

Stony Brook University



OFFICIAL COPY

The official electronic file of this thesis or dissertation is maintained by the University Libraries on behalf of The Graduate School at Stony Brook University.

© All Rights Reserved by Author.

The Effects of Policy Metaphors on Political Attitudes

A Dissertation Presented

by

Todd Kristian Hartman

to

The Graduate School

in Partial Fulfillment of the

Requirements

for the Degree of

Doctor of Philosophy

in

Political Science

(Political Psychology/Behavior)

Stony Brook University

May 2009

Copyright by
Todd Kristian Hartman
2009

Stony Brook University

The Graduate School

Todd Kristian Hartman

We, the dissertation committee for the above candidate for the
Doctor of Philosophy degree, hereby recommend
acceptance of this dissertation.

Howard Lavine, Associate Professor
Dissertation Advisor
Department of Political Science

Milton Lodge, Professor
Chairperson of Defense
Department of Political Science

Stanley Feldman, Professor
Department of Political Science

Richard R. Lau, Professor
Outside Member
Department of Political Science
Rutgers University

This dissertation is accepted by the Graduate School.

Lawrence Martin
Dean of the Graduate School

Abstract of the Dissertation

The Effects of Policy Metaphors on Political Attitudes

by

Todd Kristian Hartman

Doctor of Philosophy

Political Science

(Political Psychology/Behavior)

Stony Brook University

2009

Scholars dating back to Aristotle have argued that metaphors are persuasive in politics; yet, little empirical research exists to validate these assertions. In this dissertation, I explore how elites use metaphors to communicate information to citizens, and what impact these messages have on their understanding and evaluation of political issues. I investigate how metaphors work, which ones are being used in real policy debates, and how they influence people's perceptions of message quality and judgments about political issues. To this end, I conduct several experiments, as well as a content analysis, to test and explore metaphor-induced persuasion. Ultimately, this dissertation is about how individuals make sense of politics, and how elites can use what we know about human cognition to convey their policies to the mass public.

First, I lay out a theory of policy metaphors and propose a number of hypotheses derived from the literature in psychology and political science (Chapter 2). Second, I discuss the results from a content analysis of actual policy speeches to identify how party leaders communicate with members of the American public (Chapter 3). Third, I present the results from three experimental studies designed to flesh out the persuasive effects of metaphors, as well as test potential mediators and

moderators of metaphor-induced attitude change (Chapter 4). Fourth, I introduce a novel experiment to examine the automatic, spontaneous evaluative implications of policy metaphors (Chapter 5) and then explore whether policy metaphors create semantic associations in memory (Chapter 6). Finally, I discuss the results and propose ideas for future research on policy metaphors and persuasion (Chapter 7).

Table of Contents

List of Figures	viii
List of Tables	ix
Acknowledgments	xi
1 Introduction	1
1.1 Policy Metaphors	4
1.2 Overview of the Empirical Chapters	6
2 Theory & Hypotheses	14
2.1 What Exactly is a Metaphor?	14
2.2 The Functions of Metaphors	15
2.3 Metaphors in Politics	19
2.4 Metaphors and Political Persuasion	21
2.5 Processing Metaphors	28
2.5.1 Are All Metaphors Simply Analogies?	32
2.6 Summary of Hypotheses	33
3 Metaphors in Politics	38
3.1 Study 1	39
3.1.1 Data	39
3.1.2 Method	40
3.1.3 Results	41

3.1.4	Discussion	56
4	Policy Metaphors and Persuasion	60
4.1	Study 2	60
4.1.1	Overview	62
4.1.2	Data	63
4.1.3	Experimental Manipulations	64
4.1.4	Measures	66
4.1.5	Results	67
4.1.6	Discussion	72
4.2	Study 3	73
4.2.1	Overview	73
4.2.2	Network Neutrality	74
4.2.3	Data	75
4.2.4	Experimental Manipulation	76
4.2.5	Measures	77
4.2.6	Results	78
4.2.7	Discussion	80
4.3	Study 4	80
4.3.1	Overview	81
4.3.2	Data	81
4.3.3	Experimental Manipulation	82
4.3.4	Measures	83
4.3.5	Results	84
4.3.6	Discussion	86
4.4	General Discussion	87
5	Automatic Affect	120
5.1	Study 5	121

5.1.1	Overview	124
5.1.2	Data	125
5.1.3	Experimental Procedure	126
5.1.4	Measures	128
5.1.5	Results	129
6	Automatic Associations	142
6.1	Study 6	143
6.1.1	Overview	144
6.1.2	Data	145
6.1.3	Experimental Procedure	146
6.1.4	Measures	147
6.1.5	Results	148
6.1.6	Discussion	150
7	Conclusion	159
7.1	Key Findings	160
7.2	Future Research	162
7.3	Final Thoughts	165
	References	168

List of Figures

4.1	Study 2 Predicted Policy Support By Metaphor Location & Arguments	100
4.2	Study 2 Mediated Moderation Demonstrating Systematic Message Processing	102
4.3	Study 3 Moderated Regression Results	110
4.4	Study 4 Regression Results	117
4.5	Study 4 Mediation	119
5.1	Study 5 Histogram Showing the Normality of the Dependent Variable	138
5.2	Study 5 Differenced Response Latencies (Mean) of the Passage x Target Valence Interaction at Levels of Short SOA (300ms)	139
5.3	Study 5 Differenced Response Latencies (Mean) of the Passage x Target Valence Interaction at Levels of Long SOA (1000ms)	140
6.1	Study 6 Histogram Showing the Normality of the Dependent Variable	158

