

## **ABSTRACT**

WARNEMENT, MEGAN KATHRYN. Narratives of Disasters: Natural Disasters in the Public Policy process. (Under the direction of Dr. Thomas A. Birkland).

Following a disaster, members of society often want to know what went wrong, who was to blame, and what policymakers will do to avert a similar future disaster. Answers to these questions are posed in the form of narratives by both the news media and policymakers in government. Narratives construct the policy realities in which we exist, and the strategic use and manipulation of narratives is a way to influence the policy process.

Scholars have long disagreed over the influence of the news media in the policy process. The news media are fascinating since they act as both participants in the policy process and as observers of the process. Scholars differ over the amount of influence the news media have on the institutional agenda, such as in Congress (see: Tan and Weaver 2007; Edwards and Wood 1999; Birkland 1997 and 2006; Kingdon 2003; Baumgartner and Jones 1993). To better understand the relationship between the news media and congressional activity, this study engages agenda-setting elements of the Multiple Streams Approach with narrative elements of the Narrative Policy Framework.

The Narrative Policy Framework provides an empirical approach to studying policy narratives. This study is interested in the application of aspects of the Multiple Streams Approach (MSA) to the Narrative Policy Framework (NPF). Considering the "narrative attention" of the policy reality following a focusing event, I seek to extend previous agenda-setting studies by adding in the dimension of the policy narrative. Of interest is the relationship between the news media, Congress and other actors in the hurricane policy domain following a focusing event. The role of actors in the policy process is one of the ways, I theorize, the MSA and NPF are compatible. Throughout the different policy process theories, the function of actors

is conceptualized in many ways. Some theories take a wide-angle lens to all the actors and their accomplishments in the policy process while other theories emphasize the skilled interactions of a specialized few. What is coherent across the policy process theories is that actors, no matter how we define them, do play an instrumental role in the policy process.

This study also analyzes the presence of the policy solution in the narratives and conceptualizes these solutions in the form of the disaster policy cycle. By using the natural disaster policy domain, specifically hurricanes, to understand how narrative elements link with agenda setting properties, this research provides further opportunity to apply the NPF to the disaster policy context. This study also fills a gap with the application of the Narrative Policy Framework to elements of the Multiple Streams Approach. In past research, the Narrative Policy Framework has primarily been applied to other policy process theories, notably the Advocacy Coalition Framework and Punctuated Equilibrium Theory. This is the first attempt of application of the NPF to the MSA, and I believe it provides a different perspective of the agenda change properties of the MSA by considering the role of narratives in the policy process. And it adds to the NPF by examining the agenda-setting attention given to specific narrative elements by different actors within the policy process following a focusing event.

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Narratives of Disasters: Natural Disasters in the Public Policy Process

by  
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A dissertation submitted to the Graduate Faculty of  
North Carolina State University  
in partial fulfillment of the  
requirements for the degree of  
Doctor of Philosophy

Public Administration

Raleigh, North Carolina

2018

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## **DEDICATION**

This dissertation is dedicated to my parents, Bob and Joann Warnement, without whom none of this would be possible. Of all the roads we have traveled on together, this might have been one of the rockiest, but also the most fulfilling.

## **BIOGRAPHY**

Megan Kathryn Warnement was born and raised in Tiffin, Ohio. She attended the University of Dayton where she earned a Bachelor of Arts in Political Science in 2007. Following completion of her undergraduate degree, Megan began her career in public service as Constituent Liason for Immigration Issues and Field Representative for Congressman Steve Chabot (OH-1). In the Fall of 2009, Megan went back to the University of Dayton, where she earned her Master of Public Administration degree. In the Fall of 2011, Megan began the Doctor of Philosophy program at North Carolina State University. While there, Megan worked as a teaching assistant and instructor for Political Science courses and a research assistant for Dr. Thomas Birkland. Meagan's research interests include the role of focusing events and narrative in the policy process, organizational learning, film and politics, and disaster policy. She completed her Ph.D. in Public Administration in July 2018 and will join the faculty at Idaho State University as a Visiting Assistant Professor in the Fall of 2018.

## ACKNOWLEDGMENTS

Earning a doctoral degree has been a labor of love, frustration, and perseverance. It would not have been possible without the support and guidance of many people in my life, both personally and professionally. It is my sincere pleasure to acknowledge several individuals who have played a monumental role in this process. First, I would like to thank my family. My parents, Bob and Joann Warnement, this is as much yours as it is mine. Thank you for absolutely everything. Your encouragement, love, support, guidance, faith, and character are what made this all possible. I am so blessed to have you as my parents, and I am incredibly proud to be your daughter. You kept telling me to trust, and you were right. My siblings and siblings-in-law, Matt, Mary Claire, Mollie, Mike, Maria, Eric, and Bill. Thank you for keeping me grounded and giving me your love and support throughout this process.

I am so fortunate to have wonderful scholars and mentors guiding me along this journey. Thank you to my committee members, Drs. G. David Garson, Michael Jones, Christopher Galik and Andrew Binder. I will be a better researcher and teacher because of your mentorship. I would especially like to thank my dissertation chair and mentor, Dr. Thomas Birkland. Tom, the reason I chose NC State was to work with you, and that has been more rewarding than I could ever have imagined. You have inspired me, challenged me, and guided me throughout this process. I am incredibly grateful to you for both your leadership and also financial support of my research. Our collaboration has taken us all over the world, and I thoroughly enjoyed being your zealous tour guide. You also introduced me to a community of scholars that I strive to emulate. Specifically, Drs. Nikolaos Zahariadis and Elizabeth Shanahan. Nikos, I am so grateful to you for welcoming me into the MSA group and providing much guidance on my research. Liz, I am

so very appreciative to have you as my friend. Your support, guidance, and mentorship make all of this, and the next step, possible.

This dissertation would not be possible without the wonderful work done by my amazing graduate students. Special thank you to Allison Pittman, Katreena Alder, and Chris Gambino. You learned more about hurricanes than you ever wanted to, and I hope it was a rewarding experience. Also thank you to the faculty and staff in the School of Public and International Affairs at NC State University. Drs. Jerrell Cogburn, Branda Nowell, and Rich Clerkin thank you for being sounding boards throughout the process and guiding me along the way. To Mac McGee, Lillie Kirby, and Meg Romick thank you for your patience and kindness while you help everyone in the department.

I am also fortunate to have many mentors and friends from the Political Science Department at the University of Dayton. Especially Drs. Michelle Pautz and Grant Neeley. Michelle, I still blame you for this. Grant, I am so happy the Congressman lost, and you encouraged me to go back for my MPA. Working with both of you inspired me to pursue a Ph.D., and I am grateful for that (now).

I would also like to thank members of my cohort, Drs. Casey Fleming, Candice Bodkin, and Zheng Yang. Your friendship is what kept me sane throughout this process. Thank you for always being available to work through questions and to get a drink. Additionally, thank you to my friends outside of the program, particularly Laura and Garie Routhieux, Ashley and Keith Jennings, and Carolyn Gobble for your support and friendship. Finally, thank you to my fellow doctoral program colleagues, particularly Dr. Anne-Lise Knox Velez, Dr. Christopher Prentice, Dr. Christopher Cody, Emily McCartha, Kathryn Schwaeble, and Kathleen Colville for your camaraderie and motivation throughout the years.



## TABLE OF CONTENTS

LIST OF TABLES .....	viii
LIST OF FIGURES .....	x
<b>CHAPTER 1 THEORETICAL FOUNDATIONS.....</b>	<b>1</b>
1.1. Introduction.....	1
1.2. Theoretical Relevance and Contextual Background.....	3
1.3. Research Statement.....	8
1.4. Agenda Setting and the Multiple Streams Approach.....	11
1.4.1. Role of Actors in the Policy Process and the Hurricane Policy Community.....	19
1.4.2. Role of the News media in the Policy Process .....	22
1.5. The Narrative Policy Framework.....	25
1.5.1. Evidence Used by Actors in the Policy Process .....	28
1.5.2. Natural Disasters as Policy Context.....	31
1.6. Conclusion .....	34
1.6.1. Summary of Research Questions .....	35
1.6.2. Summary of Hypotheses .....	36
<b>CHAPTER 2 METHODOLOGY.....</b>	<b>38</b>
2.1. Introduction.....	38
2.2. Data Collection .....	38
2.2.1. News Data.....	40
2.2.2. Congressional Data .....	41
2.3. Dependent Variable: Narrative Attention .....	41
2.4. Content Analysis and Coding Structure.....	41
2.5. Operationalization of Variables .....	44
2.6. Data Analysis Methods .....	49
2.7. Conclusion .....	51
2.7.1. Summary of Variable Definitions.....	51
2.7.2. Summary of Hypotheses .....	54
<b>CHAPTER 3 ANALYSIS OF ACTORS IN THE POLICY PROCESS.....</b>	<b>55</b>
3.1. Introduction.....	55
3.2. Levels of Affiliations .....	56
3.3. Increase in Attention across Agendas .....	58

3.4. How Actors Change Over Time .....	60
3.5. Use of Narrative Evidence by Actors .....	60
3.6. Conclusion .....	66
<b>CHAPTER 4 ANALYSIS OF THE STATEMENT OF PROBLEM.....</b>	<b>69</b>
4.1. Introduction.....	69
4.2. Problems Identified after Hurricane Katrina.....	70
4.3. Attention Shift of Problems over Time.....	73
4.4. Problems discussed by Actors .....	75
4.5. Relationship between Problems and Solutions .....	79
4.6. Conclusion .....	86
<b>CHAPTER 5 ANALYSIS OF THE MORAL OF STORY .....</b>	<b>89</b>
5.1. Introduction.....	89
5.2. Solutions Identified.....	90
5.3. Attention Shift of Solutions over Time.....	94
5.4. Use of Narrative Evidence with Solutions.....	97
5.5. Conclusion .....	103
<b>CHAPTER 6 RELATIONSHIP OF NARRATIVES ACROSS AGENDAS.....</b>	<b>105</b>
6.1. Introduction.....	105
6.2. Relationship Between Actors and Solutions.....	106
6.3. Relationship Between Solutions and Problems Across Agendas .....	114
6.4. Conclusion .....	118
<b>CHAPTER 7 CONCLUSION.....</b>	<b>120</b>
7.1. Introduction.....	120
7.2. Discussion of Overall Findings.....	121
7.2.1. Role of Actors in the Policy Process and Problem Definition.....	121
7.2.2. Phases of the Disaster Cycle and Solution Identification .....	123
7.2.3. Relationship Between the Narratives of the News Media and Congress.....	124
7.2.4. Narrative Policy Framework and Multiple Streams Approach.....	124
7.3. Contributions of the Research.....	129
7.4. Limitations of the Study.....	130
7.5. Directions for Future Research .....	131
REFERENCES .....	133
APPENDICES .....	142

## LIST OF TABLES

Table 1.1: MSA Hypotheses on Agenda Setting .....	18
Table 1.2: Definition of Narrative Elements.....	28
Table 1.3: Definition of Evidence Types.....	29
Table 1.4: Disaster Cycle Coding Scheme .....	32
Table 2.1: Operationalization of Variables.....	45
Table 2.2: Summary of Variable Definitions.....	51
Table 2.3: Chapter Two Summary of Hypotheses.....	54
Table 3.1: First Level of Affiliation.....	57
Table 3.2: Second Level of Affiliation .....	57
Table 3.3: Chi-Square Analysis of Actor Affiliation by Year .....	59
Table 3.4: Frequency of Evidence Used.....	61
Table 3.5: Distribution of Public Opinion Evidence by Affiliation.....	62
Table 3.6: Distribution of Evidence by Actor Affiliation.....	63
Table 3.7: Chi-Square Analysis of Statistics by Actor Affiliation .....	64
Table 3.8: Chi-Square Analysis of Statistics by Actor Affiliation .....	65
Table 3.9: Chapter Three Summary of Hypotheses.....	68
Table 4.1: Problem Statements and Definitions .....	71
Table 4.2: Frequency of Problems.....	72
Table 4.3: Attention of Problems from 2005-2007.....	73
Table 4.4: Chi-Square Analysis of Problems Statements by Actor Affiliation .....	76
Table 4.5: Policy Solutions MDS Stress and R <sup>2</sup> Measures.....	85
Table 4.6: Chapter Four Summary of Hypotheses.....	88
Table 5.1: Operationalization of Policy Solutions.....	89
Table 5.2: Chi-Square Analysis of Co-Occurrences of Policy Solutions .....	92
Table 5.3: Frequency of Policy Solutions.....	93
Table 5.4: Attention of Policy Solutions from 2005-2007 .....	94
Table 5.5: Chi-Square Analysis of Policy Solutions and Year.....	95
Table 5.6: Presence of Evidence with Policy Solutions .....	97
Table 5.7: Chi-Square Analysis of Policy Solutions and Scientific Evidence .....	99
Table 5.8: Chi-Square Analysis of Policy Solutions and Statistical Evidence .....	100
Table 5.9: Chi-Square Analysis of Policy Solutions and Ipsa Dictum Evidence.....	102
Table 5.10: Chapter 5 Summary of Hypotheses .....	104
Table 6.1: Frequency of Policy Solutions by Actor Affiliation.....	107
Table 6.2: Preparedness Pairwise Comparison of Means with equal variances .....	107
Table 6.3: Preparedness Pairwise Comparison of Means, Multiple Group Comparisons.....	108
Table 6.4: Relief/Response Pairwise Comparison of Means with equal variances.....	109
Table 6.5: Relief/Response Pairwise Comparison of Means, Multiple Group Comparisons.....	111
Table 6.6: Recovery Pairwise Comparison of Means with equal variances.....	111
Table 6.7: Recovery Pairwise Comparison of Means, Multiple Group Comparisons.....	112
Table 6.8: Recovery Pairwise Comparison of Means with equal variances.....	113
Table 6.9: Relief/Response Pairwise Comparison of Means, Multiple Group Comparisons.....	114
Table 6.10: Affiliation Type MDS Stress and R <sup>2</sup> Measures.....	117
Table 6.11: Chapter 6 Summary of Hypotheses .....	119
Table 7.1: MSA Hypotheses on Agenda Setting .....	125

Table 7.2: Actor Affiliation - First Level.....	127
Table 7.3: Actor Affiliation – Second Level .....	128
Table C1: Full Results of Pairwise Comparison of Means, Preparedness.....	148
Table C2: Full Results of Pairwise Comparison of Means, Relief/Response.....	150
Table C3: Full Results of Pairwise Comparison of Means, Recovery .....	152
Table C4: Full Results of Pairwise Comparison of Means, Mitigation.....	155

## LIST OF FIGURES

Figure 1.1: Diagram of the Multiple Streams Framework From Zahariadis (2014, 31) .....	14
Figure 4.1: Preparedness Solution and Problems Multi-Dimensional Scale .....	81
Figure 4.2: Relief/Response Solution and Problems Multi-Dimensional Scale .....	81
Figure 4.3: Recovery Solution and Problems Multi-Dimensional Scale .....	83
Figure 4.4: Mitigation Solution and Problems Multi-Dimensional Scale .....	84
Figure 4.5: Political Solution and Problems Multi-Dimensional Scale .....	85
Figure 6.1: Solutions and Problems on News Agenda Multi-Dimensional Scale .....	115
Figure 6.2: Solutions and Problems on Federal Executive Agenda Multi-Dimensional Scale ..	116
Figure 6.3: Solutions and Problems in the Federal U.S. House and Senate Agenda Multi-Dimensional Scale .....	116

## CHAPTER 1 THEORETICAL FOUNDATIONS

### 1.1. Introduction

This dissertation studies the role of narrative in the policy process, specifically agenda setting, following a disaster. I am interested in this to understand the influences of narrative in the policy process better, to understand how these narratives differ across institutional agendas, and to understand how narratives are shaped following a natural disaster.

We exist in a world of narrative. To make sense of the world around us, we tell stories. These stories help shape solutions to problems, they create characters and construct the reality we live in. That same structure of the narrative is used in the public policy process. The narratives surrounding a specific type of policy construct, known as the policy reality, are constructed by people in the policy process to meet a specific end (Jones 2014).

Stories have a specific structure, consisting of a beginning, a middle and an end. They are familiar tales in which heroes save the victims from the villain and ends with a lesson in the form of a moral of the story. Policy narratives are no different. The narrative form, or structure of the narrative, contains the classic storytelling elements: setting, characters, plot, and moral of the story. These elements allow for operationalization of the narrative providing generalizability across studies (e.g. Jones and McBeth 2010; McBeth et al. 2014; Jones and Radaelli 2015). In this study, I am interested in the narratives that exist after a disaster.

Following a disaster, members of society often want to know what went wrong, who was to blame, and what policymakers will do to avert a similar future disaster (e.g., Birkland 1997 and 2006). Answers to these questions are posed in the form of narratives by both the news media and policymakers in government. The normative assumption is that once a disaster occurs,

we should learn from it, and therefore make a change that either prevents or mitigates the next occurrence.

Sudden events that highlight policy failure are known as "focusing events." (Kingdon 2003; Birkland 1996). Focusing events are elements of the agenda-setting process, in which some issues gain, and others lose attention among policymakers and the public. For this research, I examine both the agenda-setting properties and the narrative elements of an event. The context used for this application is the natural disaster policy domain, specifically hurricanes. Studying hurricanes provides an ample opportunity to consider the role of focusing events. We can prepare for them, try to mitigate their effects, and even plan on their approach since they have a "season," yet several hurricanes have served as focusing events in the policy process.

Very simply, I am interested in filling several gaps in the policy process literature. The first gap is a theoretical one. As far as I know, no one has applied the Narrative Policy Framework (NPF) with the Multiple Streams Approach (MSA). Combining elements of MSA with NPF allows for a richer understating of both theories. In the next section, I go into greater detail on how the two theories are compatible, and how by combining them, they can improve hypothesis development and testing of both approaches. I go into greater detail about this in the next section. The second gap I am seeking to address is concentrating on application. Scholars of the policy process have long disagreed over the influence of the news media on Congress in the policy process (e.g., Tan and Weaver 2007; Edwards and Wood 1999; Birkland 1997 and 2006; Kingdon 2003; Baumgartner and Jones 1993). This dissertation seeks to provide another voice to that debate. Finally, to accomplish all these goals, I am using the agenda-setting and narrative elements of hurricanes, specifically Hurricanes Katrina, Rita, and Wilma. These hurricanes provide an excellent context to study the narratives that exist after a focusing event and address

the aforementioned gaps in the literature. Due to the size, scope, and damage of Katrina, with Rita and Wilma following shortly afterward, these storms meet the criteria for Birkland's (1996) definition of a potential focusing event. Furthermore, because of their scope and rarity, they illustrate the effects of a focusing event in the policy process. The policy failures illuminated by these focusing events and revealed in the subsequent policy narratives make it a very fruitful area of research.

## **1.2. Theoretical Relevance and Contextual Background**

The Multiple Streams Approach (MSA), introduced by John Kingdon, and the Narrative Policy Framework (NPF), developed by Mark McBeth, Elizabeth Shanahan, and Michael Jones, are two prominent approaches to the study of public policy. MSA emphasizes the agenda-setting aspects of the policy process while NPF stresses the importance of the narrative in the policy process. As this study is interested in both the agenda-setting and narrative elements of the policy process, it will be combining aspects of the MSA with the NPF. In past research, the NPF has often been applied with the Advocacy Coalition Framework (McBeth 2007; Shanahan et al. 2011a), Punctuated Equilibrium Theory, (Peterson Forthcoming) and Cultural Theory (Jones 2010). However, application of the NPF with MSA has, to my knowledge, yet to occur.

Using the MSA with the NPF can improve our understanding of both theories. These theories are compatible with each other by sharing some core concepts. For example, both use bounded rationality to explain human behavior in their core beliefs. Individuals have limited time and limited information and therefore must "satisfice" when making decisions (e.g., Simon 1947). Both approaches also show how the policy process operates under conditions of ambiguity. Ambiguity is the idea of being able to conceive of a policy problem in many different ways. For example, Zahariadis states, "The problem with operating under conditions of



ambiguity is that we do not know what the problem is: its definition is vague and shifting” (Zahariadis 2007, 67).

This condition of ambiguity is essential in the policy process because problems are difficult to define, and the way a problem is defined often shapes the policy solutions applied to the problem. Policy entrepreneurs, in Kingdon’s MSA, can manipulate this condition of ambiguity to propagate their preferred problem definition and policy solution (Zahariadis 2014). Zahariadis (2003) stresses that this manipulation is key to understanding the dynamics of policymaking. Zahariadis is clear to state that this manipulation is more than persuasion. More information is not always useful when ambiguity is present. Instead, it is *how* the information is presented that is key. That is why the NPF is complimentary to MSA, in addition to being compatible.

The NPF provides a framework to give more insight into the manipulation of the ambiguity that exists in the policy process, used by policy entrepreneurs and others. NPF considers this condition of ambiguity because problems are socially constructed. “Social construction in this context refers to the variable meanings that individuals or groups assign to objects or processes associated with public policy” (McBeth et al. 2014, 229). Therefore, NPF concedes that people will define a problem differently based on their perceptions. However, in NPF this variation in problem definitions is bounded by the model and is not random. This illustrates that the NPF provides structure and stability allowing for the operationalization of concepts that are manipulated. Once again, I theorize that in this way the NPF and MSA complement each other. They both agree on the conditions of ambiguity present in the policymaking process, with the MSA showing how actors, such as policy entrepreneurs,

manipulate information, and the NPF providing a framework to conceptualize the study of these manipulation tactics.

Both MSA and NPF have structural elements that are used to help generalize research across multiple contexts. For MSA these include the three streams: problem, policy and politics; the policy window; and policy entrepreneurs. The NPF divides a narrative into elements of its narrative form and narrative content. Elements of a narrative form include the setting, characters, plot, and the moral of the story. The narrative content includes the policy beliefs and policy strategies that different narratives invoke. Both MSA's and NPF's structural components allow for a more systematic approach to studying public policy. Finally, MSA and NPF are compatible to each other in that they both consider the role of agency in the policy process. MSA identifies the importance of the policy entrepreneur and how it is necessary for the policy entrepreneur to exploit an open policy window to advance a preferred policy solution. Kingdon defines policy entrepreneurs as "advocates for [policy] proposals or for the prominence of an idea" (1984, 122). For policy entrepreneurs to be successful, they may take advantage of a focusing event, promote a specific "symbol" or frame a problem in a way beneficial to their preferred solution. This agency and timing are also present in the NPF. Stakeholders of specific policies will act as policy entrepreneurs advocating for a preferred policy solution. They will use their narrative, form, and content, as a powerful tool to achieve their desired outcome.

Just as many similarities exist between MSA and NPF, several differences also exist in each approach, and each approach suffers from several weaknesses (see: Sabatier 2007; Weible et al. 2016; Zahariadis 2007). I theorize that drawing on these theories can overcome each approach's weaknesses. For example, Sabatier 2007 criticizes MSA for not having explicit, falsifiable hypotheses, and concerns remain about the ability to empirical test key assumptions

and hypotheses generated by MSA. Herweg takes on the criticism that MSA is a heuristic device and argues that the MSA details the needed conditions for agenda change. These conditions include the streams being ready when a policy window opens by a change in the policy or political stream, and the presence of a policy entrepreneur coupling the streams (Herweg et al. 2015). Cairney and Jones (2016) identify that the MSA has made many contributions to both advancing theory and to the empirical literature, but the contributions often remain separate from each other. They identify that the “barrier to entry” when using and applying the MSA is very low when compared to other policy theories, providing flexibility but also a lack of cohesion in terms of theory and empirical examinations.

Other scholars have raised concerns about the ability to empirically test in a cohesive manner the fundamental assumptions and hypotheses generated by the MSA (see Ostrom 2007; Sabatier 2007; Olsen 2001). Cairney and Zahariadis (2016) identify that the flexibility of the MSA comes at a cost in terms of operationalizing MSA. Zahariadis (2014) addresses the question “Are the conclusions of MSA empirically based rather than assumption driven?” by detailing how the MSA differs from the Cohen, March and Olsen’s “Garbage Can Model” on which it is based (40-41). Cohen, March and Olsen’s Garbage Can Model lacked empirical verification and structural elements that are combined not by purposeful acts, but more by chance. The Garbage Can Model was used to explain organizational behavior and included lots of fortuitous acts. However, Cairney and Jones identify that the “universal concepts” evident in MSA are built upon the Garbage Can Model. These “universal concepts” include:

1. Ambiguity (there are many ways to frame any policy problem);
2. Competition for attention (few problems reach the top of the agenda);
3. An imperfect selection process (new information is difficult to gather and subject to manipulation);
4. Actors have limited time (which forces people to make choices before their preferences are clear);

5. Decision-making process are neither “comprehensively rational” nor linear (Cairney and Jones 2016, 39).

Kingdon conceptualized the notion of his "streams" from this model. However, he subscribed to the belief that institutions make things possible, but people are necessary to make things happen. Zahariadis has further defined the elements of MSA and, along with other scholars, details how to empirically test the MSA (see Zahariadis 1995, 2003, 2004, 2005; 2008; Cairney and Zahariadis 2016; Birkland 1997; Herweg 2016; Borsocano 2009).

In contrast to the MSA’s lack of cohesion, the NPF clearly outlines empirical hypotheses and methods to develop theory with empirical testing and provides nine original empirical hypotheses, with more are being developed by scholars in the field (Jones et al. 2014; Crow and Lawlor 2016) and application of the NPF to elements of the MSA, can provide further insight into the “universal concepts” of MSA. The MSA and NPF can add to each other, providing deeper insight into both theories. For example, the NPF can provide a more systematic way to test the MSA empirically. And the MSA adds to the NPF by providing a flexible framework to better understanding the agenda-setting process. Furthermore, MSA’s “universal concept” of ambiguity, in terms of problem definition, can be tested using the NPF and detailing the different narrative elements used by actors in the policy process. Previous work by Shanahan and McBeth (2004) consider the policy entrepreneur as a policy marketer “who uses policy narratives to construct focusing events and define a policy reality” (McBeth et al. 2014). This application of MSA to NPF can add to the NPF by providing further analysis of the actors in the policy process and how they use narratives following a focusing event to advocate for specific policy solutions. Finally, to test MSA’s assertion of competition of the policy agenda, use of the NPF can illuminate which problems and solutions receive more or less attention.

Both MSA and NPF are theoretically driven and are amenable to empirical testing. However, by testing the NPF with the “universal concepts” of the MSA, I theorize that I can advance both approaches forward. Zahariadis (2014) notes that MSA has “generated a lot of movement in the policy field, but has there been much forward movement?” (40). This research seeks to move both the MSA and NPF forward by using the theories together to better understand the relationship between the news media and congressional activity through their use of policy narrative. The context I am using to understand this relationship is the disaster policy domain. Birkland (see 1997, 1998, 2004, 2006) has demonstrated that the disaster policy domain is different than other policy domains. And Crow et al. (2017), established in the case of wildfires, the NPF can be applied to the disaster policy context to further understand how it is unique and disasters’ societal problems are best understood within the framework of the disaster policy cycle. Crow et al. (2017), also called for future research to be done on other disaster types within disaster policy domain considering the entire disaster cycle. Shanahan et al. (2017) demonstrated the importance of the NPF being applied to different contexts by stating, “In sum, systematic comparisons of the role of narratives in different policy process contexts at different levels of analysis contribute to specific understandings of that context and more importantly to a generalized understanding of narratives within the policy process” (200). This study accomplishes this by studying hurricanes and policy solutions that relate to the phases of the disaster cycle.

### **1.3. Research Statement**

This research is interested in the agenda setting and the narrative elements of the policy process. To capture this, I examine the attention that surrounds focusing events, put forth in the form of the narrative by the news media, Congress, and actors in the policy process. To capture

these narratives and agenda-setting elements, I am using the Narrative Policy Framework with elements of the Multiple Streams Approach. Therefore, my dependent variable represents these two theories in that it encompasses elements from each. The dependent variable “narrative attention” operationalizes what is being paid attention to by different stakeholders. Kingdon defines the policy agenda as “the list of subjects or problems to which governmental officials, and people outside of government closely associated with those officials, are paying some serious attention at any given time” (2003, 3). As agenda-setting scholars know, attention is a scarce commodity (e.g., Herweg 2016; Eissler et al. 2014; Bache and Reardon 2013; Baumgartner and Jones 1993; Cobb and Elder 1983; Walker 1977). Events like focusing events can help open a policy window, but what problems, solutions, characters receive attention while that window is open? How do policy entrepreneurs use the institutional structures outlined by MSA to create narratives that gain greater attention than the narrative advanced by other policy entrepreneurs? Does the attention paid to specific narratives by the news media match the narratives to which Congress is most attentive? Attention is not studied here as it has traditionally been in the past. Instead, I am adding to the concept of attention by specifically studying what I call ‘narrative attention’. This is the narrative elements to which attention is paid by the news media, Congress and policy entrepreneurs in the policy context. What specific problems, solutions, and evidence are gaining more attention (or less) across multiple agendas?

To answer these questions, I consider two different influences on narrative attention. First, I analyze the agenda-setting properties of focusing events. This is an essential feature of the study, as prior research has found that focusing events highlight problems and raised them to the policymakers' agenda. For an event to be a focusing event it needs to be rare, sudden, revealing harms or potential harms, and caused by a problem that the policy elites and the

general public learn of simultaneously (Birkland 1997; Kingdon 2003; Zahariadis 2003; O'Donovan 2017). A focusing event's power lies in its ability to aggregate harms. The larger the event, the more it "bowls over" the agenda, and is, therefore, more likely to open a window of opportunity for attention (Kingdon 2003). Also, of interest is the narratives of both the news media and Congress and how they frame the policy reality of the events, the problems identified, and the solutions presented.

I pose the following research questions:

- 1. Relationship between News Media and Congress:** What is the nature of the relationship between news media and Congress? Is there a relationship between the narrative elements presented by the news media with those presented by Congress following a focusing event? If so, when does this narrative attention occur?
- 2. Role of Actors in Policy Process:** Who is presenting the narratives following a natural disaster that becomes a focusing event, specifically Hurricane Katrina? What evidence are these policy entrepreneurs using to identify problems and policy solutions? How does this emerge and change after a focusing event?
- 3. Phases of Disaster Cycle:** Following a natural disaster focusing event, what is the narrative attention given to the different phases of the disaster cycle? Who talks about which phases and how does this change over time? What problems are identified in each phase?

Therefore, this research seeks to extend the previous agenda-setting research to encompass the studying the narrative elements used by news media, Congress and policy

entrepreneurs. Furthermore, it will apply the Narrative Policy Framework to a disaster policy context, to better understand the narratives used following a disaster.

#### **1.4. Agenda Setting and the Multiple Streams Approach**

Many studies using the Narrative Policy Framework (NPF) integrate it with the Advocacy Coalition Framework (ACF), because the NPF helps to understand how narratives influence advocacy coalitions' core beliefs and policy outcomes (see McBeth et al. 2005; McBeth et al. 2007; Shanahan and McBeth 2010; Shanahan et al. 2013; Heikkila et al. 2014). Other studies focus on policy change. In one specific study, Shanahan et al. (2008) focused on the dynamics of the news media and how they relate to policy change. Building on that study, I am seeking to understand how the narratives presented in the news media match those presented by Congress. However, I am interested in agenda change instead of modeling for policy change. Since it is event-driven policy narrative attention that is being analyzed, it is necessary to consider the agenda-setting properties of the event. Therefore, even though the NPF has been applied to the ACF in the past, I want to integrate the NPF with Kingdon's Multiple Streams Approach (MSA).

