by ... the extent to which the framing effort is relevant to or resonates within the life world” of the target audience. When a movement’s frames do not resonate with their audience, “new values may have to be planted and nurtured, old meanings or understandings jettisoned, and erroneous beliefs or ‘misframings’ reframed in order to support and secure participants” through a process referred to as frame transformation (Snow et al. 1986). Particular legal arguments may become more or less relevant to the Justices depending on the constitutional questions being considered in a case. The findings of the machine learning model suggest that feminists litigating before the Supreme Court, as well as their supporters that file amicus briefs on their behalf, strategically introduce new “protect life” frames whenever new questions are being considered by the Court.

Anti-abortion protesters, on the other hand, typically innovate either in response to changes in the broader legal and political contexts or in an attempt “to rebut, undermine, or neutralize a person's or group's myths, versions of reality, or interpretive framework” (Benford 1987:75). Such square-offs have been referred to as “framing contests” (Ryan 1991; Davies

1999; Krogman 1996; Neuman 1998; Williams 1995; McCaffrey & Keyes 2000). Additionally, prior social movement research shows that meaning-making is an inherently contested process, and frames evolve as movements and their opponents interact with each other and the broader environment. According to Benford and Snow (2000:623), “the key to understanding the evolution of frames resides in the discursive process.” However, there is very little empirical work that focuses on this process. My findings demonstrate how new forms of the “protect life” frame are introduced as a result of oppositional movements’ framing.

My findings also indicate that anti-abortion protesters introduce new frames in response to changes in the broader political and legal contexts. While McCammon and Beeson-Lynch (2021) found that prochoice cause lawyers engage in framing innovation when facing a more hostile judiciary, the results of my study indicate that the opposite holds true for anti-abortion protesters who engage in framing innovation when they face more receptive political and legal contexts.

In the next chapter, I use multilevel logistic regression to predict changes in legal framing strategy using internal-movement characteristics, in addition to the broader political, legal, and cultural contexts.

CHAPTER 6

Multilevel Logistic Regression: Predicting Incidents of “Protect the Lives of Patients”

In this chapter, I discuss my multilevel logistic regression to investigate how political, cultural, legal, and internal movement factors influence legal framing. In order to accomplish this, I focus my analysis on the use of the “protect the lives of patients” frame¹²³. I use multilevel logistic regression to predict the appearance of the “protect the lives of patients” legal frame because the briefs are nested within legal cases; ignoring the hierarchical structure and dependence across briefs from the same legal case could potentially lead to inaccurate conclusions. I also use multilevel models because the external movement factors (political, legal, and cultural) are measured at the case level, and the internal movement factors (author type) are measured at the brief level. I begin this chapter by describing the dependent and independent variables in my analyses, and I advance four hypotheses about how internal- and external-movement factors shape the use of the “protect the lives of patients” frame. Then I turn to the results of the models, and I situate the findings in the broader social movement literature on framing.

6.1 Model Variables

In the following section, I discuss the variables that I include in the regression analyses. I begin by describing the dependent variable in the models. Then I turn to the independent variables, beginning with the internal-movement factors, and concluding with the external

¹²³ I explored this regression for the “protect the lives of women” and “protect the lives of patients” frames, and the results were more robust for the patients frame. Therefore, I present those findings at this juncture. However, future research could explore the protect women frame as well as the other “protect life” frames (public, healthcare workers, and unborn).

movement factors, specifically, the political, cultural, and legal contexts that may help explain the use of the “protect the lives of patients” frame.

6.1.1 Dependent Variable

The dependent variable is a binary measure equal to 1 if the “protect the lives of patients” is the most common “protect life” frame in the brief, and 0 otherwise. As such, the unit of analysis is the legal brief, and there are 182 amicus and party briefs filed in the nine abortion clinic protest cases¹²⁴.

I chose to use incidents of the “protect the lives of patients” frame as a measure of legal framing innovation in my regression analyses because it allows me to explore what might cause a particular legal frame to be used. That is, by predicting if the “protect the lives of patients” will appear as the most common “protect life” frame in a brief, I can empirically study which external- and internal-movement factors constrain or facilitate the use of a particular legal frame. As several researchers have noted (Johnston 1995; Steinberg 1998), it is still unclear how “frames get made” (Hart 1996:95); my dependent variable and the results of the regression analyses help address this gap in the literature by identifying important internal- and external-movement factors that shape movement framing strategy.

¹²⁴ There are 71 briefs that support the feminist parties to the cases and 101 briefs that support the opponent parties to the cases. Of the 71 briefs supporting the feminists, ten are party briefs, including one reply brief, and 61 are amicus briefs. Among the 101 opponent briefs, 27 are party briefs, including party reply- and supplemental argument briefs, and 84 are amicus briefs.

6.2.2 Internal Movement Characteristics

To test the effects of internal movement characteristics, I use the proportion of authors in the party and amicus briefs¹²⁵ across eight author types to determine the effects of internal movement characteristics on legal framing: the proportion of (a) government; (b) religious; (c) left social movement; (d) right social movement; (e) medical; (f) legal; and (g); labor union authors.

Government authors include individual actors that have a role in the government (e.g., mayors, governors, and members of Congress), state- and federal-government departments (e.g., the Department of Justice and the Nebraska Department of Education), as well as cities and states. Religious authors include people and groups associated with a religion (e.g., Catholic League for Religious and Civil Rights, Focus on the Family, and Unitarian Universalist Association). The measure of the proportion of left social movement authors includes amicus and party brief authors associated with left-leaning social movements (e.g., the Iowa Coalition Against Sexual Assault, and the Disability Rights Education and Defense Fund). Meanwhile, the measure of the proportion of right social movement authors includes authors associated with right-leaning social movements (e.g., the Thomas Moore Society, Concerned Women for America, and the Pacific Legal Foundation). Medical authors include individuals that work in the medical field as well as medical groups and organizations such as the American Medical Association and the National Coalition of Abortion Providers. Similarly, legal authors include individuals and groups associated with the legal profession, including the Christian Legal

¹²⁵ As I discuss in Chapter three, while there is less variation in the author types among the party briefs compared to the amicus briefs, there are still instances when lawyers representing the feminists and opponents in the cases are associated with left-leaning legal advocacy groups (e.g., one of the attorneys that represented the feminists in *Bray v. Alexandria* (1993) worked at the National Organization for Women) and conservative legal advocacy groups (e.g., all of the attorneys representing Operation Rescue in *Scheidler v. NOW* (2003) worked at American Center for Law and Justice, a politically conservative, Christian-based legal organization).

Society, the American Civil Liberties Union (ACLU), and Women's Law Project. Finally, labor union authors include individuals and groups associated with labor unions and social movement organizations that advocate for workers' rights (e.g., National Education Association, the Coalition of Labor Union Women, and United Steelworkers of America).

The author categories are not mutually exclusive. That is, brief authors could receive more than one author-type label. For example, the American Public Health Association is considered a left social movement and medical author because it is an organization for public health professionals that routinely advocates for increased access to all forms of reproductive healthcare, including abortion.

By their very definition, framing processes involve the use of shared meanings and definitions to invoke claims on behalf of a movement's members (Snow & Benford 1988). To that end, scholars have empirically demonstrated that movement and organizational identity influence framing strategies (Evans 1997; Steinberg 1999). That is, when social movements and SMOs construct frames, they typically use language that reflects their core values and beliefs.

Thus:

Hypothesis 1: An increase in the proportion of authors associated with movements and SMOs whose broader ideological- and organizational-agendas include a commitment to protecting patients' access to healthcare will result in an increase in the odds that the "protect the lives of patients" frame will be the most common "protect life" frame in a legal brief when controlling for the brief's supporting party and brief type.