List of Tables

2.1	Examples of Political Metaphors by Presidential Era: From FDR to George W. Bush	37
4.1	Study 2 Demographics	91
4.2	Study 2 Transcript of Audio Message	92
4.3	Study 2 Policy Metaphor	93
4.4	Study 2 Strong Supporting Arguments	94
4.5	Study 2 Weak Supporting Arguments	95
4.6	Study 2 Summary Statistics	96
4.7	Study 2 Political Sophistication Items	97
4.8	Study 2 Regression Results	98
4.9	Study 2 Predicted Policy Support by Metaphor Location & Arguments	99
4.10	Study 2 Mediated Moderation Results	101
4.11	Study 3 Sample Demographics	103
4.12	Study 3 Network Neutrality Article (Main Body of Passage)	104
4.13	Study 3 Experimental Manipulation (Concluding Paragraph)	105
4.14	Study 3 Summary Statistics	106
4.15	Study 3 Political Sophistication Items	107
4.16	Study 3 Regression Results	108
4.17	Study 3 Predicted Policy Support by Political Sophistication	109
4.18	Study 4 Sample Demographics	111
4.19	Study 4 Experimental Manipulation (Concluding Paragraph)	112

4.20	Study 4 Summary Statistics	113
4.21	Study 4 Political Sophistication Items	114
4.22	Study 4 Regression Results	115
4.23	Study 4 Predicted Policy Support by Message Condition	116
4.24	Study 4 Mediation Results	118
5.1	Study 5 Sample Demographics	134
5.2	Study 5 Prime-Target Word Pairs by Issue	135
5.3	Study 5 Experimental Manipulation	136
5.4	Study 5 Political Sophistication Items	137
5.5	Study 5 Differenced Response Latencies (Mean) by Passage, Target Valence, and SOA	141
6.1	Study 6 Sample Demographics	153
6.2	Study 6 Prime-Target Word Pairs by Issue	154
6.3	Study 6 Experimental Manipulation	155
6.4	Study 6 Political Sophistication Items	157

Acknowledgements

First, and foremost, I would like to thank Howie Lavine, who has been a terrific advisor and friend. I could not have managed to complete a project of this size without his encouragement and suggestions along the way. In addition, I thank my committee members—Milt Lodge, Stanley Feldman, and Rick Lau—for their thoughtful comments. I feel very lucky to have worked with such a great group of political psychologists. My thanks also go out to the many faculty members and graduate students at Stony Brook, who were kind enough to discuss my project. I specifically thank Everette Young for helping me record and edit the stimulus materials for Study 2, as well as Chris Weber and Rune Slothuus, who provided me with detailed advice at various stages of the project. Several undergraduate research assistants deserve credit for helping me collect and code the data: Danny Alicea, Mike Cohan, Patrick Fama, Omar Khowaja, Taryn Kutujian, and Nadege Padarathsingh. Finally, I owe a huge debt of gratitude to my family for their support all of these years. In particular, I thank my brother, Ty, for helping me work through new ideas. He has a knack for creativity. Last, but certainly not least, I thank my wife, Kristen, for listening to countless iterations of this project and supporting me every step of the way. We often joked that for all of her countless hours of work on this dissertation, all she would get is single line in the Acknowledgments. So here it is: I love you Kristen.

Chapter 1

Introduction

With words we govern men.

—Benjamin Disraeli¹

Months before World War II had officially ended, Winston Churchill stood before an American audience and delivered what many people have called his greatest speech. Although his “Sinews of Peace” address lasted nearly 45 minutes, it was 45 seconds that captured the attention of the world and shaped Western conceptualizations of the Soviet Union for the next half-century:

From Stettin in the Baltic to Trieste in the Adriatic, *an iron curtain has descended across the Continent. Behind that line²* lie all the capitals of the ancient states of Central and Eastern Europe. Warsaw, Berlin, Prague, Vienna, Budapest, Belgrade, Bucharest and Sofia, all these famous cities and the populations around them lie in what I must call the *Soviet sphere*.³ (March 5, 1946)

With his *iron curtain* metaphor, Churchill cemented the idea that the Soviet Union now constituted the new global threat to the world.

Like Churchill, today’s political leaders are forced to take their rhetoric seriously in order to compete for the public’s attention. The difficulty they face is that most

Americans care little about politics, and those that are sufficiently interested generally lack the cognitive resources to sort through the massive influx of available information. Researchers routinely find that Americans are embarrassingly uninformed about all levels of government, ranging from basic civics questions to the names of important government officials (Delli Carpini & Keeter, 1996). Despite this seeming lack of political knowledge, scholars find that American public opinion does appear to be nonrandom and responsive to government action (Bartels, 1996; Page & Shaprio, 1992; Zaller, 1992).

Political scientists have posited a number of theories to explain how average Americans might make sense of their complex political world. One of the first ideas that scholars investigated was that citizens conceptualize politics much like party elites—that is, they structure their attitudes in terms of broad ideological orientations. The problem with this theory, as we soon discovered, is that few (if any) members of the general public actually have ideologically constrained attitudes (e.g., see Campbell, Converse, Miller, & Stokes, 1960). In fact, Converse (1964) revealed that no more than 15 percent of the voting public could be considered remotely ideological in their conceptualization of politics. As Sniderman (1993) notes, this finding suggests that “it is as though public discourse in democracies is carried out in two different languages, with citizens unable to make sense of the one in which consequential public judgments are framed, debated and manipulated” (p. 24).

A more plausible theory is that citizens rely on judgmental shortcuts, or heuristics, to form their policy preferences (Popkin, 1991; Sniderman, Brody, & Tetlock, 1991). For instance, citizens may rely on low-effort devices such as party identification (Campbell et al., 1960; Lodge & Hamill, 1986; Rahn, 1993), elite cues (Carmines & Kuklinski, 1990; Mondak, 1993), interest group endorsements (Lupia, 1994), or group likability (Brady & Sniderman, 1985) to guide their evaluations of politics. However, as Lau & Redlawsk (2001; see also Kuklinski & Quirk, 2000) demonstrate,

many citizens do not use heuristics correctly because such devices require a high level of political sophistication. As a result, these “simple” decision rules can often lead the average person’s choices badly astray and cause them to make decisions that are contrary to their core values and beliefs (Lau & Redlawsk, 1997).