Kingdon (1984; 2003) developed the Multiple Streams Approach, basing it on Cohen, March and Olsen's (1972) "garbage can model" of organizational behavior. It is used to explain agenda setting in the policy process and comprises of three streams that operate under the assumption of independence from one another. The politics stream contains the electoral process and the public opinion. The policy stream contains all the ideas and solutions to possible problems and how they can be addressed. The problem stream includes ideas about various problems. Cohen & March (1974) assume that, in the garbage can model, the streams are independent of each other and when they come together it is a product of chance. They assert



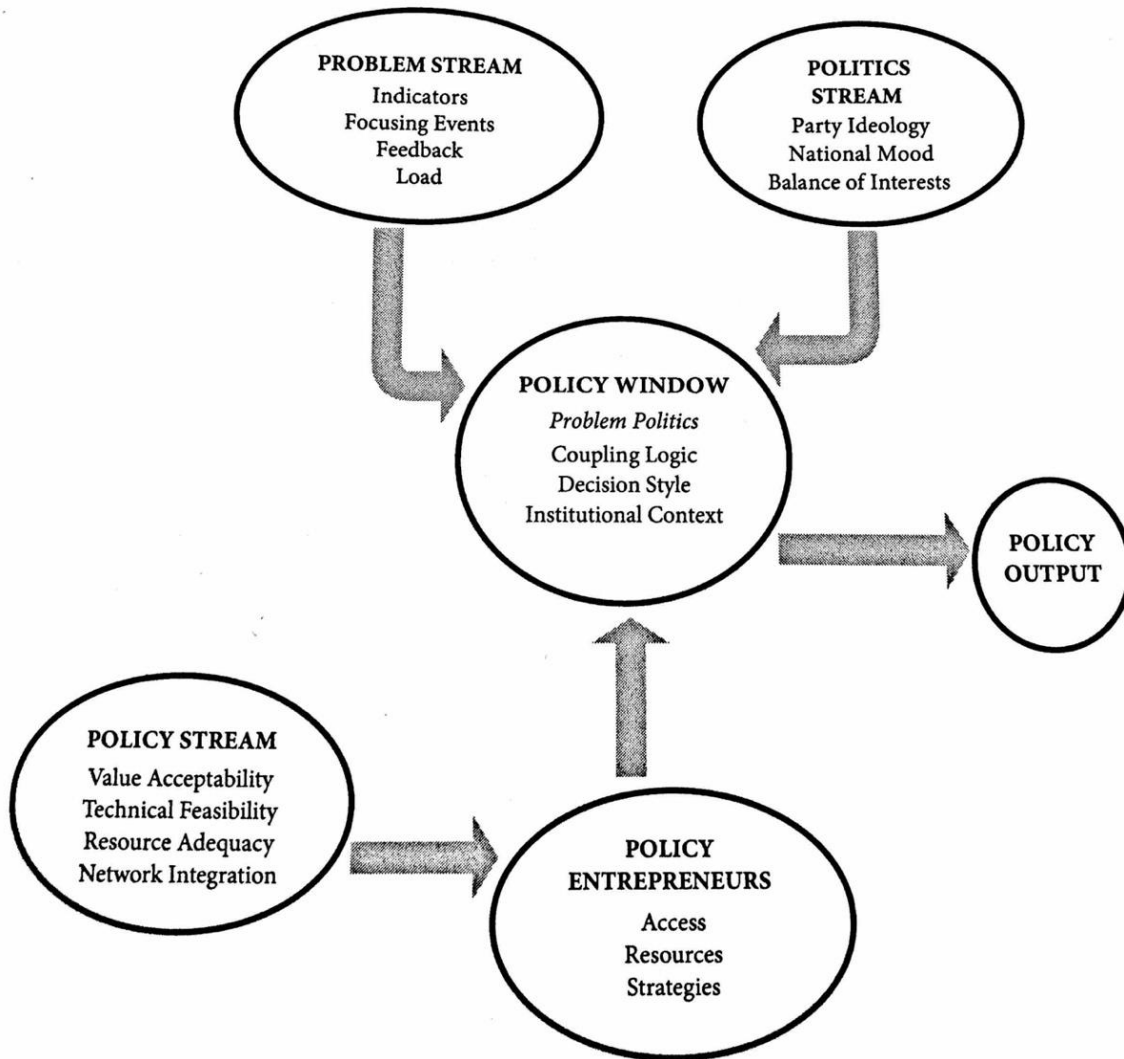
that this “chance opportunity” is like a “garbage can into which various problems and solutions are dumped by participants” (Cohen & March 1974, 81).

Scholars have debated over the independent nature of the streams (e.g., Zahariadis 2007; 2014; Robinson and Eller 2010 ). The MSA suggests that the streams are not completely independent, but the streams do have a life of their own, following their own rules only coming together when policy entrepreneurs couple them, thereby opening a policy window. Critics of this view assert that the streams are interdependent, in which “changes in one stream can trigger or reinforce the change in another, making coupling much less fortuitous and the process more purposive and strategic” (Zahariadis 2007, 81). Zahariadis (2007) finds that "stream independence is a conceptual device. It has the advantage of enabling researchers to uncover rather than assume rationality, i.e., the point that solutions are always developed in response to clearly defined problems" (81). Robinson and Eller (2010) tested the notion of stream independence by looking at the participants in education policy, specifically school violence prevention. They found that if a participant is present in the solution stream it “dramatically increases the expected probability of involvement in the problem stream” (Robinson and Eller 2010, 209). Therefore, it is important to consider these streams as conceptually independent, as Zahariadis suggests. But in practice, participants cross the streams and, “participation in one part of the process was a significant factor in the likelihood that one was reported to participate in the other stream” (Robinson and Eller 2010, 212).

Kingdon states that a “window of opportunity” opens for issues to reach the policy agenda. Events in either the problem or political stream open a window of opportunity and agenda change occurs when two or more of these streams come together at the same time

(Kingdon 2003). Thus, the problems are matched with solutions and politics align to promote this occurrence.

During open policy windows persistent policy entrepreneurs, who constantly search for solutions to important problems, attempt to couple the three streams. Success is more likely when all three streams are coupled, conditioned on the type of window that opens, and the skills, resources, and strategies of entrepreneurs to focus attention and bias choice (Zahariadis 2007, 78-79). This outlines the boundaries and scope of the MSA and further details why policymakers adopt some policies and not others. Figure 1.1 below depicts the Multiple Streams Approach



**Figure 1.1: Diagram of the Multiple Streams Framework From Zahariadis (2014, 31)**

Agenda setting encompasses more than just raising an issue to the agenda. It is also about how the issue is defined. This is where the real power of the agenda-setting process lies. Schattschneider (1975) stated, “the definition of the alternatives is the supreme instrument of power” (66). Furthermore, due to the constraints on our ability to process information, competition exists in the definition of alternatives because space on the agenda is limited (Cairney and Zahariadis 2016). Therefore groups are not only propagating their preferred definition of a problem but are also trying to edge out other groups from the agenda space

(Cairney and Jones 2016; Cairney and Zahariadis 2016; Walker 1977; Baumgartner and Jones 1993; Cobb and Elder 1983; Kingdon 2003; Zahariadis 2003; 2007; Birkland 1997; Béland 2016).

As previously stated, the MSA accounts for ambiguity in the policy process. This ambiguity concerning problem definitions and preferred policy solutions is manipulated by policy entrepreneurs. Therefore, the competition that exists in the agenda-setting process is about this manipulation that occurs. The policy entrepreneurs want to tell their story: how the problem came to be, who is to blame, and what can be done so it never happens again (Zahariadis 2003; Stone 2002). Therefore, it is necessary to study *both* the agenda-setting dynamics of the policy process *and* the narratives that exist following these events. This storytelling is important because stories of problem definition compete with other problem definitions, and strongly signal pre-existing preferences for policies (Hilgartner and Bosk 1988; Birkland and Lawrence 2009). The agenda-setting process is a triage process. One must sift through all the issues, problems and ideas and determine priority based on the most prevalent problems facing society and then match the appropriate solutions (Birkland and Lawrence 2009; Hilgartner and Bosk 1988; Lawrence and Birkland 2004).

According to Kingdon (2003), changes in indicators of problems and focusing events are what leads to agenda change, and the potential for policy change. Some focusing events that Kingdon identifies provide a sudden shock to a policy system that can “simply bowl over everything standing in the way of prominence on the agenda” (2003, 96). This shock can highlight a policy failure and the opportunity is present to learn from this failure (Birkland 2006). However, Kingdon’s definition of a focusing event is very broad, and at times difficult to operationalize. In addition to the focusing events that are sudden shocks that “bowl over” the

agenda, He also includes events, crises, symbols, and even personal experiences as focusing events. Kingdon states that a focusing event is a "little push" "like a crisis or disaster that comes along to call attention to the problem, a powerful symbol that catches on, or the personal experience of a policymaker" (2003, 94–95). For Kingdon, the focusing event can open a "window of opportunity" which allows an issue to reach the institutional agenda. For a "window of opportunity" to open it is also necessary for two or more of the streams to come together at the same time. When this occurs, problems are matched with solutions and politics align to promote this occurrence. A focusing event can help open this window since it highlights the policy failure with their "bowling over" effect (Kingdon 2003). Focusing events are powerful because they dramatically highlight harm through their aggregating effect. For example, one event that kills 200 people gains more attention than 200 individual events.

Birkland applied this "bowling over" effect when he narrowed Kingdon's definition to test Kingdon's work empirically. Birkland (1997) defines a *potential focusing event* as an event that is:

sudden, relatively rare, can be reasonably defined as harmful or revealing the possibility of potentially greater future harms, inflicts harms or suggests potential harms that are or could be concentrated on a definable geographical area or community of interest, and that is known to policy makers and the public virtually simultaneously (1997, 22)

This research uses Birkland's definition of a focusing event and is interested in the agenda-setting aspects of focusing events, notably Hurricane Katrina. Birkland tested hypotheses relating to focusing events, media attention and Congressional activity (1997; 2006). Birkland found support for the hypotheses stated below, and I am building on these hypotheses, with the focusing event of my study being Hurricane Katrina. Hurricane Katrina meets Birkland's definition of a potential focusing event. It was sudden, its degree of destruction was rare, it was

extraordinarily harmful and illuminated potential future harms, it was localized to the Gulf Coast, and its effects were made known to policymakers and the public virtually simultaneously. It led to significant policy change in the form of the Post Katrina Emergency Management Reform Act of 2006 (PKEMRA).

Herweg et al. (2017) outlined the key hypotheses for the MSA. Table 1.1 details those hypotheses below. This research is interested in testing the first hypothesis, the hypotheses for the framework as a whole. For agenda change to occur, a policy window must be open. In this case, a policy window was opened by the focusing event, Hurricane Katrina, in the problem stream. The second requirement of the MSA hypotheses for the framework as a whole is that the streams are ready for coupling. Focusing events, such as Hurricane Katrina, make the problem stream ready for coupling and increase the probability of agenda change. I will be determining if the policy stream is ready for coupling, by considering the policy solutions present in the form of the phases of the disaster cycle. Finally, the political stream is made up of the national mood, interest group campaigns, and governments and legislatures. I will examine if the political stream is ready for coupling by analyzing data that represents the “national mood” by examining the narratives present in the editorials and testimony from members of interest groups.

**Table 1.1: MSA Hypotheses on Agenda Setting**

<b>HYPOTHESIS FOR THE FRAMEWORK AS A WHOLE</b>	
Agenda change becomes more likely if (a) a policy window opens, (b) the streams are ready for coupling, and (c) a policy entrepreneur promotes the agenda change.	
<b>HYPOTHESES FOR THE FRAMEWORK'S KEY ELEMENTS</b>	
<b>Problem stream</b>	<ul style="list-style-type: none"> <li>• A problem broker is likely to be more successful framing a condition as a problem the more an indicator changes to the negative, the more harmful a focusing event is, and the more definitely a government program does not work as expected.</li> </ul>
<b>Political stream</b>	<ul style="list-style-type: none"> <li>• Policy proposals that fit the general ideology of a government or the majority in a legislature have a better chance of gaining agenda status.</li> </ul>
<b>Policy stream</b>	<ul style="list-style-type: none"> <li>• If a policy proposal does not fulfill the selection criteria, the likelihood of gaining agenda status, and thus being coupled, decreases significantly.</li> <li>• As the integration of policy communities decreases, it become more likely that entirely new ideas can become viable policy alternatives.</li> </ul>
<b>Policy window</b>	<ul style="list-style-type: none"> <li>• The policy window opens in the problem stream as a result of at least one of the following changes: change of indicators, focusing events, or feedback.</li> <li>• The more a condition puts a policymaker's reelection at risk, the more likely it is to open a policy window in the problem stream.</li> <li>• The policy window open in the political stream as a result of at least one of the following changes: changes in legislature, election of a new government, interest group campaigns, or a change in the national mood.</li> </ul>
<b>Policy entrepreneur</b>	<ul style="list-style-type: none"> <li>• Policy entrepreneurs are more likely to couple the streams successfully during an open policy window is (a) they have more access to core policymakers and (b) they are more persistent.</li> </ul>

From Herweg et al. (2017, 30)

This study is interested in these aspects of attention following a focusing event, but I also include the narrative elements of the news media and congressional testimony. That is why I am interested in *narrative* attention and not just attention following a focusing event. Therefore, based on this literature, I test these hypotheses:

*Agenda Setting Hypotheses*

*Hypothesis 1: Focusing events increase news media attention.*

*Hypothesis 2: Focusing events increase congressional attention.*

*Hypothesis 3: As news agenda activity increases, following a focusing event, the greater the likelihood that congressional agenda activity will also increase.*

#### **1.4.1. Role of Actors in the Policy Process and the Hurricane Policy Community**

Theories of the policy process conceptualize the role of actors in many ways. Some theories apply a wide-angle lens to all the actors and their accomplishments in the policy process while other theories emphasize the skilled interactions of a specialized few (Sabatier and Weible 2014). What is coherent across the policy process theories is that actors, no matter how we define them, do play an essential role in the policy process.

This study is interested in the application of aspects of the Multiple Streams Approach to the Narrative Policy Framework. The activities of actors in the policy process are one of the ways, I theorize, that the MSA and NPF are complementary. The MSA takes a narrower view of actors in the policy process. It identifies the importance of the decisionmakers and the “policy entrepreneur.” Kingdon defines policy entrepreneurs as “advocates who are willing to invest their resources—time, energy, reputation, money—to promote a position in return for anticipated future gain in the form of material, purposive, or solidary benefits” (Kingdon 1984, 179). Qualities of such a person include “expertise; an ability to speak for others, as in the case of the leader of a powerful interest group; or an authoritative decision-making position, such as the presidency or a congressional committee chairmanship” (Kingdon 1984, 180). Michael Mintrom has done extensive studies on the policy entrepreneurship over the years (e.g., Mintrom 1997; Mintrom & Vergari 1998; Mintrom 2000; Mintrom 2009) and argues that policy entrepreneurs can be identified as change agents, specifically promoting policy change. He identifies four elements central to policy entrepreneurship: “social acuity, defining problems, building teams, and leading by example” (Mintrom 2009, 651).



I am interested in the skill policy entrepreneurs have of problem definition. As previously discussed, MSA accounts for ambiguity in the policy process, and successful policy entrepreneurs take advantage of this ambiguity to promote their preferred version of the problem. Problem definition is so important because the way a problem is defined and framed will dictate which problems are considered (Kingdon 2003, Cohen, March, and Olsen, 1972, Jones 2001).

Cairney (2018) details three effective strategies policy entrepreneurs in the MSA employ: “1. Telling a good story to grab the audience’s interest; 2. Producing feasible solutions in anticipation of attention to problems; 3. Adapting their strategy to the specific nature of each ‘window’” (200). Nohrstedt and Weible (2010) argue that "it is insufficient to focus merely on agenda-setting effects of crises and contingencies. Recent efforts to explain political and policy impacts of crises, therefore, recognize the importance of interaction between societal and political actors representing diverging frames of interpretation" (6). Once again, this supports the ambiguity that exists with problem definition and how policy entrepreneurs can exploit this ambiguity to meet their needs.

These conceptions of a policy entrepreneur in the MSA fits well with the role of the actor in the NPF. Although the NPF does take a broader view of actors in the policy process, considering all actors and groups invested in the policy, it understands that actors and groups act strategically by using narratives. This depiction fits well with Cairney’s (2018) strategies of effective policy entrepreneurship and the goal of a policy entrepreneur to reduce ambiguity by propagating their preferred policy problem and policy solution.

Not all policy communities are created equal when it comes to the activity of actors. Birkland defines a policy community as consisting of “the individuals acting on behalf of groups that are actively involved in policymaking in a particular domain” (Birkland 2006, 6). In his

study, he distinguishes between decision makers and policy entrepreneurs testifying before congressional committees. He takes a broad definition of a policy entrepreneur by defining them as someone who testifies at least twice in the particular domains he studied. Birkland (1997) found that policy entrepreneurs are more prevalent in earthquake policy communities than hurricane policy communities. One reason for this could be that there exists a scientific policy community in the earthquake policy domain, whereas the hurricane policy domain is what Peter May describes as “policies without public” (1991, 190).

The literature differentiates policy entrepreneurs, stakeholders, and episodic actors. I take a broader look at the actors in the policy process because I am interested in the narrative as a whole provided following a focusing event. Of particular interest are the policy entrepreneurs and their strategies for defining problems and matching them with preexisting solutions, but also of interest are the stakeholders in the process. McBeth et al. 2016, define stakeholders as “individuals who are highly vested in a policy issue, have influence, and interest (Bryson 2004), and are ideally representative of a larger swath of the public” (424). Bryson defines stakeholders as “persons, groups, or organizations that must somehow be taken into account by leaders, managers, and frontline staff” (2004, 22). This frame fits well with those who testify before Congress after a natural disaster as it includes interest groups, government and NGO employees, those in academia, and civilians directly affected by the event. Based on this literature, I propose the following hypothesis:

*Hypothesis 4: Focusing events mobilize actors and groups to engage in institutional agenda activity.*

### **1.4.2. Role of the News media in the Policy Process**

There is disagreement among policy theories about the role of the news media in the policy process. This study focuses on the relationship between news media narratives and Congressional narratives. Kingdon (2003) found that the news media were not the influential agenda setters that many think they are. He found that “despite good reasons for believing that news media should have a substantial impact on the governmental agenda, our standard indicators turn out to be disappointing” (Kingdon 2003, 58). One reason for this was the short attention span of the media. They focus on one news story and move onto the next story, making news coverage episodic in nature. Kingdon quotes a journalist as saying, "the press has the world's shortest attention span. We don't stick to a story for long enough to educate anybody. We move from one crisis to the next" (Kingdon 2003, 59). Therefore, Kingdon states that the news media have more of a role of reporting what the government does than influencing the government's agenda.

Tan and Weaver (2007) find mixed results with their work on the agenda-setting effects of the news media and Congress. They found a relationship between the news media agenda and the congressional agenda from 1946-2004. However, when it came to the directionality of this relationship (news media influencing Congress or Congress using the media) the effect was issue specific. They also found that the relationship between the news media and Congress is growing and “the bonding between Congress and the news media is stronger than the media's relationship with the public and Congress's connection with the public” (Tan and Weaver 2007, 740). Therefore, they determined that the media's influence on agenda setting is mixed and issue specific: international issues are a domain in which the news media can influence Congress, while on defense issues they cannot.

Other scholars have weighed into the question of the media's role on the policy agenda and have found contradictory results. Rogers and Dearing (1994) state "the media agenda seems to have direct, sometimes strong, influence upon the policy agenda of elite decision makers" (91). Paul Light found that when it came to the President's domestic agenda, the news media were the *least* important stimulus (Light 1991). Edwards and Wood (1999) studied the relationship between the agendas of the President, Congress and the news media regarding foreign policy issues and domestic policy issues (specifically crime, healthcare, and education). They found that all three mostly react to events and issues, regardless of them being foreign or domestic policy. However, the influence they wield over each other is issue specific. Considering domestic policy issues, Edwards and Wood discovered the "Congress is unresponsive to a media focus on crime and health care" but is responsive to the media on education issues (1999, 338-339). They also determined that consideration of time and context is important when considering the magnitude of influence. Furthermore, they found that the "role of inertia" is also important to consider. The President, Congress and the media all have their routines for responding to an issue. The news media should, and do, respond quickly to an event, while Congress takes a longer time scheduling hearings and calling for witnesses. This study considers both the "role of inertia" and the time and context element that Edwards and Wood found to be important.

Birkland (1997) modeled three elements of focusing events that stimulate news media coverage: scope of the event, the harm done by the event, and the rarity of the event. He theorized that news coverage is essential for congressional activity. However, it is not a direct relationship. Instead, group mobilization is an important mediating factor. He states, "the first element is the news coverage of an event. News media coverage is a significant influence on group mobilization and, ultimately, on institutional agenda activity" (Birkland 1997, 33). The

prominent role of news media influence on congressional activity has been supported by many other scholars as well (see also, Cobb and Elder 1983; Baumgartner and Jones 1993; Smith 1992).

Birkland's work on hurricanes found that there was a relationship between the news and congressional activity when it came to aspects of a focusing event. He concluded "the extent of damage and deaths is more strongly correlated with congressional agenda activity than rarity and scope in both earthquakes and hurricanes" through rarity and scope was stronger in setting the agenda with hurricanes than with earthquakes (Birkland 1997, 52-53).

I test if the news media plays an important and influential role on congressional activity. Diverging from Kingdon, this dissertation hypothesizes that the news media does more than just report on what the government does; the media also influence the congressional agenda. Furthermore, expanding on Birkland's work, this study is not just interested in the activity of the Congress following a focusing event, but what the policy narrative is regarding the event. Therefore, I am interested to see if the news media's influence extends to shaping the narrative in Congress.

*Hypothesis 5: There is a relationship in the narrative attention of problem statements between the news agenda and congressional agenda.*

*Hypothesis 6: There is a relationship in the narrative attention of policy solutions between the news agenda and congressional agenda.*

In the next section, I propose several narrative policy hypotheses relating to the role of the news media in the policy process. Hypotheses such as these are supported in the literature (see Shanahan 2008; Baumgartner 2012; Hall 1993; McBeth and Shanahan 2004; Shanahan et al. 2013). However, they have been applied to the Advocacy Coalition Framework and not the Multiple Streams Approach. This study is testing the properties of NPF with the agenda-setting

properties of the Multiple Streams Approach. By doing this, it will broaden our use of the NPF and our understanding of the Multiple Streams Approach.

## **1.5. The Narrative Policy Framework**

Narratives are a form of communication, which includes a story with a timeline and other elements that help shape its organization. Jones and McBeth specifically define a narrative to be “a story with temporal sequence of events, unfolding in a plot that is populated by dramatic moments, symbols, and archetypal characters that culminate in a moral to the story” (2010, 329). Different forms of narratives exist, such as the political narrative. What this research is interested in is the *policy narrative*, which needs to have a setting, characters, and a preferred policy outcome (Shanahan et al. 2011a; Jones and McBeth 2010). Shanahan et al. (2013) state that for a narrative to be considered a policy narrative, it must meet the following criteria:

“First, a policy narrative must contain a policy stance or a judgment on a policy-related behavior...Second, a policy narrative must contain at least one character who is cast as a hero, villain or victim...In sum, policy stance or judgment of policy related behavior + story character = policy narrative” (Shanahan et al. 2013, 457).

By breaking the policy narrative down to these specific elements, along with other components, such as the evidence presented, the casual mechanism used, plot, moral of the story and different narrative strategies used, researchers can identify useful variables that help us better understand the policy process. Therefore, the NPF provides an empirical approach to studying narratives in the policy process, allowing “positivists and postpositivists to engage in more productive debates over how stories influence public policy” (Jones and McBeth 2010, 330).

The Narrative Policy Framework (NPF) is relatively new, with its beginnings and central questions found in McBeth and Shanahan’s (2004) article about “policy marketing.” Since then, many applications of the NPF have produced fruitful research. Some examples include McBeth’s et al. (2007) work regarding narrative elements of interest groups in both the ACF and

Punctuated Equilibrium Theory. Jones (2014) also used the NPF with Cultural Theory to determine the role of the narrative on mass opinion regarding climate change. Shanahan et al. (2011a) matched the goals of the NPF with those of the ACF. The quantitative content analysis is the most common method used with the NPF, especially when dealing with the meso-level study of policy narratives (Shanahan et al. 2013). However, the NPF is expanding into other areas. Crow and Lawlor (2016) used story frames to study how narratives are constructed across media platforms while Shanahan et al. (2011b) used survey research and quasi-experimental design to determine the effect of narratives on public opinion. Finally, previous studies have moved from cross-sectional analysis to longitudinal analysis of policy narratives (McBeth, Shanahan, et al. 2010).

Within the NPF, “narratives operate at three interacting levels, micro (individual), meso (group), and macro (cultural and institutional) (Shanahan et al. Forthcoming, 3). I am interested in the meso-level study of policy narratives. At the meso-level, scholars study the links between the policy narrative and the policy outcome (Shanahan et al. 2013). The meso-level analysis also works well with content analysis and a longitudinal study, both of which this study uses. The policy narrative will serve as an input (independent variable). Shanahan et al. (2011a) states as a hypothesis in need of further testing "variation in policy narrative elements helps explain policy learning, policy change, and policy outcomes. The NPF thus proposes that narratives are an important independent variable to the dependent variables associated with policy change and outcomes” (549). When they proposed this hypothesis, they are related it to the ACF and its elements. However, I theorize that it can also be applied to the Multiple Streams Approach and this way its application will broaden the use of the NPF even more by conceptualizing the

agenda setting properties of narrative elements through the dependent variable, narrative attention.

As previously stated, for a narrative to be a policy narrative it must contain a stance or judgment related to policy behavior and at least one character (Shanahan et al. 2013). Additional components can also be considered and can provide more variables and understanding for your research questions. The NPF groups these components into three parts of the narrative: narrative elements, narrative strategies, and policy beliefs. They are detailed in the Shanahan et al. (2013) Table 1.1. Of interest in this study are the narrative elements of the problem statement, moral of the story (policy solution) and the setting (evidence used).



**Table 1.2: Definition of Narrative Elements**

<b>Narrative Elements</b>	<b>Definition</b>
Statement of a Problem	A policy narrative is always built around some stated problem.
Characters	The participants in a policy narrative.
Victim	The entity hurt by a specified condition.
Villain	The entity responsible for the damage done to the victim.
Hero	The entity designated as fixing or being able to fix the specified problem.
Evidence (setting)	Support offered with the intention of demonstrating a problem, usually pertaining to real worked fixtures in the problem environment.
Casual mechanism	A theoretical relationship denoting a cause and effect relationship between one or more independent variable and a dependent variable.
Moral of the Story	A policy solution offered that is intended to solve the specified problem.
Plot	A story device linking the characters, evidence (setting), causal mechanism, and moral of the story (policy solution).
<b>Narrative Strategies</b>	
Expansion	A policy story depicting concentrated benefits and diffuse costs that is intended to dram in more participants and expand the scope of conflict.
Containment	A policy story depicting diffused benefits and concentrated costs that is intended to dissuade new participants and maintain the status quo.
Devil Shift	A policy story exaggerating the power of the opponent while understanding the power of the narrating group or coalition.
Angel Shift	A policy story that emphasizes a group or coalition’s ability and/or commitment to solving a problem, while de-emphasizing the villain.
<b>Policy Beliefs</b>	A set of values and beliefs that orient a group and/or coalition.

Adapted from Shanahan et al. (2013, 459).

In this study, I include the statement of a problem, setting, and the moral of the story as my main narrative components to be analyzed. Explanation of why I am interested in these narrative elements and how they are used in the study can be found in the next sections.

### **1.5.1. Evidence Used by Actors in the Policy Process**

For the setting (evidence) I have adopted the structure developed by Smith-Walter et al. (2016). They used five types of evidence to encompass the broad range of sources used to understand what is occurring in these narratives. These types of evidence include; Public Opinion Polls, Scientific Studies, Statistics, Ipso Dictum, and Laws and Legal Authority. Their definitions are found in Table 1.2.

**Table 1.3: Definition of Evidence Types**

Type	Definition
Public Opinion Polls	Uses polling figures as evidence. For example, X% of Americans believe that Y happened because of Z.
Scientific Studies	Any occasion that a narrative invokes a study, in general, as a source of facts. For example, “According to a recent study by the Bureau of Labor and Statistics, over 12,000 are out of jobs in the Gulf following Hurricane Katrina.”
Statistics	This is when numbers ARE NOT connected to a scientific study or public opinion poll. For example, “Over 500 People reported sexual assault in the Superdome during Hurricane Katrina and 1,000s reported mass looting and chaos.”
Ipsa Dictum	An appeal to authority. This could be either scientific, political, celebrity, or legal authority.
Laws and Legal Authority	Refers to law or legal statute as evidence

**Adapted from Smith-Walter et al. (2016)**

Evidence can be used in policy narrative for a multitude of reasons. Smith-Walter et al. (2016) found several trends of how evidence was used in past NPF studies, including its role as a proxy variable, its persuasiveness, and if it is a driver of policy. Cairney (2018) argues that evidence can be used strategically by policy entrepreneurs to both reduce ambiguity and uncertainty. Specifically, scientific evidence can be used as for persuasion and framing (Cairney et al. 2014). Policy entrepreneurs pick and choose the evidence they want to use that best helps them “frame” the problem in the policy image of their choosing. This is how evidence can be used to reduce ambiguity (Cairney 2018; Cairney et al. 2014). Uncertainty deals with a lack of understanding or knowledge of a problem or solution. Therefore, evidence is useful to provide that understanding and knowledge (Cairney 2018; Cairney et al., 2016; Cairney and Oliver, 2017). This study seeks to better understand the role of evidence in the policy narrative by understanding precisely how the news, Congress, and different actors in the policy community use the different categories of evidence and the relationship between evidence with specific policy problems and policy solutions.

Smith-Walter et al. (2016) studied their five categories of evidence and how it was used across two distinct advocacy groups in firearm policy. They found support for their hypothesis that evidence is used to support other NPF elements. Of specific interest for their study was the

role of characters in relation to the evidence used. They found that evidence plays a supporting role in the policy narrative, in which they reason that the “expectation is that evidence will be used in conjunction with narrative elements to lend them legitimacy granted by evidential elements of the policy narrative setting” (Smith-Walter et al. (2016), 1067). They found that the two most common types of evidence used by gun policy advocacy coalition groups were statistics and law and legal authority, while public opinion was used the least often.

Since my study is analyzing the evidence employed by the news media, elected officials, and other stakeholders in the policy process, I expect to find somewhat differing results. Considering the delegate model of representation (Rousseau [1762]1960) I expect to find the utilization of public opinion evidence to be greater among elected officials as they are acting on behalf of the public. The delegate model suggests that the elected official is present to represent the views of their constituents. Of all the evidence types, the public opinion poll is the best representation of those constituents.

The broadest type of evidence considered is the ipso dictum category. This appeal to authority, whatever it may be, suggests that since the authority figure cited believes X then you should as well since they obviously know more than you on the subject. I expect the news media to employ ipso dictum evidence throughout the editorials more than other actors in the policy process due to the nature of their audience. The news editorials are trying to reach and relate to a broad audience, while the other actors studied here are testifying before Members of Congress.

The following are the hypotheses detailing how actors in the policy process use evidence in policy narratives.

*Hypothesis 7 Governmental actors have a greater narrative attention with public opinion evidence.*

*Hypothesis 8: News media have greater narrative attention with ipso dictum evidence.*

*Hypothesis 9: Statistical evidence has greatest narrative attention across all policy actor affiliations.*

### **1.5.2. Natural Disasters as Policy Context**

The moral of the story is a policy solution offered to address the stated problem. Since I am applying the Narrative Policy Framework to the natural disaster domain, I confine solutions into context that is sensible in that domain. Carr (1932) was the first scholar to divide the context surrounding a disaster into phases (Neal 1997). Students who study disasters now use Drabek's (1986) four phases: preparedness, response and relief, recovery, and mitigation. These phases receive attention throughout the disaster policy literature (see Haas, Kates, and Bodon 1977; Burby 2006; Haddow et al. 2007; Miskel 2008). Neal (1997) argues that studies using the phases of the disaster cycle should explain whether the stages are used understand the functional activities of a disaster or the temporal aspect of a disaster. The functional aspects of a disaster refer to the type of activities occurring within a phase. The temporal aspects refer to the activities that occur on a specific timeline associated with the disaster. This study is primarily interested in the functional activities associated with each phase instead of studying what occurs before, during and after the disaster. Crow et al. (2017) found that one-way disaster narratives are different from other societal problems is "that the type of policy narrative used by policy actors and the narratives elements contained therein may be related to the phases of the disaster cycle" (629). This study is analyzing this distinction by binding the policy solutions discussed to the phases of the disaster cycle. I am interested in how the actors discuss the different phases, and how do these phases relate to the problems identified and the evidence used.

By limiting policy solutions to these phases, I can track which ideas emerge in news narratives and how they relate to the congressional narratives. Furthermore, the phases provide a

means of operationalizing and measuring the ideas that emerged following the events. Concepts explaining how we interpreted these phases are found in Table 1.2.

**Table 1.4: Disaster Cycle Coding Scheme**

<b>Phase of Cycle</b>	<b>Concepts used in a phase</b>
Preparedness	Continuity of government; planning; public and private relationships; vulnerable areas or populations; pre-disaster; insurance
Relief/Response	Getting aid to people – money, food or shelter; reports on deaths or saving lives
Recovery	Sustainability; resilience; short range vs. long range; reverse vulnerability post-disaster; restoring; rebuilding; reshaping
Mitigation	Engineering; building codes; risk analysis; land use practices; building construction practices

Another critical distinction Neal (1997) made about the phases of the disaster cycle is that they are arbitrary concepts, which do not always occur in a linear order or independent of each other. Also, different groups will experience the different phases at different times. Therefore, my study is trying to capture this multidimensionality by not treating them as independent and isolated instances. For example, an item could be coded for policy solutions representing one phases or multiple phases at the same time. The complete coding schema is attached as Appendix B.