6.2.3 External Movement Factors

I use four numeric cultural context measures that I constructed in Chapter four. The first and second measures are the average sentiment of all abortion and abortion protest articles. The third and fourth measures are the average sentiment of conservative and liberal newspaper articles.

Given that a frame's effectiveness is tied to its cultural resonance, it makes sense that changes in culture will produce changes in a frame's resonance (see Benford & Snow 2000; Snow & Benford 1988). Throughout the 1980s and early 1990s, the National Organization for Women (NOW) closely monitored public attitudes toward abortion and adjusted its framing strategy accordingly (Rohlinger 2002). Similarly, abortion protesters were keenly aware of public perception, and they strategically framed their protest messages in ways they believed would generate sympathy from the public and government officials. For example, understanding that the public would be much more critical if they thought most rescuers were men trying to take rights away from women, antiabortion activists framed men's protest activities as taking "responsibility for babies and taking risks to protect babies" (Risen & Thomas 1998:194). It may be, then, that similar dynamics appear in the legal briefs. For example, when public sympathy towards clinic protesters is relatively high, lawyers may be more likely to develop legal arguments focused on the discriminatory nature of state laws that restrict protest behaviors rather than protecting the life of one or more groups in society. As such:

Hypothesis 2a: In cultural contexts that are more hostile towards abortion protesters, there is a greater likelihood that feminists and opponents will use frames that emphasize patient safety in both party and amicus briefs.

Along the same lines, when public support for abortion is high, lawyers supporting both sides of the cases in my study may be more likely to develop legal arguments that highlight the need to protect the health and safety of one or more groups in society. Therefore:

Hypothesis 2b: In cultural contexts that are more supportive of abortion, there is a greater likelihood that feminists and opponents will use frames that emphasize patient safety in both party and amicus briefs.

Public support for abortion has remained relatively stable since the Court ruled on *Roe v. Wade* (1973). Democrats and those who lean toward the Democratic Party tend to think that abortion should be legal and accessible to everyone. On the other hand, Republicans and those who lean toward the Republican Party tend to favor policies that restrict people's access to abortion (Pew Research Center 2022). Often these Republican-backed restrictions are upheld on the basis of protecting women's health¹²⁶. As such:

Hypothesis 2c: Feminist and opponent lawyers are more likely to develop legal arguments in party and amicus briefs that emphasize patient health and safety when conservative attitudes toward abortion and abortion protests are more negative.

Conversely:

Hypothesis 2d: Feminist and opponent lawyers are more likely to develop legal arguments in party and amicus briefs that emphasize patient health and safety when liberal attitudes toward abortion and abortion protests are more positive.

¹²⁶ See Friedman (2013:48) for further discussion on how the Supreme Court's jurisprudence since *Roe v. Wade* (1973) has facilitated the "abuse of the argument that the law is protecting women's health as a pretense to limit access to abortion."

I also include four measures to explore the role of the political context in influencing legal framing strategy. The first two are measures of the percent of Democrats in the House of Representatives and the Senate in the year that the Court decides the case. The third measure is the proportion of states with a Democrat majority in both state-level congressional chambers, and the fourth measure is the proportion of states with a Democrat majority in at least one state-level congressional chamber.

Although work that focuses specifically on the relationship between political context and movement framing is limited, it does suggest that the broader political context influences changes in framing (see McCammon 2012; Lemaitre & Sandvik 2015; McCammon & Beeson-Lynch 2021). Rohlinger's (2002) comparative study of framing strategies used by prochoice and antichoice SMOs during the 1980s and 1990s suggests that organizational frames shift in response to changes to the political climate. Specifically, she found that after a series of legislative losses at the state level during the mid-1980s, the National Organization for Women (NOW) shifted their framing strategy from a focus on countermovement activity to the failure of the state to protect women. A number of scholars have also documented the antiabortion movement's shift from emphasizing protecting the fetus to protecting the woman which parallels the Republican party's increasing control of all levels of U.S. government beginning in the 1980s (e.g., Rose 2011; Roberti 2021; Ziegler 2013). To that end, the "protect the lives of patients" frame serves as a useful bridge between politically conservative audiences and movement activists on both sides of the abortion debate. For feminists confronting a conservative political context, the frame's gender-neutral language allows activists to highlight the role of the government in protecting those seeking healthcare services at abortion clinics. The "protect the

lives of patients” frame also allows antichoice activists to advance the dual concerns for the protection of women and children. Therefore:

Hypothesis 3: In more conservative political contexts, the odds of the “protect the lives of patients” frame appearing as the most common “protect life” frame in a brief will increase when controlling for the brief’s supporting party and brief type.

I also include three measures to assess legal context: (a) average Martin-Quinn score and (b) the disposition of the lower court, and (c) whether or not the case involved disputes over buffer-zone laws.

Prior research strongly suggests that the perspectives of individual justices influence the trajectory of legal mobilization, and activists, usually aware of judges’ ideologies, plan their legal framing strategies accordingly (Andersen 2004; McCammon & Beeson-Lynch 2021). Studies commonly use the Martin-Quinn score as a measure of judicial ideology (Collins 2008; Epstein et al. 2012); a higher average Martin-Quinn score indicates that the Court is more politically conservative, and a lower average Martin-Quinn score indicates a more liberal judiciary. There is also a great deal of research that indicates that judicial decisions/trial outcomes tend to reflect ideological preferences of judges (Segal & Cover 1989; Segal 1997; Segal & Spaeth 1993; Segal, Epstein, Cameron, & Spaeth 1995; Gely & Spiller 1990; Spiller & Gely 1992; Epstein 1995; de Figueiredo & Tiller 1996; McCubbins, Noll, & Weingast 1989, 1995; Cross & Tiller 1998). Therefore, I expect, again, the patient frame will be emphasized in conservative legal environments to serve the dual concerns of the two sides in the abortion debate:

Hypothesis 4a: As the average Martin-Quinn score of the justices increases, the odds that the “protect the lives of patients” frame will be the most commonly used “protect life” frame in a brief will increase when controlling for the brief’s supporting party and brief type.

Hypothesis 4b: When the disposition of the lower court is unfavorable towards the feminist party to the case, the odds that the “protect the lives of patients” frame will be the most commonly used “protect life” frame in a brief will increase when controlling for the brief’s supporting party and brief type.

Research shows that prior law and precedent influence the types of legal frames that can be made (Andersen 2004). Turning to legal precedent in the abortion clinic protest cases in my dissertation research, the Supreme Court’s landmark ruling¹²⁷ on “buffer zones” that prohibited protest demonstrations within fifteen feet of abortion clinic entrances represented a significant change in the law regarding abortion protests as well as the Court’s concern with protecting patients’ access to abortion clinics. Therefore:

Hypothesis 4c: When the case involves disputes over buffer-zone laws, the odds that the “protect the lives of patients” frame will be the most commonly used “protect life” frame in a brief increase when controlling for the brief’s supporting party and brief type.

6.2 Variable Selection

Prior to testing these hypotheses and building the multilevel logistic regression models, I tested the relationship between the numeric predictors by calculating the Pearson Correlation Coefficient (PCC) for each pair of numeric variables. The results in **Figure 15** indicate that there

¹²⁷ *Schenck v. Pro-Choice Network of Western N.Y.*, 519 U.S. 357 (1997)

are strong correlations between several variables that measure the same context. For example, the proportion of right social movement authors has a strong positive correlation with the proportion of religious authors (PCC = 0.7), while the proportion of Democrats in the House is significantly and positively correlated with the proportion of states with a Democrat majority in at least one state-level chamber (PCC = 0.9). Therefore, in order to reduce the chances of multicollinearity¹²⁸ between the predictors and given the relatively small sample size (n = 182), I only include one variable, at most, from each of the four contexts (political, legal, cultural, and internal movement), in addition to the brief case and supporting party, in each regression model. Additionally, while I analyzed all of the independent variables¹²⁹, I limit the discussion of the findings in the next section to the variables in each context with significant results at the p = 0.05 level. One exception to the inclusion of only significant results is the average sentiment of abortion protest articles. None of the sentiment measures were significant, but I included the average sentiment of abortion protest articles so that the cultural context is measured.