Lodge and colleagues (e.g., Lodge, McGraw, & Stroh, 1989; Lodge, Steenbergen, & Brau, 1995) have posited what they call the “online” model of impression formation, in which people form their opinions by keeping a “running tally” of their evaluations. Once the evaluative content—that is, the “good” and “bad” implications—has been extracted and integrated into a summary tally, the information is typically discarded and quickly forgotten. The basic idea is that people can retrieve the evaluative tally from memory without recalling any of the raw data. As a result, Lodge and colleagues argue that people can be simultaneously responsive to politics but appear largely uninformed.

Although this approach does seem to explain how some voters form their evaluations of political candidates, there is reason to believe that online models are ill-equipped to explain the creation of policy preferences (e.g., see Lavine, 2002). For instance, Rahn, Aldrich, & Borgida (1994) note that the structure of the information environment generally affects voters’ ability and motivation to utilize various processing strategies. In particular, the format of policy debates tends to overwhelm individuals’ cognitive capacities and thus limits their ability to process information online. Moreover, as McGraw, Lodge, & Stroh (1990) report, unsophisticated citizens are more likely to be inefficient online processors than political sophisticates. Given what we know about the ability and motivation of the American electorate, it seems that the evaluative tally model is a poor fit for how the average person makes sense of specific policies.

An alternative proposed by some scholars are that frames—that is, central organizing ideas or story lines—help citizens interpret and understand specific issues (Gamson & Modigliani, 1987, 1989). A framing effect is said to occur when the con-

siderations highlighted in a frame cause an individual to endorse or oppose a particular policy (Gamson, 1992). Framing effects have been documented in a wide range of contexts such as attitudes toward civil liberties (Chong, 1993; Nelson, Clawson, & Oxley, 1997), racially charged policies like affirmative action, welfare, and school desegregation (Kinder & Sanders, 1996; Nelson & Kinder, 1996), gay rights (Brewer, 2002), education (Brewer & Gross, 2005), and campaign finance reform (Druckman & Nelson, 2003). However, Chong & Druckman (2007b) warn that framing seems to suffer from some of the same drawbacks that limit the heuristic and online models, namely that we should expect to find stronger effects for politically sophisticated and motivated individuals than for the average American (see also Brewer, 2003; Chong & Druckman, 2007a; Druckman & Nelson, 2003; Slothuus, 2008). As Chong & Druckman note, “a consideration highlighted by a frame cannot impinge on an attitude unless it is available in memory” (p. 110).

A major limitation of each of the theories above—ideological constraint (Converse, 1964), heuristics (Popkin, 1991; Sniderman et al., 1991), the online tally (Lodge et al., 1995), and framing (Chong & Druckman, 2007b; Kinder & Sanders, 1996; Nelson et al., 1997)—is that they necessitate the user possess a high degree of political sophistication to ensure that the strategy is used correctly (i.e., the desired outcome is obtained). Given what we know about the low levels of motivation and ability of American electorate in the realm of politics (Delli Carpini & Keeter, 1996), it is likely that the requisite level of political sophistication is rarely met. Put differently, these theories seem to explain the exception rather than the rule.

1.1 Policy Metaphors

A promising new theoretical approach is that people use “policy metaphors” to help them interpret and make judgments about politics (Lau & Schlesinger, 2005; Schlesinger & Lau, 2000; see also Schon, 1979).⁴ According to Lau & Schlesinger,

policy metaphors are cognitive frames that represent a common way of understanding and evaluating social and political problems. These metaphorical frames are unique in that they elicit comparisons between often complicated political issues and more familiar domains of experience. For instance, Lau & Schlesinger argue that two distinct policy metaphors—*health care is a societal right* and *health care is a marketable commodity*—lead to very different interpretations and opinions toward the issue of health care.

Although they make a compelling argument that metaphors are critical to citizens' understanding of public policy, Lau & Schlesinger and other political scientists have yet to fully test the influence of metaphors on political decision making. In fact, Lau & Schlesinger candidly admit that one of the major limitations of their past research on policy metaphors is distinguishing between the effects attributable to metaphors versus those of general framing (2005, p. 106). This limitation is critical, since there is good reason to believe that metaphors are similar, yet theoretically distinct, from framing.

For instance, metaphors are like frames in that they can highlight relevant considerations in a message (e.g., see Gamson, 1992; Read, Cesa, Jones, & Collins, 1990). However, metaphors, by definition, go one step further: They generate new and meaningful associations between semantically unrelated objects (Bowdle & Gentner, 2005; Camac & Glucksberg, 1984; Glucksberg, 2003). In other words, metaphors are unique in that they explain abstract and complex issues in terms of completely unrelated, but familiar concepts and experiences (Fainsilber & Ortony, 1987). This abstract-to-familiar function of metaphors is particularly useful in the realm of politics, since it suggests that the *least* politically knowledgeable citizens should benefit most from a well-placed metaphor. In essence, this function allows us to flip Sniderman's (1993) earlier observation that the lack of ideological constraint in the public means that elites speak a different language than the average American. Instead, by using a political metaphor, politicians and the public can converse

in the *same* language, which is why the study of policy metaphors is so promising.

1.2 Overview of the Empirical Chapters

In Chapter 3, I investigate whether party leaders invoke policy metaphors in their regular communications with the American public. With this content analysis I address several questions about the nature of political metaphors in a real campaign environment. First, are politicians even using metaphors when they talk about various policies? Second, assuming that policy metaphors are being used, are there any common source domains that occur frequently, or are there any particular issues that are rife with metaphors? Third, do any of the political metaphors contain strong emotional appeals, or are they primarily used to explain complicated policies? And finally, are there any noticeable differences between the political parties concerning their utilization of policy metaphors? That is, has one political party been more likely than the other to argue its position with metaphorical language?