Liu (2009) compared disaster stories presented by the media and State Emergency Management Agencies (SEMAs). She found support for her hypotheses that SEMAs would discuss planning (preparedness) and recovery more than would the media. The media focus more on response. She did not model for mitigation. She also looked at front page news stories, not editorials. We would expect the tone of news reports on the front page to differ from the tone of editorials. Following an event, the initial focus is on relief and response, getting initial money to people, reporting on lost lives and damage. However, since the policy narrative being studied is the news *editorial*, less emphasis will likely be on the relief and response statistics and more on the policy narrative evolving after the event. Therefore, it would not be surprising to see the

conversation move into the recovery phase. If the narratives in the editorials were more focused on policy change, we would expect to see a greater amount of preparedness and mitigation policy solutions. However, considering the nature of the news media, and its need to focus on the more immediate items present in the relief and response and recovery policy solutions, instead of the long-term planning and money saving aspects of preparedness and mitigation, I do not expect to see an emphasis on preparedness or recovery. In addition to disaster policy solutions, I am also coding for political policy solutions. This is when the solution presented is strictly political in nature instead of focusing on the effects of the disaster. This code was added due to the nature of many news editorials and their likelihood to focus on political electoral ramifications of Hurricane Katrina whereas the items of testimony focused more on solutions relating to disaster phases.

If the goal of disaster-driven policy change is to learn from the disaster and effect change to mitigate future harm, mitigation policy solutions should be the most prevalent. However, due to the nature of disasters with long-term mitigation plans for future unknown disasters and the nature of our political system focusing on the current harms of present disaster, mitigation efforts are often the least employed and receive less attention than the other phases (Birkland 2006; May 1985).

The relationship between policy problems and policy solutions is also of interest in this study. Zahariadis (2014) states “problems tend to appear to be more intractable when more of them crowd the agenda” (32). Based on this and the nature of disaster mitigation, I would expect to see a lack of cohesive problem identification with mitigation policy solutions than with other phases of the disaster cycle. Therefore, based on this disaster policy literature, I am testing the following hypotheses relating to the policy solution:

*Hypothesis 10: There is a cohesive relationship between problem type and solution type, except for the mitigation policy solution.*

*Hypothesis 11: Mitigation policy solutions will lack a cohesive relationship with problems.*

*Hypothesis 12: Narrative attention to response emerges first as most prevalent narrative but quickly tapers off.*

*Hypothesis 13: Narrative attention to recovery is the greatest compared to all other policy solutions.*

*Hypothesis 14: Narrative attention to mitigation is the lowest compared to all other policy solutions.*

*Hypothesis 15: Mitigation policy solutions receive higher narrative attention from non-governmental actors.*

*Hypothesis 16: Response policy solutions receive higher narrative attention from news media.*

*Hypothesis 17: Recovery policy solutions receive higher narrative attention from federal governmental actors.*

*Hypothesis 18: Preparedness policy solutions receive higher narrative attention from non-federal governmental actors.*

*Hypothesis 19: Mitigation policy solutions have a greater association with scientific and statistical evidence than other policy solutions.*

*Hypothesis 20: Political policy solutions have a greater association with ipso dictum evidence than other policy solutions.*

*Hypothesis 21: The relief/response and recovery policy solutions will have the greatest association with each other.*

## **1.6. Conclusion**

This chapter detailed the theoretical frameworks for this study. The purpose of this research is to expand the Narrative Policy Framework to encompass aspects of the Multiple Streams Approach. And in doing so, understand the role of the news media to congressional activity. In Chapter Two the details of the data collection and the methodology are explained.

### 1.6.1. Summary of Research Questions

1. *Relationship between News & Congress Research Question:* What is the nature of the relationship between news media and Congress? Is there a relationship between the narrative elements presented by the news media with those presented by Congress following a focusing event? If so, when does this narrative attention occur?
2. *Role of Actors in Policy Process Research Question:* Who is presenting the narratives following a natural disaster that becomes a focusing event, specifically Hurricane Katrina? What evidence are these policy entrepreneurs using to identify problems and policy solutions? How does this emerge and change after a focusing event?
3. *Phases of Disaster Cycle Research Question:* Following a natural disaster focusing event, what is the narrative attention given to the different phases of the disaster cycle? Who talks about which phase and how does this change over time? What problems are identified in each phase?



## 1.6.2. Summary of Hypotheses

### Agenda Setting & Policy Actor Hypotheses

*Hypothesis 1: Focusing events increase news media attention.*

*Hypothesis 2: Focusing events increase congressional attention.*

*Hypothesis 3: As news agenda activity increases, following a focusing event, the greater the likelihood that congressional agenda activity will also increase.*

*Hypothesis 4: Focusing events mobilize actors and groups to engage in institutional agenda activity.*

*Hypothesis 5: There is a relationship in the narrative attention of problem statements between the news agenda and congressional agenda.*

*Hypothesis 6: There is a relationship in the narrative attention of policy solutions between the news agenda and congressional agenda.*

*Hypothesis 7: Governmental actors have a greater narrative attention with public opinion evidence.*

*Hypothesis 8: News media have greater narrative attention with ipso dictum evidence.*

*Hypothesis 9: Statistical evidence has greatest narrative attention across all policy actor affiliations.*

### Problem Statement Hypotheses

*Hypothesis 10: There is a cohesive relationship between problem type and solution type, except for the mitigation policy solution.*

*Hypothesis 11: Mitigation policy solutions will lack a cohesive relationship with problems.*

### Policy Solution Hypotheses

*Hypothesis 12: Narrative attention to response emerges first as most prevalent narrative but quickly tapers off.*

*Hypothesis 13: Narrative attention to recovery is the greatest compared to all other policy solutions.*

*Hypothesis 14: Narrative attention to mitigation is the lowest compared to all other policy solutions.*

*Hypothesis 15: Mitigation policy solutions receive higher narrative attention from non-governmental actors.*

*Hypothesis 16: Response policy solutions receive higher narrative attention from news media.*

*Hypothesis 17: Recovery policy solutions receive higher narrative attention from federal governmental actors.*

*Hypothesis 18: Preparedness policy solutions receive higher narrative attention from non-federal governmental actors.*

*Hypothesis 19: Mitigation policy solutions have a greater association with scientific and statistical evidence than other policy solutions.*

*Hypothesis 20: Political policy solutions have a greater association with ipso dictum evidence than other policy solutions.*

*Hypothesis 21: The relief/response and recovery policy solutions will have the greatest association with each other.*

## CHAPTER 2 METHODOLOGY

### 2.1. Introduction

This research is interested in the narrative relationship between the news media, Congress, and other actors in the hurricane policy domain following Hurricane Katrina. To better understand this relationship, the following research questions are addressed:

1. ***Relationship between News & Congress:*** What is the nature of the relationship between news media and Congress? Is there a relationship between the narrative elements presented by the news media with those presented by Congress following a focusing event? If so, when does this narrative attention occur?
2. ***Role of Actors in Policy Process:*** Who is presenting the narratives following a natural disaster that becomes a focusing event, specifically Hurricane Katrina? What evidence are these policy entrepreneurs using to identify problems and policy solutions? How does this emerge and change after a focusing event?
3. ***Phases of Disaster Cycle:*** Following a natural disaster focusing event, what is the narrative attention given to the different phases of the disaster cycle? Who talks about which phase and how does this change over time? What problems are identified in each phase?

This chapter presents the data and methodology used to test the hypotheses presented in Chapter One. Data on both news coverage and congressional witness testimony were collected. This chapter will discuss this dissertation's data, the content analysis process, the variables considered, the coding structure developed, the methods of analysis, and the codebook that was developed for this study.

### 2.2. Data Collection

This dissertation uses data collected from *The New York Times* and *The Wall Street Journal* editorials from 2005-2007 with the word "hurricane" appearing in the subject index. The year 2005 was an active year for hurricanes, with Hurricanes Katrina, Wilma and Rita all happening within a short time span. I coded for these other events, and previous events outside

the realm of hurricanes, but this multiple event relationship is not of interest in the study. Therefore, every item coded in this study specifically mentioned Hurricane Katrina.

The reason editorials were used is because a narrative is more likely to be present in an editorial. News reports are often episodic. They usually report the facts, maybe identifying a character or two (such as a victim or hero) but rarely present a policy solution. Since the goal of this research is to study policy narratives, it was determined to focus on the part of the news that would present a policy narrative, the editorials. For example, Smith et al. (2006) found that “hard news” stories followed the rule of objective journalism by lacking any overt opinion (173). However, editorials contain the opinion of the editorial board, newsroom staff, letters to the editor, op-ed pieces, and columns by experts in the field. Furthermore, Wallack et al. state that editorials present the best chance to reach decision-makers and members of the government (Wallack et al. 1999, 105).

I chose *The New York Times* and *The Wall Street Journal* because of their national stature. *The New York Times* has the distinction of being the “newspaper of record,” and Birkland’s (1997) study also used *The New York Times* index. The study builds on Birkland’s previous work by adding in *The Wall Street Journal*, which has a record of being a more conservative, financially-focused paper than *The New York Times* (Fang and Peress 2009). Furthermore, since I am interested in the relationship between the news media and Congress, and I am using national newspapers to capture this relationship since it is not technical feasible to include all the regional papers of the members.

Data were also collected from Congress. The data set contains congressional hearing testimony about hurricanes. No hearings dealing with appropriations were included for three reasons. First, appropriation hearings are not event triggered, occurring on a scheduled basis, and

I am only interested in the narratives that occur following a focusing event. Second, appropriations usually bundle many different programs together. Third, appropriation hearings handle routine business. The time-period of 2005-2007 captures the onset of Hurricane Katrina (August 23, 2005) through two years after Hurricane Katrina, during which Hurricanes Wilma and Rita also occurred in the same region. Employing content analysis for both the news media narratives and congressional witness testimony narratives provides an opportunity to analyze main policy preferences that emerge and recede from the agenda following events.

### **2.2.1. News Data**

The purpose of using editorials instead of news articles is to maximize the likelihood that every story will have the elements of a *policy* narrative present (see: Smith et al. 2006; Wallack et al. 1999). Many of news articles are episodic, just reporting the basic facts. This can be presented as a narrative, but for this research, a policy narrative is the goal which includes identifying elements of the NPF such as characters, problem statement, policy solution, and evidence. Therefore, it makes more sense to use the editorials where these elements are more likely to be present.

The search of *Lexis-Nexis* resulted in the retrieval of *The New York Times* editorials with “hurricane” in the subject index resulted in 115 articles. The same type of search resulted in 89 articles from *The Wall Street Journal* editorial desk. Cases that were about hurricanes before Katrina, non-natural disaster references to hurricanes (for example, the names of sports teams), or that or lacked a policy narrative were dropped. This resulted in dropping twenty-eight (28) cases from the news dataset. Therefore, the final N for news editorials is 176 articles.

### **2.2.2. Congressional Data**

The search and retrieval of congressional data yielded 848 items of witness testimony. This dissertation analyzes each item of testimony as the unit of analysis. Therefore, narratives of members of Congress, interest groups, cabinet officials, private citizens, think tanks, and others are represented. Since the data are at the testimony level, coding can be used to determine what narratives are being employed, when, by who, and if this matches up with previous narratives presented by the media.

Once again, cases that were about hurricanes prior to Katrina, non-natural disaster hurricanes, or lacked a policy narrative were dropped; 115 such items were dropped, yielding 733 items of congressional testimony. The total of news editorials and items of testimony is 909 cases.

### **2.3. Dependent Variable: Narrative Attention**

As previously stated, of interest is the attention given to narratives by the news media, Congress and actors in the policy process following a focusing event. Of particular interest is the narrative attention given by different actors in the policy process to narrative elements of problem statements, moral of the story (policy solution), and what the relationship, if any, is between problem statements, policy solutions and other structural elements of the narrative. The dependent variable “narrative attention” operationalizes what is being paid attention to by different stakeholders, and each narrative element will be coded as either present and not present in the items.

### **2.4. Content Analysis and Coding Structure**

Content analysis is used to analyze news editorials and congressional testimony. The unit of analysis for this study is the article or item of testimony. For items of testimony, we analyzed

the oral testimony given instead of the prepared testimony submitted. Four coders undertook the content analysis. Three of the coders divided up the articles while I served as a check to re-code many of the articles and check for interrater reliability. Many meetings were held to work out the process of coding, and a shared spreadsheet was updated continuously to resolve problems and encourage consistent coding. The coding process was both inductive and deductive, as the coders were expecting certain codes for categories to be present, but as they coded for these, other items that were not considered initially were made evident. Therefore, the process required us to go back and re-analyze these new codes. This dissertation used the software package QDA Miner for all content analysis purposes. The codebook can be found in Appendix A.

Correlation tests were run on the variables to determine data accuracy. The correlations met the requirements of a  $r=0.7$  threshold according to the Spearman-Brown split-half reliability measure and did not exceed the  $r=0.8$  limit of Cronbach's Alpha that indicates multicollinearity (Garson 2012). For the analysis, missing values in cells were accounted for and dealt with by re-grouping variables from scale items into nominal variables. Once the variables were re-grouped, none of the cells reported missing values. To assure inter-rater reliability, the individuals could not see the coding done by each other and questions, and disputes were flagged and discussed as a group. I served as the final arbiter of coding issues and randomly selected many cases to "re-code" as a test of the coding schema and fellow coders.

The coding structure for this dissertation is extensive and can be found in its entirety in Appendix B. Instead of focusing on a specific aspect of the NPF; this study is examining many of the elements of NPF to see how they fit with the Multiple Streams Approach. Due to the size of the dataset, elements such as plot and narrative strategies were not included in the coding structure. The following elements were coded and are explained below:

1. **Narrative Author/Affiliation:** This applies primarily to the congressional testimony. Each person testifying is identified by their organizational affiliation and what type of affiliation that is. Example Michael Chertoff, Sec. DHS Affiliation 1: Federal Government Affiliation 2: Executive Branch Affiliation 3: DHS
2. **Event:** Each item was coded for which events were discussed. Most of the articles are about Hurricane Katrina; however, Hurricanes Wilma and Rita occur in the time-period of study, and many of the policy solutions for them will also reference Hurricane Katrina. What is also interesting is the cross-event that occurs often relating a natural disaster with other types of events (specifically terrorism). For example, September 11<sup>th</sup> is mentioned and shapes the policy solutions in some cases.
3. **Statement of a Problem:** The narrative should always build around some stated problem. In this study, the problem is not the focusing event. However, the problem is highlighted by the focusing event. For example, the event is Hurricane Katrina which highlights the problem of substandard infrastructure.
4. **Characters:** Characters are divided into heroes, villains, and victims. This dissertation allows non-human entities to be labeled as a character. For example, if an item states, "FEMA dropped the ball, and people died while the Red Cross saved countless lives" that would be coded as FEMA being the villain and the Red Cross as the hero even though those are not individual humans.
5. **Evidence or setting:** Evidence is the support offered to demonstrate that there is a problem. This dissertation uses the Smith-Walter et al. (2016) structure of evidence in which they categorized six types of evidence; **Public Opinion Polls** (X% of Americans believe that Y happened because of Z), **Scientific Study** (any occasion that a narrative



invokes a study, in general, as a source of facts), **Statistics** (this is when numbers ARE NOT connected to a scientific study or public opinion poll), **Ipsa Dictum** (this is an appeal to authority. This could be either scientific, political, or celebrity), **Laws and Legal** (appeal to legal authority), and **Other** (evidence that does not fall into the 5 categories above).

6. **Moral of the Story:** This is the policy solution that is presented to solve the problem stated. For this study, this is operationalized to fit in the phases of the disaster cycle; Preparedness, Relief/Response, Recovery, and Mitigation.
7. **Policy Beliefs:** This is the set of values or beliefs that orient a group. This dissertation uses and expands Shanahan et al.'s 2008 identification of the victim. Based on who the victim is, will dictate what type of beliefs the people hold. This group is divided into economic-centered victim, human-centered victim, and nature-centered victim.

For this study, the analysis was focused on actor affiliation, problem statements, moral of the story, and evidence used. Table 2.1 details the operationalization of the variables used in the study.

## **2.5. Operationalization of Variables**

Table 2.1 provides the categories of variables, variable names, definition, and types for the study.

**Table 2.1: Operationalization of Variables**

Categories of Variables		Definition	Variable Type
<b>Actor Affiliations</b>	Affiliation_Level1	Based on the narrator’s organization type	Created 7 distinctions to categorize the actor as.
	Affiliation_Level2	Based on the narrator’s substantive nature of organization	Created 20 distinctions to categorize the actor as.
<b>Time</b>	Year	Covers years 2005-2007. Starts August 23, 2005 (Katrina landfall) and ends December 31, 2007.	Coded as 2005, 2006 or 2007.
<b>Evidence</b>	Ipsa Dictum	An appeal to authority. This could be either scientific, political, celebrity, or legal authority.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Public Opinion	Uses polling figures as evidence. For example, X% of Americans believe that Y happened because of Z.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Law & Legal	Refers to law or legal statute as evidence	Binary, 0 represents none present, and 1 represents presence of narrative element
	Scientific	Any occasion that a narrative invokes a study, in general, as a source of facts. For example, “According to a recent study by the Bureau of Labor and Statistics, over 12,000 are out of jobs in the Gulf following Hurricane Katrina.”	Binary, 0 represents none present, and 1 represents presence of narrative element
	Statistics	This is when numbers ARE NOT connected to a scientific study or public opinion poll. For example, “Over 500 People reported sexual assault in the Superdome during Hurricane Katrina, and 1,000s reported mass looting and chaos.”	Binary, 0 represents none present, and 1 represents presence of narrative element
<b>Problem Statements</b>	Bad Policies	Cites current policies as problem. Includes delayed regulations, insufficient testing procedures, ineffective procedures.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Bureaucracy	Problems such as red tape and inflexibility of the system are the problem. Hierarchies, getting lost in the system, lack of coordination, duplication of programs, interoperability, limited authority, issue complexity and passing the buck are all problems identified.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Communication	Problems with the communication infrastructure or damage to the communication infrastructure.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Corruption & Fraud	Problems with the political environment including cronyism, fraud, and corruption.	Binary, 0 represents none present, and 1 represents presence of narrative element

**Table 2.1 (continued): Operationalization of Variables**

<b>Problem Statements (contd)</b>	Crime	Crime and Mob violence because of the hurricane.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Discrimination	Problems with both class and race discrimination along with unequal access to capital and housing.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Education	Problems like displaced students, broken education infrastructure, lack of school transportation and death of education communities due to the hurricane.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Energy	Deals with issues relating to supply & demand of oil increased energy process, price gauging, shut down of refineries, energy-market volatility, and other energy-related issues caused by the hurricane.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Environmental	Problems such as climate change, degradation of wetlands, and other environmental health issues.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Financial	Problems dealing with limited/lack of resources, money not getting to where it is needed, financial mismanagement, overburden on the financial system and wasteful spending.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Health Care	Problems with healthcare infrastructure, shortage of beds, mental health crises, gaps in care, access to medications and increasing population.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Housing	Problems with displacement, the exodus of homeowners, housing shortage, temporary housing, public housing, and other housing issues caused by the hurricane.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Incompetent Leadership	Problems with the government such as abuse of power by government officials, apathy of government employees, no accountability, lack of government oversight, political incompetence and lost trust in government.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Infrastructure	Problems such as levee failure, poor building infrastructure, engineering design flaws, standard infrastructure problems.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Insurance	Problems with insurance system such as bad flood insurance infrastructure, catastrophic demand being greater than supply, NFIP inadequate, denied assistance and claims, skyrocketing costs, slow reimbursements, lack of data on flood maps, unfair settlements, and other insurance problems.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Poverty	Problems of inequality, poverty, unrepresented constituents highlighted by the hurricane.	Binary, 0 represents none present, and 1 represents presence of narrative element

**Table 2.1 (continued): Operationalization of Variables**

<b>Problem Statements (contd)</b>	Lack of Preparedness	Problems such as gaps in preparedness planning, lack of preparation funds, outdated/inadequate flood maps, no shared vision of preparedness and lack of proper training and technology.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Regulatory	Lack of oversight, heightened regulatory burden, problems with legislation and regulation in place.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Response	Badly broken response system, burdens on emergency response, relief food spoilage, lack of NIMS, non-uniform standards in place for response.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Risk	Problems dealing with a misperception of risk, overdevelopment, economically irrational decisions, increased risk exposure.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Technology	Problems with the radio frequencies.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Transportation	Damaged highway infrastructure, loss of transportation capacity, Mississippi River transportation congestion, identifying transportation-disadvantaged populations because of the hurricane.	Binary, 0 represents none present, and 1 represents presence of narrative element
	Workforce	Problems such as unemployment, unsafe working environments, uninsured workers, loss of labor.	Binary, 0 represents none present, and 1 represents presence of narrative element
<b>Policy Solutions</b>	Preparedness	Continuity of government; planning; public/private relationships; vulnerable areas or populations; pre-disaster; insurance	Binary, 0 represents none present, and 1 represents presence of narrative element
	Response/Relief	Getting aid to people – money, food or shelter; reports on deaths or saving lives	Binary, 0 represents none present, and 1 represents presence of narrative element
	Recovery	Sustainability; resilience; short range vs. long range; reverse vulnerability post-disaster; restoring; rebuilding; reshaping	Binary, 0 represents none present, and 1 represents presence of narrative element
	Mitigation	Engineering; building codes; risk analysis; land use practices; building construction practices	Binary, 0 represents none present, and 1 represents presence of narrative element
	Political	Policy solutions have nothing to do with Disaster Cycle and instead are about political solutions (dealing with elections, campaigns, political fallout because of the hurricane).	Binary, 0 represents none present, and 1 represents presence of narrative element

The categories for the levels of affiliations were created based on whom the narrator was representing. For news editorials, the affiliation was kept labeled as news to provide a distinction between the news media and other actors in the policy process. For the *Affiliation\_Level1*, seven categories were created, and each narrator was placed in a category based on their primary affiliation. The seven categories were: Federal Government; State Government; Local Government; Interest Groups and Non-profits; Business and Industry; Academia; Civilians. The *Affiliation\_Level2* detailed more of the substantive nature of the narrator's background. Twenty categories were created; they are News Media; Other/Misc.; Health Care; Banking and Finance; Charities; Education; Energy; Emergency Management; Federal Executive Branch; Federal Legislative Branch; Insurance; Housing; Business Development; Preservation and Nature; Government Accountability; Local Executive Branch; State Executive Branch. An example of how this works is if Thomas A. Birkland, Professor of Public Policy, was testifying before Congress on matters of emergency response and preparedness following Hurricane Katrina, he would be identified as *Affiliation\_Level1* Academia; *Affiliation\_Level2* Emergency Management.

The evidence category of variables is based on Smith-Walter et al. (2016) categorization of evidence. If an item exhibited multiple types of evidence, each type was coded for. The policy solutions were bound by the phases of the disaster cycle; preparedness, response and relief, recovery, and mitigation. Throughout the coding process, it was discovered that there were solutions of a political nature that were occurring but did not fit in the disaster cycle phases. Therefore, the *political* policy solution was created to capture this dynamic. If an item exhibited the use of multiple policy solutions, each solution was coded for allowing an item to have multiple policy solution codes.

Both the variable categories of evidence and policy solutions were bound by previous research or phases of the disaster cycle. When coding for problem statements, there was no such containment. This led to the identification of 266 problem codes. I aggregated these 266 codes into the 23 categories of problem statement variables, based on their similarity. Every problem identified in an item was coded for, meaning that an item could have multiple problem codes.

## **2.6. Data Analysis Methods**

Three methods of analysis were used to understand the narrative attention by actors in the policy process of problem statements, policy solutions and evidence used following a natural disaster focusing event. These include Chi-Square Analysis, Pairwise Comparison of Means, and Multidimensional Scaling.

### ***Chi-Square Analysis***

To determine if there was any association between actors, policy solutions, problem statements, and evidence, I used Chi-square analysis of nominal data. I identify statistically significant results at the  $p < .001$ ,  $p < .05$  level and those at the  $p < .10$  level respectively. Social scientists generally use the cutoff at the  $p < .05$  for significance, meaning there is less than a 5% chance that the relationship is just due to chance of an unlikely sample. Statistically significant results mean that we can reject the null hypothesis. Significance is different from association and both measures are reported. The results were assessed using Cramér's V, the preferred measure of association for Chi-square analysis (McClendon 2004) with the measure of association varying from 0 to 1, with 1 being a perfect relationship (Garson 2012).

Chi-Square analysis typically requires eighty percent of the cells to have at least five cases. Therefore, I re-grouped my variables into binary variables of presence/absence of a narrative element. When this was still an issue, especially in the cases of problem statements in

which there are 23 variables, I relied on other measures of analysis, such as Pairwise Comparison of Means and Multidimensional Scaling.

### ***Pairwise Comparison of Means***

Due to the binary nature of my data, standard correlation tests are not applicable. Therefore, I use Pairwise Comparison of Means to understand better how my data relates to each other. Pairwise Comparison of Means allows me to compare different variables with each other based on the mean of variable X minus the mean of variable Y. It is a measure of the strength of a bivariate relationship. The test usually requires a Bonferroni adjustment. However, this is not required in my study. A Bonferroni adjustment assumes a random sample. However, for my study, I am analyzing all 909 cases, not a random sample.

### ***Multidimensional Scaling***

Multidimensional Scaling (MDS) uncovers similarity of items based on distance judgments. “MDS can be used to analyze any correlation matrix, treating correlation as a type of similarity measure. That is, the higher the correlation of two variables, the closer they will be located on the map created by MDS” (Garson 2012, 1). The MDS model used in this analysis is an “Asymmetric Euclidean distance model” (ALSCAL). The ALSCAL model reports a square matrix with two dimensions. In MDS, there are two goodness of fit measures. The first is known as *stress*; the smaller the stress, the better the fit. The second measure is *RSQ* (R-squared). An acceptable R-squared is greater than .60 (Garson 2012). The output for MDS is a “Derived Stimulus Configuration” or MDS map which includes the objects placed on the map according to the stimulus coordinates. The meaning of the dimension in the MDS map is perceived from the alignment of points (Garson 2012).

## 2.7. Conclusion

Chapter Two reviewed the dissertation’s methodology, including data collection, variables, and methods of analysis. Since this is a Narrative Policy Framework study, I have organized the forthcoming chapters around the narrative elements, instead of the specific research questions. Chapter Three will discuss findings of an analysis of actors in the policy process. Chapter Four discusses the findings relating to the problem statement. Chapter Five details the findings of the policy solution and Chapter Six examines the relationship between the problem statement and policy solution.

### 2.7.1. Summary of Variable Definitions

**Table 2.2: Summary of Variable Definitions**

Categories of Variables		Definition
<b>Actor Affiliations</b>	Affiliation_Level1	Based on the narrator’s organization type
	Affiliation_Level2	Based on the narrator’s substantive nature of organization
<b>Time</b>	Year	Covers years 2005-2007. Starts August 23, 2005 (Katrina landfall) and ends December 31, 2007.
<b>Evidence</b>	Ipsa Dictum	An appeal to authority. This could be either scientific, political, celebrity, or legal authority.
	Public Opinion	Uses polling figures as evidence. For example, X% of Americans believe that Y happened because of Z.
	Law & Legal	Refers to law or legal statute as evidence
	Scientific	Any occasion that a narrative invokes a study, in general, as a source of facts. For example, “According to a recent study by the Bureau of Labor and Statistics, over 12,000 are out of jobs in the Gulf following Hurricane Katrina.”
	Statistics	This is when numbers ARE NOT connected to a scientific study or public opinion poll. For example, “Over 500 People reported sexual assault in the Superdome during Hurricane Katrina, and 1,000s reported mass looting and chaos.”
<b>Problem Statements</b>	Bad Policies	Cites current policies as problem. Includes delayed regulations, insufficient testing procedures, ineffective procedures.
	Bureaucracy	Problems such as red tape and inflexibility of the system is the problem. Hierarchies, getting lost in the system, lack of coordination, duplication of programs, interoperability, limited authority, issue complexity and passing the buck are all problems identified.
	Communication	Problems with the communication infrastructure or damage to the communication infrastructure.



**Table 2.2 (continued): Summary of Variable Definitions**

	Corruption & Fraud	Problems with the political environment including cronyism, fraud, and corruption.
	Crime	Crime and Mob violence because of the hurricane.
	Discrimination	Problems with both class and race discrimination along with unequal access to capital and housing.
	Education	Problems like displaced students, broken education infrastructure, lack of school transportation and death of education communities due to the hurricane.
	Energy	Deals with issues relating to supply & demand of oil increased energy process, price gauging, shut down of refineries, energy-market volatility, and other energy-related issues caused by the hurricane.
	Environmental	Problems such as climate change, degradation of wetlands, and other environmental health issues.
	Financial	Problems dealing with limited/lack of resources, money not getting to where it is needed, financial mismanagement, overburden on the financial system and wasteful spending.
	Health Care	Problems with healthcare infrastructure, shortage of beds, mental health crises, gaps in care, access to medications and increasing population.
	Housing	Problems with displacement, exodus of homeowners, housing shortage, temporary housing, public housing, and other housing issues caused by the hurricane.
	Incompetent Leadership	Problems with the government such as abuse of power by government officials, apathy of government employees, no accountability, lack of government oversight, political incompetence and lost trust in government.
	Infrastructure	Problems such as levee failure, poor building infrastructure, engineering design flaws, standard infrastructure problems.
	Insurance	Problems with insurance system such as bad flood insurance infrastructure, the catastrophic demand being greater than supply, NFIP inadequate, denied assistance/claims, skyrocketing costs, slow reimbursements, lack of data on flood maps, unfair settlements, and other insurance problems.
	Poverty	Problems of inequality, poverty, unrepresented constituents highlighted by the hurricane.
	Lack of Preparedness	Problems such as gaps in preparedness planning, lack of preparation funds, outdated/inadequate flood maps, no shared vision of preparedness and lack of proper training and technology.
	Regulatory	Lack of oversight, heightened regulatory burden, problems with legislation and regulation in place.
	Response	Badly broken response system, burdens on emergency response, relief food spoilage, lack of NIMS, non-uniform standards in place for response.
	Risk	Problems dealing with a misperception of risk, overdevelopment, economically irrational decisions, increased risk exposure.
	Technology	Problems with the radio frequencies.
	Transportation	Damaged highway infrastructure, loss of transportation capacity, Mississippi River transportation congestion, identifying transportation-disadvantaged populations because of the hurricane.
	Workforce	Problems such as unemployment, unsafe working environments, uninsured workers, loss of labor.
<b>Policy Solutions</b>	Preparedness	Continuity of government; planning; public/private relationships; vulnerable areas or populations; pre-disaster; insurance
	Response/Relief	Getting aid to people – money, food or shelter; reports on deaths or saving lives
	Recovery	Sustainability; resilience; short range vs. long range; reverse vulnerability post-disaster; restoring; rebuilding; reshaping

**Table 2.2 (continued): Summary of Variable Definitions**

	Mitigation	Engineering; building codes; risk analysis; land use practices; building construction practices
	Political	Policy solutions have nothing to do with Disaster Cycle and instead are about political solutions (dealing with elections, campaigns, political fallout because of the hurricane).