¹²⁸ Please see the Appendix for the VIF scores for each model.

¹²⁹ When I tested each of the internal movement measures, I found that the proportion of legal and government authors are not significant predictors of whether or not the “protect the lives of patients” frame will be used as a primary “protect life” legal frame in a brief when controlling for supporting party, brief type, and the proportion of legal authors (see the Appendix for the results of these regression models).

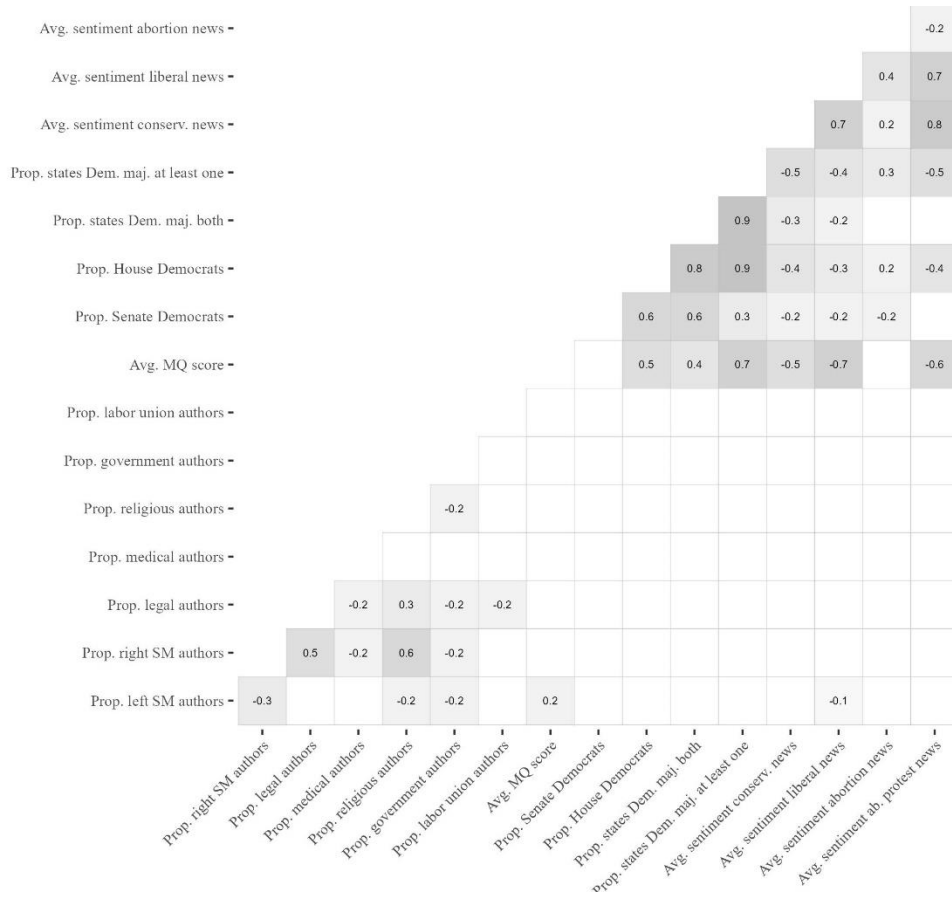


Figure 15 Significant correlations among numeric variables

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Coefficient | <i>Odds Ratios</i> (<i>C.I.</i>) | <i>Odds Ratios</i> (<i>C.I.</i>) | <i>Odds Ratios</i> (<i>C.I.</i>) | <i>Odds Ratios</i> (<i>C.I.</i>) | <i>Odds Ratios</i> (<i>C.I.</i>) |
| (Intercept) | 0.28 (0.06 – 1.17) | 0.28 (0.07 – 1.19) | 0.35 (0.10 – 1.19) | 0.27 (0.06 – 1.16) | 0.26 * (0.09 – 0.73) |
| Supporting party (0 = opponents; 1 = feminists) | 6.32 *** (2.61 – 15.27) | 6.31 *** (2.61 – 15.26) | 6.55 *** (2.67 – 16.05) | 6.33 *** (2.62 – 15.29) | 6.55 *** (2.69 – 15.91) |
| Brief type (0 = party; 1 = amicus) | 0.22 ** (0.08 – 0.62) | 0.22 ** (0.08 – 0.61) | 0.20 ** (0.07 – 0.59) | 0.22 ** (0.08 – 0.62) | 0.22 ** (0.08 – 0.65) |
| Prop. left social movement authors | 1.69 * (1.11 – 2.59) | 1.70 * (1.11 – 2.60) | 1.75 * (1.12 – 2.74) | 1.69 * (1.10 – 2.58) | 1.68 * (1.09 – 2.58) |
| Avg. sentiment of abortion protest newspaper articles | | 1.16 (0.29 – 4.55) | | | 0.99 (0.48 – 2.02) |
| Prop. states with Dem. maj. in at least 1 state-level chamber | | | 0.24 * (0.07 – 0.80) | | 0.07 *** (0.02 – 0.33) |
| Avg. Martin-Quinn score | | | | 1.16 (0.32 – 4.18) | 6.38 ** (1.71 – 23.84) |
| Random Effects | | | | | |
| σ^2 | 3.29 | 3.29 | 3.29 | 3.29 | 3.29 |
| τ_{00} | 2.88 Legal case | 2.88 Legal case | 1.54 Legal case | 2.86 Legal case | 0.28 Legal case |

| N | 9 Legal case | 9 Legal case | 9 Legal case | 9 Legal case | 9 Legal case |
|---|---------------|---------------|---------------|---------------|---------------|
| Observations | 182 | 182 | 182 | 182 | 182 |
| Marginal R ² / Conditional R ² | 0.189 / 0.568 | 0.188 / 0.567 | 0.398 / 0.590 | 0.196 / 0.570 | 0.593 / 0.625 |
| AIC | 173.350 | 175.306 | 169.159 | 175.301 | 165.368 |

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Table 15 Regression results predicting the odds that the “protect the lives of patients” frame is the primary “protect life” frame in a legal brief

6.3 Regression Results

Table 15 contains the results of the multilevel logistic regression analyses predicting the odds of the “protect the lives of patients” frame appearing as the primary “protect life” frame in a legal brief. While I analyzed all of the independent variables, I limit the discussion of the findings to the variables in each context with significant results at the $p = 0.05$ level. One exception to the inclusion of only significant results is the average sentiment of abortion protest articles. None of the sentiment measures were significant. I included the average sentiment of abortion protest articles in **Table 15** so that cultural context is measured. All of the models control for the brief’s supporting party and brief type¹³⁰. The results indicate that the “protect the lives of patients” frame is more likely to be used as the primary “protect life” frame when the brief supports the feminist party to the case compared to the opponents. The results also suggest that parties to the case are more likely to use the “protect the lives of patients” frame than amici.

Model 1 tests the effects of the internal movement measure (Hypothesis 1). Model 2 tests the cultural context measure (Hypothesis 2a). Models 3 and 4 test the effects of the political and legal context measures, respectively (Hypotheses 3 and 4a). Model 5 includes all of the internal- and external-context variables in addition to the control variables (supporting party and brief type). I begin my presentation of the findings by discussing the effects of the internal movement context measure. Then I turn to the results of the models that test the effects of the cultural, political and legal contexts, respectively. I conclude with a discussion of the full model (Model 5), and I situate the findings in the broader framing literature.