To answer these questions, I coded a total of 89 weekly radio addresses (a corpus of more than 60,000 words) from the Republican and Democratic parties preceding the 2006 election. My content analysis revealed that party leaders do in fact invoke metaphors to conceptualize a wide range of policies. President Bush and the Democrats invoked several common metaphoric themes throughout their speeches such as metaphors of motion, building, war, disasters, and the body. This finding is actually quite interesting, since it lends support to Lakoff & Johnson's (1980) original theory concerning why certain metaphors such as these pervade our language.

In addition, I find that President Bush invoked metaphors to discuss national security, economic policy, and immigration, but he used relatively few obvious metaphors for health care and energy policy. In contrast, Democrats instantiated metaphors mainly in health care, energy, immigration, lobbying, and Social Security, but they used far fewer with respect to the economy. For national security,

Democrats repeated a singular metaphoric theme—that we needed a *new direction* in Iraq—that twisted the metaphors of motion that Bush had championed earlier. These dueling metaphors actually raise interesting questions about the effectiveness of metaphorical and literal language in competitive environments.

I also find that metaphors varied in the degree to which they were intended to invoke purely cognitive and affective responses: Sometimes the metaphors used by party leaders were almost entirely cognitive, while other times they appeared to be more emotional. However, the general trend is toward affectively-based metaphors, as many of them seemed to be used to elicit an emotional response from the public. This trend suggests that future researchers should devise tests concerning how metaphors can be used to evoke specific emotional reactions from an audience, as well as what impact this may have on their political judgments.

In Chapter 4, I present three experiments to test if and how metaphors facilitate political persuasion. In the first study, I explore whether a metaphor’s location in a speech encourages subjects to process a persuasive message more carefully than they would do otherwise (i.e., systematic vs. heuristic processing). I designed an experiment in which a policy metaphor either introduced or concluded a persuasive appeal for a national youth service program. A sample of adults ($N = 158$) recruited on the Internet listened to an audio message about a proposal to require young people to perform civic (non-military) service in their local communities (similar to compulsory civic duty requirements of many European countries like Germany, Switzerland, and Sweden). The audio clip contained a brief description of the program, as well as a series of arguments supporting the proposed policy. Subjects received one of 6 versions of the audio message that was determined by a 2 (argument quality: strong vs. weak) x 3 (message: introductory metaphor, concluding metaphor, literal) between-subjects factorial design.

I find that a metaphor presented at the conclusion of a message is more persuasive than one presented at the introduction or a message containing only literal argu-

ments. Moreover, this persuasive effect is the result of metaphor-induced systematic processing, since only individuals who were presented with the concluding metaphor correctly distinguished between strong and weak arguments (which is how psychologists typically determine systematic processing). This is a particularly important finding, since we know that attitudes formed by systematic processing modes tend to be stronger than those formed by heuristic routes to persuasion (Petty, Haugtvedt, & Smith, 1995). Moreover, strong attitudes tend to be persistent, resistant to change, and disproportionately influential on subsequent judgments and behavior (Krosnick & Petty, 1995). I also find that political sophistication did not moderate this effect, which was expected because the issue was already relatively easy to comprehend.

In the second and third studies, I sought to replicate the metaphor-induced attitude change, as well as explore the metaphor resonance hypothesis—that political sophistication will moderate attitude change for “hard,” but not “easy,” issues. For these experiments, I opted to use the more technical issue of network neutrality and federal regulation of the Internet than the relatively easy and familiar youth service proposal. The primary manipulation concerned whether the article concluded with a metaphoric or comparable literal statement. For this hard issue, I find that in my sample of students ($N = 131$), political sophistication moderated metaphor-based persuasion, such that individuals at low (but not high) levels of political sophistication produced the expected attitude change.

Interestingly, in the third study that utilized a sample of adults ($N = 141$) recruited by research assistants instead of students, I discovered that sophistication did not moderate metaphor-based persuasion. This finding seems to have been due to different levels of sophistication between the samples—students were more sophisticated than the adults. My adult sample also revealed that this metaphor-induced persuasion is mediated by increased perceptions of message quality compared to the literal-only message. Ultimately, these persuasion effects are significant because they demonstrate why policy metaphors have such promise—unlike other theories, policy

metaphors seem to consistently work for the least politically sophisticated citizens (and for high sophisticates some of the time).

In Chapter 5, I present a test of whether policy metaphors fundamentally alter the evaluative strength underlying political attitude objects (i.e., automatic, “knee-jerk” reactions to a particular issue). More specifically, I use Fazio, Sanbonmatsu, Powell, & Kardes’s (1986) evaluative priming paradigm to assess whether subjects respond faster to prime-target word pairs that are evaluatively congruent with the policy metaphors used as stimulus materials. In this experiment, subjects ($N = 48$) completed a pre- and post-manipulation evaluative priming task to test whether exposure to policy metaphors (relative to non-metaphorical equivalents) affected subjects’ automatic policy evaluations. Subjects were assigned to read two brief passages about international trade and immigration. The key manipulation involved whether the passage contained, and thus, instantiated a policy metaphor. The policies (i.e., international trade and immigration) served as the prime words, while a list of 10 positive and 10 negative words taken from normed word lists served as the target words for each issue. Thus, each subject evaluated 40 target words for a set of trials at a short (i.e., 300ms) and long (i.e., 1000ms) stimulus onset asynchrony (SOA), which is the time that elapses between the presentation of the prime word and target word. As is standard practice, the priming trials at the short SOA specifically measure automatic evaluations, since this time interval is too brief to allow subjects to engage in strategic processing. In contrast, the trials at the long SOA (i.e., 1000ms) are used to test whether any observed effects occur when more deliberative processes are at work. Study 5 is a 2 (passage: metaphor vs. literal) x 2 (prime issue: international trade vs. immigration) x 2 (target word valence: positive vs. negative) x 2 (stimulus onset asynchrony: 300ms vs. 1000ms) mixed design, with repeated measures on the last 3 factors.