## 2.7.2. Summary of Hypotheses

**Table 2.3: Chapter Two Summary of Hypotheses**

<b>Hypothesis</b>	<b>Research Question Addressed</b>	<b>Discussion</b>
<i><b>Hypothesis 1:</b> Focusing events increase news media attention</i>	<i>RQ 2</i>	<i>Chapter 3</i>
<i><b>Hypothesis 2:</b> Focusing events increase congressional attention</i>	<i>RQ 2</i>	<i>Chapter 3</i>
<i><b>Hypothesis 3:</b> As news agenda activity increases, following a focusing event, the greater the likelihood that congressional agenda activity will also increase</i>	<i>RQ 2</i>	<i>Chapter 3</i>
<i><b>Hypothesis 4:</b> Focusing events mobilize actors and groups to engage in institutional agenda activity</i>	<i>RQ 2</i>	<i>Chapter 3</i>
<i><b>Hypothesis 5:</b> There is a relationship in the narrative attention of problem statements between the news agenda and congressional agenda</i>	<i>RQ 1</i>	<i>Chapter 6</i>
<i><b>Hypothesis 6:</b> There is a relationship in the narrative attention of policy solutions between the news agenda and congressional agenda</i>	<i>RQ 1</i>	<i>Chapter 6</i>
<i><b>Hypothesis 7:</b> Governmental actors have a greater narrative attention with public opinion evidence</i>	<i>RQ 2</i>	<i>Chapter 3</i>
<i><b>Hypothesis 8:</b> News media have greater narrative attention with ipso dictum evidence</i>	<i>RQ 2</i>	<i>Chapter 3</i>
<i><b>Hypothesis 9:</b> Statistical evidence has greatest narrative attention across all policy actor affiliations</i>	<i>RQ 2</i>	<i>Chapter 3</i>
<i><b>Hypothesis 10:</b> There is a cohesive relationship between problem type and solution type, except for the mitigation policy solution</i>	<i>RQ 3</i>	<i>Chapter 4</i>
<i><b>Hypothesis 11:</b> Mitigation policy solutions will lack a cohesive relationship with problems</i>	<i>RQ 3</i>	<i>Chapter 4</i>
<i><b>Hypothesis 12:</b> Narrative attention to response emerges first as most prevalent narrative but quickly tapers off</i>	<i>RQ 3</i>	<i>Chapter 5</i>
<i><b>Hypothesis 13:</b> Narrative attention to recovery is the greatest compared to all other policy solutions</i>	<i>RQ 3</i>	<i>Chapter 5</i>
<i><b>Hypothesis 14:</b> Narrative attention to mitigation is the lowest compared to all other policy solutions</i>	<i>RQ 3</i>	<i>Chapter 5</i>
<i><b>Hypothesis 15:</b> Mitigation policy solutions receive higher narrative attention from non-governmental actors</i>	<i>RQ 2 &amp; 3</i>	<i>Chapter 6</i>
<i><b>Hypothesis 16:</b> Response policy solutions receive higher narrative attention from news media</i>	<i>RQ 2 &amp; 3</i>	<i>Chapter 6</i>
<i><b>Hypothesis 17:</b> Recovery policy solutions receive higher narrative attention from federal governmental actors</i>	<i>RQ 2 &amp; 3</i>	<i>Chapter 6</i>
<i><b>Hypothesis 18:</b> Preparedness policy solutions receive higher narrative attention from non-federal governmental actors</i>	<i>RQ 2 &amp; 3</i>	<i>Chapter 6</i>
<i><b>Hypothesis 19:</b> Mitigation policy solutions have a greater association with scientific and statistical evidence than other policy solutions</i>	<i>RQ 3</i>	<i>Chapter 5</i>
<i><b>Hypothesis 20:</b> Political policy solutions have a greater association with ipso dictum evidence than other policy solutions</i>	<i>RQ 3</i>	<i>Chapter 5</i>
<i><b>Hypothesis 21:</b> The relief/response and recovery policy solutions will have the greatest association with each other</i>	<i>RQ 3</i>	<i>Chapter 5</i>

## CHAPTER 3 ANALYSIS OF ACTORS IN THE POLICY PROCESS

### 3.1. Introduction

As detailed in Chapter One, different policy theories conceptualize the role of actors in the policy process. Whether it is the expertise and strategy employed by the few policy entrepreneurs in the process or a broader consideration of the stakeholders of a policy community, it is essential to consider the actors in the policy process. This study considers both the agenda-setting elements and narrative elements used by policy actors. Of interest, is following a focusing event, who is mobilized to institutional activity (congressional testimony) and how does this change over time. Also, since Cairney (2018) stated that effective policy entrepreneurs would use narratives and evidence to promote their preferred policy problems and solutions, it is important to see what relationship, if any, exists between the different actors and evidence used.

This chapter provides analysis for the following research question and hypotheses:

- ***Role of Actors in Policy Process Research Question:*** Who is presenting the narratives following a natural disaster that becomes a focusing event, specifically Hurricane Katrina? What evidence are these policy entrepreneurs using to identify problems and policy solutions? How does this emerge and change after a focusing event?
- Hypothesis 1: Focusing events increase news media attention.
- Hypothesis 2: Focusing events increase congressional attention.
- Hypothesis 3: As news agenda activity increases, following a focusing event, the greater the likelihood that congressional agenda activity will also increase.
- Hypothesis 4 Focusing events mobilize actors and groups to engage in institutional agenda activity.
- Hypothesis 8: News media have greater narrative attention with ipso dictum evidence.

- Hypothesis 9: Statistical evidence has greatest narrative attention across all policy actor affiliations.

To properly address this research question and hypotheses, this chapter will discuss the following:

3.1 Introduction

3.2 Descriptive Statistics of the Levels of Affiliation

3.3 Analysis of Attention Across Agendas

3.4 Analysis of how the Actors Change Over Time

3.5 Analysis of the Use of Evidence by Actors

3.6 Conclusion

## **3.2. Levels of Affiliations**

As detailed in Chapter Two, the data set is comprised of 176 news editorials (103 from *The New York Times* and 73 from *The Wall Street Journal*). The data set is also composed of 733 items of Congressional testimony. For each item of Congressional testimony, the first two levels of affiliation of the narrator were recorded. I have also included news editorials in this analysis since I am interested in the relationship between the narratives presented in the news media and those presented by other actors. Therefore, the news editorials listed below are less of an actor affiliation as they are a source of narratives within a specific venue. I am treating them as their own category, even though the editorials examined include columns by the editorial board, letters to the editor, and op-ed pieces that may have been written by members of interest groups because it represents the narrative as a whole on a different agenda than those presented in congressional witness testimony.

**Table 3.1: First Level of Affiliation**

	<i>Frequency</i>	<i>Percent</i>
<i>Federal Government</i>	262	28.8
<i>News editorials</i>	176	19.4
<i>Interest groups/Non-profits</i>	170	18.7
<i>Business/Industry</i>	104	11.4
<i>Local Government</i>	74	8.1
<i>State Government</i>	68	7.5
<i>Academia</i>	37	4.1
<i>Unaffiliated Persons</i>	18	2.0
<i>Total</i>	909	100.0

Tables 3.1 and 3.2 show the frequency of the first and second levels of affiliation.

**Table 3.2: Second Level of Affiliation**

	<i>Frequency</i>	<i>Percent</i>
<i>Federal Executive Branch</i>	205	22.6
<i>News Media</i>	176	19.4
<i>Housing</i>	71	7.8
<i>State Executive Branch</i>	58	6.4
<i>Federal Legislative Branch</i>	57	6.3
<i>Local Executive Branch</i>	57	6.3
<i>Health Care</i>	38	4.2
<i>Other</i>	35	3.9
<i>Insurance</i>	34	3.7
<i>Emergency Management</i>	32	3.5
<i>Business Development</i>	29	3.2
<i>Energy</i>	28	3.1
<i>Preservation/Nature</i>	25	2.8
<i>Banking/Finance</i>	22	2.4
<i>Government Accountability</i>	18	2.0
<i>Charities</i>	12	1.3
<i>Education</i>	12	1.3
<i>Total</i>	909	100.0

An example of this is if Michael Chertoff was testifying before Congress, he would be recorded as (1) Federal Government, (2) Federal Executive Branch. As we can see from Table 3.2, witnesses from the Federal Executive Branch (22.6%) were the largest group to testify in these hearings post-Katrina. This supports Birkland's (2006) findings that in the hurricane policy domain, federal officials dominate testimony following an event.

### 3.3. Increase in Attention across Agendas

I hypothesize that following a focusing event, like Hurricane Katrina, both news media attention and congressional attention will increase. Furthermore, as news agenda attention increases, there will be a higher likelihood that Congressional attention will increase. Birkland (1997) found support for these hypotheses when he developed his framework for *potential* focusing events. Other policy scholars have also found support for the relationship between news media coverage influencing group mobilization and triggering institutional agenda activity (Smith 1992; Birkland 1997; Baumgartner and Jones 1993; Birkland 2006). Where Birkland's 1997 and 2006 studies analyzed news density, or the amount of discussion of the problem by *The New York Times* news reports, I am interested in news editorials to gain a better sense of the *narratives*, and not the density of the news, following a focusing event.

Table 3.3 confirms my first three hypotheses, showing that after a focusing event, news media attention increases, as does Congressional attention. Furthermore, we see that following a focusing event, as news agenda attention increases so does Congressional agenda attention. These results are significant at the  $p < 0.000$  level and has an association at the 0.391 level.

**Table 3.3: Chi-Square Analysis of Actor Affiliation by Year**

	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>Total</i>
<i>Federal Government</i>	9	133	120	262
	7.3%	30.4%	34.4%	28.8%
<i>News Editorials</i>	90	55	31	176
	73.2%	12.6%	8.9%	19.4%
<i>Interest groups/Non-profits</i>	8	87	75	170
	6.5%	19.9%	21.5%	18.7%
<i>Business/Industry</i>	4	67	33	104
	3.3%	15.3%	9.5%	11.4%
<i>Local Government</i>	6	34	34	74
	4.9%	7.8%	9.7%	8.1%
<i>State Government</i>	3	30	35	68
	2.4%	6.9%	10%	7.5%
<i>Academia</i>	2	20	15	37
	1.6%	4.6%	4.3%	4.1%
<i>Civilians</i>	1	11	6	18
	0.8%	2.5%	1.7%	2%
<i>Total</i>	123	437	349	909
	100%	100%	100%	100%
<b>X<sup>2</sup> (d.f. = 14) = 277.673, p=0.000; Cramér's V = 0.391</b>				

Birkland (2006) found similar results when he studied the news and Congressional attention following the September 11<sup>th</sup> focusing event. He discussed the “issue-attention cycle” (Downs 1972; Birkland and Lawrence 2009) of the news media, in which following an event the magnitude of September 11<sup>th</sup>, or in this case Hurricane Katrina, we see a dramatic increase in news coverage followed by a rapid decline. Congressional agenda activity is different in its nature. As a deliberative body, it is slower to respond, with the expansion being more moderate than the news media. This supports hypothesis three, that after the news attention increased, congressional agenda attention began to increase.



### **3.4. How Actors Change Over Time**

I hypothesized that a focusing event would mobilize actors and groups to take part in institutional activity (Hypothesis 4). We see confirmation of this hypothesis with the results in Table 3.3, in which the relationship of actor affiliation is associated with the year of testimony.

Hurricane Katrina made landfall on August 23, 2005 and lasted until August 31, 2005. I show in Table 3.3 that there is a relationship between the affiliation of the narrator and when the narrative occurred. Since Hurricane Katrina made landfall in the later part of 2005, it is expected that the news editorials would have a greater amount of narrative attention in 2005 than Congressional items of testimony. We see this with 73.2% of the narratives from 2005 being from the news editorials.

Congressional testimony was most prevalent in 2006, with 437 items of testimony that year. As expected, the volume of testimony tapered off in every level of affiliation except for Local Government (stayed the same 2005-2006) and State Government (only category to increase from 2005-2006). This suggests, that with the passage of time, emphasis in place on state and local actor's response to the event by Members of Congress.

### **3.5. Use of Narrative Evidence by Actors**

When Smith-Walter et al. (2016) analyzed two different gun policy interest groups, they developed their five categories of evidence. They found legal evidence to be the most common used by the interest groups, with statistical evidence coming in a distant second. Public opinion was the least common. In my study, I found similar results. Table 3.4 depicts the frequencies of each category of evidence.

**Table 3.4: Frequency of Evidence Used**

	<i>Frequency</i>	<i>Percent</i>
<i>Statistics</i>	728	80.1
<i>Law &amp; Legal</i>	270	29.7
<i>Ipsa Dictum</i>	121	13.3
<i>Scientific</i>	84	9.2
<i>Public Opinion</i>	12	1.3

Statistics was the type of evidence most commonly used by the narrators, followed by legal evidence. These are the same top two types found by Smith-Walter et al. (2016). Also similar to Smith-Walter's findings is the lack of public opinion evidence. One would think, given the nature of who is testifying, that the governmental actor would be interested in presenting evidence of what the public wants. I hypothesized that governmental actors would use public opinion evidence more often (Hypothesis 7). The distribution of the use of public opinion evidence is found in Table 3.5.

I find that public opinion is used only 1.3% of the time, even with 44.4% the narrators being members of the government. And as Table 3.5 depicts, of the 12 times public opinion evidence is used, only four of those were by actors in the government. Therefore, Hypothesis 7, suggesting a relationship between the use of public opinion evidence and governmental actors does not seem to be supported, but the evidence used to determine this is descriptive in nature. Further Chi-square analysis could not be done, due to the lack of use of public opinion evidence and therefore not meeting a cell size qualification of Chi-square analysis.

**Table 3.5: Distribution of Public Opinion Evidence by Affiliation**  
*Public Opinion*

	None	Present	Total
<i>Federal Government</i>	259	3	262
	28.9%	25%	28.8%
<i>News Editorials</i>	170	6	176
	19%	50%	19.4%
<i>Interest groups/Non-profits</i>	169	1	170
	18.8%	8.3%	18.7%
<i>Business/Industry</i>	103	1	104
	11.5%	8.3%	11.4%
<i>Local Government</i>	73	1	74
	8.1%	8.3%	8.1%
<i>State Government</i>	68	0	68
	7.6%	0%	7.5%
<i>Academia</i>	37	0	37
	4.1%	0%	4.1%
<i>Unaffiliated Persons</i>	18	0	18
	2%	0%	2%
<b>Total</b>	897	12	909
	100%	100%	100%

Since the public opinion evidence was used so little, it was not possible to measure the amount of association it has with the specific type of actor affiliation. There were associations with all other four evidence types. The distribution of all evidence types by actor affiliations can be found in Table 3.6.

I hypothesized that the news media would use ipso dictum evidence more than other policy actor affiliations (Hypothesis 8) and that the statistical evidence would have the greatest narrative attention across all policy actor affiliations (Hypothesis 9).

**Table 3.6: Distribution of Evidence by Actor Affiliation**

	<i>News Editorials</i>	<i>Federal</i>	<i>State</i>	<i>Local</i>	<i>IG's/Non-profits</i>	<i>Business/Industry</i>	<i>Academia</i>	<i>Unaffiliated Persons</i>	<i>Total</i>
<i>Statistics</i>	87	225	62	64	150	99	25	16	728
	49.4%	85.9%	91.2%	86.5%	88.2%	95.2%	67.6%	88.9%	80.1%
<i>Law &amp; Legal</i>	9	90	26	25	69	38	10	3	270
	5.1%	34.4%	38.2%	33.8%	40.6%	36.5%	27%	16.7%	29.7%
<i>Ipsa Dictum</i>	52	21	10	11	19	3	5	0	121
	29.5%	8%	14.7%	14.9%	11.2%	2.9%	13.5%	0%	13.3%
<i>Scientific</i>	25	18	4	3	17	7	10	0	84
	14.2%	6.9%	5.9%	4.1%	10%	6.7%	27%	0%	9.2%
<i>Public Opinion</i>	6	3	0	1	1	1	0	0	12
	3.4%	1.1%	0%	1.4%	0.6%	1%	0%	0%	1.3%

Table 3.7 depicts the use and relationship of ipso dictum evidence by the different actor affiliations.

**Table 3.7: Chi-Square Analysis of Statistics by Actor Affiliation**  
**Ipsa Dictum**

	None	Present	Total
<i>Federal Government</i>	241	21	262
	30.6%	17.4%	28.8%
<i>News Editorials</i>	124	52	176
	15.7%	43%	19.4%
<i>Interest groups/Non-profits</i>	151	19	170
	19.2%	15.7%	18.7%
<i>Business/Industry</i>	101	3	104
	12.8%	2.5%	11.4%
<i>Local Government</i>	63	11	74
	8%	9.1%	8.1%
<i>State Government</i>	58	10	68
	7.4%	8.3%	7.5%
<i>Academia</i>	32	5	37
	4.1%	4.1%	4.1%
<i>Unaffiliated Persons</i>	18	0	18
	2.3%	0%	2%
<i>Total</i>	788	121	909
	100%	100%	100%

$X^2$  (d.f. = 7) = 60.069, p=0.000; Cramér's V = 0.257

Table 3.7 depicts that there is a relationship between the use of ipso dictum evidence by the news media. Of all the ipso dictum evidence presented, 43% was by the news media (Cramér's V = 0.257). This supports my hypothesis (Hypothesis 8) that the news editorials are more likely to appeal to authority to make their argument than other actors affiliations identified here.

Table 3.4 depicted that statistical evidence was, by far, the most frequently used category of evidence and Table 3.8 reports the chi-square analysis findings for the relationship between actor affiliation and statistical evidence.

**Table 3.8: Chi-Square Analysis of Statistics by Actor Affiliation**  
**Statistics**

	Not Present	Present	Total
<i>Federal Government</i>	37	225	262
	20.4%	30.9%	28.8%
<i>News Editorials</i>	89	87	176
	49.2%	12%	19.4%
<i>Interest groups/Non-profits</i>	20	150	170
	11%	20.6%	18.7%
<i>Business/Industry</i>	5	99	104
	2.8%	13.6%	11.4%
<i>Local Government</i>	10	64	74
	5.5%	8.8%	8.1%
<i>State Government</i>	6	62	68
	3.3%	8.5%	7.5%
<i>Academia</i>	12	25	37
	6.6%	3.4%	4.1%
<i>Unaffiliated Persons</i>	2	16	18
	1.1%	2.2%	2%
<i>Total</i>	181	728	909
	100%	100%	100%

**X<sup>2</sup> (d.f. = 7) = 142.837, p=0.000 Cramér's V = 0.396**

As the table shows, not only was statistics the most frequently used category of evidence, but it also has an association (Cramér's V = 0.396) with all the different actor affiliations. Its association is the strongest of all the different category types (*Ipsa Dictum* – 0.257; *Law & Legal* – 0.278; *Scientific* – 0.172). Therefore Hypothesis 9 is confirmed. This suggests that when actors are choosing evidence to make their argument about problems and policy solutions following a hurricane, they rely heavily on statistics instead of more scientific evidence. As a reminder, statistical evidence is defined as numbers used that *are not* connected to a scientific study or public opinion poll (Smith-Walter 2016). This supports Birkland (1997) findings, that when comparing hurricanes and earthquakes, the actors from the earthquakes policy community placed a greater priority on science and technical knowledge than those discussing hurricanes. Greater analysis of the relationship between specific problems and policy solutions and the evidence presented is detailed in the upcoming chapters.

### 3.6. Conclusion

This chapter focused on the agenda-setting properties of a focusing event, the relationship between actors in the policy process, and the use of evidence by those actors. My agenda-setting hypotheses were all confirmed. This provided further confirmation for Birkland's (1997) study. Also found, was that following Hurricane Katrina, news attention dramatically increased and dramatically dropped off consistent with the news attention cycle. Congressional agenda attention was slower to increase, but it did so at a deliberate, expected pace. The relationship between these two agendas will be discussed in more detail in Chapter Six.

I also found support for my hypothesis that a focusing event would mobilize actors to take part in institutional activity. Other interesting findings included that most of these actors coming from in government, but also interest groups, industry groups, academia, and civilians were represented and discussed many different topics.

I did find support for two of my three hypotheses studying the use of evidence by actor affiliation. Confirmed were my hypotheses that statistical evidence would be used the most across all actor affiliations and the news media would use ipso dictum evidence more than other affiliations. The use of statistical evidence is on par with what Smith-Walter (2016) also found. Not confirmed was the use of public opinion evidence by governmental actors. This lack of governmental actors considering what the public wants when making arguments is concerning considering our democratic structure. If public opinion is not considered, then one would argue the emphasis would be on scientific expertise. However, we see that the next least likely used category of evidence by members of the government is scientific evidence (Table 3.4). This lack of public opinion evidence is also on par with Smith-Walter (2016) findings. Not surprising is

the reliance on law and legal evidence as precedent by governmental actors. What is surprising is the overwhelming use of statistics, in place of other evidence, to make an argument.

Further analysis and discussion regarding actors and the use of evidence with problem definition can be found in Chapter Four. Analysis of actors and the use of evidence with policy solutions can be found in Chapter Five.



## Summary of Hypotheses

**Table 3.9: Chapter Three Summary of Hypotheses**

<b>Hypothesis</b>	<b>Research Question Addressed</b>	<b>Status</b>
<b>Hypothesis 1:</b> <i>Focusing events increase news media attention</i>	RQ 2	Confirmed
<b>Hypothesis 2:</b> <i>Focusing events increase congressional attention</i>	RQ 2	Confirmed
<b>Hypothesis 3:</b> <i>As news agenda activity increases, following a focusing event, the greater the likelihood that congressional agenda activity will also increase</i>	RQ 2	Confirmed
<b>Hypothesis 4:</b> <i>Focusing events mobilize actors and groups to engage in institutional agenda activity</i>	RQ 2	Confirmed
<b>Hypothesis 5:</b> <i>There is a relationship in the narrative attention of problem statements between the news agenda and congressional agenda</i>	RQ 1	Chapter 6
<b>Hypothesis 6:</b> <i>There is a relationship in the narrative attention of policy solutions between the news agenda and congressional agenda</i>	RQ 1	Chapter 6
<b>Hypothesis 7:</b> <i>Governmental actors have a greater narrative attention with public opinion evidence</i>	RQ 2	Rejected
<b>Hypothesis 8:</b> <i>News media have greater narrative attention with ipso dictum evidence</i>	RQ 2	Confirmed
<b>Hypothesis 9:</b> <i>Statistical evidence has greatest narrative attention across all policy actor affiliations</i>	RQ 2	Confirmed
<b>Hypothesis 10:</b> <i>There is a cohesive relationship between problem type and solution type, except for the mitigation policy solution</i>	RQ 3	Chapter 4
<b>Hypothesis 11:</b> <i>Mitigation policy solutions will lack a cohesive relationship with problems</i>	RQ 3	Chapter 4
<b>Hypothesis 12:</b> <i>Narrative attention to response emerges first as most prevalent narrative but quickly tapers off</i>	RQ 3	Chapter 5
<b>Hypothesis 13:</b> <i>Narrative attention to recovery is the greatest compared to all other policy solutions</i>	RQ 3	Chapter 5
<b>Hypothesis 14:</b> <i>Narrative attention to mitigation is the lowest compared to all other policy solutions</i>	RQ 3	Chapter 5
<b>Hypothesis 15:</b> <i>Mitigation policy solutions receive higher narrative attention from non-governmental actors</i>	RQ 2 & 3	Chapter 6
<b>Hypothesis 16:</b> <i>Response policy solutions receive higher narrative attention from news media</i>	RQ 2 & 3	Chapter 6
<b>Hypothesis 17:</b> <i>Recovery policy solutions receive higher narrative attention from federal governmental actors</i>	RQ 2 & 3	Chapter 6
<b>Hypothesis 18:</b> <i>Preparedness policy solutions receive higher narrative attention from non-federal governmental actors</i>	RQ 2 & 3	Chapter 6
<b>Hypothesis 19:</b> <i>Mitigation policy solutions have a greater association with scientific and statistical evidence than other policy solutions</i>	RQ 3	Chapter 5
<b>Hypothesis 20:</b> <i>Political policy solutions have a greater association with ipso dictum evidence than other policy solutions</i>	RQ 3	Chapter 5
<b>Hypothesis 21:</b> <i>The relief/response and recovery policy solutions will have the greatest association with each other</i>	RQ 3	Chapter 5

## CHAPTER 4 ANALYSIS OF THE STATEMENT OF PROBLEM

### 4.1. Introduction

As previously stated, the Multiple Streams Approach (MSA) considers three interdependent streams; problems, policies, and politics. This chapter is interested in the problem stream. Focusing events serve to highlight significant problems by drawing attention to problematic conditions (Birkland 1997). In this study, Hurricane Katrina serves as the focusing event identifying problems. These problems gain the attention of the news media, members of Congress and policy entrepreneurs alike. This chapter details what problems are identified in the discussion of Hurricane Katrina, what actors emphasize specific problems, how the attention to specific problems change over time, and what the relationship is between problems and solutions.

This chapter analyzes the following research question and hypotheses:

- ***Phases of Disaster Cycle Research Question:*** Following a natural disaster focusing event, what is the narrative attention given to the different phases of the disaster cycle? Who talks about which phase and how does this change over time? What problems are identified in each phase?
- Hypothesis 10: There is a cohesive relationship between problem type and solution type, except for the mitigation policy solution.
- Hypothesis 11: Mitigation policy solutions will lack a cohesive relationship with problems.

To properly address this research question and hypotheses, this chapter will discuss the following:

- 4.1 Introduction
- 4.2 Descriptive Statistics of the Problems identified after Hurricane Katrina
- 4.3 Analysis of Attention Shift of Problems over time

- 4.4 Analysis of how Problems discussed by Actors
- 4.5 Analysis of the Relationship between Problems and Solutions
- 4.6 Conclusion

## **4.2. Problems Identified after Hurricane Katrina**

When a focusing event, like Hurricane Katrina, occurs, it brings attention to problems that government and citizens want to be addressed. In the case of natural disasters, the event itself is not a problem. Hurricanes happen, especially off the Gulf Coast, and we even have a season for them. The question is how do we prepare for, respond to, recover from, and mitigate the effects of hurricanes? Hurricane Katrina is still one of the deadliest and most expensive hurricanes to date. According to the U.S. Census Bureau, “ultimately, Katrina was responsible for 1,833 deaths and damage estimated at \$151 billion, including \$75 billion in the New Orleans area and along the Mississippi coast” (U.S. Census Bureau 2015). The event of Hurricane Katrina amplified many social and technical problems that existed prior to the storm, and it also caused many new problems. All problems statements were coded for in the items, and then grouped into the 24 problem statements found in Table 4.1. Table 4.1 further details the operationalization of the problem statements.

**Table 4.1: Problem Statements and Definitions**

<b>Variables – Problem Statements</b>	<b>Definition</b>
Bad Policies	Cites current policies as problem. Includes delayed regulations, insufficient testing procedures, ineffective procedures.
Bureaucracy	Problems such as red tape and inflexibility of the system are the problem. Hierarchies, getting lost in the system, lack of coordination, duplication of programs, interoperability, limited authority, issue complexity and passing the buck are all problems identified.
Communication	Problems with the communication infrastructure or damage to the communication infrastructure.
Corruption & Fraud	Problems with the political environment including cronyism, fraud, and corruption.
Crime	Crime and Mob violence because of the hurricane.
Discrimination	Problems with both class and race discrimination along with unequal access to capital and housing.
Education	Problems like displaced students, broken education infrastructure, lack of school transportation and death of education communities due to the hurricane.
Energy	Deals with issues relating to supply & demand of oil increased energy process, price gauging, shut down of refineries, energy-market volatility, and other energy-related issues caused by the hurricane.
Environmental	Problems such as climate change, degradation of wetlands, and other environmental health issues.
Financial	Problems dealing with limited/lack of resources, money not getting to where it is needed, financial mismanagement, overburden on the financial system and wasteful spending.
Health Care	Problems with healthcare infrastructure, shortage of beds, mental health crises, gaps in care, access to medications and increasing population.
Housing	Problems with displacement, exodus of homeowners, housing shortage, temporary housing, public housing, and other housing issues caused by the hurricane.
Incompetent Leadership	Problems with the government such as abuse of power by government officials, apathy of government employees, no accountability, lack of government oversight, political incompetence and lost trust in government.
Infrastructure	Problems such as levee failure, poor building infrastructure, engineering design flaws, standard infrastructure problems.
Insurance	Problems with insurance system such as bad flood insurance infrastructure, catastrophic demand being greater than supply, NFIP inadequate, denied assistance/claims, skyrocketing costs, slow reimbursements, lack of data on flood maps, unfair settlements, and other insurance problems.
Poverty	Problems of inequality, poverty, unrepresented constituents highlighted by the hurricane.
Lack of Preparedness	Problems such as gaps in preparedness planning, lack of preparation funds, outdated/inadequate flood maps, no shared vision of preparedness and lack of proper training and technology.
Regulatory	Lack of oversight, heightened regulatory burden, problems with legislation and regulation in place.
Response	Badly broken response system, burdens on emergency response, relief food spoilage, lack of NIMS, non-uniform standards in place for response.
Risk	Problems dealing with a misperception of risk, overdevelopment, economically irrational decisions, increased risk exposure.
Technology	Problems with the radio frequencies.
Transportation	Damaged highway infrastructure, loss of transportation capacity, Mississippi River transportation congestion, identifying transportation-disadvantaged populations because of the hurricane.
Workforce	Problems such as unemployment, unsafe working environments, uninsured workers, loss of labor.

A problem is coded as either “present” or “not present,” and multiple problems can exist in the same item. Table 4.2 depicts the frequency of each problem statement.

**Table 4.2: Frequency of Problems**

	<i>Frequency</i>	<i>Percentage</i>
<i>Bad Policies</i>	189	20.8
<i>Financial</i>	137	15.1
<i>Bureaucracy</i>	134	14.7
<i>Insurance</i>	84	9.2
<i>Incompetent Leadership</i>	81	8.9
<i>Communication</i>	77	8.5
<i>Housing</i>	77	8.5
<i>Corruption/Fraud</i>	63	6.9
<i>Lack of Preparation</i>	62	6.8
<i>Health Care</i>	45	5
<i>Energy</i>	42	4.6
<i>Infrastructure</i>	39	4.3
<i>Workforce</i>	34	3.7
<i>Discrimination</i>	33	3.6
<i>Environmental</i>	27	3
<i>Response</i>	27	3
<i>Poverty</i>	26	2.9
<i>Crime</i>	19	2.1
<i>Transportation</i>	13	1.4
<i>Education</i>	12	1.3
<i>Regulatory</i>	10	1.1
<i>Risk</i>	9	1
<i>Technology</i>	3	0.3

As shown in Table 4.2, the top three problems identified by Hurricane Katrina dealt with ineffective or insufficient policies that are in place (*bad policies* N=189), having to deal with the inflexible and overly burdensome bureaucratic system (*bureaucracy* N=134) and lack of resources or those resources not getting to where they need to be (*financial* N=137). This seems that the issues of rapid delivery of relief are more important to the actors identified than any effort to learn how to mitigate the hazard. For example, these problems are much more prevalent

than the technical problems of levee failures or damaged infrastructure (*infrastructure* N=39), the environmental problems highlighted by a natural disaster (N=27), or the societal problems of *discrimination* (N=33) and *poverty* (N=26). The problems that were the most prevalent dealt with current government laws, structure and processes of assisting people. In the hurricane policy domain, the emphasis has always been predominately on disaster relief (Birkland 1997). However, it is interesting to note the overwhelming narrative attention paid to the systems in place to provide assistance.

### 4.3. Attention Shift of Problems over Time

More than just the problems identified, the attention given to these problems over the three-year period is also of interest. Table 4.3 depicts narrative attention of problems from 2005-2007.

**Table 4.3: Attention of Problems from 2005-2007**

	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>Total</i>
<i>Bad Policies</i>	53	68	68	189
	28%	36%	36%	100%
<i>Financial</i>	21	72	44	137
	15.3%	52.6%	32.1%	100%
<i>Bureaucracy</i>	6	67	61	134
	4.5%	50%	45.5%	100%
<i>Insurance</i>	2	23	59	84
	2.4%	27.4%	70.2%	100%
<i>Incompetent Leadership</i>	36	27	18	81
	44.4%	33.3%	22.2%	100%
<i>Communication</i>	5	41	31	77
	6.5%	53.2%	40.3%	100%
<i>Housing</i>	4	35	38	77
	5.2%	45.5%	49.4%	100%
<i>Corruption/Fraud</i>	14	24	25	63
	22.2%	38.1%	39.7%	100%
<i>Lack of Preparation</i>	2	30	30	62
	3.2%	48.4%	48.4%	100%

**Table 4.3 (continued): Attention of Problems from 2005-2007**

	2005	2006	2007	Total
<b>Health Care</b>	0	17	28	45
	0%	37.8%	62.2%	100%
<b>Energy</b>	5	31	6	42
	11.9%	73.8%	14.3%	100%
<b>Infrastructure</b>	4	17	18	39
	10.3%	43.6%	46.2%	100%
<b>Workforce</b>	0	21	13	34
	0%	61.8%	38.2%	100%
<b>Discrimination</b>	4	14	15	33
	12.1%	42.4%	45.5%	100%
<b>Environmental</b>	0	18	9	27
	0%	66.7%	33.3%	100%
<b>Response</b>	3	13	11	27
	11.1%	48.1%	40.7%	100%
<b>Poverty</b>	14	4	8	26
	53.8%	15.4%	30.8%	100%
<b>Crime</b>	4	7	8	19
	21.1%	36.8%	42.1%	100%
<b>Transportation</b>	1	11	1	13
	7.7%	84.6%	7.7%	100%
<b>Education</b>	0	6	6	12
	0%	50%	50%	100%
<b>Regulatory</b>	0	6	4	10
	0%	60%	40%	100%
<b>Risk</b>	0	0	9	9
	0%	0%	100%	100%
<b>Technology</b>	0	3	0	3
	0%	100%	0%	100%

We see in Table 4.3 that in every occurrence, except *incompetent leadership* and *poverty*, the narrative attention of a problem increases from 2005 to 2006. Where the narrative attention from 2006 to 2007 decreased for many problems, societal problems of *crime*, *discrimination*, *health care*, *housing*, and *insurance* all increased from 2006-2007. This shows how problems continued to reveal themselves after the storm passed. Furthermore, Table 4.3 shows that any

problem that was identified in 2005 or 2006 is *still* a problem in 2007. The narrative attention may have lessened by 2007, but the problem did not leave the agenda except for the problem of *technology* which arose only three times in the year 2006.