¹³⁰ Party briefs include the main party brief, the party reply briefs, and supplemental argument briefs.

6.3.1 Internal Movement Factors

Hypothesis 1 predicted that an increase in the proportion of authors associated with movements and SMOs whose broader ideological- and organizational-agendas include a commitment to protecting patients' access to healthcare will result in an increase in the odds that the "protect the lives of patients" frame will be the most common "protect life" frame in a legal brief when controlling for the brief's supporting party and type. The results of Models 1 and 5 support this hypothesis. The results indicate that we should expect the "protect the lives of patients" frame to be used more often when there is a higher proportion of brief authors associated with left social movements (e.g., the National Organization for Women, Physicians for Reproductive Health, and the ACLU).

Movement ideology provides its supporters with a framework for how to identify, understand, and combat a particular issue or set of issues by linking a movement's identity with the frames that its members adopt (Hunt, Benford, & Snow 1994; Klandermans 1997). By their very definition, framing processes involve the use of shared meanings and definitions to invoke claims on behalf of a movement's members (Snow & Benford 1988). To that end, scholars have empirically demonstrated that movement and organizational identity¹³¹ influence framing strategies (Evans 1997; Steinberg 1999; Esacove 2004).

For example, Rohlinger (2002) found in her interview data with Concerned Women for American (CWA) representatives that organizational identity likely plays a role in explaining framing strategies. According to a CWA representative, its members viewed abortion as a moral absolute that did not change over time and the group then consistently framed the issue as the

¹³¹ McCammon (2012:48) defines organizational identity as a "group's core political values and assumptions."

murder of unborn babies, despite changes in the political context and its opponents tactics (Rohlinger 2002). On the other hand, Rohlinger (2002) found that the National Organization for Women (NOW), a public policy group that supports abortion access, typically framed abortion in terms of protecting women's rights which was in line its organizational identity. Similarly, Williams (2002) points out that members of the 1960s Civil Rights movement and 1980s New Right movements both used religious language to mobilize supporters and draw attention to particular issues, but the content of their frames was quite different. Civil Rights activists put forth a religious vision of an inclusive, nonracist America. Nearly 20 years later, the New Christian Right criticized the post-60s American culture for being morally corrupt and called for a return to "family values"; values that are understood as "God given and absolute" (Williams 2002:259).

The highlighted work indicates that when social movements and SMOs construct frames, they typically use language that reflects their core values and beliefs. Just as NOW used the language of rights to convey their support for abortion access which reflects its history of fighting for the expansion of women's rights, CWA's reliance on the language of biblical and moral values to discuss the abortion debate reflects its overarching goal to promote Christian ideology. Similarly, the different types of religious language used by the Civil Rights movement and New Christian Right reflected their distinct goals and plans to achieve them. While the Civil Rights movement's use of religious language reflected its commitment to nonviolence and inclusion, the New Christian Right has used the "family values" frame to amplify its aims to reform gender, sex, and family structures.

My work builds this line of work by demonstrating that the "protect the lives of patients" frame is more likely to be used in briefs with a high proportion of left social movement authors.

The significant and positive relationship between the proportion of left social movement authors and the odds of the “protect the lives of patients” frame being used as the primary “protect life” frame is due to the broader ideological and organizational agendas of left-leaning SMOs that include a commitment to protecting patients’ access to reproductive healthcare. For example, the ACLU, a left-leaning civil rights organization, often highlighted patients’ rights to government protection when it submitted amicus briefs supporting both the feminists and opponents in the cases in my study¹³². As amici supporting the feminists in *Schenck v. Pro-Choice Network* (1997), the ACLU emphasized that protesters’ actions significantly interfere with patient safety, and without the Colorado statute limiting protest or counseling within eight feet of a person entering a healthcare facility, the protesters “would continue to crowd, follow, and otherwise harass clinic patients.”

When the feminists’ solutions to patient safety appeared to conflict with the ACLU’s other important organizational goals and agendas, the ACLU used the “protect the lives of patients” frame to demonstrate its commitment to protecting patients’ access to reproductive healthcare while simultaneously rejecting the feminists’ remedies. For example, in an amicus brief supporting the protesters in *Hill v. Colorado* (2000), ACLU acknowledges the governments’ interest in protecting patient health and safety but also argues that Colorado’s buffer-zone laws pose a significant threat to First Amendment protections. Similarly, when PETA, a left-leaning animal rights nonprofit organization that routinely engages in disruptive protests¹³³, filed an amicus brief supporting the protesters in *Scheidler v. NOW* (2003), it

¹³² The ACLU filed amicus briefs supporting the feminists in *Bray v. Alexandria* (1993) and *Schenck v. Pro-Choice Network* (1997), and they filed amicus briefs supporting the antiabortion protesters in *Frisby v. Schultz* (1988), *NOW v. Scheidler* (1993), *Hill v. Colorado* (2000), *McCullen v. Coakley* (2014).

¹³³ For further discussion on PETA’s strategies and tactics see Fanghanel (2019) and Matusitz and Forrester (2013).

acknowledges that the actions of the antiabortion protesters threaten the safety of patients while also maintaining that the protesters' actions do "not constitute a violation of RICO because neither FACE, trespassing, nor 'acts or threats of violence' are among the listed "predicate crimes" necessary to constitute a RICO violation."

Overall, the findings of my regression analysis indicate that the central identity of left-leaning SMOs is organized around protecting patient access to reproductive healthcare. As such, the higher proportion of left social movement brief authors, the greater the odds that the "protect the lives of patients" frame will be the most commonly used "protect life" legal frame.

6.3.2 External Movement Factors

Hypothesis 2a predicted that the "protect the lives of patients" frame would be used more often when the cultural context is more hostile toward abortion clinic protests. Model 2 tests this hypothesis by measuring the effect of the average sentiment of abortion clinic newspaper articles on the odds that the "protect the lives of patients" frame will be the most common "protect life" frame in a legal brief, controlling for the brief's supporting party and type. The results of Model 2 do not offer any support for this Hypothesis 2a¹³⁴. However, I included the average sentiment of abortion protest articles in Models 2 and 5 so that the cultural context is measured.

A number of studies (Babb 1996; Jasper & Poulsen 1995; Snow & Benford 1988; Zuo & Benford 1995) indicate that the cultural context does influence movement framing strategies, but my results do not provide support for the notion that changes in the broader culture influence authors' use of the "protect the lives of patients" frame in legal briefs. However, while there is

¹³⁴ I also tested the effects of the other cultural context measures, and none of the variables were significant. Thus, I did not find any support for any of the hypotheses regarding the influence of the cultural context on legal framing.

some evidence in the literature that public sentiment may influence the work of lawyers (see e.g., Robbenolt & Studebaker 2003; Daniels & Martin 2001, 2002, 2004; Kritzer 1998), no scholarship has examined how broader public culture may shape legal brief writing.

Hypothesis 3 predicted that the odds of the “protect the lives of patients” frame appearing as the most common “protect life” frame in a brief will increase in more politically conservative contexts when controlling for the brief’s supporting party and type. The results of Models 3 and 5 support this hypothesis by testing the effect of the political context measure of the proportion of states with a Democrat majority in at least one state-level chamber; in each model, the coefficient is less than one and significant at the $p = 0.05$ level when controlling for the other variables in the model. Therefore, when the political context is more conservative (i.e., the proportion of states with a Democrat majority in at least one state-level chamber decreases), the “protect the lives of patients” frame is slightly more likely to appear as the primary “protect life” frame. Thus, we can conclude that in more conservative political contexts, movements strategically reframe their “protect life” argument to emphasize the health and safety of patients, regardless of which side of the case they support.