To my knowledge, this is the only empirical test of metaphor-induced evaluative priming effects in political science or psychology. The results from this study are

supportive of the theory that policy metaphors (but not literal statements) are unique in that they alter the evaluative strength underlying political attitudes after a brief exposure (i.e., less than 20 seconds). These priming effects held across issues, which suggests that the automaticity effect of metaphors may be broad-ranging. Interestingly, these results also suggest that metaphors are particularly persuasive because subjects were able to quickly distill important information contained in a passage with a policy metaphor after a single exposure.

Two distinct processes may account for these effects. On the one hand, metaphors, by definition, create associations between semantically unrelated objects. Provided that these associations are strong enough, they should activate and transfer evaluative information from a metaphor's source to its intended target (Charteris-Black, 2006). On the other hand, metaphors may simply be more persuasive than their literal counterparts, which means that they would naturally affect the underlying evaluations of policies by creating stronger attitudes Fazio (1995).

In Chapter 6, I explore whether a single, brief exposure to a policy metaphor creates semantic associations between concepts in long-term memory, such that the source is automatically activated whenever the target is retrieved from memory. To test this possibility, I use a lexical decision task (LDT; for a review see Burdein, Lodge, & Taber, 2006), in which subjects are first presented with a word (i.e., the prime) and then asked to indicate whether the subsequent letter string (i.e., the target) is a "word" or "not a word." Since there is no specific evaluative or categorization task for the LDT, this activity is purely an associative task (Fazio & Olson, 2003). Furthermore, at time intervals of less than an SOA of 300ms, the LDT is thought to be a pure indicator of the spreading activation of associations (e.g., Anderson, 1983; Collins & Loftus, 1975), since short SOA's do not allow conscious strategies of the respondent to interfere with automatic activation (Neely, 1991).

This final study is a 2 (passage: metaphor vs. literal) x 2 (prime: policy vs. neutral) x 2 (target: word vs. nonword) x 4 (issue: trade, immigration, welfare,

deficit) mixed design, with repeated measures on the last factor. The key comparison involves differences in response latencies between the policy and neutral prime words for the same set of target words by passage type. The general expectation is that subjects ($N = 62$) should respond faster to metaphor-related target words when when exposed to a metaphoric passage compared to subjects exposed to a literal equivalent.

Contrary to the affective transference hypothesis, I find no evidence that metaphors create lasting semantic associations in memory. For four different policies, subjects did not respond any faster to metaphor-relevant policy words when exposed to a metaphor versus literal condition. Instead of creating (automatic) associations between concepts, these findings suggest that the metaphor (but not literal statement) may have simply created stronger political attitudes, which was then more accessible, and thus, retrieved more easily from memory in the evaluative priming study.

Ultimately, one of the reasons that the study of policy metaphors is so promising is that they seem to directly address how an unsophisticated electorate might conceptualize politics. As a metaphor draws comparisons between abstract or complicated political issues and more familiar domains of experience, it is the least politically sophisticated who should benefit the most by paying greater attention to and thus understanding policy-relevant information. With that increased understanding, unsophisticated citizens would be able to properly evaluate an issue's merits. In essence, citizens that typically lack political sophistication can be brought back into the debate with an apt policy metaphor.

As Lakoff & Johnson (1980) and Pinker (1997) note, metaphors are so intriguing because they constitute a fundamental component of human cognition. Pinker (2007) sums it up best by writing:

Metaphor really is a key to explaining thought and language...[it] allow[s] us to apply ancient neural structures to newfound subject matter, to discover hidden laws and systems of nature, and not least, to amplify

the expressive power of language itself. (p. 276)

It is precisely because metaphors are basic to human thought that they possess such great potential to structure attitudes in the realm of politics.

Notes

1. Quote taken from Disraeli's (1832) *Contarini Fleming*.
2. Metaphors are identified in italics.
3. Churchill's speech was delivered at Westminster College in Fulton, Missouri. The full speech can be accessed online by visiting The Churchill Centre.
4. Lakoff (1996) has argued for some time that metaphors structure people's thinking about politics.

Chapter 2

Theory & Hypotheses

Language! — the blood of the
soul, Sir! into which our
thoughts run and out of which
they grow!

—Oliver Wendell Holmes¹

2.1 What Exactly is a Metaphor?

Just about anyone who has taken an English course has learned that a metaphor is a rhetorical device that makes a comparison between two unlike objects (without using the words “like” or “as”). A famous example of a metaphor is this line from Shakespeare’s *As You Like It*: “*All the world’s a stage.*” Of course, the world is not literally a theater stage; thus, Shakespeare has created a metaphor by comparing two semantically unrelated objects. But metaphors are more than fancy rhetoric. Instead, cognitive scientists argue that metaphors are integral to human thought (Gibbs, 1994, 1996; Lakoff & Johnson, 1980; Pinker, 1997, 2007). Rather than defining metaphors as a rhetorical device, these cognitive scientists argue that metaphors are really about *understanding*. Thus, they define a metaphor as understanding one conceptual domain in terms of another conceptual domain (Kovecses, 2002).