#### **4.4. Problems discussed by Actors**

Who identifies what as a problem is also of interest in this study. To determine if there was a relationship between problem statements and actor affiliation, a Chi-Square Analysis was used, the results of which are found in Table 4.4. Only significant findings with a Cramér's V greater than 0.2 are reported in Table 4.4. Other significant findings with a Cramér's V below 0.2 include *Bureaucracy* (Cramér's V= 0.130) and *Financial* (Cramér's V = 0.128).

One finding from this analysis is that issues of *bad policies* and *incompetent leadership* (N=56) have higher narrative attention from news editorials than from other actors in the policy domain. The news editorials also take a greater interest in the problem of *corruption/fraud* (N=26) by members of the government. In their role as "watchdog," it is not surprising to see greater narrative attention by the news media on problems relating to governmental failure when compared to other actor affiliations identified here.



**Table 4.4: Chi-Square Analysis of Problems Statements by Actor Affiliation**

		<i>News</i>	<i>Federal</i>	<i>State</i>	<i>Local</i>	<i>IGs/NPs</i>	<i>Business</i>	<i>Academia</i>	<i>Civilians</i>	<i>Total</i>
<i>Bad Policies</i>	None	102	229	59	62	132	90	32	14	720
		14.2%	31.8%	8.2%	8.6%	18.3%	12.5%	4.4%	1.9%	100%
	Present	74	33	9	12	38	14	5	4	189
		39.2%	17.5%	4.8%	6.3%	20.1%	7.4%	2.6%	2.1%	100%
	Total	176	262	68	74	170	104	37	18	909
		19.4%	28.8%	7.5%	8.1%	18.7%	11.4%	4.1%	2%	100%
<b>X<sup>2</sup> (d.f. = 7) = 67.117, p=0.000; Cramér's V = 0.272</b>										
<i>Insurance</i>	None	169	243	62	71	150	82	35	13	825
		20.5%	29.5%	7.5%	8.6%	18.2%	9.9%	4.2%	1.6%	100%
	Present	7	19	6	3	20	22	2	5	84
		8.3%	22.6%	7.1%	3.6%	23.8%	26.2%	2.4%	6%	100%
	Total	176	262	68	74	170	104	37	18	909
		19.4%	28.8%	7.5%	8.1%	18.7%	11.4%	4.1%	2%	100%
<b>X<sup>2</sup> (d.f. = 7) = 36.351, p=0.000; Cramér's V = 0.200</b>										

**Table 4.4 (continued): Chi-Square Analysis of Problems Statements by Actor Affiliation**

		<i>News</i>	<i>Federal</i>	<i>State</i>	<i>Local</i>	<i>IGs/NPs</i>	<i>Business</i>	<i>Academia</i>	<i>Civilians</i>	<i>Total</i>
<b><i>Incompetent Leadership</i></b>	None	120	250	65	72	163	103	37	18	828
		14.5%	30.2%	7.9%	8.7%	19.7%	12.4%	4.5%	2.2%	100%
	Present	56	12	3	2	7	1	0	0	81
		69.1%	14.8%	3.7%	2.5%	8.6%	1.2%	0%	0%	100%
	Total	176	262	68	74	170	104	37	18	909
		19.4%	28.8%	7.5%	8.1%	18.7%	11.4%	4.1%	2%	100%
<b>X<sup>2</sup> (d.f. = 7) = 143.334, p=0.000; Cramér's V = 0.397</b>										
<b><i>Communication</i></b>	None	176	235	60	56	158	96	33	18	832
		21.2%	28.2%	7.2%	6.7%	19%	11.5%	4%	2.2%	100%
	Present	0	27	8	18	12	8	4	0	77
		0%	35.1%	10.4%	23.4%	15.6%	10.4%	5.2%	0%	100%
	Total	176	262	68	74	170	104	37	18	909
		19.4%	28.8%	7.5%	8.1%	18.7%	11.4%	4.1%	2%	100%
<b>X<sup>2</sup> (d.f. = 7) = 44.811, p=0.000; Cramér's V = 0.222</b>										

**Table 4.4 (continued): Chi-Square Analysis of Problems Statements by Actor Affiliation**

		<i>News</i>	<i>Federal</i>	<i>State</i>	<i>Local</i>	<i>IGs/NPs</i>	<i>Business</i>	<i>Academia</i>	<i>Civilians</i>	<i>Total</i>
<b><i>Corruption/</i></b>	None	150	236	67	74	165	100	37	17	846
		17.7%	27.9%	7.9%	8.7%	19.5%	11.8%	4.4%	2%	100%
<b><i>Fraud</i></b>	Present	26	26	1	0	5	4	0	1	63
		41.3%	41.3%	1.6%	0%	7.9%	6.3%	0%	1.6%	100%
	<b>Total</b>	176	262	68	74	170	104	37	18	909
		19.4%	28.8%	7.5%	8.1%	18.7%	11.4%	4.1%	2%	100%
<b>X<sup>2</sup> (d.f. = 7) = 37.609, p=0.000; Cramér's V = 0.203</b>										

The problems of *bad policies* and *insurance* are the only significant problems that every group of actors addresses. *Interest groups and Non-profits* and *Business and Industry* groups paid greater narrative attention to problems of *insurance* (N=20/N=22) and *bad policies* (N=38/N=14) than governmental problems of *corruption and fraud* (N= 5/N=0) and *incompetent leadership* (N=7/N=1). The actors in the federal government made up the largest group of actors, so it is not surprising to see the higher amounts of narrative attention the federal government gives to these problems. Of interest is the narrative attention paid by the members of local governments. In issues of *bad policies* (N= 12) and *communication technology* (N=18), local government actors are more vocal than their counterparts in the *State Government* (bad policies N=9; communication N=8). On problems of *corruption and fraud* (N=0) and *incompetent leadership* (N=2) actors in the *Local Government* are either silent on the issue or nearly so. This would explain the local government's emphasis being placed on issues of the rapid delivery of relief than fraud or incompetent leadership by governmental actors.

#### **4.5. Relationship between Problems and Solutions**

In the MSA, Kingdon describes the “primeval soup” in which ideas or solutions float around already existing prior to a problem. These ideas may undergo mutations or recombination, or they may need a softening up period before they are feasible, but, according to MSA, they exist in the primeval soup and are waiting to be matched with problems at the right time. Successful policy entrepreneurs know how to navigate the “primeval soup” by matching preferred policy solutions with the problems identified (Kingdon 2003).

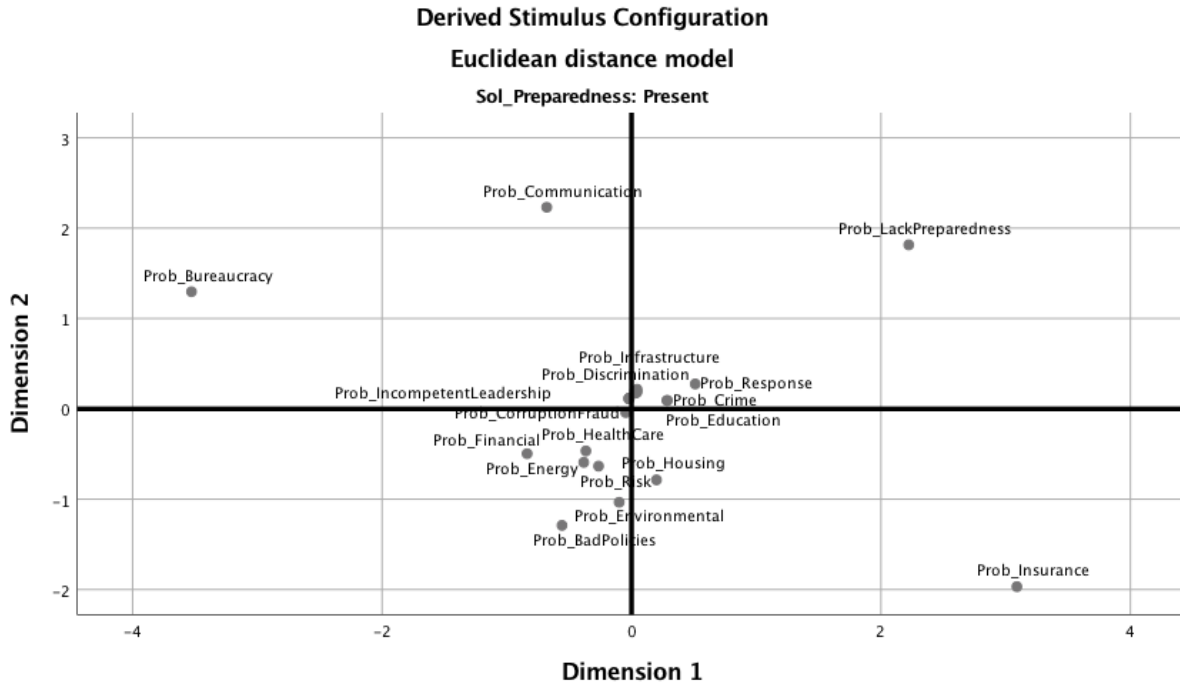
My interest in this study is to determine how the problems identified in the narratives of the news editorials and congressional witness testimony match up with the solutions presented. The solutions are bound by the phases of the disaster cycle in addition to political solutions, and

therefore will provide insight into what problems, following Hurricane Katrina, are aligned with specific phases of a disaster.

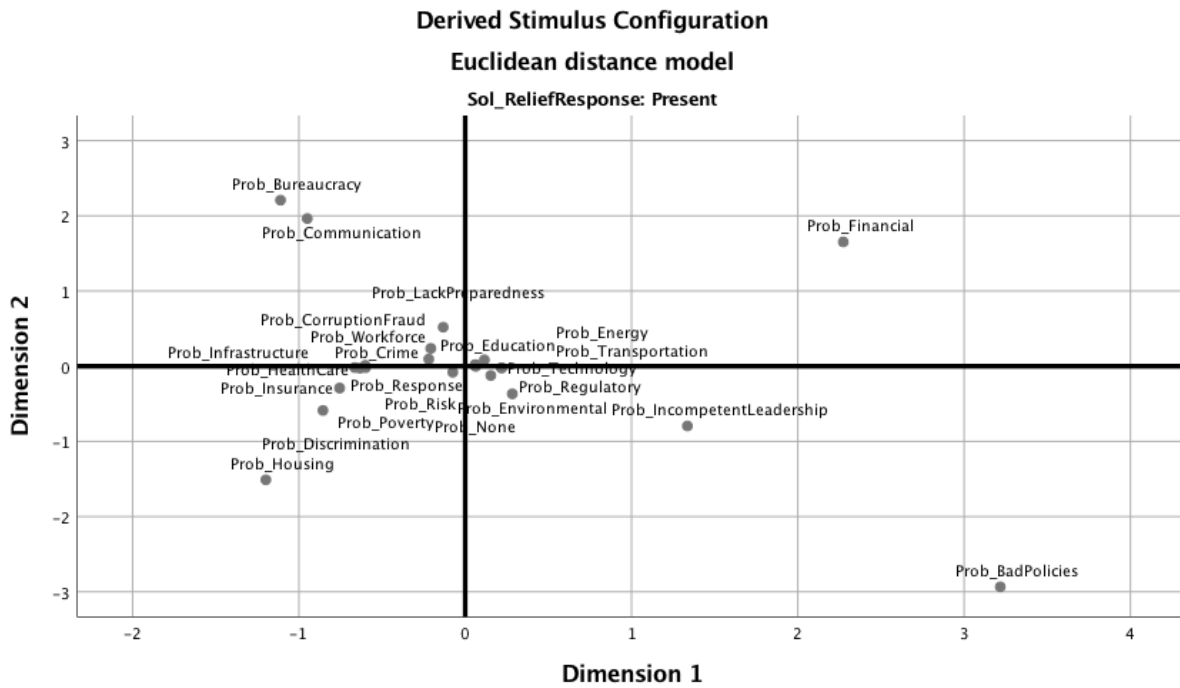
To understand this relationship between problems and solutions, I used Multidimensional Scaling. As previously stated, MDS provides a two-dimensional map in which the objects (variables) are plotted on arbitrary axes. Plots that are closer to each other are more similar in nature, while those farther placed on the map are different.

I hypothesized that there would be a cohesive relationship between problem type and solution type, except for the case of mitigation policy solutions. The following figures are the models for the problem statements present when a specific policy solution is present.

Figure 4.1 depicts the preparedness policy solution analysis and shows us that when a preparedness policy solution was present, greater weight was given to problems such as *insurance, lack of preparedness, communication technology, and bureaucracy*. These are the problems one would expect to see discussed in conjuncture with the *Preparedness* policy solution. Therefore, a cohesive relationship between problems and the *Preparedness* solution is present.



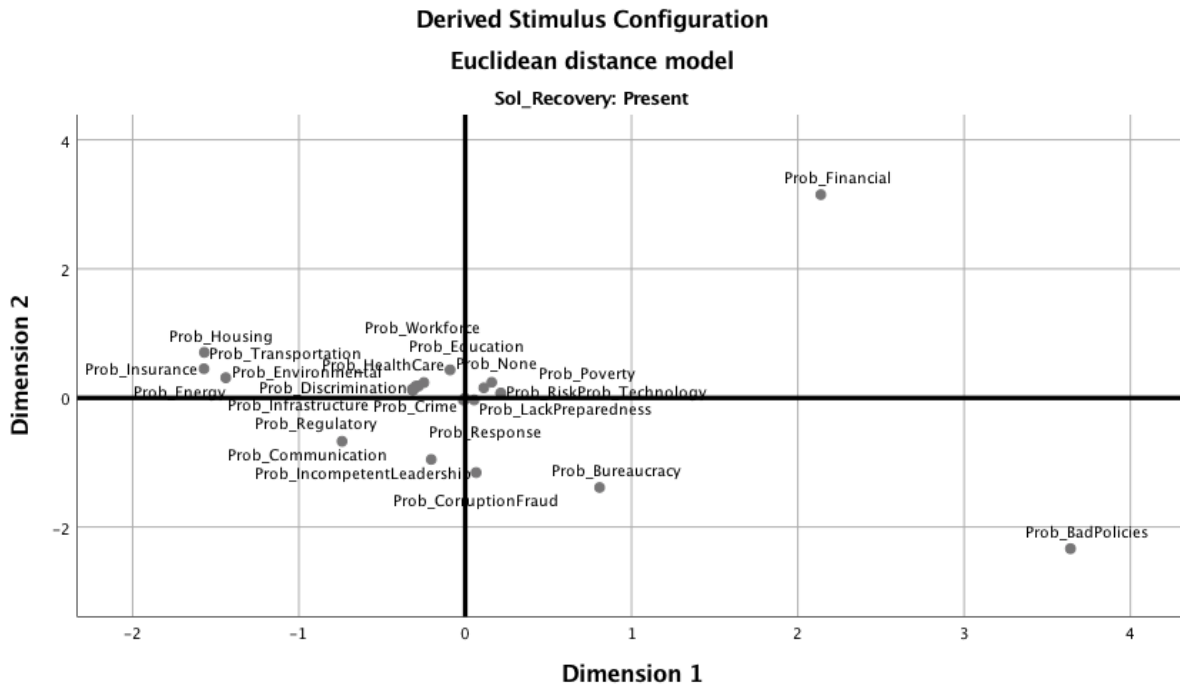
**Figure 4.1: Preparedness Solution and Problems Multi-Dimensional Scale**



**Figure 4.2: Relief/Response Solution and Problems Multi-Dimensional Scale**

Figure 4.2 presents the analysis for the *Relief and Response* policy solutions. Problems of *bad policies, incompetent leadership, financial, housing, communication technology* and *bureaucracy* are all prominent. Again, these are the problems one would expect to discuss when presenting a *Relief and Response* solution narrative. Therefore, a cohesive relationship between problems and the *Relief and Response* solution is present.

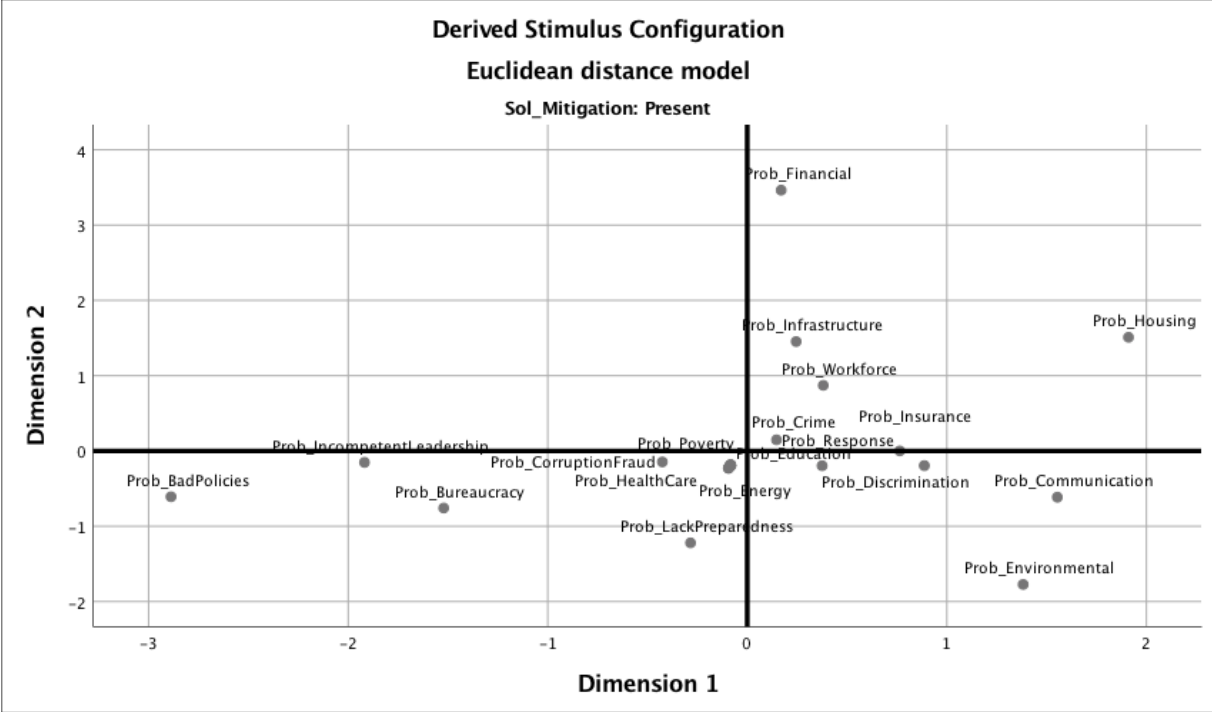
The model for the *Recovery* policy solutions are problems can be found in Figure 4.3. *Recovery* looks very similar to *Relief and Response* in that the most prominent problems discussed are *bad policies* and *financial*. Also noticeable is the weight given to problems of *corruption and fraud, bureaucracy, incompetent leadership, communication technology, and response*. It is not surprising that the problems that arise in *Relief and Response* are very similar to those discussed with *Recovery* policy solutions. The two phases are also similar in their purpose and overlaps exist. In terms of the recovery policy solution, a cohesive relationship exists between problems and solutions.



**Figure 4.3: Recovery Solution and Problems Multi-Dimensional Scale**

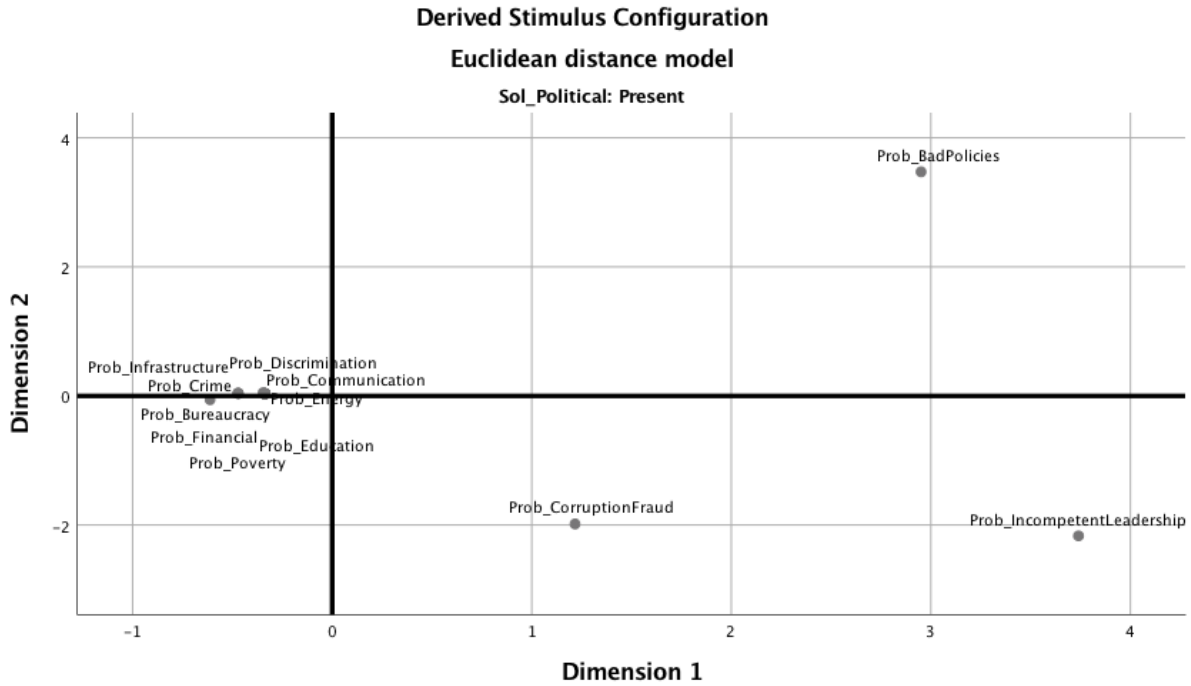
The *Mitigation* policy solution, found in Figure 4.4, looks different from the other solution. Where the other analysis had a clumping of little-discussed problems with several problems given greater weight and prominence, the *Mitigation* analysis is lacking this pattern. Instead, we see a diffuse pattern in terms of the problems that arise in conjunction with *Mitigation* policy solutions. Problems such as *housing, infrastructure, environmental, bad policies, and financial* problems are the most prominent, but there is no clear connection between problems and solutions as was present in the other models. More problems have flooded the field, and as Zahariadis (2014) states, “problems tend to appear more intractable when more of them crowd the agenda” (32). We can see a crowding of the agenda here when it comes to the mitigation policy solution. Therefore, a lack of a cohesive relationship between the *Mitigation* policy solutions and problems are present.





**Figure 4.4: Mitigation Solution and Problems Multi-Dimensional Scale**

The *Political* policy solutions are the most distinct in terms of what problems receive the greatest weights (Figure 4.5). When *Political* policy solutions are present, the problems that are the most prominent are *incompetent leadership, corruption and fraud, and bad policies*.



**Figure 4.5: Political Solution and Problems Multi-Dimensional Scale**

These are the policies we would expect to find aligned with *Political* policy solutions, and therefore a cohesive relationship exists between *Political* policy solutions and problems. For all the models, Stress was quite low, and R-square was quite high for all of these plots, which characterizes a good model:

**Table 4.5: Policy Solutions MDS Stress and R<sup>2</sup> Measures**

Policy Solution	Stress Measure	R <sup>2</sup> Measure
<b>Preparedness</b>	.177	.933
<b>Relief/Response:</b>	.179	.928
<b>Recovery:</b>	.187	.929
<b>Mitigation:</b>	.190	.898
<b>Political:</b>	.026	.999

There are several important additional findings from this analysis. First, the problem that received the most narrative attention was the issue of *bad policies*. This problem also received greater weight from all policy solution types except for *Preparedness*. This makes sense as many

of the bad policies relate to providing disaster relief to people, and we know that disaster relief is a very prominent issue in the wake of a hurricane. Insurance problems were only noticeable with preparedness policy solutions, and environmental problems were only evident with mitigation policy solutions. Both of these outcomes make sense. Purchasing insurance and having proper insurance is part of being prepared. Mitigation efforts support protecting the environment, such as preserving wetlands, so as to use natural means to mitigate storms. Problems of *incompetent leadership* were similar for *Political* and *Relief and Response* policy solutions. This makes sense as the issue of leadership would appear during the response phase and it is a political issue. Of the disaster cycle phase solutions, *financial* is given greater weight from all the phases except *Preparedness*. Once again, based on the nature of financial problems being about the lack of or limited funds failing to get to where they are needed, I am not surprised to see this match up with all the solutions except preparedness.

#### **4.6. Conclusion**

This chapter focused on the narrative attention of problem statements and how the attention to problems shifted over time. It also provided analysis on the association between which actors were discussing specific problems and the relationship between problems and solutions.

As previously identified, the MSA accounts for ambiguity in the policy process. This ambiguity concerning problem definitions and preferred policy solutions is manipulated by policy entrepreneurs. Therefore, the competition that exists in the agenda-setting process is about this manipulation that occurs. The policy entrepreneurs want to tell their story: how the problem came to be, who is to blame, and what can be done so it never happens again (Zahariadis 2003; Stone 2002). Finally, the relationship between actors and problems showed significant, but

weak, associations between specific problems and the actor affiliations. One interesting finding was the Chi-Square analysis that showed the news editorials serving in their role as “watchdog” over the government by highlighting problems relating to government failure. To better understand this dynamic, additional analysis on the relationship between actors and problems can be found in Chapter Six.

Other interesting findings from the chapter included the nature of the problems most often discussed. Discussion in the hurricane policy domain is more often about getting aid to individuals who need it. We see this with the major of problems identified being about bad policies, bureaucracy and financial. All three issues dealt with the distributive aspect of government after a disaster.

Both my hypotheses relating to the problem statements with policy solutions were confirmed. I hypothesized that there would exist a cohesive relationship between problems and preparedness, relief and response, recovery and political policy solutions. I further hypothesized that there would *not* be a cohesive relationship between mitigation policy solutions and the problems discussed. This lack of cohesion among the problems associated with mitigation policy solutions further demonstrates both the complexity of mitigation the lack of emphasis given to it by actors in the policy process.

## Summary of Hypotheses

**Table 4.6: Chapter Four Summary of Hypotheses**

<b>Hypothesis</b>	<b>Research Question Addressed</b>	<b>Status</b>
<i><b>Hypothesis 1:</b> Focusing events increase news media attention</i>	RQ 2	Confirmed
<i><b>Hypothesis 2:</b> Focusing events increase congressional attention</i>	RQ 2	Confirmed
<i><b>Hypothesis 3:</b> As news agenda activity increases, following a focusing event, the greater the likelihood that congressional agenda activity will also increase</i>	RQ 2	Confirmed
<i><b>Hypothesis 4:</b> Focusing events mobilize actors and groups to engage in institutional agenda activity</i>	RQ 2	Confirmed
<i><b>Hypothesis 5:</b> There is a relationship in the narrative attention of problem statements between the news agenda and congressional agenda</i>	RQ 1	Chapter 6
<i><b>Hypothesis 6:</b> There is a relationship in the narrative attention of policy solutions between the news agenda and congressional agenda</i>	RQ 1	Chapter 6
<i><b>Hypothesis 7:</b> Governmental actors have a greater narrative attention with public opinion evidence</i>	RQ 2	Rejected
<i><b>Hypothesis 8:</b> News media have greater narrative attention with ipso dictum evidence</i>	RQ 2	Confirmed
<i><b>Hypothesis 9:</b> Statistical evidence has greatest narrative attention across all policy actor affiliations</i>	RQ 2	Confirmed
<i><b>Hypothesis 10:</b> There is a cohesive relationship between problem type and solution type, except for the mitigation policy solution</i>	RQ 3	Confirmed
<i><b>Hypothesis 11:</b> Mitigation policy solutions will lack a cohesive relationship with problems</i>	RQ 3	Confirmed
<i><b>Hypothesis 12:</b> Narrative attention to response emerges first as most prevalent narrative but quickly tapers off</i>	RQ 3	Chapter 5
<i><b>Hypothesis 13:</b> Narrative attention to recovery is the greatest compared to all other policy solutions</i>	RQ 3	Chapter 5
<i><b>Hypothesis 14:</b> Narrative attention to mitigation is the lowest compared to all other policy solutions</i>	RQ 3	Chapter 5
<i><b>Hypothesis 15:</b> Mitigation policy solutions receive higher narrative attention from non-governmental actors</i>	RQ 2 & 3	Chapter 6
<i><b>Hypothesis 16:</b> Response policy solutions receive higher narrative attention from news media</i>	RQ 2 & 3	Chapter 6
<i><b>Hypothesis 17:</b> Recovery policy solutions receive higher narrative attention from federal governmental actors</i>	RQ 2 & 3	Chapter 6
<i><b>Hypothesis 18:</b> Preparedness policy solutions receive higher narrative attention from non-federal governmental actors</i>	RQ 2 & 3	Chapter 6
<i><b>Hypothesis 19:</b> Mitigation policy solutions have a greater association with scientific and statistical evidence than other policy solutions</i>	RQ 3	Chapter 5
<i><b>Hypothesis 20:</b> Political policy solutions have a greater association with ipso dictum evidence than other policy solutions</i>	RQ 3	Chapter 5
<i><b>Hypothesis 21:</b> The relief/response and recovery policy solutions will have the greatest association with each other</i>	RQ 3	Chapter 5

## CHAPTER 5 ANALYSIS OF THE MORAL OF STORY

### 5.1. Introduction

This chapter analyzes the morals of the stories presented by the news media and congressional witnesses in the hurricane policy domain. As previously stated, the moral of the story serves as a policy solution being offered to address the stated problem. Since I am applying the Narrative Policy Framework to the natural disaster domain, I confined policy solutions to the phases of the disaster cycle. Several news editorials lacked a discussion of a solution relating to any particular disaster phase. Therefore I have also included a *political* policy solution variable. The operationalization of the policy solutions variables is found in Table 5.1.

**Table 5.1: Operationalization of Policy Solutions**

Categories of Variables		Definition
<b>Policy Solutions</b>	Preparedness	Continuity of government; planning; public/private relationships; vulnerable areas or populations; pre-disaster; insurance
	Response/Relief	Getting aid to people – money, food or shelter; reports on deaths or saving lives
	Recovery	Sustainability; resilience; short range vs. long range; reverse vulnerability post-disaster; restoring; rebuilding; reshaping
	Mitigation	Engineering; building codes; risk analysis; land use practices; building construction practices
	Political	Policy solutions that have nothing to do with the disaster cycle and that are about political solutions (dealing with elections, campaigns, political fallout because of the hurricane).

This chapter addresses the following research question and hypotheses:

- ***Phases of Disaster Cycle Research:*** Following a natural disaster focusing event, what is the narrative attention given to the different phases of the disaster cycle? Who talks about which phase and how does this change over time? What problems are identified in each phase?
- Hypothesis 12: Narrative attention to response emerges first as the most prevalent narrative, but quickly tapers off.
- Hypothesis 13: Narrative attention to recovery is the greatest compared to all other policy solutions.

- Hypothesis 14: Narrative attention to mitigation is the lowest compared to all other policy solutions.
- Hypothesis 19: Mitigation policy solutions have a greater association with scientific and statistical evidence than other policy solutions.
- Hypothesis 20: Political policy solutions have a greater association with ipso dictum evidence than other policy solutions.
- Hypothesis 21: The relief/response and recovery policy solutions will have the greatest association with each other.

To properly address this research question and hypotheses, this chapter will discuss the following:

5.1 Introduction

5.2 Descriptive Statistics of the Solutions identified and the Co-occurrence of Policy Solutions

5.3 Analysis of Attention Shift of Solutions Over Time

5.4 Analysis of the Use of Evidence with Solutions

5.5 Conclusion

## **5.2. Solutions Identified**

Each item was coded for the presence or absence of a policy solution. As disaster scholars have noted, the phases of the disaster cycle are concepts that are neither linear nor mutually exclusive (Neal 1997). Therefore, if multiple policy solutions existed in the same narrative, both were coded. Table 5.3 details the significant findings from Chi-Square Analysis of co-occurrences of policy solutions.