Although work that focuses specifically on the relationship between political context and movement framing is limited, it does suggest that the broader political context influences framing (see McCammon 2012; Lemaitre & Sandvik 2015; McCammon & Beeson-Lynch 2021). For example, Rohlinger’s (2002) comparative study of framing strategies used by prochoice and antichoice SMOs during the 1980s and 1990s suggests that organizational frames shift in response to changes to the political climate. Specifically, she found that the prochoice SMO was more likely than the antichoice SMO to shift its framing strategy, (i.e., become more “tactically flexible”) in response to changes in the broader political context compared to the antichoice

SMO. In contrast, the results of my regression analysis indicate that the “protect the lives of patients” frame is more likely to be used when the political context is more conservative, regardless of which side of the case that the brief authors support. In other words, both the feminists and anti-abortion protesters are more likely to use the “protect the lives of patients” frame when the political context is more conservative.

Hypothesis 4a predicted that lawyers will be more likely to use the “protect the lives of patients” frame when the legal context is more ideologically conservative. In Models 4 and 5, the legal context is measured by the average Martin-Quinn score of all of the justices combined to produce a Court-level measure for the case¹³⁵. A higher average Martin-Quinn score indicates that the Court is more politically conservative, and a lower average Martin-Quinn score indicates a more liberal judiciary. Model 4 tests the effect of the average Martin-Quinn score on the odds that the “protect the lives of patients” frame will be the most commonly used “protect life” frame in a brief, controlling for the brief’s supporting party and type; the results of Model 4 do not offer any support for Hypothesis 4a at the $p = 0.05$ level¹³⁶.

¹³⁵ Hypotheses 4b predicted that when the lower court ruled in favor of the feminist party to the case, the odds that the “protect the lives of patients” frame will be the most commonly used “protect life” frame in a brief will decrease. When I included the binary measure equal to 1 if the lower court ruled in favor of the feminist party to the case and 0 otherwise, the measure was not significant at the $p = 0.05$ level when controlling for the brief’s supporting party and type. As such, I did not find support for Hypothesis 4b. Similarly, Hypotheses 4c predicted that when the case involved disputes over buffer-zone laws, the odds that the “protect the lives of patients” frame will be the most commonly used “protect life” frame in a brief will increase. When I included the binary measure equal to 1 if the brief was submitted in a buffer-zone case and 0 otherwise, the measure was not significant at the $p = 0.05$ level when controlling for the brief’s supporting party and type. As such, I did not find support for Hypothesis 4c.

¹³⁶ I tested the effects of all three legal context measures (the average Martin-Quinn score, disposition of the lower court, and the case type), and none of the legal context measures were significant when only controlling for the brief’s supporting party and brief type. The effects of the disposition of the lower court and case type were also not significant when I controlled for the political, cultural, and internal movement contexts, in addition to the brief’s supporting party and type. However, when the Martin-Quinn measure is included in a model controlling for political, cultural, and internal movement contexts, the legal context measure is significantly related to the use of the patient frame. I discuss this finding next.

However, as the results of Model 5 reveal, the average Martin-Quinn score is a significant predictor of incidents of the “protect the lives of patients” frame when I account for other factors, including the proportion of left social movement authors and the proportion of states with a Democrat majority in at least one state-level chamber, in addition to the other variables in the model¹³⁷. Thus, in this full model, I found support for Hypothesis 4a.

Due to the highly insular nature of the Court (e.g., lifetime tenure and separation of powers), it is reasonable to expect that justices’ votes are primarily a reflection of their personal ideological preferences rather than the result of strategic voting that is influenced by the broader political environment (Brace et al. 1998). In such a scenario, activists would not need to consider the effects of external political factors (e.g., the partisan control of state governments) when strategically aligning their frames to the dominant values and beliefs of the Court. However, the results of my regression analysis suggest that a more complicated process might be occurring. Specifically, the results indicate that feminist and opponent lawyers’ use of the “protect the lives of patients” frame in amicus and party briefs is not simply a function of the Court’s ideological composition, but rather, it is the result of several external- and internal-movement factors. This is evidenced by several important features of Model 5. First, as previously mentioned, when I control for the various other measures in Model 5, the coefficient of the average Martin-Quinn score is significant at the $p = 0.05$ level, suggesting that controlling for these other environments, the legal context influences patient framing as expected. A more conservative legal environment results in more emphasis of patient framing. Second, the lowest Akaike information criterion (AIC) score is obtained from Model 5, indicating that the best fitting model predicting instances

¹³⁷ I did not find evidence of multicollinearity between the predictors in all of the models (see the Appendix for the VIF and tolerance scores for each model).

of the “protect the lives of patients” frame is one that includes the political, legal, and internal movement variables¹³⁸.

Overall, the results of my regression analysis highlight the importance of considering the effects of both structure and agency when studying movement framing activity. In terms of the structural determinants of movement framing, the results in Model 5 indicate that the “protect the lives of patients” frame is more likely to be used in conservative political-legal contexts, regardless of whether or not the brief supports the feminist party to the case. The results of my regression analysis also highlight the importance of considering agency when studying framing activity. The results of Model 5 indicate that when more left social movement authors join a party or amicus brief, the odds of the “protect the lives of patients” frame being used subsequently increases, regardless of which side of the case the brief supports.

Work that focuses specifically on the relationship between the political-legal context and movement framing suggests that the broader political-legal context influences framing (see McCammon 2012; Pedriana 2007; Lemaitre & Sandvik 2015; McCammon & Beeson-Lynch 2021; Carroll & Ratner 1996). While the bulk of the work that focuses on the relationship between the broader political-legal context and framing tends to be longitudinal and focused on a single movement, some scholars have examined cross-movement framing patterns. For example, in their study of cross-movement ties and the use of different types of injustice frames, Carroll and Ratner (1996) found that activists whose SMO memberships put them in contact with members from other movements tend to use similar injustice frames. While their study includes SMOs from several movements, all of the movements, including the feminist and environmental

¹³⁸ See Burnham and Anderson (2004) for further discussion on using AIC scores for model selection.

movement, appear to hold similar, left-leaning ideologies. Conversely, my cross-sectional analysis examines how changes in the broader political-legal context affects legal framing among feminists and their opponents.

The results in Models 4 and 5 illustrate the importance of considering the internal movement composition and broader political context in order to understand why both feminists and opponents use the “protect the lives of patients” frame in conservative political-legal contexts. When the proportion of left social movement authors and states with a Democrat majority in at least one state-level chamber are ignored (Model 4), the effect of the legal context is not significant at the $p = 0.05$ level. However, when both of these variables are included in the model (Model 5), in addition to the brief’s supporting party and type, the effect of the legal context is significantly and positively related to the odds that the “protect the lives of patients” frame will be the most commonly used “protect life” frame in a brief at the $p = 0.05$ level.

To that end, the influence of the broader political-legal context and the organizational identity of SMOs on movement framing has been considered by a number of scholars (e.g., Staggenborg 1991; Rohlinger 2002; Esacove 2004). For example, in an earlier study, Rohlinger (2002) demonstrates that prochoice and antichoice SMOs adapted their frames in response to changes in the broader political environment. Specifically, she found that the prochoice organization was much more flexible and capable of tailoring its message to the political environment compared to the antichoice organization. In their study of legal framing innovation, McCammon and Beeson-Lynch (2021) found that conservative political and legal contexts can facilitate the emergence of new legal frames among feminist cause lawyers.

The results of my regression build on this line of work by examining how changes the broader political and legal contexts influence the legal framing strategies of feminists and

opponents in party and amicus briefs filed in abortion protest cases when controlling for the proportion of left social movement authors. The results of my analysis indicate that feminist and opponent briefs with a high proportion of left social movement authors in conservative political-legal contexts are more likely to contain the “protect the lives of patients” frame.