For example, the statement the “*mind is a computer*” is one way of conceptualizing the abstract human mind in more familiar, concrete terms of a computer. That is, we can make parallels between the two concepts based upon our knowledge of how a computer works—it processes commands (e.g., by its central processing unit, or CPU); it has long- and short-term memory (e.g., a hard drive and random access memory, or RAM); it receives input from external devices (e.g., a keyboard and mouse), and so on. The domain from which properties are taken is usually called the source, and the domain to which these attributes are ascribed is known as the target.² Returning to the example above, the source is a computer, which helps us to better understand how the target, or mind, works. The important point is that metaphors are not simply fancy rhetorical devices used exclusively in poetry, plays, and prose; rather, metaphors are fundamental to thinking.³

2.2 The Functions of Metaphors

A thorough review of the literature concerning metaphors and their usage reveals that they serve several cognitive, affective, and communicative functions. First, as mentioned above, metaphors are frequently used to explain abstract or complex concepts (Fainsilber & Ortony, 1987). For instance, consider the difficulty in explicating the meaning of life to someone else. While most people have an idea of what life means to them, they often find it extremely difficult to express this conceptualization to others.

Metaphors can address this problem of “inexpressibility” (Fainsilber & Ortony, 1987; Ortony, 1975) by taking a complicated concept like life and relating it to a more common, everyday experience. For example, the metaphor *life is a journey*, suggests that in life we often travel from place to place, meet new people, and explore the world around us. This is, of course, only one of many ways of thinking about life. Others may conceive of it with the metaphor *life is a roller coaster*, in which

the source, roller coaster, implies that life may be both exhilarating and frightening, and that we often experience many “ups” and “downs”—metaphors for positive and negative experiences—before coming to an end. Or, perhaps *life is a jungle*, in which people struggle to survive in a dangerous world. No matter how people choose to conceptualize the meaning of life, these examples underscore the ways that metaphors can help explain abstract concepts in more concrete and familiar terms.

Second, metaphors offer the speaker a succinct and efficient way of communicating ideas. This is what Fainsilber & Ortony (1987) refer to as the “compactness hypothesis.” For example, a literal statement like “the room is small” communicates a single piece of information about a particular room. In contrast, a metaphorical phrase like “*the room is a dungeon*” conveys multiple pieces of information, or what Miller (1956; see also Simon, 1974) calls “chunks” of information. As a result, we not only learn that the room is small from the source, *dungeon*, but also that it is dark, dank, confining, and should be perceived negatively.

The efficiency gained from the use of metaphors could be quite useful to political elites. For instance, consider a sophisticated defense program like National Missile Defense. It is unlikely that the average American has the time or energy to listen to a lengthy technical description of the system. Yet, people require some information about the defense program to help them decide if it is worthy of their support.⁴ Under these circumstances, all that would really need to be conveyed to the public is a metaphor like *National Missile Defense is a shield*. This metaphor informs voters in a very succinct and clear manner that they would presumably be protected from incoming missile attacks, without overloading them with difficult or unnecessary information.

Third, metaphors can function as an organizational framework to interpret incoming information (Allbritton, 1995; Gentner, 1982; Lau & Schlesinger, 2005; Mio & Lovrich, 1998; Read et al., 1990; Robins & Mayer, 2000; Schlesinger & Lau, 2000). Since metaphors efficiently convey chunks of information, they also seem to help peo-

ple understand how these different pieces of information relate to one another.⁵ For instance, the metaphor *war on drugs* tells us that those involved in the sale of drugs are the “enemy,” and that they should be “fought” aggressively in “battles” that can be won or lost. The ultimate goal of this metaphorical war is “victory,” in which the supply of drugs is to be completely “annihilated.”⁶ Essentially, this metaphor maps a familiar framework (i.e., “war”) onto the social problem of drugs, and in doing so, helps people understand how various pieces of information about the issue fit together, as well as highlights what information is most important.

Fourth, metaphors can be used to evoke or intensify emotions in an audience (Belt, 2003; Blanchette & Dunbar, 2001; Gibbs, 2002; Read et al., 1990; Thagard & Shelley, 2001). The emotive power of metaphors has long been exploited by skilled writers and rhetoricians. For instance, Martin Luther King, Jr. invoked countless affective metaphors in his “I Have a Dream” speech, arguably one of the greatest public addresses of the twentieth century.⁷ Just consider the metaphorical language intended to impassion his audience:

This is no time to engage in the *luxury of cooling off* or to *take the tranquilizing drug of gradualism*. Now is the time to make real *the promises of democracy*; now is the time to *rise from the dark and desolate valley of segregation* to the *sunlit path of racial justice*; now is the time to *lift our nation from the quicksands of racial injustice* to the *solid rock of brotherhood*; now is the time to *make justice a reality* for all Gods children (August 28, 1963).

King intensifies emotional reactions by juxtaposing targets already associated with negative affect—“gradualism,” “segregation,” and “racial injustice”—with the prototypically negative source domains of “cooling,” “drug,” “dark,” and “quicksands.” Now compare this to the positive source domains that he associates with progress such as “rise,” “sunlit,” “lift,” and “solid rock.” Ultimately, speeches like King’s “I Have a Dream” demonstrate how metaphors can be used to create strong, evocative

rhetoric.

Fifth, metaphors can convey the vividness of phenomenological experience (Fainsilber & Ortony, 1987; Gibbs, 1994; Ortony, 1975). Literal statements such as “I’m very hot,” “the food is extremely spicy,” or “the room is really cold” describe feelings of hot and cold; yet, these statements capture little of the vividness of these experiences. In stark contrast, metaphorical counterparts to these sentences can be filled with dramatic, colorful descriptions: “It’s so hot that *I’m melting*,” “*my mouth is on fire*,” and “*the room is an icebox*,” respectively. Each of these simple examples demonstrates how metaphors are able to capture the intensity of experience into words.

Finally, metaphors may facilitate recall of related information from memory (Belt, 2003; Mio, Thompson, & Givens, 1993; Read et al., 1990).⁸ Cognitive scientists have long argued that semantic networks represent the way in which human knowledge is structured and stored in long-term memory (e.g., Anderson, 1983; Collins & Loftus, 1975). In this node-link network model, concepts that are associatively linked are activated when a nearby object is retrieved from memory. Since metaphors themselves should be easy to remember—they are compact statements that are often especially emotive, vivid, and informationally rich—they should ensure that related concepts are also activated. Thus, when a metaphor is recalled from long-term memory, so too should many of its associated concepts and other contextual information be accessed.