I hypothesized that the *Relief and Response* policy solution would have a stronger association with the *Recovery* policy solution than other policy solutions (Hypothesis 21). As depicted in Table 5.2, *Relief and Response* and *Recovery* have the strongest association of co-

occurrences (Cramér's  $V = 0.373$ ). This is sensible, as relief and response deal with the short-term solutions following a disaster and recovery deals with the long-term solutions after a disaster. Where relief and response end and recovery begin is murky and hard to distinguish point. Therefore, Hypothesis 21 is confirmed.



**Table 5.2: Chi-Square Analysis of Co-Occurrences of Policy Solutions**

		<i>Preparedness</i>			
		None	Present	Total	
<i>Recovery</i>	None	Count	265	162	427
		% within Recovery	62.1%	37.9%	100%
		% within Preparedness	37.3%	81.4%	47%
	Present	Count	445	37	482
		% within Recovery	92.3%	7.7%	100%
		% within Preparedness	62.7%	18.6%	53%
	Total	Count	710	199	909
		% within Recovery	78.1%	21.9%	100%
		% within Preparedness	100%	100%	100%
<b>X<sup>2</sup> (d.f. = 1) = 121.268, p=0.000; Cramér's V = 0.365</b>					
<i>Relief/Response</i>	None	Count	520	174	694
		% within Relief/Response	74.9%	25.1%	100%
		% within Preparedness	73.2%	87.4%	76.3%
	Present	Count	190	25	215
		% within Relief/Response	88.4%	11.6%	100%
		% within Preparedness	26.8%	12.6%	23.7%
	Total	Count	710	199	909
		% within Relief/Response	78.1%	21.9%	100%
		% within Preparedness	100%	100%	100%
<b>X<sup>2</sup> (d.f. = 1) = 17.351, p=0.000; Cramér's V = 0.138</b>					
		<i>Relief/Response</i>			
		None	Present	Total	
<i>Recovery</i>	None	Count	254	173	427
		% within Recovery	59.5%	40.5%	100%
		% within Relief/Response	36.6%	80.5%	47%
	Present	Count	440	42	482
		% within Recovery	91.3%	8.7%	100%
		% within Relief/Response	63.4%	19.5%	53%
	Total	Count	694	215	909
		% within Recovery	76.3%	23.7%	100%
		% within Relief/Response	100%	100%	100%
<b>X<sup>2</sup> (d.f. = 1) = 126.805, p=0.000; Cramér's V = 0.373</b>					

The *Recovery* variable also had an association with *Preparedness* policy solutions (Cramér's V = 0.365). These phases often bleed into each other, which is why it is essential to

recognize Neal’s (1997) argument that the phases of the disaster cycle are not mutually exclusive. None of the *Mitigation* policy solutions were significant in terms of co-occurrence relationship with other policy solutions.

One reason why the *Mitigation* policy solutions were most likely not significantly associated with other policy solutions and *Recovery* was significantly associated is due to their narrative attention. I hypothesized that *Mitigation* policy solutions would have the lowest narrative attention compared to the other policy solutions, and the *Recovery* policy solutions would have the highest narrative attention when compared to other policy solutions. Table 5.3 depicts the frequency of these policy solutions

**Table 5.3: Frequency of Policy Solutions**

	<i>Frequency</i>	<i>Percentage</i>
<i>Recovery</i>	482	53
<i>Relief/Response</i>	215	23.7
<i>Preparedness</i>	199	21.9
<i>Mitigation</i>	60	6.6
<i>Political</i>	51	5.6

Following an event, the initial focus is on relief and response, which includes getting initial money to people, reporting on lost lives and the damage done by the storm. However, since the policy narrative being studied is the news *editorial* and Congressional witness testimony, I theorize that less focus will be on the relief and response statistics and more on the policy narrative evolving after the event. Therefore, it is not surprising to see the conversation move into the recovery phase. As hypothesized, *Recovery* policy solution’s narrative attention is the greatest compared to all other policy solutions with 482 of the 909 items citing a *Recovery* policy solution. Therefore, Hypothesis 13 (*Recovery* policy solutions) is confirmed. In regard to *Mitigation* policy solutions, it does have the lowest narrative attention when compared to the other phases of the disaster cycle, with only 60 of the 909 items citing a *Mitigation* policy

*solution*. However, the narrative attention of political policy solutions is lower, with 51 of the 909 items referencing a *Political* policy solution. Therefore, Hypothesis 14 (*Mitigation* policy solutions) is only partially confirmed.

### 5.3. Attention Shift of Solutions over Time

How the policy solutions evolve over the three-year period is worthy of consideration. Table 5.4 depicts the distributions of policy solutions by year, while Table 5.5 portrays the Chi-Square analysis of the relationship between policy solution type and year.

**Table 5.4: Attention of Policy Solutions from 2005-2007**  
Year

	2005	2006	2007	Total
<i>Recovery</i>	51	256	175	482
	10.6%	53.1%	36.3%	100%
<i>Relief/Response</i>	51	106	58	215
	23.7%	49.3%	27%	100%
<i>Preparedness</i>	7	82	110	199
	3.5%	41.2%	55.3%	100%
<i>Mitigation</i>	5	40	15	60
	8.3%	66.7%	25%	100%
<i>Political</i>	21	18	12	51
	41.2%	35.3%	23.5%	100%

I hypothesized that the *Relief and Response* policy solution would emerge as the most common narrative, and then quickly taper off (Hypothesis 12). However, we see in Table 5.4 and Table 5.5 that this is not the case. This might have something to do with the unique event that is Hurricane Katrina. Relief and response could be more persistent in Hurricane Katrina due to the mistakes made with relief and response efforts and the scope and size that was Hurricane Katrina. To determine this, additional research is needed comparing Hurricane Katrina with other hurricane focusing events.

**Table 5.5: Chi-Square Analysis of Policy Solutions and Year**

		2005	2006	2007	Total
<i>Recovery</i>	Not Present	72	181	174	427
		16.9%	42.4%	40.7%	100%
	Present	51	256	175	482
		10.6%	53.1%	36.3%	100%
	Total	123	437	349	909
		13.5%	48.1%	38.4%	100%
<b>X<sup>2</sup> (d.f. = 2) = 13.181, p=0.001; Cramér's V = 0.120</b>					
<i>Relief/Response</i>	Not Present	72	331	291	694
		10.4%	47.7%	41.9%	100%
	Present	51	106	58	215
		23.7%	49.3%	27%	100%
	Total	123	437	349	909
		13.5%	48.1%	38.4%	100%
<b>X<sup>2</sup> (d.f. = 2) = 41.257, p=0.000; Cramér's V = 0.185</b>					
<i>Preparedness</i>	Not Present	116	355	239	710
		16.3%	50%	33.7%	100%
	Present	7	82	110	199
		3.5%	41.2%	55.3%	100%
	Total	123	437	349	909
		13.5%	48.1%	38.4%	100%
<b>X<sup>2</sup> (d.f. = 2) = 40.294, p=0.000; Cramér's V = 0.211</b>					
<i>Mitigation</i>	Not Present	118	397	334	849
		13.9%	46.8%	39.3%	100%
	Present	5	40	15	60
		8.3%	66.7%	25%	100%
	Total	123	437	349	909
		13.5%	48.1%	38.4%	100%
<b>X<sup>2</sup> (d.f. = 2) = 8.903, p=0.012; Cramér's V = 0.099</b>					
<i>Political</i>	Not Present	102	419	337	858
		11.9%	48.8%	39.3%	100%
	Present	21	18	12	51
		41.2%	35.3%	23.5%	100%
	Total	123	437	349	909
		13.5%	48.1%	38.4%	100%
<b>X<sup>2</sup> (d.f. = 2) = 35.462, p=0.000; Cramér's V = 0.198</b>					

Instead, the *Relief and Response* policy solution emerges with the same consistency as the *Recovery* policy solution in 2005 (51 items) and then the narrative attention of the *Relief and Response* policy solution actually increases in 2006 (106 items) and has a higher narrative attention in 2007 than it did in 2005 (58 items). This lack of linear progression of the narrative attention that we would expect to see following a disaster does support Neal (1997) argument that the phases of the disaster cycle are not linear. And, the *Relief and Response* narrative demonstrated a relationship with both *Preparedness* (Cramér's  $V = 0.138$ ) and *Recovery* (Cramér's  $V = 0.373$ ) policy solutions demonstrating the lack of mutual exclusivity between the phases (Table 5.2). Therefore, Hypothesis 12 is rejected.

Other interesting findings from the narrative attention of policy solutions over time include both the *Preparedness* and the *Political* policy solutions. With the *Preparedness* policy solutions (Cramér's  $V = 0.211$ ), we see a steady increase in narrative attention over the three-year period; 2005 with 7 items, 2006 with 82 items, and 2007 with 110 items. Considering the long-term planning and money-saving aspects of preparedness, it is natural to see *Preparedness* policy solution's narrative attention to grow over the three-year period. This could also be said about *Mitigation* policy solutions, but this specific relationship is not found. This could be related to the overall lack of narrative attention paid to Mitigation policy solutions.

The *Political* policy solutions have the opposite relationship when compared to the *Preparedness* policy solutions. (Cramér's  $V = 0.198$ ). They instead decrease as the year's progress with 21 items in 2005, 18 items in 2006, and 12 items in 2007. This most likely relates to the finding that the *Political* policy solutions are found in the news media, and coverage of political solutions also decreases over the three-year period. Furthermore, it shows that the

conversation moves from political ramifications of Hurricane Katrina and moves onto more substantive policy solutions.

#### 5.4. Use of Narrative Evidence with Solutions

The use of the different categories of evidence with the different policy solution types is also examined. Table 5.6 depicts the descriptive statistics for the presence of an evidence type with a policy solution type.

**Table 5.6: Presence of Evidence with Policy Solutions**

	<i>Statistics</i>	<i>Law/Legal</i>	<i>Ipsa Dictum</i>	<i>Scientific</i>	<i>Public Opinion</i>
<i>Recovery</i>	395	170	68	44	7
<i>Relief/Response</i>	166	57	29	12	2
<i>Preparedness</i>	162	68	14	26	4
<i>Mitigation</i>	35	17	13	17	1
<i>Political</i>	19	1	15	7	2

I hypothesized that the *Mitigation* policy solutions would have greater narrative attention with both *Scientific* and *Statistical* evidence than the other policy solutions. The reason for this refers once again to the nature of mitigation. FEMA defines hazard mitigation as “any sustained action taken to reduce or eliminate long-term risk to people and property from natural hazards and their effects ( FEMA 2018, 1). These actions are divided into structural mitigation (including engineering of levees, dams, etc.) and nonstructural mitigation (including installing window shutters, reducing chemicals, etc.) (Lindell 2006). These policy solutions, theoretically, would rely on scientific evidence more as the process of mitigation itself is more scientific. They promote the use of engineering, understanding land use practices, and risk analysis to prepare a community for the effects and lessen the damage of a future storm. Table 5.7 reports the findings of the Chi-Square analysis of *Scientific* evidence with the different policy solutions. I was correct in my hypothesis that *Mitigation* policy solutions would have greater narrative attention with

*Scientific* evidence as it is both significant and has the strongest association (Cramér's  $V=0.175$ ) when compared to the other policy solution types. I also hypothesize that the *Mitigation* policy solutions would use the *Statistical* evidence. These results are found in Table 5.8. Significant results are in bold.

**Table 5.7: Chi-Square Analysis of Policy Solutions and Scientific Evidence**

		<i>Not Present</i>	<i>Present</i>	<i>Total</i>
<i>Recovery</i>	Not Present	387	40	427
		90.6%	9.4%	100%
	Present	438	44	482
		90.9%	9.1%	100%
	Total	825	84	909
		90.8%	9.2%	100%
<b>X<sup>2</sup> (d.f. = 1) = 0.015, p=0.901; Cramér's V = 0.004</b>				
<i>Relief/Response</i>	Not Present	622	72	694
		89.6%	10.4%	100%
	Present	203	12	215
		94.4%	5.6%	100%
	Total	825	84	909
		90.8%	9.2%	100%
<b>X<sup>2</sup> (d.f. = 1) = 4.497, p=0.034; Cramér's V = 0.070</b>				
<i>Preparedness</i>	Not Present	652	58	710
		91.8%	8.2%	100%
	Present	173	26	199
		86.9%	13.1%	100%
	Total	825	84	909
		90.8%	9.2%	100%
<b>X<sup>2</sup> (d.f. = 1) = 4.443 , p=0.035; Cramér's V = 0.070</b>				
<i>Mitigation</i>	Not Present	782	67	849
		92.1%	7.9%	100%
	Present	43	17	60
		71.7%	28.3%	100%
	Total	825	84	909
		90.8%	9.2%	100%
<b>X<sup>2</sup> (d.f. = 1) = 27.921, p=0.000; Cramér's V = 0.175</b>				
<i>Political</i>	Not Present	781	77	858
		91%	9%	100%
	Present	44	7	51
		86.3%	13.7%	100%
	Total	825	84	909
		90.8%	9.2%	100%
<b>X<sup>2</sup> (d.f. = 1) = 1.296, p=0.255; Cramér's V = 0.038</b>				



**Table 5.8: Chi-Square Analysis of Policy Solutions and Statistical Evidence**

		<i>Not Present</i>	<i>Present</i>	<i>Total</i>
<i>Recovery</i>	Not Present	94	333	427
		22%	78%	100%
	Present	87	395	482
		18%	82%	100%
	Total	181	728	909
		19.9%	80.1%	100%
<b>X<sup>2</sup> (d.f. = 1) = 2.231, p=0.135; Cramér's V = 0.050</b>				
<i>Relief/Response</i>	Not Present	132	562	694
		19%	81%	100%
	Present	49	166	215
		22.8%	77.2%	100%
	Total	181	728	909
		19.9%	80.1%	100%
<b>X<sup>2</sup> (d.f. = 1) = 1.463, p=0.226; Cramér's V = 0.040</b>				
<i>Preparedness</i>	Not Present	144	566	710
		20.3%	79.7%	100%
	Present	37	162	199
		18.6%	81.4%	100%
	Total	181	728	909
		19.9%	80.1%	100%
<b>X<sup>2</sup> (d.f. = 1) = 0.278, p=0.598; Cramér's V = 0.017</b>				
<i>Mitigation</i>	Not Present	156	693	849
		18.4%	81.6%	100%
	Present	25	35	60
		41.7%	58.3%	100%
	Total	181	728	909
		19.9%	80.1%	100%
<b>X<sup>2</sup> (d.f. = 1) = 19.065, p=0.000; Cramér's V = 0.145</b>				
<i>Political</i>	Not Present	149	709	858
		17.4%	82.6%	100%
	Present	32	19	51
		62.7%	37.3%	100%
	Total	181	728	909
		19.9%	80.1%	100%
<b>X<sup>2</sup> (d.f. = 1) = 62.162, p=0.000; Cramér's V = 0.262</b>				

I was correct in my hypothesis that a relationship does exist between *Mitigation* policy solutions and *Statistical* evidence (Cramér's  $V = 0.145$ ). Of all the disaster phase policy solutions, *Mitigation* exhibits the greatest association with the *Statistical* evidence. However, the *Political* policy solutions (Cramér's  $V = 0.262$ ) exhibits a stronger association with the *Statistical* evidence than *Mitigation* does. Therefore, Hypothesis 19 is partially confirmed.

I further examined the *Political* policy solutions when I hypothesized that they would have greater narrative attention with *Ipsa Dictum* evidence than other policy solutions (Hypothesis 20). Table 5.9 shows the Chi-Square analysis for policy solutions with the *Ipsa Dictum* evidence. Significant results are in bold.

With *Ipsa Dictum* encompassing appeals to authority as evidence, regardless of who that authority is, it makes sense that it would have greater narrative attention and relationship with the *Political* policy solutions (Cramér's  $V = 0.116$ ). This appeal to authority can be any type, including scientific authorities (though not citing a specific study, that would be classified as *Scientific* evidence), political figures, or a celebrity. With the *Political* policy solutions not being the substantive policy solutions found in the phases of the disaster cycle, but instead focused more on the political ramifications of Hurricane Katrina, it makes sense that it would align with the evidence type that is the least substantiated.

**Table 5.9: Chi-Square Analysis of Policy Solutions and Ipso Dictum Evidence**

		<i>Not Present</i>	<i>Present</i>	<i>Total</i>
<i>Recovery</i>	Not Present	374	53	427
		87.6%	12.4%	100%
	Present	414	68	482
		85.9%	14.1%	100%
	Total	788	121	909
		86.7%	13.3%	100%
<b>X<sup>2</sup> (d.f. = 1) = 0.564, p=0.453; Cramér's V = 0.025</b>				
<i>Relief/Response</i>	Not Present	602	92	694
		86.7%	13.3%	100%
	Present	186	29	215
		86.5%	13.5%	100%
	Total	788	121	909
		86.7%	13.3%	100%
<b>X<sup>2</sup> (d.f. = 1) = 0.008, p=0.930; Cramér's V = 0.003</b>				
<i>Preparedness</i>	Not Present	603	107	710
		84.9%	15.1%	100%
	Present	185	14	199
		93%	7%	100%
	Total	788	121	909
		86.7%	13.3%	100%
<b>X<sup>2</sup> (d.f. = 1) = 8.697, p=0.003; Cramér's V = 0.098</b>				
<i>Mitigation</i>	Not Present	741	108	849
		87.3%	12.7%	100%
	Present	47	13	60
		78.3%	21.7%	100%
	Total	788	121	909
		86.7%	13.3%	100%
<b>X<sup>2</sup> (d.f. = 1) = 3.886, p=0.049; Cramér's V = 0.065</b>				
<i>Political</i>	Not Present	752	106	858
		87.6%	12.4%	100%
	Present	36	15	51
		70.6%	29.4%	100%
	Total	788	121	909
		86.7%	13.3%	100%
<b>X<sup>2</sup> (d.f. = 1) = 12.138, p=0.000; Cramér's V = 0.116</b>				

## 5.5. Conclusion

This chapter analyzed the moral of policy narratives, which the NPF defines as policy solutions, found here in narratives of news media and congressional testimony following Hurricane Katrina. I was interested in the narrative attention given to the different phases of the disaster cycle following Hurricane Katrina. I found that *Recovery* received the greatest narrative attention while *Mitigation* policy solutions received the least. Furthermore, I found support for Neal's (1997) argument that the phases of the disaster cycle are not mutually exclusive as Recovery and Relief and Response solutions had an association of occurring together in policy narratives.

Furthermore, I found support for the argument that *Mitigation* policy solutions have a stronger relationship with *Scientific* evidence while *Political* policy solutions have a stronger association with *Ipsa Dictum* evidence.

In terms of how a policy solution emerges over time, I did not find support for my hypothesis relating to the *Relief and Response* policy solutions emerging quickly and then tapering off. Instead, I found interesting results for *Preparedness* policy solutions and evidence that long-term plans of preparedness develop over the three-year period. While *Political* policy solutions begin to fade from the conversation over the three year period.

Chapter Six examines the relationship between the different agendas, news media, and Congress, and the narrative attention of the problems and policy solutions on these agendas.

## Summary of Hypotheses

**Table 5.10: Chapter 5 Summary of Hypotheses**

<b>Hypothesis</b>	<b>Research Question Addressed</b>	<b>Status</b>
<i><b>Hypothesis 1:</b> Focusing events increase news media attention</i>	RQ 2	Confirmed
<i><b>Hypothesis 2:</b> Focusing events increase congressional attention</i>	RQ 2	Confirmed
<i><b>Hypothesis 3:</b> As news agenda activity increases, following a focusing event, the greater the likelihood that congressional agenda activity will also increase</i>	RQ 2	Confirmed
<i><b>Hypothesis 4:</b> Focusing events mobilize actors and groups to engage in institutional agenda activity</i>	RQ 2	Confirmed
<i><b>Hypothesis 5:</b> There is a relationship in the narrative attention of problem statements between the news agenda and congressional agenda</i>	RQ 1	Chapter 6
<i><b>Hypothesis 6:</b> There is a relationship in the narrative attention of policy solutions between the news agenda and congressional agenda</i>	RQ 1	Chapter 6
<i><b>Hypothesis 7:</b> Governmental actors have a greater narrative attention with public opinion evidence</i>	RQ 2	Rejected
<i><b>Hypothesis 8:</b> News media have greater narrative attention with ipso dictum evidence</i>	RQ 2	Confirmed
<i><b>Hypothesis 9:</b> Statistical evidence has greatest narrative attention across all policy actor affiliations</i>	RQ 2	Confirmed
<i><b>Hypothesis 10:</b> There is a cohesive relationship between problem type and solution type, except for the mitigation policy solution</i>	RQ 3	Confirmed
<i><b>Hypothesis 11:</b> Mitigation policy solutions will lack a cohesive relationship with problems</i>	RQ 3	Confirmed
<i><b>Hypothesis 12:</b> Narrative attention to response emerges first as most prevalent narrative but quickly tapers off</i>	RQ 3	Rejected
<i><b>Hypothesis 13:</b> Narrative attention to recovery is the greatest compared to all other policy solutions</i>	RQ 3	Confirmed
<i><b>Hypothesis 14:</b> Narrative attention to mitigation is the lowest compared to all other policy solutions</i>	RQ 3	Confirmed
<i><b>Hypothesis 15:</b> Mitigation policy solutions receive higher narrative attention from non-governmental actors</i>	RQ 2 & 3	Chapter 6
<i><b>Hypothesis 16:</b> Response policy solutions receive higher narrative attention from news media</i>	RQ 2 & 3	Chapter 6
<i><b>Hypothesis 17:</b> Recovery policy solutions receive higher narrative attention from federal governmental actors</i>	RQ 2 & 3	Chapter 6
<i><b>Hypothesis 18:</b> Preparedness policy solutions receive higher narrative attention from non-federal governmental actors</i>	RQ 2 & 3	Chapter 6
<i><b>Hypothesis 19:</b> Mitigation policy solutions have a greater association with scientific and statistical evidence than other policy solutions</i>	RQ 3	Partial
<i><b>Hypothesis 20:</b> Political policy solutions have a greater association with ipso dictum evidence than other policy solutions</i>	RQ 3	Confirmed
<i><b>Hypothesis 21:</b> The relief/response and recovery policy solutions will have the greatest association with each other</i>	RQ 3	Confirmed

## CHAPTER 6 RELATIONSHIP OF NARRATIVES ACROSS AGENDAS

### 6.1. Introduction

This chapter analyzes the relationship between the news media and Congress. Of interest, is the narrative problems and solutions of one agenda (news media) are similar or dissimilar to the narrative problems and solutions of another agenda (Congress). As previously stated, there has been disagreement over the role of the media on Congress. This research asserts that a relationship between the news media agenda and Congress does exist. Also, of interest, is the narrative attention given to specific policy solutions by different actors in the hurricane policy domain.

Therefore, this chapter addresses the following research questions and hypotheses:

- ***Relationship between News & Congress Research Question:*** What is the nature of the relationship between news media and Congress? Is there a relationship between the narrative elements presented by the news media with those presented by Congress following a focusing event? If so, when does this narrative attention occur?
- ***Role of Actors in Policy Process Research Question:*** Who is presenting the narratives following a natural disaster that becomes a focusing event, specifically Hurricane Katrina? What evidence are these policy entrepreneurs using to identify problems and policy solutions? How does this emerge and change after a focusing event?
- ***Phases of Disaster Cycle Research Question:*** Following a natural disaster focusing event, what is the narrative attention given to the different phases of the disaster cycle? Who talks about which phase and how does this change over time? What problems are identified in each phase?
- Hypothesis 5: There is a relationship in the narrative attention of problem statements between the news agenda and congressional agenda.
- Hypothesis 6: There is a relationship in the narrative attention of policy solutions between the news agenda and congressional agenda.
- Hypothesis 15: Mitigation policy solutions receive higher narrative attention from non-governmental actors.

- Hypothesis 16: Response policy solutions receive higher narrative attention from news media.
- Hypothesis 17: Recovery policy solutions receive higher narrative attention from federal governmental actors.
- Hypothesis 18: Preparedness policy solutions receive higher narrative attention from non-federal governmental actors.

To properly address these research questions and hypotheses, this chapter will discuss the following:

6.1 Introduction

6.2 Analysis of the Relationship Between Actors and Solutions

6.3 Analysis of the Relationship Between Solutions and Problems Across Agendas

6.4 Conclusion

## **6.2. Relationship Between Actors and Solutions**

As previously identified in Chapter Three, the largest group of actors to testify before Congress following Hurricane Katrina comes from the Federal Government (262 people testifying). The second largest group to testify are members from Interest Groups and Non-profits (170 people testifying). The news editorials also make out the top three groups with 176 articles. Recovery policy solutions make up the most abundant type of solutions discussed by all actor types (N=462) with Relief and Response making up the second group (N=218). The frequency of policy solutions by actor type can be found in Table 6.1.

**Table 6.1: Frequency of Policy Solutions by Actor Affiliation**

	<i>News Editorials</i>	<i>Federal</i>	<i>State</i>	<i>Local</i>	<i>IG's/Non-profits</i>	<i>Business/Industry</i>	<i>Academia</i>	<i>Unaffiliated Persons</i>	<i>Total</i>
<i>Recovery</i>	66	160	38	37	96	56	22	7	482
<i>Relief and Response</i>	44	59	15	29	33	21	4	10	215
<i>Preparedness</i>	13	54	19	24	47	27	15	0	199
<i>Mitigation</i>	13	16	7	5	8	2	8	1	60
<i>Political</i>	51	0	0	0	0	0	0	0	51

Given the descriptive statistics of the actor types and narrative attention of the policy solutions, it is not surprising to see the distribution of policy solution type by actor type in Table 6.1 rely heavily on *Federal Government* and *Interest Groups and Non-profits* discussing *Recovery* and *Relief and Response*. To gain a more detailed sense of what occurred, Pairwise Comparison of Means with equal variances was used to analyze the relationship between actors and policy solutions.

Table 6.2 reports the initial analysis for the *Preparedness* policy solution. In Table 6.1 we can interpret the Mean column in terms of the percent of *Preparedness* policy solution. For example, 40.5 % of the *Academia* group was coded with having a *Preparedness* policy solution present in their narrative. *Local Government* followed second with 32%, and *Civilians* reported in at the lowest with 0% discussing *Preparedness* policy solutions.

**Table 6.2: Preparedness Pairwise Comparison of Means with equal variances**

<b>Preparedness</b>		
<b>Affiliation</b>	<b>Mean</b>	<b>Std. Error of Mean</b>
<b>News editorials</b>	0.073	0.019
<b>Federal Government</b>	0.206	0.025
<b>State Government</b>	0.279	0.054
<b>Local Government</b>	0.324	0.054
<b>Interest groups/Non-profits</b>	0.276	0.034
<b>Business/Industry</b>	0.259	0.043
<b>Academia</b>	0.405	0.081
<b>Civilians</b>	0	0.000
<b>Total</b>	0.218	0.013



Multiple group comparison was performed to gain an even deeper understanding of the relationship between different actors and the *Preparedness* policy solution. The significant findings for the *Preparedness* multiple group comparison are found in Table 6.3. The entire table (with non-significant findings for all group comparisons) can be found in Appendix C. The category of interest in Table 6.3, is the Mean Difference category, in which the means of the different affiliations are compared to determine which group of actors give greater narrative attention to the *Preparedness* policy solution.

**Table 6.3: Preparedness Pairwise Comparison of Means, Multiple Group Comparisons.**

(I) Affiliation	(J) Affiliation	Mean Difference (I-J)	Std. Error <sup>b</sup>
<b>Federal Government</b>	News editorials	.132***	0.039
<b>Federal Government</b>	Civilians	.206**	0.099
<b>State Government</b>	News editorials	.206***	0.058
<b>State Government</b>	Civilians	.279**	0.107
<b>Local Government</b>	News editorials	.250***	0.056
<b>Local Government</b>	Civilians	.324**	0.106
<b>Interest groups/Non-profits</b>	News editorials	.203***	0.044
<b>Interest groups/Non-profits</b>	Civilians	.276**	0.1
<b>Business/Industry</b>	News editorials	.186***	0.05
<b>Business/Industry</b>	Civilians	.260**	0.103
<b>Academia</b>	News editorials	.332***	0.073
<b>Academia</b>	Federal Government	.199**	0.071
<b>Academia</b>	Civilians	.405***	0.116
Based on estimated marginal means			
* The mean difference is significant at the p<0.10;			
** The mean difference is significant at the p<0.05;			
*** The mean difference is significant at the p<0.01			
<sup>b</sup> Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).			

I hypothesized that *Preparedness* policy solutions would receive higher narrative attention from non-federal government actors (Hypothesis 18). We see this is confirmed by *Local Government* reporting *Preparedness* policy solutions 32% of the time and *State*

*Government* reporting *Preparedness* policy solutions 27% of the time. This is compared to the *Federal Government*'s 20% reporting *Preparedness* policy solutions (Table 6.1) Furthermore, also interesting is *Academia*'s group compared to the *Federal Government* in which is discusses *Preparedness* policy solutions 19.9% more often (Table 6.2). Following a disaster, such as Hurricane Katrina, we expect to see the emphasis on relief and response and recovery issues, which is what is reported in terms of frequency. Preparedness requires long-term planning and financing for a future, unknown storm, which is hard to get traction for when financing is required to meet the demands of the current storm. Therefore, issues of preparedness are usually relegated to the State and Local governments. We see this occurring here; post-Hurricane Katrina and my Hypothesis 18 is confirmed.

In terms of *Relief and Response* policy solutions, I hypothesized that they would receive higher narrative attention from the news media. Table 6.4 displays the findings for the Pairwise Comparison of Means between actors relating to *Relief and Response*.

**Table 6.4: Relief/Response Pairwise Comparison of Means with equal variances**

<b>Relief/Response</b>		
<b>Affiliation</b>	<b>Mean</b>	<b>Std. Error of Mean</b>
<b>News editorials</b>	0.250	0.032
<b>Federal Government</b>	0.225	0.025
<b>State Government</b>	0.220	0.050
<b>Local Government</b>	0.391	0.057
<b>Interest groups/Non-profits</b>	0.194	0.030
<b>Business/Industry</b>	0.201	0.039
<b>Academia</b>	0.108	0.051
<b>Civilians</b>	0.555	0.120
<b>Total</b>	0.236	0.014

As seen in Table 6.4, the News media actually comes in third with 25% of the articles referencing a *Relief and Response* policy solutions. The largest groups are *Civilians* at 55% and

*Local Government* at 39%. Table 6.5 provides the analysis of the group comparison for the *Relief and Response* policy solutions. There we see that *Local Government* and *Civilians* dominate the conversation of *Relief and Response* discussing it more often than any other actor group. And when compared to the news media, *Local Government* discusses *Relief and Response* 14% more often than the news media and *Civilians* discuss *Relief and Response* 30% more often than the news.

Considering the purpose of Congressional testimony, I am not surprised to see that *Civilians* and *Local Government* have higher narrative attention to *Relief and Response* policy issues than other actor groups. *Civilians* and members from local government are testifying about the hurricane they just recently experienced and how they would want relief and response by the government to be improved. However, since the news media are only the third largest group to discuss *Relief and Response*, my Hypothesis 16 is rejected.

**Table 6.5: Relief/Response Pairwise Comparison of Means, Multiple Group Comparisons.**

(I) Affiliation	(J) Affiliation	Mean Difference (I-J)	Std. Error <sup>b</sup>
Local Government	News editorials	.142*8	0.058
Local Government	Federal Government	.167**	0.055
Local Government	State Government	.171**	0.071
Local Government	Interest groups/Non-profits	.198***	0.059
Local Government	Business/Industry	.190**	0.064
Local Government	Academia	.284***	0.085
Civilians	News editorials	.306**	0.104
Civilians	Federal Government	.330***	0.102
Civilians	State Government	.335**	0.111
Civilians	Interest groups/Non-profits	.361***	0.104
Civilians	Business/Industry	.354***	0.107
Civilians	Academia	.447***	0.121
Based on estimated marginal means			
* The mean difference is significant at the p<0.10;			
** The mean difference is significant at the p<0.05;			
*** The mean difference is significant at the p<0.01			
<sup>b</sup> Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).			

Table 6.6 displays the analysis for the *Recovery* Pairwise Comparison of Means and

Table 6.7 displays the Group Comparisons.