6.4 Conclusion

The goal of this chapter was to use multilevel logistic regression to quantitatively explore what influences legal framing. In order to accomplish this, I used the appearance of the “protect the lives of patients” frame as a proxy measure for legal framing innovation.

While I acknowledge that this measure and the results of my regression analyses cannot identify when changes in a movement’s legal framing strategy occurred, they do shed light on the factors that influence a movement’s framing repertoire as well as offer support for prior work on movement framing strategy and legal framing innovation. For example, prior research strongly suggests that the perspectives of individual justices influence the trajectory of legal mobilization, and activists, usually aware of judges’ ideologies, plan their legal framing strategies accordingly (Andersen 2004; McCammon & Beeson-Lynch, 2020). McCammon and Beeson-Lynch (2021) found that prochoice cause lawyers engage in framing innovation when facing a more hostile judiciary. In my cross-sectional analysis of legal framing among feminists and their opponents, I found that the “protect the lives of patients” frame is more likely to be used when there is a high proportion of left social movement authors and the political and legal contexts are more conservative. In doing so, my work emphasizes the importance of considering both external- and internal-movement factors when studying legal framing.

As several researchers have noted (Johnston 1995; Steinberg 1998), it is still unclear how “frames get made” (Hart 1996:95); I argue that my dependent variable and the regression results help to address this gap in the literature by identifying important internal- and external-movement factors that shape movement framing strategy.

CHAPTER 7

Conclusion

I begin the final chapter of my dissertation by summarizing the findings of my study. Then I discuss the limitations of my research, and I conclude with its contributions.

7.1 Summary of Findings

My dissertation was guided by three research questions, and in this section, I summarize their answers.

The first question concerned the external factors that account for variation in legal framing innovation in the legal briefs (party and amicus briefs) in abortion clinic protest Supreme Court cases. My dissertation considered three external factors: (a) political, (b) cultural, and (c) legal. The results of my sentence classification (Chapter five) indicate that changes in the broader political and legal contexts may influence legal framing innovation, and these observations are supported by the findings in my regression analyses (Chapter six) which indicate that the “protect the lives of patients” frame is more likely to be used in political and legal contexts that are more hostile towards feminists. While the regression results do not provide any evidence that the cultural context, measured by the average sentiment of newspaper articles on abortion protests, significantly affect movement framing strategies, the results do indicate that internal movement factors, specifically the proportion of authors associated with left-leaning social movements and legal organizations, play a role.

Overall, the results of my analyses in Chapters five and six provide support for prior social movement research on external factors that influence changes in movement tactics as well as variation in movement frames (e.g., Tarrow 1998; Rucht 1990; McAdam 1983; McCammon

2012). One of the most well-studied of these factors is the political opportunity structure, and its influence on changes in movement tactics has been confirmed across a wide range of movements including the labor movement (Cornfield & Fletcher 1998), civil rights movement (McAdam 1983), and U.S. peace movement after the Cold War (Marullo et al. 1996) and after 9/11 (Maney et al. 2005).

Although work that focuses specifically on the relationship between political context and movement framing is limited, it does suggest that the broader political context can influence framing (see McCammon 2012; Pedriana 2006; Lemaitre & Sandvik 2015; McCammon & Beeson-Lynch 2021). Just as Rohlinger (2002) found that prochoice social movement organizations (SMOs) adjusted their framing strategies as the political context and their opponents' tactics changed, the results of my dissertation indicate that the feminists and abortion protesters might alter their frames in response to changes in their opponents' frames (Chapter five) as well as changes in the broader political context (Chapter six).

Prior research also strongly suggests that the perspectives of individual justices influence the trajectory of legal mobilization, and activists, usually aware of judges' ideologies, plan their legal framing strategies accordingly (Andersen 2004; McCammon & Beeson-Lynch, 2020). My dissertation builds on this line of work by demonstrating that feminist and opponent amici and parties are more likely to use the "protect the lives of patients" frame when they face a more conservative Court.

The second question that guided my dissertation research focused on the internal movement factors that account for variation in legal framing. Scholars that study interest group litigation have examined an array of movement organizational features that may influence legal framing, including access to resources and group ideology (see Wasby 1995; Songer et al. 2000;

Vanhala 2009; Levitsky 2007). For example, Rohlinger (2002) found that while the left-leaning legal advocacy organization, NOW, altered its framing strategies in response to changes in the broader political and cultural context, antichoice SMO, Concerned Women for America (CWA) did not because its members viewed abortion as a moral absolute that did not change over time (Rohlinger 2002:492). Overall, the findings of my regression analysis in Chapter six indicate that the central identity of left-leaning SMOs is organized around protecting patient access to reproductive healthcare; as a result, when the proportion of left social movement authors increases, so do the odds that the “protect the lives of patients” frame will be the most commonly used “protect life” legal frame.

The final research question that guided my work was concerned with the ways that NLP and ML tools can be used to distill measures from text data, discover and predict novel patterns in text data, and provoke new theory to explain them. My dissertation research demonstrates how text mining techniques, including sentiment analysis and dictionary-based searches, can be used to measure the broader cultural context and identify patterns in legal framing innovation. Moreover, my work provides a framework for using text mining to train a multilabel sentence classification model that can identify legal frames in legal texts.

One of the strengths of machine learning algorithms is their ability to accurately predict outcomes. However, most ML-based techniques cannot tell us much about causality. To that end, my work demonstrates how the results of ML can be used to build regression models. By combining text mining, machine learning, and statistical techniques, I demonstrate how sociologists can quantitatively explore influences on social movement framing strategies.

7.2 Limitations

One of the key limitations of this study is the small sample size of the (a) newspaper, (b) training and testing, and (c) regression datasets in my analyses. In terms of the newspaper data that I used to construct the cultural context measures (Chapter four), the low number of conservative newspaper articles, in particular, more than likely resulted in cultural context measures that did not accurately reflect the broader sentiment of conservatives regarding abortion and abortion clinic protests. Further, my preliminary examination of the newspaper sentences suggests that there is quite a bit of noise in the data; some of the articles discuss a variety of topics, in addition to abortion and/or abortion protests. Future work could increase the sample size by expanding the date ranges of the news articles (I only included articles that were published during the year preceding oral arguments in teach case). It could also reduce the noise in the data by limiting the analysis to sentences, rather than articles, that discuss abortion and/or abortion protests.

The number of observations in the training and testing data that I used to fine-tune the multilabel sentence classifier (Chapter five) was also relatively small and unbalanced both in terms of the supporting party and “protect life” frames. While it does not appear that this affected the model’s performance, my preliminary observations of the classified sentences suggest, again, that there is still quite a bit of noise in the data. Increasing the number of manually labeled sentences would certainly aid in training Legal-BERT so that it can better classify sentences that include one or more of the “protect life” frames (public, patients, healthcare workers, women, and unborn).

As I've previously mentioned, the number of observations in the data that I used in Chapter six to build the multilevel regression models was relatively small, and it is quite possible that this undermined the internal and external validity of my analysis (see Nemes et al. 2009).

Another limitation of my study is the dependent variable in my regression analyses (Chapter six). I used whether or not the "protect the lives of patients" frame appeared more often than the other "protect life" frames as a proxy for legal framing innovation because it allows me to explore what might cause a particular legal frame to be used. However, because it is a cross-sectional measure, it allows me to explore what influences movement framing strategy; it does not tell us what causes the frame to be used for the first time. As such, it leaves open the question of what causes legal framing innovation to occur. Future work that seeks to quantify legal framing innovation could consider constructing a longitudinal measure that can identify instances of new framing activity.