In sum, metaphors are particularly interesting because they serve numerous cognitive, affective, and communicative functions. Metaphors are often used to express abstract or complex concepts in more familiar experiences. They tend to be efficient ways of conveying “chunks” of information. Metaphors seem to allow individuals to easily process and logically organize new information, thus serving as organizational frameworks. If affectively charged, metaphors can evoke or intensify emotions in an audience, as was the case with Martin Luther King, Jr.’s “I Have a Dream” speech.

In addition to capturing the vividness of phenomenological experience, metaphors may aid in the recall of information from memory. Ultimately, metaphors provide a unique form of communication and thought.

2.3 Metaphors in Politics

Safire (2008) has been cataloging how language is used in politics for more than forty years. As a result, his political dictionary is a veritable gold mine for those interested in the etymology of metaphors in politics. As Safire (2008) states:

[Politics] is a lexicon that shows how the choice of a word or metaphor can reveal sensitivity and genius, inspire and uplift a people, and crystallize a mood that gives purpose and direction to a movement. The best political language. . . captures the essence of an abstraction and makes it understandable and moving to millions. (p. xi)

In his more than 800-page political dictionary, Safire reports that the most common metaphors in politics involve source domains of war and the military (e.g., *war on poverty*), disasters (e.g., *firestorm of criticism*), animals, (e.g., *dog-whistle politics*), sports and games (e.g., *race card*), medicine and the body (e.g., *spin doctors*), colors, (e.g., *green jobs*), motion (e.g., *swing voter*), religion (e.g., *bully pulpit*), and music (e.g., *uncertain trumpet*).

In addition to these common source domains, Safire also discusses how various presidents, their advisors, and their political opponents have created different metaphors to conceptualize the big issues and events of an era (see Table 2.1). For instance, Franklin D. Roosevelt gave Americans a *New Deal* in response to the Great Depression. A generation later, John F. Kennedy inspired millions with his *New Frontier*, which became Lyndon Johnson's *Great Society* after Kennedy's assassination. Richard Nixon's administration was marred revelations that the *Plumbers* had violated the law in their attempt to *plug the leaks of information* to the media.

And, Ronald Reagan, known himself as the great communicator, helped the U.S. defeat the *evil empire* and bring the *Cold War* to an end.

In addition to Safire's anecdotal evidence, scholars have compiled systematic evidence of political metaphors in areas like world politics (Beer & De Landtsheer, 2004), U.S. foreign policy (Chilton, 1996; Medhurst, Ivie, Scott, & Wander, 1997; Voss, Kennet, Wiley, & Schooler, 1992), European integration (Musolff, 2004), immigration (Santa Ana, 1999), and healthcare (Schlesinger & Lau, 2000), just to name a few examples. Charteris-Black (2006) has turned his attention to the frequency of metaphor usage in major speeches by American and British leaders like Bill Clinton, George W. Bush, and Tony Blair. And Howe (1988) conducted a more comprehensive study of political metaphors contained in U.S. newspapers and periodicals from 1980 to 1985. He concluded that the most frequently invoked metaphors were derived from source domains of sports and war.

All of these qualitative studies suggest that metaphors are used in politics. Yet, no one (to my knowledge) has conducted a systematic analysis of political metaphors over time and across a range of issues to understand how party leaders' compete for the American public's attention. Without examining the full statements from leaders of both of the Republican and Democratic parties on a more regular basis, it is impossible to know whether the studies listed above capture the scope and nature of metaphor use in contemporary politics. For instance, it is likely that a particular speech may be more (or less) infused with metaphors, leading a researcher to falsely conclude that a metaphor is more (or less) important to a political leader. Or, by focusing on the results of metaphor use within a single issue area, a scholar may make false generalizations about the role of metaphor in other issue areas.

As a result of these potential problems, my first goal is to broadly explore how policy metaphors are actually being used by party elites during an election year. By analyzing the major parties' weekly radio addresses from January to Election Day, I hope to understand when and how elites craft metaphors to sway public

opinion. While this study is clearly meant to be exploratory—that is, I do not have well-defined hypotheses—I do generally expect that *party leaders will routinely use metaphors for a range of issues to communicate their policies to the mass public.*

2.4 Metaphors and Political Persuasion

There is evidence that exposure to a political metaphor can affect people’s conceptualization of policies, as well as their attitudes. For example, Johnson & Taylor (1981) conducted an experiment to test the influence of metaphors embedded in brief news articles about political figures (e.g., National Security Advisor Zbigniew Brzezinski) and issues (e.g., trade policy with the Soviet Union). For each person and issue, subjects were randomly assigned to read either a positive or negative metaphor with the expectation that attitude change should be consistent with the valence of the metaphor. However, Johnson & Taylor also argued that political sophistication should moderate these effects, since metaphors would likely resonate differently for certain individuals (for a discussion of metaphor “resonance,” see Ottati, Rhoads, & Graesser, 1999).

On the one hand, Johnson & Taylor reasoned that unsophisticated subjects should benefit most from the compact but informationally-rich metaphor because they know less about politics than political sophisticates. On the other hand, they argued that a metaphor might just as easily be ineffective for these individuals because they lack the knowledge structures necessary to integrate new information contained in the metaphoric message. Ultimately, Johnson & Taylor discovered that only the more politically sophisticated subjects were influenced by political metaphors.⁹

In a similar study, Robins & Mayer (2000) had subjects read one of two short vignettes containing a metaphor about a political or social dilemma. After exposure to the vignette—for example, a dilemma concerning international trade that used

either the metaphor *trade is war* or *trade is a two-way street*—Robins & Mayer found that subjects were more likely to choose the metaphor-consistent rather than inconsistent policy solution. However, they also demonstrated that these effects were moderated by subjects' knowledge of the issue, such that metaphors only influenced attitudes of the least knowledgeable subjects. In addition, they discovered that fewer than 1 in 5 respondents expressed an explicit awareness of the metaphor's influence on their judgments, which suggests that metaphors may play a more subtle role in political persuasion than previously suspected.