**Table 6.6: Recovery Pairwise Comparison of Means with equal variances**

Recovery	Mean	Std. Error of Mean
News editorials	0.375	0.036
Federal Government	0.610	0.030
State Government	0.558	0.060
Local Government	0.500	0.058
Interest groups/Non-profits	0.564	0.038
Business/Industry	0.538	0.049
Academia	0.594	0.081
Civilians	0.388	0.118
Total	0.530	0.016

**Table 6.7: Recovery Pairwise Comparison of Means, Multiple Group Comparisons.**

(I) Affiliation	(J) Affiliation	Mean Difference (I-J)	Std. Error <sup>b</sup>
<b>Federal Government</b>	News editorials	.236***	0.048
<b>State Government</b>	News editorials	.184**	0.07
<b>Interest groups/Non-profits</b>	News editorials	.190***	0.053
<b>Business/Industry</b>	News editorials	.163**	0.061
<b>Academia</b>	News editorials	.220**	0.089
Based on estimated marginal means			
* The mean difference is significant at the p<0.10; ** The mean difference is significant at the p<0.05; *** The mean difference is significant at the p<0.01			
b Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).			

For *Recovery* policy solutions, I hypothesized that they would receive higher narrative attention with members of the *Federal Government*. In Table 6.6, it shows that this is true with the *Federal Government* being the largest group to discuss *Recovery* policy solutions (61%). Therefore, my Hypothesis 17 is confirmed.

The second largest group are members of *Academia* (59%) followed by members of the *State Government* (55%). Since *Recovery* is the largest policy solution with the greatest narrative attention, it is not surprising to see all the groups above 30%. The only significant findings for the group comparisons (Table 6.7) relate to all actor types, except for *Civilians* and *Local Government*, discussing *Recovery* more than the news media.

The last policy solution to analyze is the *Mitigation* policy solution. Table 6.8 reports the results of the Pairwise Comparison of Means while Table 6.8 reports the Group Comparisons. *Mitigation* is the disaster phase policy solution type to receive the least amount of attention. And previous work by Birkland (1997) depicts how following a hurricane, mitigation receives the least amount of attention. Building on this, I hypothesized that *Mitigation* would receive higher narrative attention from non-governmental actors. Like preparedness, mitigation efforts are

critical to lessen the effects of a future storm. However, following a disaster, the emphasis is placed on the effects of the most recent storm. The response being, a lack of proactive action to prevent future damage and a missed opportunity to learn from a disaster.

**Table 6.8: Recovery Pairwise Comparison of Means with equal variances**

<b>Mitigation</b>		
<b>Affiliation</b>	<b>Mean</b>	<b>Std. Error of Mean</b>
<b>News editorials</b>	0.073	0.019
<b>Federal Government</b>	0.061	0.014
<b>State Government</b>	0.102	0.037
<b>Local Government</b>	0.067	0.029
<b>Interest groups/Non-profits</b>	0.047	0.016
<b>Business/Industry</b>	0.019	0.013
<b>Academia</b>	0.216	0.068
<b>Civilians</b>	0.055	0.055
<b>Total</b>	0.066	0.008

Table 6.8 reports that of all the groups, *Academia* is the most likely to discuss *Mitigation* policy solutions at 21%. Of narratives presented by members of both the *Federal Government* and *Local Government*, only 6% included *Mitigation* policy solutions, while *State Government* narratives were at 10%.

**Table 6.9: Mitigation Pairwise Comparison of Means, Multiple Group Comparisons.**

(I) Affiliation	(J) Affiliation	Mean Difference (I-J)	Std. Error <sup>b</sup>
State Government	Business/Industry	.084**	0.038
Academia	News editorials	.142***	0.045
Academia	Federal Government	.155***	0.043
Academia	State Government	.113**	0.05
Academia	Local Government	.149**	0.05
Academia	Interest groups/Non-profits	.169***	0.045
Academia	Business/Industry	.197***	0.047
Academia	Civilians	.161**	0.071
Based on estimated marginal means			
* The mean difference is significant at the p<0.10;			
** The mean difference is significant at the p<0.05;			
*** The mean difference is significant at the p<0.01			
<sup>b</sup> Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).			

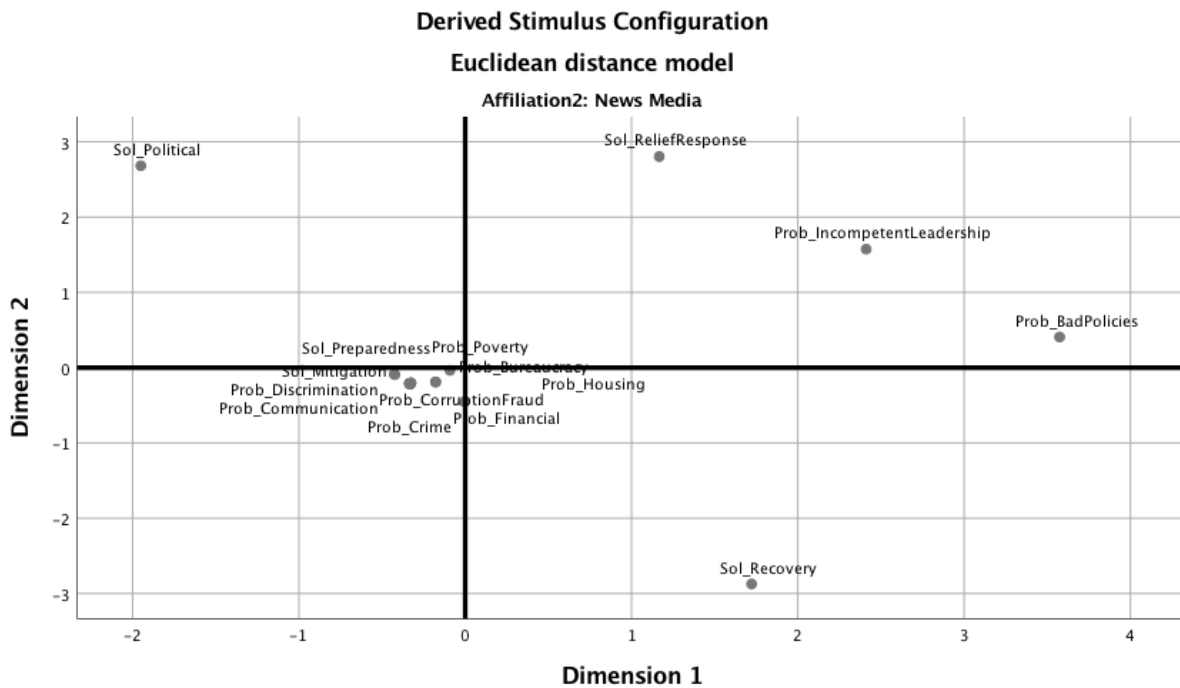
Table 6.9 reports that *Academia* was 15.5% more likely to present *Mitigation* policy solutions than the *Federal Government*, 14.9% more likely than the *Local Government* and 11.3% more likely than the *State Government*. The implications of this once again speak to the long-term planning and financial resources necessary for mitigation. Unfortunately, opportunities for mitigation really only arise following a disaster. And as we see with this data, members of the government on all levels are not focusing their efforts on mitigating the effects of future disasters, but instead on the current need caused by the most recent disaster. This leads to a bad cycle of repeating past failures of disasters by not having the proper plans in place. This research confirms the results of Birkland’s (1997) study and my Hypothesis 15 is also confirmed.

### **6.3. Relationship Between Solutions and Problems Across Agendas**

Next, I am interested in seeing if there is a relationship between the news agenda and Congressional agenda in terms of narrative attention given to problems and policy solutions. To address this, I am, once again, using Multidimensional Scaling. Figure 6.1 reports the MDS map

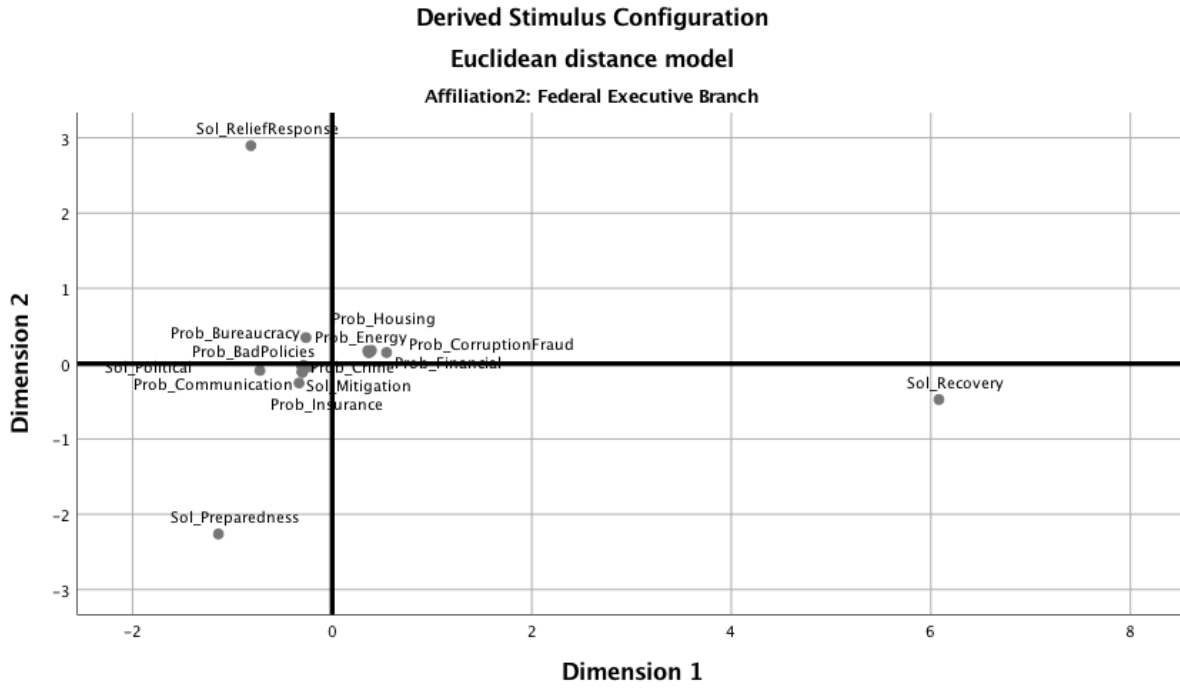
for the news media agenda, while Figure 6.2 reports the MDS map for the Federal Executive Branch agenda and Figure 6.3 reports the MDS map for the Members of the U.S. House and Senate. I hypothesize that a relationship exists between the news agenda and the Congressional Agenda for both problems and policy solutions.

Looking at problems, Figure 6.1 shows that the News Agenda gives greater narrative attention to *Incompetent Leadership* and *Bad Policies*. The Federal Executive Branch does not place the same emphasis on these problems, and the Federal Legislative Branch does emphasize the problem of *Bad Policies*, but not the extent the news media does.

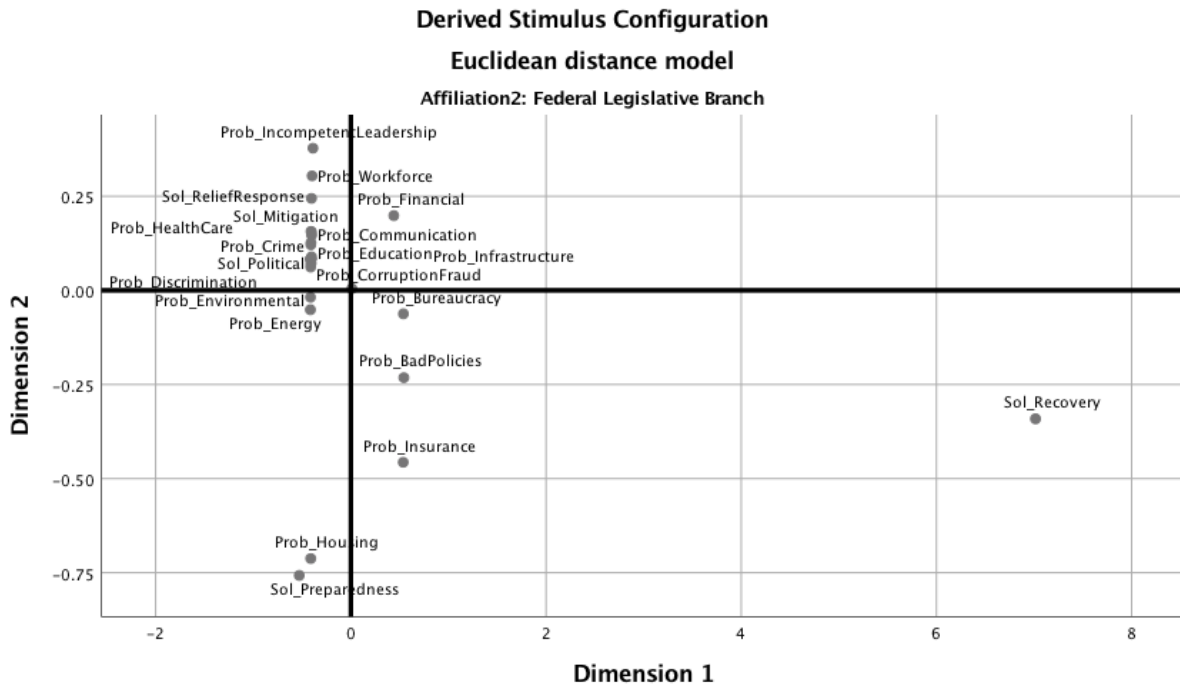


**Figure 6.1: Solutions and Problems on News Agenda Multi-Dimensional Scale**





**Figure 6.2: Solutions and Problems on Federal Executive Agenda Multi-Dimensional Scale**



**Figure 6.3: Solutions and Problems in the Federal U.S. House and Senate Agenda Multi-Dimensional Scale**

For all the models, Stress was quite low, and R-square was quite high for all of these plots, which is what you want in a good model.

**Table 6.10: Affiliation Type MDS Stress and R<sup>2</sup> Measures**

Affiliation Type	Stress Measure	R <sup>2</sup> Measure
News Media:	.077	.990
Federal Executive Branch:	.112	.983
Federal Legislative Branch:	.072	.993

The problems discussed by the news media and the executive branch are both very consolidated, while the problems discussed by the legislative branch are more dispersed and wide-ranging. I believe that is occurring because members of the legislative branch are representing a wide range of constituents with various issues and concerns whereas members of the Executive branch are discussing issues relating to their specific policy arena. Based on these findings, I cannot confirm my Hypothesis 5 stating that there is a relationship between the narrative attention of the problem statements between the news media agenda and the Congressional agenda.

Looking at the narrative attention of policy solutions across the agendas, Figure 6.1 shows that policy solutions *Relief and Response* and *Recovery* both receive greater narrative attention from the news media. There is a similar display of attention given to *Relief and Response* and *Recovery* policy solutions by both the Federal Executive Branch and the Members of the U.S House and Senate. However, where the Federal Executive Branch and the Members of the U.S House and Senate give similar narrative attention to *Preparedness* policy solutions, the news media does not. Furthermore, *Political* policy solutions receive high narrative attention from the news media, but not from the Federal Executive Branch and the Members of the U.S House and Senate. Finally, all three are similar in the lack of narrative attention given to *Mitigation* policy solutions. Due to these mixed results, I can say that Hypothesis 6, stating that

there is a relationship in the narrative attention of policy solutions between the news agenda and congressional agenda, is only partially confirmed.

#### **6.4. Conclusion**

This chapter was interested in the narrative attention given to specific policy solutions by different actors in the hurricane policy domain and how this narrative attention compared across agendas. I found support for my argument that *Mitigation* is more likely to be discussed by non-governmental actors (specifically Academia). I also found support for *Recovery* policy solutions being used more by the federal government while *Preparedness* policy solutions are discussed more by non-federal government members. Furthermore, analysis of *Response* policy solutions showed greater narrative attention by local government and civilians, instead of news media.

This chapter also analyzed data to determine if the narrative attention given to problems and policy solutions on one agenda (news media) was similar to that of another agenda (Congress). I found mixed results supporting this. In terms of problems, there was a lack of similarity between the agendas. However, more similarity exists across agendas when discussing policy solutions. This adds to the debate of the role of the media on Congress. However, it provides yet another example that the relationship between the news media and Congress is both complicated and complex, and further analysis with additional data are needed to better understand this role.

## Summary of Hypotheses

**Table 6.11: Chapter 6 Summary of Hypotheses**

<b>Hypothesis</b>	<b>Research Question Addressed</b>	<b>Status</b>
<i><b>Hypothesis 1:</b> Focusing events increase news media attention</i>	<i>RQ 2</i>	<i>Confirmed</i>
<i><b>Hypothesis 2:</b> Focusing events increase congressional attention</i>	<i>RQ 2</i>	<i>Confirmed</i>
<i><b>Hypothesis 3:</b> As news agenda activity increases, following a focusing event, the greater the likelihood that congressional agenda activity will also increase</i>	<i>RQ 2</i>	<i>Confirmed</i>
<i><b>Hypothesis 4:</b> Focusing events mobilize actors and groups to engage in institutional agenda activity</i>	<i>RQ 2</i>	<i>Confirmed</i>
<i><b>Hypothesis 5:</b> There is a relationship in the narrative attention of problem statements between the news agenda and congressional agenda</i>	<i>RQ 1</i>	<i>Rejected</i>
<i><b>Hypothesis 6:</b> There is a relationship in the narrative attention of policy solutions between the news agenda and congressional agenda</i>	<i>RQ 1</i>	<i>Partial</i>
<i><b>Hypothesis 7:</b> Governmental actors have a greater narrative attention with public opinion evidence</i>	<i>RQ 2</i>	<i>Rejected</i>
<i><b>Hypothesis 8:</b> News media have greater narrative attention with ipso dictum evidence</i>	<i>RQ 2</i>	<i>Confirmed</i>
<i><b>Hypothesis 9:</b> Statistical evidence has greatest narrative attention across all policy actor affiliations</i>	<i>RQ 2</i>	<i>Confirmed</i>
<i><b>Hypothesis 10:</b> There is a cohesive relationship between problem type and solution type, except for the mitigation policy solution</i>	<i>RQ 3</i>	<i>Confirmed</i>
<i><b>Hypothesis 11:</b> Mitigation policy solutions will lack a cohesive relationship with problems</i>	<i>RQ 3</i>	<i>Confirmed</i>
<i><b>Hypothesis 12:</b> Narrative attention to response emerges first as most prevalent narrative but quickly tapers off</i>	<i>RQ 3</i>	<i>Rejected</i>
<i><b>Hypothesis 13:</b> Narrative attention to recovery is the greatest compared to all other policy solutions</i>	<i>RQ 3</i>	<i>Confirmed</i>
<i><b>Hypothesis 14:</b> Narrative attention to mitigation is the lowest compared to all other policy solutions</i>	<i>RQ 3</i>	<i>Confirmed</i>
<i><b>Hypothesis 15:</b> Mitigation policy solutions receive higher narrative attention from non-governmental actors</i>	<i>RQ 2 &amp; 3</i>	<i>Confirmed</i>
<i><b>Hypothesis 16:</b> Response policy solutions receive higher narrative attention from news media</i>	<i>RQ 2 &amp; 3</i>	<i>Rejected</i>
<i><b>Hypothesis 17:</b> Recovery policy solutions receive higher narrative attention from federal governmental actors</i>	<i>RQ 2 &amp; 3</i>	<i>Confirmed</i>
<i><b>Hypothesis 18:</b> Preparedness policy solutions receive higher narrative attention from non-federal governmental actors</i>	<i>RQ 2 &amp; 3</i>	<i>Confirmed</i>
<i><b>Hypothesis 19:</b> Mitigation policy solutions have a greater association with scientific and statistical evidence than other policy solutions</i>	<i>RQ 3</i>	<i>Partial</i>
<i><b>Hypothesis 20:</b> Political policy solutions have a greater association with ipso dictum evidence than other policy solutions</i>	<i>RQ 3</i>	<i>Confirmed</i>
<i><b>Hypothesis 21:</b> The relief/response and recovery policy solutions will have the greatest association with each other</i>	<i>RQ 3</i>	<i>Confirmed</i>

## CHAPTER 7 CONCLUSION

### 7.1. Introduction

This dissertation examined the role of narrative in the policy process, specifically agenda setting, following a disaster. The goal was to understand the influences of narrative in the policy process better, how these narratives differ across institutional agendas, and how narratives are shaped following a natural disaster.

To address this goal, the following research questions were examined.

- ***Relationship between News & Congress:*** What is the nature of the relationship between news media and Congress? Is there a relationship between the narrative elements presented by the news media with those presented by Congress following a focusing event? If so, when does this narrative attention occur?
- ***Role of Actors in Policy Process:*** Who is presenting the narratives following a natural disaster that becomes a focusing event, specifically Hurricane Katrina? What evidence are these policy entrepreneurs using to identify problems and policy solutions? How does this emerge and change after a focusing event?
- ***Phases of Disaster Cycle:*** Following a natural disaster focusing event, what is the narrative attention given to the different phases of the disaster cycle? Who talks about which phase and how does this change over time? What problems are identified in each phase?

This chapter details the overall findings from the study considers both the contributions and the limitations of the research and outlines the possible avenues for future research.

Therefore, this chapter will address the following:

#### 7.1 Introduction

#### 7.2 Discussion of Overall Findings

- Role of Actors in the Policy Process and Problem Definition
- Phases of the Disaster Cycle and Solution Identification
- Relationship between the Narratives of the News Media and Congress

- The Application of the Narrative Policy Framework to the Multiple Streams Approach

7.3 Contributions to the Research

7.4 Limitations of the Study

7.5 Directions for Future Research

## **7.2. Discussion of Overall Findings**

This dissertation examined the narrative attention of evidence used, problems identified, and solutions proposed by actors in the policy process following the Hurricane Katrina focusing event. To capture the narratives following a focusing event, the news media and Congressional witness testimony were analyzed. This study also attempted to fill a theoretical gap in the literature by empirically applying the Narrative Policy Framework (NPF) to the Multiple Streams approach (MSA).

### **7.2.1. Role of Actors in the Policy Process and Problem Definition**

Chapter Three provided empirical findings relating to the actors in the policy process. First, this research found further support for Birkland's (1997) study in that focusing events increase both media attention and Congressional attention and as news agenda attention increases following a focusing event, so is the likelihood that Congressional agenda activity will also increase. I found that following Hurricane Katrina, news attention dramatically increased and dramatically dropped off consistent with the news attention cycle (Downs 1972). Furthermore, Congressional agenda attention was slower to increase, but it did so at a deliberate, expected pace.

Next, I found support for the hypotheses that focusing events mobilize actors and groups to institutional agenda activity. A famous saying is that "decisions are made by those who show

up.” Following a natural disaster focusing event like Hurricane Katrina, it is important to identify the actors in the process that are showing up and shaping the narrative. We saw most of these actors coming from within the government. Specifically, the federal government, but also interest groups, industry groups, academia, and civilians were represented and discussed many different topics.

In regard to the use of evidence by actors in the policy process, I was surprised to find that a lack of public opinion evidence to be used by members of the government. However, I did find support for my hypotheses regarding the use of statistical evidence and *ipso dictum* evidence. Confirmed were my hypotheses that statistical evidence would be used the most across all actor affiliations and the news media would use *ipso dictum* evidence more than other affiliations. Not surprising was the finding that governmental actors rely on law and legal evidence as precedent. What is surprising is the overwhelming use of statistics, in place of other evidence, to make an argument.

In Chapter Four, I analyzed the narrative attention of problem statements and how the attention to problem shifted over time. It also provided analysis on the association between which actors were discussing specific problems and the relationship between problems and solutions. This identification of problems is important because a problem definition competes with other problem definitions, and strongly signal pre-existing preferences for policy solutions. (Hilgartner and Bosk 1988; Birkland and Lawrence 2009). This was tested to see which problems align with specific solutions. I was particularly interested in the mitigation policy solution and its relationship with problems. I found that a lack of cohesive relationship between the mitigation policy solution and problems identified. This lack of cohesion among the problems associated with mitigation policy solutions further demonstrates both the complexity of mitigation and the lack of emphasis given to it by actors in the policy process. The result of this, and

the fact that the mitigation policy solutions receive the least amount of narrative attention is that policy change focusing on mitigation efforts are not in place to be adopted. This lack of emphasis on mitigation leads us to be vulnerable to future hazards.

Other interesting findings from Chapter Four included the nature of the problems most often discussed. Discussion in the hurricane policy domain is more often about getting aid to individuals who need it. We see this with the majority problems identified being about bad policies, bureaucracy and financial. This supports Birkland's (1997) study that found the hurricane policy domain placing an emphasis on relief. All three issues dealt with the distributive aspect of government after a disaster. Finally, in examining the relationship between actors and problems, I found support for the news media serving in their role as "watchdog" over the government by highlighting problems relating to government failure.

### **7.2.2. Phases of the Disaster Cycle and Solution Identification**

Chapter Five provided analysis relating to the moral of the story, policy solutions, found in narratives of news media and Congressional testimony following Hurricane Katrina. Of all the phases of the disaster cycle, I found that the *Recovery* policy solutions received the greatest narrative attention while mitigation policy solutions received the least. Furthermore, I found support for Neal's (1997) argument that the phases of the disaster cycle are not mutually exclusive as recovery and relief and response solutions had an association of co-occurring together in policy narratives. I also found support for the argument that *Mitigation* policy solutions have a stronger relationship with *Scientific* evidence while *Political* policy solutions have a stronger association with *Ipsa Dictum* evidence.

In terms of how a policy solution emerges over time, I did not find support for my hypothesis relating to the *Relief and Response* policy solutions emerging quickly and then



tapering off. Instead, I found interesting results for *Preparedness* policy solutions and evidence that long-term plans of preparedness develop over the three-year period. While *Political* policy solutions begin to fade from the conversation over the three year period.

### **7.2.3. Relationship Between the Narratives of the News Media and Congress**

Chapter Six analyzed the narrative attention given to specific policy solutions by different actors in the hurricane policy domain. I found support for my argument that *Mitigation* is more likely to be discussed by non-governmental actors (specifically Academia). I also found support for *Recovery* policy solutions being used more by the federal government while *Preparedness* policy solutions are discussed more by non-federal government members. Furthermore, analysis of *Response* policy issues showed greater narrative attention by local government and civilians, instead of news media.

I further analyzed data to determine if the narrative attention given to problems and policy solutions on one agenda (news media) was similar to that of another agenda (Congress). I found mixed results supporting this. In terms of problems, the agendas were different while the agendas are more similar when discussing policy solutions. This adds to the debate of the role of the media with Congress. However, it provides yet another example that the relationship between the news media and Congress is both complicated and complex, and further analysis with additional data are needed to understand this relationship better.

### **7.2.4. Narrative Policy Framework and Multiple Streams Approach**

This research applied the NPF to elements of the MSA. Herweg et al. (2017) outlined the key hypotheses for the MSA. Table 7.1 details those hypotheses below.

**Table 7.1: MSA Hypotheses on Agenda Setting**

<b>HYPOTHESIS FOR THE FRAMEWORK AS A WHOLE</b>	
Agenda change becomes more likely if (a) a policy window opens, (b) the streams are ready for coupling, and (c) a policy entrepreneur promotes the agenda change.	
<b>HYPOTHESES FOR THE FRAMEWORK'S KEY ELEMENTS</b>	
<b>Problem stream</b>	<ul style="list-style-type: none"> <li>• A problem broker is likely to be more successful framing a condition as a problem the more an indicator changes to the negative, the more harmful a focusing event is, and the more definitely a government program does not work as expected.</li> </ul>
<b>Political stream</b>	<ul style="list-style-type: none"> <li>• Policy proposals that fit the general ideology of a government or the majority in a legislature have a better chance of gaining agenda status.</li> </ul>
<b>Policy stream</b>	<ul style="list-style-type: none"> <li>• If a policy proposal does not fulfill the selection criteria, the likelihood of gaining agenda status, and thus being coupled, decreases significantly.</li> <li>• As the integration of policy communities decreases, it become more likely that entirely new ideas can become viable policy alternatives.</li> </ul>
<b>Policy window</b>	<ul style="list-style-type: none"> <li>• The policy window opens in the problem stream as a result of at least one of the following changes: change of indicators, focusing events, or feedback.</li> <li>• The more a condition puts a policymaker's reelection at risk, the more likely it is to open a policy window in the problem stream.</li> <li>• The policy window open in the political stream as a result of at least one of the following changes: changes in legislature, election of a new government, interest group campaigns, or a change in the national mood.</li> </ul>
<b>Policy entrepreneur</b>	<ul style="list-style-type: none"> <li>• Policy entrepreneurs are more likely to couple the streams successfully during an open policy window is (a) they have more access to core policymakers and (b) they are more persistent.</li> </ul>

From Herweg et al. (2017, 30)

This research meets the requirements for the first hypotheses, the hypotheses for the framework as a whole. The agenda change occurred because a policy window was opened by the focusing event, Hurricane Katrina, in the problem stream. Zahariadis calls a window opening in the problem stream “consequential coupling” (2003, 72). This type of window is shorter in nature than a policy window opening in the political stream because the focusing event requires a solution in a time sensitive manner. Furthermore, a consequential coupling requires that a solution needs to be found to fit the problem defined.

The second requirement of the MSA hypotheses for the framework as a whole is that the streams are ready for coupling. Focusing events, such as Hurricane Katrina, make the problem stream ready for coupling and increase the probability of agenda change. “The policy stream can be defined as ready for coupling when at least one viable policy alternative exists that meets the requirements of survival” (Herweg et al. 2107, 24). Kingdon defined “criteria for survival” as satisfying the criteria of technical feasibility, value acceptability, and anticipation of future constraints (containing financial viability, and public acquiescence). The policy solutions, bounded by the phases of the disaster cycle, in this study satisfy this requirement. Finally, the political stream is made up of the national mood, interest group campaigns, and governments and legislatures. However, all three of these criteria do not need to be in alignment for the political stream to be ready for coupling. This study did not include data on party control and turnover during the time of Hurricane Katrina. However, it did include data that can infer the national mood. Kingdon says that he finds it hard to give precise answers on where the national mood resides or how members of the government sense it. He does state that members of the government get a sense of it from things like news editorials and members of interest groups. Table 7.2 reflects that the news editorials and members of the interest groups combined made up 38.1% of the actors providing narratives of Hurricane Katrina and what should be done (Kingdon 2003).

**Table 7.2: Actor Affiliation - First Level**

	<i>Frequency</i>	<i>Percent</i>
<i>Federal Government</i>	262	28.8
<i>News editorials</i>	176	19.4
<i>Interest groups/Non-profits</i>	170	18.7
<i>Business/Industry</i>	104	11.4
<i>Local Government</i>	74	8.1
<i>State Government</i>	68	7.5
<i>Academia</i>	37	4.1
<i>Unaffiliated Persons</i>	18	2.0
<i>Total</i>	909	100.0

Furthermore, in Table 7.2 we see members of the federal government make up 28.8% of all actors examined. These findings suggest that members of the governments and legislatures in the political stream wanted something to be done. Furthermore, when the narratives present are dominated by powerful and numerous interest groups agenda change is less likely (Herweg et al. 2017). Since these data show that interest groups are present, but not dominating in terms of the number of actors, there is a significant presence of government officials presenting solutions, and the significant presence of the news media as a representation of the national mood all suggests that the political stream was ready for coupling.

The final criterion of the MSA as a whole hypothesis is that a policy entrepreneur promotes the agenda change. As detailed in Table 7.3, many actors in the hurricane policy domain are presenting their definitions of problems and identifying their preferred policy solutions. Furthermore, 44.4% of these actors come from the government, at the federal, state and local level. This suggests that many policy entrepreneurs were present to promote agenda change.

**Table 7.3: Actor Affiliation – Second Level**

	<i>Frequency</i>	<i>Percent</i>
<i>Federal Executive Branch</i>	205	22.6
<i>News Media</i>	176	19.4
<i>Housing</i>	71	7.8
<i>State Executive Branch</i>	58	6.4
<i>Federal Legislative Branch</i>	57	6.3
<i>Local Executive Branch</i>	57	6.3
<i>Health Care</i>	38	4.2
<i>Other</i>	35	3.9
<i>Insurance</i>	34	3.7
<i>Emergency Management</i>	32	3.5
<i>Business Development</i>	29	3.2
<i>Energy</i>	28	3.1
<i>Preservation/Nature</i>	25	2.8
<i>Banking/Finance</i>	22	2.4
<i>Government Accountability</i>	18	2.0
<i>Charities</i>	12	1.3
<i>Education</i>	12	1.3
<i>Total</i>	909	100.0

Therefore, based on these findings and discussion, I argue that this research has met the requirement of the hypothesis for the framework as a whole for the MSA. To understand how these streams coupled, and the role of the actors in the process, I applied the NPF and examined the attention to narrative elements following a focusing event.