7.3 Review of Contributions

The goal of my study was to determine if it was possible to leverage text mining and machine learning to study legal framing innovation. Social movement frames are nuanced, meaning-laden, and dynamic, and I knew that it would be difficult to formulate a method that would not only produce accurate results but also results that could help drive sociological theory. That is, I did not want simply to show how, with enough correctly labeled sentences, machine learning algorithms can learn how to accurately classify sentences. I wanted to incorporate statistics and cultural context measures so that we could better understand why certain legal frames are used.

As such, this research seeks to make a meaningful contribution to social movement theory, and I argue that my dissertation research contributes to the literature in the following ways:

First, this research constitutes a contribution to social movement literature that seeks to understand the external- and internal-movement factors accounting for variation in legal framing in the legal briefs (party and amicus briefs) in abortion clinic protest Supreme Court cases. My work extends previous discussions on contextual constraints and facilitators of social movement framing activity by exploring how internal- and external-movement factors shape legal framing strategy and innovation.

Second, my research develops quantitative methods for studying social movement framing activity and measuring the cultural context within which movement frames are situated. While the majority of the work on social movement framing rely on qualitative approaches ranging from discourse analysis (Van Leeuwen 2007; Ravazzani & Maier 2017) to close readings (Makhortykh 2017) and content analysis (Olsen 2013), my dissertation demonstrates how text mining and machine learning can enhance the kinds of tasks previously performed qualitatively. That is, the real-world impact of my dissertation is that it provides scholars with a methodological toolkit that can enhance studies that might have previously only relied on qualitative approaches to studying framing. For example, one could use data constructed from a content analysis to fine-tune a BERT classification model and apply it to new sets of text documents. By outlining the variables that I used and the steps that I took to identify legal framing innovation and factors that may influence legal framing in nine U.S. Supreme Court cases related to abortion clinic protests, I believe my work serves as a guide for other scholars

interested in incorporating these types of methods into their study of social movement framing activity.

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APPENDIX

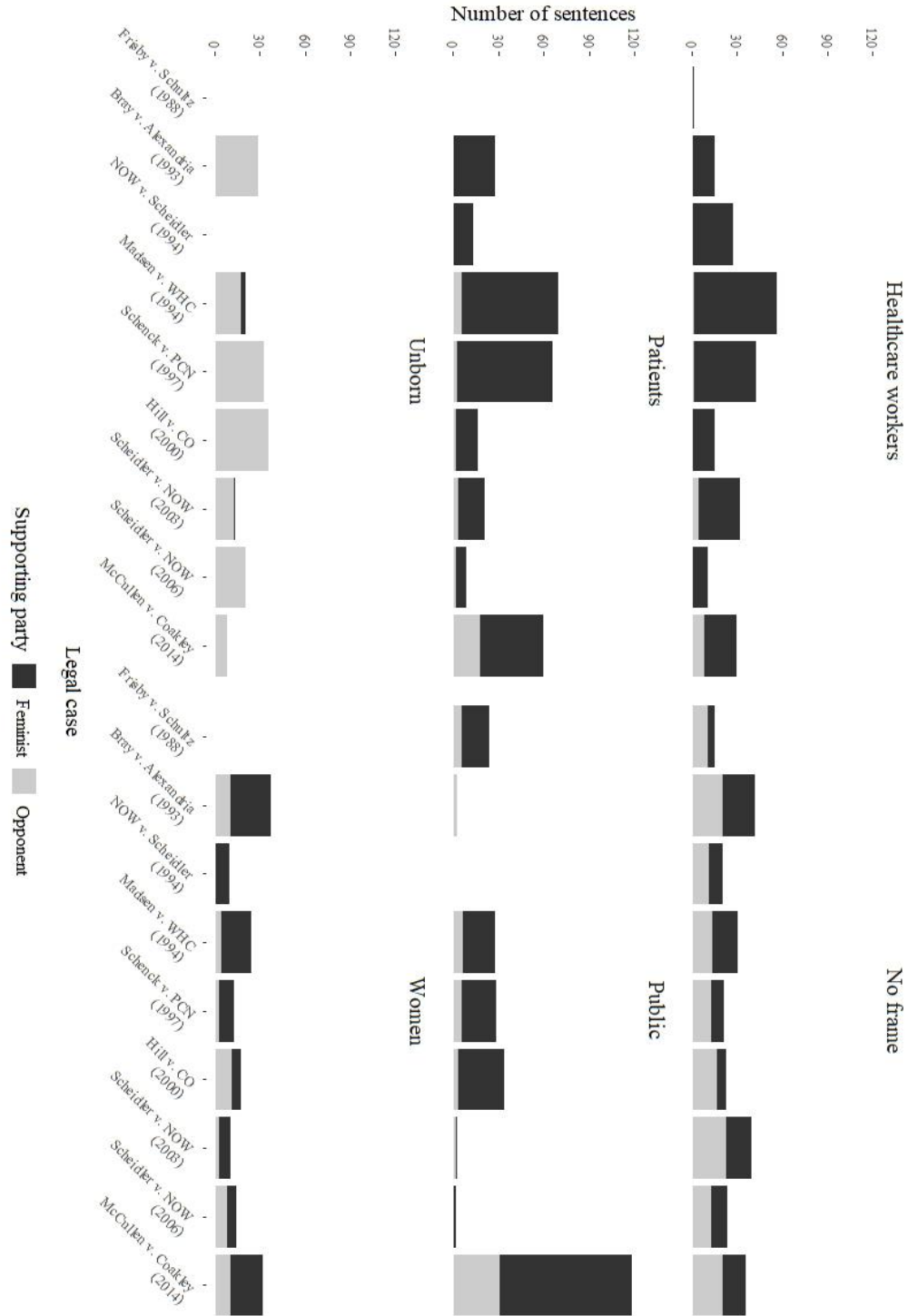


Figure 16 Distribution of all manually labeled sentence by legal frame, legal case, and supporting party

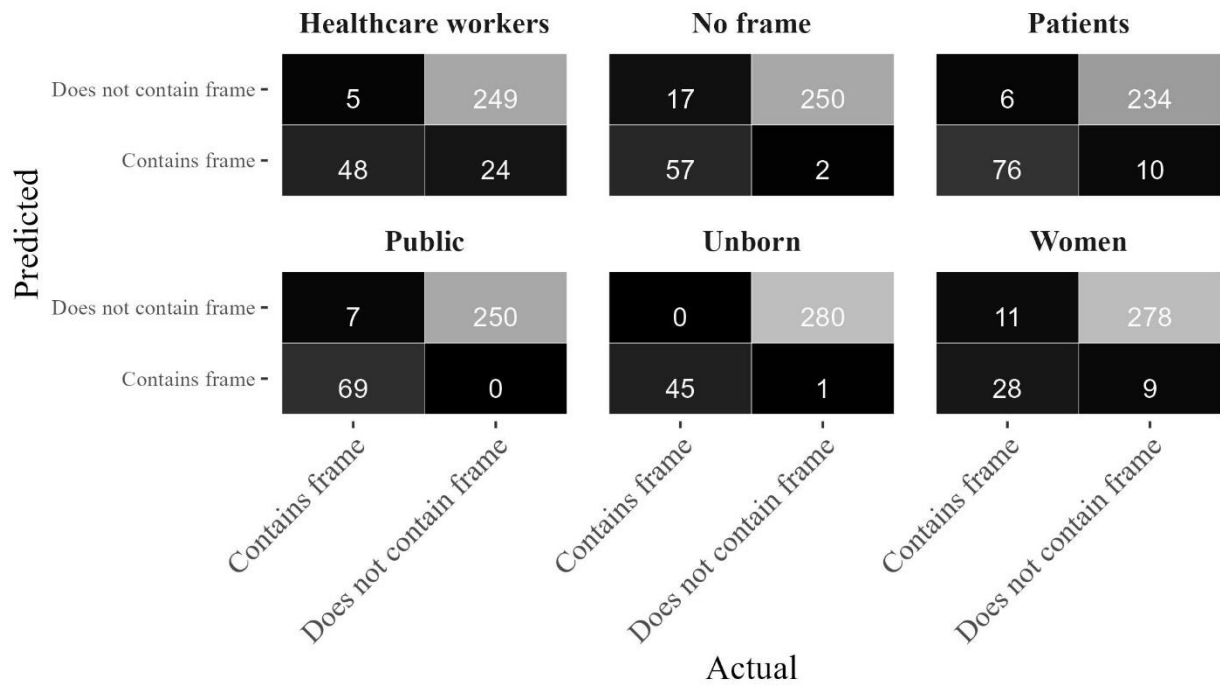


Figure 17 Confusion matrix for classified sentences

| Coefficient | Model 1 | | Model 2 | | Model 3 | | Model 4 | | Model 5 | |
|--|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|
| | VIF | Tolerance | VIF | Tolerance | VIF | Tolerance | VIF | Tolerance | VIF | Tolerance |
| Supporting party (0 = opponents; 1 = feminists) | 1.183 | 0.846 | 1.132 | 0.877 | 1.153 | 0.867 | 1.132 | 0.884 | 1.186 | 0.843 |
| Brief type (0 = party; 1 = amicus) | 1.141 | 0.877 | 1.131 | 0.844 | 1.158 | 0.863 | 1.133 | 0.883 | 1.220 | 0.820 |
| Prop. left social movement authors | 1.039 | 0.962 | | | | | | | 1.085 | 0.922 |
| Avg. sentiment of abortion protest newspaper articles | | | 1.001 | 0.999 | | | | | 1.648 | 0.607 |
| Prop. states with Dem. maj. in at least 1 state-level chamber | | | | | 1.041 | 0.960 | | | 3.978 | 0.251 |
| Avg. Martin- Quinn score | | | | | | | 1.001 | 0.999 | 4.354 | 0.230 |

Table 16 Collinearity statistics

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|--|----------------------------|----------------------------|----------------------------|---------------------------|----------------------------|----------------------------|
| Coefficient | Odds Ratios (C.I.) | Odds Ratios (C.I.) | Odds Ratios (C.I.) | Odds Ratios (C.I.) | Odds Ratios (C.I.) | Odds Ratios (C.I.) |
| (Intercept) | 0.28 (0.06 – 1.17) | 0.19 (0.02 – 1.58) | 0.26 (0.06 – 1.05) | 0.51 (0.10 – 2.57) | 0.25 (0.06 – 1.04) | 0.38 (0.08 – 1.77) |
| Supporting party (0 = opponents; 1 = feminists) | 6.32 *** (2.61 – 15.27) | 6.99 *** (2.76 – 17.76) | 6.66 *** (2.74 – 16.20) | 4.20 ** (1.61 – 10.96) | 6.76 *** (2.77 – 16.50) | 5.36 *** (2.19 – 13.09) |
| Brief type (0 = party; 1 = amicus) | 0.22 ** (0.08 – 0.62) | 0.35 (0.05 – 2.62) | 0.25 ** (0.09 – 0.68) | 0.12 ** (0.03 – 0.44) | 0.25 ** (0.09 – 0.69) | 0.16 ** (0.05 – 0.53) |
| Prop. left social movement authors | 1.69 * (1.11 – 2.59) | | | | | |
| Prop. legal authors | | 1.19 (0.49 – 2.86) | | | | |
| Prop. government authors | | | 0.97 (0.63 – 1.48) | | | |
| Prop. right social movement authors | | | | 0.53 (0.28 – 1.01) | | |
| Prop. medical authors | | | | | 0.95 (0.64 – 1.41) | |
| Prop. religious authors | | | | | | 0.67 (0.39 – 1.14) |
| Random Effects | | | | | | |
| σ^2 | 3.29 | 3.29 | 3.29 | 3.29 | 3.29 | 3.29 |

| | | | | | | |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| τ_{00} | 2.88 _{Legal case} | 2.65 _{Legal case} | 2.63 _{Legal case} | 3.09 _{Legal case} | 2.63 _{Legal case} | 3.01 _{Legal case} |
| N | 9 _{Legal case} | 9 _{Legal case} | 9 _{Legal case} | 9 _{Legal case} | 9 _{Legal case} | 9 _{Legal case} |
| Observations | 182 | 182 | 182 | 182 | 182 | 182 |
| Marginal R ² / Conditional R ² | 0.189 / 0.568 | 0.150 / 0.529 | 0.149 / 0.527 | 0.170 / 0.572 | 0.149 / 0.527 | 0.160 / 0.561 |
| AIC | 173.350 | 179.639 | 179.758 | 175.812 | 179.712 | 177.488 |

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Table 17 Regression results predicting the odds that the “protect the lives of patients” frame is the primary “protect life” frame in a legal brief using author type and controlling for brief supporting party and brief type

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Coefficient | <i>Odds Ratios</i> (<i>C.I.</i>) | <i>Odds Ratios</i> (<i>C.I.</i>) | <i>Odds Ratios</i> (<i>C.I.</i>) | <i>Odds Ratios</i> (<i>C.I.</i>) | <i>Odds Ratios</i> (<i>C.I.</i>) |
| (Intercept) | 0.17 (0.02 – 1.51) | 0.29 (0.07 – 1.23) | 0.45 (0.09 – 2.41) | 0.27 (0.06 – 1.18) | 0.38 (0.08 – 1.90) |
| Supporting party (0 = opponents; 1 = feminists) | 7.04 *** (2.68 – 18.52) | 6.04 *** (2.45 – 14.88) | 4.56 ** (1.70 – 12.23) | 6.42 *** (2.57 – 16.03) | 5.35 *** (2.14 – 13.38) |
| Brief type (0 = party; 1 = amicus) | 0.37 (0.05 – 2.90) | 0.21 ** (0.07 – 0.61) | 0.13 ** (0.03 – 0.49) | 0.22 ** (0.08 – 0.62) | 0.15 ** (0.04 – 0.52) |
| Prop. left social movement authors | 1.72 * (1.12 – 2.63) | 1.73 * (1.12 – 2.67) | 1.59 * (1.01 – 2.48) | 1.69 * (1.11 – 2.59) | 1.66 * (1.07 – 2.57) |
| Prop. legal authors | 1.32 (0.53 – 3.28) | | | | |
| Prop. government authors | | 1.09 (0.71 – 1.68) | | | |
| Prop. right social movement authors | | | 0.63 (0.32 – 1.24) | | |
| Prop. medical authors | | | | 0.97 (0.65 – 1.46) | |
| Prop. religious authors | | | | | 0.72 (0.41 – 1.25) |
| Random Effects | | | | | |
| σ^2 | 3.29 | 3.29 | 3.29 | 3.29 | 3.29 |

| | | | | | |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| τ_{00} | 2.97 _{Legal case} | 2.84 _{Legal case} | 3.27 _{Legal case} | 2.90 _{Legal case} | 3.24 _{Legal case} |
| N | 9 _{Legal case} | 9 _{Legal case} | 9 _{Legal case} | 9 _{Legal case} | 9 _{Legal case} |
| Observations | 182 | 182 | 182 | 182 | 182 |
| Marginal R ² / Conditional R ² | 0.192 / 0.575 | 0.191 / 0.565 | 0.196 / 0.597 | 0.189 / 0.569 | 0.195 / 0.594 |
| AIC | 175.015 | 175.185 | 173.473 | 175.333 | 173.912 |

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Table 18 Regression results predicting the odds that the “protect the lives of patients” frame is the primary “protect life” frame in a legal brief using author type and controlling for proportion of legal authors, brief supporting party, and brief type