I argued in Chapter One that the MSA and NPF were compatible with each other and by applying the NPF to the MSA they could add to each other, providing deeper insights into both theories. In terms of what the NPF brings to the MSA, I have demonstrated with this study that the NPF provides a way to test the MSA hypothesis for the framework as a whole, considering the narrative elements and actors present after a focusing event and how the three streams couple for agenda change to occur. Furthermore, the ambiguity present in the problem definition can be studied by considering the narratives used by policy actors to construct problem statements and the policy reality. Finally, the agenda-setting aspects of MSA and competition for the policy agenda can be tested using the NPF to see which problems and solutions receive the most attention.

In terms of what the MSA adds to the NPF, I have provided a study that situates the NPF with a policy theory that it is not usually applied with. Previous NPF studies most commonly use the Advocacy Coalition Framework or Punctuated Equilibrium theory in its application (McBeth et al. 2014). This study provides a different lens to understanding the NPF. Furthermore, instead of considering the narratives used by advocacy coalitions in the policy process, this study considers the narratives of different actor types within the policy process. Finally, by including the agenda setting aspects of the MSA to the NPF, this study is interested in the narrative attention of the multiple narrative elements. This provides a different way to conceptualize the policy outcome, instead of modeling for policy change, policy learning or narrative strategies used by coalitions.

### **7.3. Contributions of the Research**

The first contribution of this research was the application of the NPF to elements of the MSA. As previously stated, the NPF is most often applied to the Advocacy Coalition Framework, with other applications to Punctuated Equilibrium and Cultural Theory. This is the first attempt of application of the NPF to the MSA, and I believe it provides a different perspective of the agenda change properties of the MSA by considering the role of narratives in the policy process. And it adds to the NPF by examining the agenda-setting attention given to specific narrative elements by different actors within the policy process following a focusing event.

The second contribution of this research is further testing and confirmation of Birkland's (1997) agenda setting hypotheses in a different setting. Furthermore, this research provides analysis of narrative elements such as evidence, problems and moral of the story (solutions) in

the disaster policy context. This examination of evidence used provided further testing and support for Smith-Walter's (2016) study.

The final contribution of this research is the analysis of the relationship between media and Congress. Unfortunately, it does not provide a declarative conclusion on this relationship. Instead, it illuminates how complicated this relationship is and that more research is needed in this area.

#### **7.4. Limitations of the Study**

The first limitation of this study is that it is only looking at the hurricane policy domain, in the context of Hurricane Katrina from 2005-2007. Further research is needed to identify if the findings found here can be generalized to other policy domains following a focusing event.

The next limitation is that the data on the relationship between the media and Congress did not fully capture the nature of the relationship that exists. Further research and methods are needed to provide insight into whether the media serves as a mediator or moderator variable on Congress. Furthermore, this study did not include data on party control and turnover. The reason for this is because it was only interested in the three-year time period following Hurricane Katrina. Therefore, not enough data were present to shine a light on the role of party control and turnover as a control variable.

Further limitations included that this study did not consider the role of characters within the policy narrative or narrative strategies used. While data were collected on these narrative elements, it proved to be too large in scope for this study. Also, not studied here is the *narrativity* of an item. Narrativity refers to the amount of narrative elements or narrative strategies present in an item (see McBeth et al. 2012). I coded my data to capture the presence of a narrative element.

My next step would include scaling down the number of items and looking more at the narrativity that is present.

The final limitation is the lack of full integration of the MSA to the NPF. While I have identified how this research shows that the NPF can be applied to the MSA by meeting the criteria of the hypothesis for the overall framework, future research would delve more deeply into an analysis along the lines of the MSA's key hypotheses detailed in Table 7.1. More data are needed to highlight specific policy entrepreneurs and solutions. To do this though, I would need to look at a smaller section of the dataset, as it is not feasible, with 909 items.

### **7.5. Directions for Future Research**

My directions for future research come from the study limitations. It would be useful to analyze a different type of a focusing event to see if this study's finding can be generalized to another type of event. For example, a future study would look at a three-year period following the *Deepwater Horizon* oil spill and analyze similar narrative elements. The *Deepwater Horizon* oil spill would be a good comparison as it happened in the same region as Hurricane Katrina and mobilized many of the same voices that were mobilized by Hurricane Katrina, but it was a technological disaster, not a natural disaster. Furthermore, I could include control variables of party control and turnover as the *Deepwater Horizon* oil spill happened not long after Hurricane Katrina but under different Presidencies and Congresses.

Another direction it would be useful to examine is the role of multiple events and how and when an idea arises. The 2017 hurricane season, including Hurricane Harvey and Hurricane Maria, could provide an interesting take on the role of multiple events and would provide an interesting comparative analysis to the 2005 hurricane season which included Hurricanes Katrina, Wilma and Rita. Finally, I am also interested in the narrative elements of strategies,



specifically condensation symbols, and characters and what they illuminate about the natural disaster policy domain and the relationship between the news media and Congress.

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## APPENDICES

## Appendix A

### CODEBOOK

#### Narrative Policy Framework and Multiple Streams Approach (Hurricanes)

- 1.) IF YOU CAN'T POINT TO THE TEXT, IT DOESN'T EXIST.
- 2.) Coding both News articles and Congressional Witness testimony
  - a. News articles: unit of analysis is the whole article
    - i. Divided into NYT editorials and WSJ editorials
  - b. Congressional Testimony
    - i. Divided into the Witness Testimony (experts) and Members' of Congress comments
    - ii. Each new speaker constitutes a new narrative
- 3.) Once you have identified a Hero, Victim, Villain, or Beneficiary code each paragraph where they are mentioned, even if the paragraph doesn't portray them in that context specifically. This is important because even though our level of coding is the speaker's portion of text, the narrative itself is presented to the reader as a totality
  - a. For the News editorials, this would be one whole news article
  - b. For the Congressional Testimony, this would switch with each new speaker.
- 4.) Organizations, States, communities, and other non-human entities can be villains, victims, heroes, or beneficiaries depending on how they appear in the text.
  - a. Ex. "Due to the FEMA's ineptitude in the wake of Hurricane Katrina, the death toll was higher." (FEMA would be coded as the villain).
- 5.) Heroes = Those who act with Purpose.
- 6.) Villains = Those who create harm, intentional or unintentional, or who oppose the aims of the Hero.
- 7.) Beneficiaries = Those who benefit from a proposed policy solution.
- 8.) Policy Solution = a primary reference (policy solution is mentioned in the sentence) taking an explicit normative stance toward enacting a program (collective action other than government) or implementing or enforcing a law (government action) look for the keywords: "should"/ "shouldn't", "needed"/ "unnecessary", "the world would be better if..."/ "the world would be worse off if..." that kind of thing). The source of the advocacy doesn't matter.
  - a. **Policy Solutions are operationalized in the 4 Phases of the Disaster Cycle**
    - i. 0 - If no phase is present.
    - ii. 1 – Preparedness:
      1. Continuity of government; planning; public/private relationships; vulnerable areas or populations; pre-disaster; insurance
    - iii. 2 – Relief/Response:

1. Getting aid to people – money, food or shelter; reports on deaths or saving lives
- iv. 3 – Recovery:
  1. Sustainability; resilience; short range vs. long range; reverse vulnerability post-disaster; restoring; rebuilding; reshaping
- v. 4 – Mitigation:
  1. Engineering; building codes; risk analysis; land use practices; building construction practices

### Coding Units

- For Characters, Problem, Evidence, - CODE BY SENTENCE
  - o This is because there can be multiple occurrences of these items in the article.
    - Ex. FEMA can be listed as a Villain, and Army Choir of Engineers also listed as a villain
      - If you code FEMA once as the villain in the article, you do not have to code each occurrence in that article that depicts FEMA as a villain again
  - o For Policy Beliefs and Policy Solution – CODE the WHOLE article
  - o For the Event
    - Code the whole Article as Katrina (Since this is the main event)
      - Then if another Event is mentioned – code the specific sentence.

## Appendix B

	<b>Definition</b>	<b>Narratives Surrounding Hurricanes</b>
<b>Policy Narrative Demographics</b>		
Policy Narrative Number	CIS Code	
Date of Narrative		
Coder Initials		
Document Type	Congressional Testimony or News Article	
Unit of Analysis	Congressional Testimony or News Article	
Narrative author/affiliation	Witness Name and Affiliation coded up to 3 levels	<i>For Congressional Testimony only</i> <ul style="list-style-type: none"> <li>• E.g., Michael Chertoff, Sec. DHS               <ul style="list-style-type: none"> <li>○ Affiliation 1: Federal Government</li> <li>○ Affiliation 2: Executive Branch</li> <li>○ Affiliation 3: DHS</li> </ul> </li> </ul>
Event	Name of Hurricane or another event that is mentioned	<ul style="list-style-type: none"> <li>• Katrina</li> <li>• Rita</li> <li>• Wilma</li> </ul>
<b>Narrative Elements</b>		
Statement of a problem	A policy narrative is always built around some stated problem	<i>Examples:</i> <ul style="list-style-type: none"> <li>• Fraud</li> <li>• Poverty</li> <li>• Unemployment</li> <li>• Racism</li> <li>• Health Care</li> <li>• Temporary Housing</li> <li>• Substandard Infrastructure</li> <li>• Lack of Government Resources</li> </ul>
Characters	The participants in a policy narrative: While there are typical categories of characters, e.g., government, a private individual, you may also identify the categories of characters unique to your policy issue.	Coding Schema: 0 = absence; 1 = presence  Labeled with a character to be coded, e.g., "Hero: Police," "Villain: FEMA," "Victim: the economy."
Victim	Those who are harmed by an action or inaction	

Villain	Those who create harm, or inflicts damage or pain upon a victim or, in other cases as one who opposes the aims of the hero	
Hero	Those who act with purpose to achieve or oppose a policy solution.	
Evidence (setting)	Support offered with the intention of demonstrating a problem, usually about real-world fixtures in the problem environment	<p>Disseminator of Policy Information Coding Schema: (Smith-Walter et al., 2016)</p> <p><b>Public Opinion Polls =</b></p> <ul style="list-style-type: none"> <li>• X% of Americans believe that Y happened because of Z.</li> </ul> <p><b>Scientific Study =</b></p> <ul style="list-style-type: none"> <li>• Any occasion that a narrative invokes a study, in general, as a source of facts (note that if a narrative mentions an opinion poll, even if it was reported in a scientific study, that this should be coded as a Public Opinion Poll).</li> </ul> <p><b>Statistics =</b></p> <ul style="list-style-type: none"> <li>• This is when numbers ARE NOT connected to a scientific study or public opinion poll.</li> </ul> <p><b>Ipsa Dictum =</b></p> <ul style="list-style-type: none"> <li>• Basically, this is an appeal to authority. This could be either scientific, political, or celebrity.</li> </ul> <p><b>Laws and Legal =</b></p> <ul style="list-style-type: none"> <li>• Appeal to legal Authority</li> </ul> <p><b>Other =</b></p> <ul style="list-style-type: none"> <li>• evidence that does not fall into the 5 categories above.</li> </ul>
Moral of the story	A policy solution offered that is intended to solve the specified problem	<p>Phases of the Disaster Cycle</p> <p>0 - If no phase is present.</p> <p>1 – Preparedness:</p> <ul style="list-style-type: none"> <li>• Continuity of government; planning; public/private relationships; vulnerable areas or populations; pre-disaster; insurance</li> </ul> <p>2 – Relief/Response:</p> <ul style="list-style-type: none"> <li>• Getting aid to people – money, food or shelter; reports on deaths or saving lives</li> </ul>

		<p>3 – Recovery:</p> <ul style="list-style-type: none"> <li>• Sustainability; resilience; short range vs. long range; reverse vulnerability post-disaster; restoring; rebuilding; reshaping</li> </ul> <p>4 – Mitigation:</p> <ul style="list-style-type: none"> <li>• Engineering; building codes; risk analysis; land use practices; building construction practices</li> </ul>
<b>Narrative Strategies</b>		
<b>Policy Beliefs</b>	A set of values and beliefs that orient a group or coalition.	<p>Identification of Victim: (Based on Shanahan et al., 2008)</p> <p>1 – Human Centered Victim</p> <ul style="list-style-type: none"> <li>• Ex. Deaths; Injuries; loss of personal possession; relocation, etc....</li> </ul> <p>2 – Economic Centered Victim</p> <ul style="list-style-type: none"> <li>• Ex. Damages in terms of Dollars; Infrastructure damages/repairs; Who is responsible for paying, etc....</li> </ul> <p>3 – Nature-Centered Victim</p> <ul style="list-style-type: none"> <li>• Ex. Contaminated water; loss of wildlife; etc....</li> </ul>



## Appendix C

**Table C1: Full Results of Pairwise Comparison of Means, Preparedness**

Pairwise Comparisons						
Dependent Variable: Preparedness						
(I) Affiliation1	(J) Affiliation1	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
<b>News editorials</b>	Federal Government	-.132*	0.039	0.001	-0.21	-0.055
	State Government	-.206*	0.058	0	-0.319	-0.092
	Local Government	-.250*	0.056	0	-0.361	-0.14
	Interest groups/Non-profits	-.203*	0.044	0	-0.288	-0.117
	Business/Industry	-.186*	0.05	0	-0.284	-0.087
	Academia	-.332*	0.073	0	-0.475	-0.188
	Civilians	0.074	0.1	0.461	-0.123	0.271
<b>Federal Government</b>	News editorials	.132*	0.039	0.001	0.055	0.21
	State Government	-0.073	0.055	0.184	-0.181	0.035
	Local Government	-.118*	0.053	0.027	-0.223	-0.014
	Interest groups/Non-profits	-0.07	0.04	0.078	-0.149	0.008
	Business/Industry	-0.054	0.047	0.255	-0.146	0.039
	Academia	-.199*	0.071	0.005	-0.339	-0.06
	Civilians	.206*	0.099	0.037	0.012	0.4
<b>State Government</b>	News editorials	.206*	0.058	0	0.092	0.319
	Federal Government	0.073	0.055	0.184	-0.035	0.181
	Local Government	-0.045	0.068	0.509	-0.178	0.089
	Interest groups/Non-profits	0.003	0.058	0.96	-0.111	0.117
	Business/Industry	0.02	0.063	0.754	-0.104	0.144
	Academia	-0.126	0.083	0.128	-0.288	0.036
	Civilians	.279*	0.107	0.009	0.069	0.49
<b>Local Government</b>	News editorials	.250*	0.056	0	0.14	0.361
	Federal Government	.118*	0.053	0.027	0.014	0.223
	State Government	0.045	0.068	0.509	-0.089	0.178
	Interest groups/Non-profits	0.048	0.056	0.396	-0.063	0.159
	Business/Industry	0.065	0.062	0.294	-0.056	0.186
	Academia	-0.081	0.082	0.32	-0.241	0.079
	Civilians	.324*	0.106	0.002	0.115	0.533

**Table C1 (continued): Full Results of Pairwise Comparison of Means, Preparedness**

<b>Interest groups/Non-profits</b>	<b>News editorials</b>	<b>.203*</b>	<b>0.044</b>	<b>0</b>	<b>0.117</b>	<b>0.288</b>
	Federal Government	0.07	0.04	0.078	-0.008	0.149
	State Government	-0.003	0.058	0.96	-0.117	0.111
	Local Government	-0.048	0.056	0.396	-0.159	0.063
	Business/Industry	0.017	0.05	0.738	-0.082	0.116
	Academia	-0.129	0.073	0.08	-0.273	0.015
	Civilians	.276*	0.1	0.006	0.079	0.473
<b>Business/Industry</b>	<b>News editorials</b>	<b>.186*</b>	<b>0.05</b>	<b>0</b>	<b>0.087</b>	<b>0.284</b>
	Federal Government	0.054	0.047	0.255	-0.039	0.146
	State Government	-0.02	0.063	0.754	-0.144	0.104
	Local Government	-0.065	0.062	0.294	-0.186	0.056
	Interest groups/Non-profits	-0.017	0.05	0.738	-0.116	0.082
	Academia	-0.146	0.078	0.06	-0.298	0.006
	Civilians	.260*	0.103	0.012	0.057	0.462
<b>Academia</b>	<b>News editorials</b>	<b>.332*</b>	<b>0.073</b>	<b>0</b>	<b>0.188</b>	<b>0.475</b>
	Federal Government	.199*	0.071	0.005	0.06	0.339
	State Government	0.126	0.083	0.128	-0.036	0.288
	Local Government	0.081	0.082	0.32	-0.079	0.241
	Interest groups/Non-profits	0.129	0.073	0.08	-0.015	0.273
	Business/Industry	0.146	0.078	0.06	-0.006	0.298
	Civilians	.405*	0.116	0.001	0.177	0.634

**Table C1 (continued): Full Results of Pairwise Comparison of Means, Preparedness**

<b>Civilians</b>	<b>News editorials</b>	<b>- 0.07 4</b>	<b>0.1</b>	<b>0.461</b>	<b>-0.271</b>	<b>0.123</b>
	Federal Government	- .206 *	0.099	0.037	-0.4	-0.012
	State Government	- .279 *	0.107	0.009	-0.49	-0.069
	Local Government	- .324 *	0.106	0.002	-0.533	-0.115
	Interest groups/Non-profits	- .276 *	0.1	0.006	-0.473	-0.079
	Business/Industry	- .260 *	0.103	0.012	-0.462	-0.057
	Academia	- .405 *	0.116	0.001	-0.634	-0.177
<b>Based on estimated marginal means</b>						
<b>* The mean difference is significant at the</b>						
<b><sup>b</sup> Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).</b>						

**Table C2: Full Results of Pairwise Comparison of Means, Relief/Response**

<b>Pairwise Comparisons</b>						
<b>Dependent Variable: Relief/Response</b>						
<b>(I) Affiliation1</b>	<b>(J) Affiliation1</b>	<b>Mean Difference (I- J)</b>	<b>Std. Error</b>	<b>Sig.<sup>b</sup></b>	<b>95% Confidence Interval for Difference<sup>b</sup></b>	
					<b>Lower Bound</b>	<b>Upper Bound</b>
<b>News editorials</b>	Federal Government	0.025	0.041	0.545	-0.056	0.105
	State Government	0.029	0.06	0.624	-0.088	0.147
	Local Government	-.142*	0.058	0.015	-0.256	-0.028
	Interest groups/Non-profits	0.056	0.045	0.217	-0.033	0.145
	Business/Industry	0.048	0.052	0.356	-0.054	0.15
	Academia	0.142	0.076	0.062	-0.007	0.291
<b>Federal Government</b>	Civilians	-.306*	0.104	0.003	-0.51	-0.101
	News editorials	-0.025	0.041	0.545	-0.105	0.056
	State Government	0.005	0.057	0.936	-0.108	0.117
	Local Government	-.167*	0.055	0.003	-0.275	-0.058

**Table C2 (continued): Full Results of Pairwise Comparison of Means, Relief/Response**

	Interest groups/Non-profits	0.031	0.041	0.453	-0.05	0.112
	Business/Industry	0.023	0.049	0.633	-0.072	0.119
	Academia	0.117	0.074	0.113	-0.028	0.262
	Civilians	-.330*	0.102	0.001	-0.532	-0.129
<b>State Government</b>	News editorials	-0.029	0.06	0.624	-0.147	0.088
	Federal Government	-0.005	0.057	0.936	-0.117	0.108
	Local Government	-.171*	0.071	0.016	-0.31	-0.033
	Interest groups/Non-profits	0.026	0.06	0.661	-0.092	0.145
	Business/Industry	0.019	0.066	0.776	-0.11	0.147
	Academia	0.112	0.086	0.191	-0.056	0.281
	Civilians	-.335*	0.111	0.003	-0.554	-0.116
<b>Local Government</b>	News editorials	.142*	0.058	0.015	0.028	0.256
	Federal Government	.167*	0.055	0.003	0.058	0.275
	State Government	.171*	0.071	0.016	0.033	0.31
	Interest groups/Non-profits	.198*	0.059	0.001	0.083	0.313
	Business/Industry	.190*	0.064	0.003	0.064	0.316
	Academia	.284*	0.085	0.001	0.118	0.45
	Civilians	-0.164	0.111	0.139	-0.381	0.053
<b>Interest groups/Non-profits</b>	News editorials	-0.056	0.045	0.217	-0.145	0.033
	Federal Government	-0.031	0.041	0.453	-0.112	0.05
	State Government	-0.026	0.06	0.661	-0.145	0.092
	Local Government	-.198*	0.059	0.001	-0.313	-0.083
	Business/Industry	-0.008	0.052	0.882	-0.111	0.095
	Academia	0.086	0.076	0.26	-0.064	0.236
	Civilians	-.361*	0.104	0.001	-0.566	-0.157
<b>Business/Industry</b>	News editorials	-0.048	0.052	0.356	-0.15	0.054
	Federal Government	-0.023	0.049	0.633	-0.119	0.072
	State Government	-0.019	0.066	0.776	-0.147	0.11
	Local Government	-.190*	0.064	0.003	-0.316	-0.064
	Interest groups/Non-profits	0.008	0.052	0.882	-0.095	0.111
	Academia	0.094	0.081	0.244	-0.064	0.252
	Civilians	-.354*	0.107	0.001	-0.564	-0.143

**Table C2 (continued): Full Results of Pairwise Comparison of Means, Relief/Response**

<b>Academia</b>	<b>News editorials</b>	<b>-0.142</b>	<b>0.076</b>	<b>0.062</b>	<b>-0.291</b>	<b>0.007</b>
	Federal Government	-0.117	0.074	0.113	-0.262	0.028
	State Government	-0.112	0.086	0.191	-0.281	0.056
	Local Government	-.284*	0.085	0.001	-0.45	-0.118
	Interest groups/Non-profits	-0.086	0.076	0.26	-0.236	0.064
	Business/Industry	-0.094	0.081	0.244	-0.252	0.064
	Civilians	-.447*	0.121	0	-0.685	-0.21
<b>Civilians</b>	<b>News editorials</b>	<b>.306*</b>	<b>0.104</b>	<b>0.003</b>	<b>0.101</b>	<b>0.51</b>
	Federal Government	.330*	0.102	0.001	0.129	0.532
	State Government	.335*	0.111	0.003	0.116	0.554
	Local Government	0.164	0.111	0.139	-0.053	0.381
	Interest groups/Non-profits	.361*	0.104	0.001	0.157	0.566
	Business/Industry	.354*	0.107	0.001	0.143	0.564
	Academia	.447*	0.121	0	0.21	0.685
<b>Based on estimated marginal means</b>						
<b>* The mean difference is significant at the</b>						
<b><sup>b</sup> Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).</b>						

**Table C3: Full Results of Pairwise Comparison of Means, Recovery**

<b>Pairwise Comparisons</b>						
<b>Dependent Variable: Recovery</b>						
<b>(I) Affiliation1</b>	<b>(J) Affiliation1</b>	<b>Mean Difference (I-J)</b>	<b>Std. Error</b>	<b>Sig.<sup>b</sup></b>	<b>95% Confidence Interval for Difference<sup>b</sup></b>	
					<b>Lower Bound</b>	<b>Upper Bound</b>
<b>News editorials</b>	Federal Government	-.236*	0.048	0	-0.33	-0.141
	State Government	-.184*	0.07	0.009	-0.322	-0.045
	Local Government	-0.125	0.068	0.068	-0.259	0.009
	Interest groups/Non-profits	-.190*	0.053	0	-0.294	-0.086
	Business/Industry	-.163*	0.061	0.008	-0.283	-0.044
	Academia	-.220*	0.089	0.014	-0.395	-0.044
	Civilians	-0.014	0.122	0.91	-0.254	0.226

**Table C3 (continued): Full Results of Pairwise Comparison of Means, Recovery**

<b>Federal Government</b>	News editorials	.236*	0.048	0	0.141	0.33
	State Government	0.052	0.067	0.44	-0.08	0.184
	Local Government	0.111	0.065	0.089	-0.017	0.238
	Interest groups/Non-profits	0.046	0.049	0.345	-0.049	0.141
	Business/Industry	0.072	0.057	0.207	-0.04	0.185
	Academia	0.016	0.087	0.853	-0.154	0.186
	Civilians	0.222	0.12	0.066	-0.014	0.458
<b>State Government</b>	News editorials	.184*	0.07	0.009	0.045	0.322
	Federal Government	-0.052	0.067	0.44	-0.184	0.08
	Local Government	0.059	0.083	0.478	-0.104	0.222
	Interest groups/Non-profits	-0.006	0.071	0.934	-0.145	0.133
	Business/Industry	0.02	0.077	0.791	-0.131	0.171
	Academia	-0.036	0.101	0.723	-0.234	0.162
	Civilians	0.17	0.131	0.194	-0.087	0.427
<b>Local Government</b>	News editorials	0.125	0.068	0.068	-0.009	0.259
	Federal Government	-0.111	0.065	0.089	-0.238	0.017
	State Government	-0.059	0.083	0.478	-0.222	0.104
	Interest groups/Non-profits	-0.065	0.069	0.347	-0.2	0.07
	Business/Industry	-0.038	0.075	0.609	-0.186	0.109
	Academia	-0.095	0.099	0.342	-0.29	0.101
	Civilians	0.111	0.13	0.392	-0.144	0.366
<b>Interest groups/Non-profits</b>	News editorials	.190*	0.053	0	0.086	0.294
	Federal Government	-0.046	0.049	0.345	-0.141	0.049
	State Government	0.006	0.071	0.934	-0.133	0.145
	Local Government	0.065	0.069	0.347	-0.07	0.2
	Business/Industry	0.026	0.061	0.669	-0.094	0.147
	Academia	-0.03	0.09	0.739	-0.206	0.146
	Civilians	0.176	0.122	0.151	-0.064	0.416

**Table C3 (continued): Full Results of Pairwise Comparison of Means, Recovery**

<b>Business/Industry</b>	<b>News editorials</b>	<b>.163*</b>	<b>0.061</b>	<b>0.008</b>	<b>0.044</b>	<b>0.283</b>
	Federal Government	-0.072	0.057	0.207	-0.185	0.04
	State Government	-0.02	0.077	0.791	-0.171	0.131
	Local Government	0.038	0.075	0.609	-0.109	0.186
	Interest groups/Non-profits	-0.026	0.061	0.669	-0.147	0.094
	Academia	-0.056	0.095	0.553	-0.242	0.129
	Civilians	0.15	0.126	0.236	-0.098	0.397
<b>Academia</b>	<b>News editorials</b>	<b>.220*</b>	<b>0.089</b>	<b>0.014</b>	<b>0.044</b>	<b>0.395</b>
	Federal Government	-0.016	0.087	0.853	-0.186	0.154
	State Government	0.036	0.101	0.723	-0.162	0.234
	Local Government	0.095	0.099	0.342	-0.101	0.29
	Interest groups/Non-profits	0.03	0.09	0.739	-0.146	0.206
	Business/Industry	0.056	0.095	0.553	-0.129	0.242
	Civilians	0.206	0.142	0.147	-0.073	0.484
<b>Civilians</b>	<b>News editorials</b>	<b>0.014</b>	<b>0.122</b>	<b>0.91</b>	<b>-0.226</b>	<b>0.254</b>
	Federal Government	-0.222	0.12	0.066	-0.458	0.014
	State Government	-0.17	0.131	0.194	-0.427	0.087
	Local Government	-0.111	0.13	0.392	-0.366	0.144
	Interest groups/Non-profits	-0.176	0.122	0.151	-0.416	0.064
	Business/Industry	-0.15	0.126	0.236	-0.397	0.098
	Academia	-0.206	0.142	0.147	-0.484	0.073
<b>Based on estimated marginal means</b>						
<b>* The mean difference is significant at the</b>						
<b><sup>b</sup> Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).</b>						

**Table C4: Full Results of Pairwise Comparison of Means, Mitigation**

Pairwise Comparisons						
Dependent Variable: Mitigation						
(I) Affiliation1	(J) Affiliation1	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
<b>News editorials</b>	Federal Government	0.013	0.024	0.595	-0.034	0.06
	State Government	-0.029	0.035	0.409	-0.098	0.04
	Local Government	0.006	0.034	0.854	-0.061	0.073
	Interest groups/Non-profits	0.027	0.027	0.312	-0.025	0.079
	Business/Industry	0.055	0.031	0.074	-0.005	0.114
	Academia	-.142*	0.045	0.001	-0.23	-0.055
	Civilians	0.018	0.061	0.764	-0.101	0.138
<b>Federal Government</b>	News editorials	-0.013	0.024	0.595	-0.06	0.034
	State Government	-0.042	0.034	0.213	-0.108	0.024
	Local Government	-0.006	0.032	0.841	-0.07	0.057
	Interest groups/Non-profits	0.014	0.024	0.564	-0.034	0.062
	Business/Industry	0.042	0.029	0.144	-0.014	0.098
	Academia	-.155*	0.043	0	-0.24	-0.07
	Civilians	0.006	0.06	0.927	-0.112	0.123
<b>State Government</b>	News editorials	0.029	0.035	0.409	-0.04	0.098
	Federal Government	0.042	0.034	0.213	-0.024	0.108
	Local Government	0.035	0.041	0.393	-0.046	0.117
	Interest groups/Non-profits	0.056	0.035	0.115	-0.014	0.125
	Business/Industry	.084*	0.038	0.03	0.008	0.159
	Academia	-.113*	0.05	0.025	-0.212	-0.014
	Civilians	0.047	0.065	0.469	-0.081	0.176
<b>Local Government</b>	News editorials	-0.006	0.034	0.854	-0.073	0.061
	Federal Government	0.006	0.032	0.841	-0.057	0.07
	State Government	-0.035	0.041	0.393	-0.117	0.046
	Interest groups/Non-profits	0.021	0.034	0.551	-0.047	0.088
	Business/Industry	0.048	0.038	0.198	-0.025	0.122
	Academia	-.149*	0.05	0.003	-0.246	-0.051
	Civilians	0.012	0.065	0.853	-0.115	0.139



**Table C4 (continued): Full Results of Pairwise Comparison of Means, Mitigation**

<b>Interest groups/Non-profits</b>	<b>News editorials</b>	<b>-0.027</b>	<b>0.027</b>	<b>0.312</b>	<b>-0.079</b>	<b>0.025</b>
	Federal Government	-0.014	0.024	0.564	-0.062	0.034
	State Government	-0.056	0.035	0.115	-0.125	0.014
	Local Government	-0.021	0.034	0.551	-0.088	0.047
	Business/Industry	0.028	0.031	0.365	-0.032	0.088
	Academia	-.169*	0.045	0	-0.257	-0.081
	Civilians	-0.008	0.061	0.889	-0.128	0.111
<b>Business/Industry</b>	<b>News editorials</b>	<b>-0.055</b>	<b>0.031</b>	<b>0.074</b>	<b>-0.114</b>	<b>0.005</b>
	Federal Government	-0.042	0.029	0.144	-0.098	0.014
	State Government	-.084*	0.038	0.03	-0.159	-0.008
	Local Government	-0.048	0.038	0.198	-0.122	0.025
	Interest groups/Non-profits	-0.028	0.031	0.365	-0.088	0.032
	Academia	-.197*	0.047	0	-0.29	-0.104
	Civilians	-0.036	0.063	0.564	-0.16	0.087
<b>Academia</b>	<b>News editorials</b>	<b>.142*</b>	<b>0.045</b>	<b>0.001</b>	<b>0.055</b>	<b>0.23</b>
	Federal Government	.155*	0.043	0	0.07	0.24
	State Government	.113*	0.05	0.025	0.014	0.212
	Local Government	.149*	0.05	0.003	0.051	0.246
	Interest groups/Non-profits	.169*	0.045	0	0.081	0.257
	Business/Industry	.197*	0.047	0	0.104	0.29
	Civilians	.161*	0.071	0.024	0.022	0.3
<b>Civilians</b>	<b>News editorials</b>	<b>-0.018</b>	<b>0.061</b>	<b>0.764</b>	<b>-0.138</b>	<b>0.101</b>
	Federal Government	-0.006	0.06	0.927	-0.123	0.112
	State Government	-0.047	0.065	0.469	-0.176	0.081
	Local Government	-0.012	0.065	0.853	-0.139	0.115
	Interest groups/Non-profits	0.008	0.061	0.889	-0.111	0.128
	Business/Industry	0.036	0.063	0.564	-0.087	0.16
	Academia	-.161*	0.071	0.024	-0.3	-0.022
<b>Based on estimated marginal means</b>						
<b>* The mean difference is significant at the</b>						
<b><sup>b</sup> Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).</b>						