Lau & Schlesinger (2005; see also Schlesinger & Lau, 2000) offer additional evidence of metaphor-induced attitude change using data from a nationally representative sample. They created an experimental survey, in which respondents were presented one of five policy alternatives related to President Clinton's Health Plan, each of which was intended to invoke a different metaphorical frame. Lau & Schlesinger found that policy metaphors significantly influenced public support for health-related issues (i.e., treating substance abuse and providing long-term care to the disabled and elderly), as well as two unrelated social domains (i.e., providing affordable housing and public education). Moreover, they found that these effects held for citizens at all levels of political knowledge, suggesting that metaphors may function as easy-to-process information for less politically sophisticated citizens, yet provide enough novel insight into a problem to benefit political sophisticates, as well.

One major limitation of the studies that investigate metaphor-based persuasion is that they do not directly address the question of whether “it is the distinctively metaphorical aspects of understanding that shape policy attitudes, as opposed to more general framing effects” (Lau & Schlesinger, 2005; p.106). None of the authors exposed subjects to comparable literal messages to test whether metaphors provided any persuasive advantage over standard language. As a result, one could argue that the policy metaphors used by Lau & Schlesinger are simply cognitive schema that have been studied extensively in psychology (for a discussion of schema, see Fiske &

Taylor, 1991). Consider their metaphor *health care is the responsibility of employers*:

Basic needs can be made the responsibility of employers. A good way to help people meet their basic needs is to let workers and managers freely bargain with each other to decide upon benefit packages that cover services like day care, health, or school scholarships in addition to wages. Companies can be relied upon to help their workers deal with these problems, although they may need some government subsidies to help pay the costs of these benefits. (Lau & Schlesinger, 2005; p. 109)

As this example demonstrates (and Lau & Schlesinger candidly admit), it is not entirely clear whether talking about health care as the responsibility of employers is really a metaphor for health policy, or simply a standard (i.e., literal) argument similar to those used in countless framing studies. This seeming ambiguity makes it difficult to determine if there are specific advantages of political metaphors over literal language.

Bosman & Hagendoorn (1991; see also Bosman, 1987) provide a more direct test of the metaphor versus literal hypothesis. They measured attitudes toward an extreme right-wing Dutch political party after exposing subjects to a metaphor or literal passage. For instance, some subjects were exposed to a passage containing metaphorical messages such as “*the Center Party is the fruit born of an ill society,*” while others were presented with literal counterparts such as “the Center Party was caused by a malfunctioning society.”¹⁰ Contrary to expectations, Bosman & Hagendoorn found that the metaphorical statement was no more persuasive than the literal message; in fact, they reported directional support for just the opposite—that metaphors were less persuasive than the literally-worded passages.

In contrast, Bowers & Osborn (1966) found support for the supremacy of metaphor over literal language. In one of the earliest recorded experimental studies on metaphor-based persuasion, they had subjects listen to a speech that either concluded with a metaphorical or literal paragraph, and then report their attitudes toward two polit-

ical issues. One speech provided an argument against special interest groups' desire to impose protective tariffs by invoking various metaphors related to the domain of sex. For example, in the metaphor condition, subjects heard phrases such as “*rape of western economies*,” “*prostituted our own interests*,” and “*economic abortion*,” while the literal phrases covered similar content but did not invoke a metaphor. The other speech opposing government aid to needy students instantiated death metaphors like “our government [will] *slowly strangle our own individuality*,” “*death of freedom*,” and “*gentle murder of our values*.” Bowers & Osborn found that subjects exposed to political metaphors elicited significantly greater attitude change than those subjects exposed to literal versions of the same speech.

Sopory & Dillard (2002) can help us reconcile these competing findings. They conducted a meta-analysis of 29 studies (from 24 published and unpublished works; $N = 3,945$), which covered a wide array of metaphors, attitude objects, and experimental designs (although few of the studies concerned political attitudes). They found a small but significant weighted mean effect size for the hypothesis that metaphors are more persuasive than comparable literal statements ($r = 0.066$; $k = 38$ studies; $N = 3945$ observations). After correcting for measurement error, the effect size rose to $r' = 0.073$.¹¹ To provide a clearer estimate of this effect size, Sopory & Dillard calculated Rosenthal's (1991) “file drawer” effect statistic, which is an estimate of the number of unreported studies with null results that would be needed to overturn the observed effect size—in this case, it is a 164 new studies. More importantly, Sopory & Dillard note that the effect size of metaphorical persuasion could be as large as $r = 0.42$ under optimal settings, in which a single novel metaphor is presented early in the message and with a familiar target.

Taken together, I expect to find *a metaphor persuasion effect, such that exposure to a message with a policy metaphor will produce more persuasion than exposure to a comparable literal message*. In addition, I propose a more nuanced hypothesis concerning *when* political sophistication will likely moderate persuasion for metaphor

versus literal messages. Attitude theorists dating back to McGuire (1968; see also McGuire, 1985) have considered message comprehension as a crucial component of persuasion. These theorists demonstrate that when people have difficulty comprehending the arguments contained within a persuasive message, they are unlikely to change their attitudes. One important determinant of message comprehension is what Carmines & Stimson (1980) call issue difficulty—that is, how “easy” or “hard” an issue is to understand. They note that easy issues (i.e., issues that are symbolic, outcome-oriented, and familiar) will require less conceptual sophistication to comprehend than hard issues (i.e., issues that are technical, means-oriented, and unfamiliar).

As a result of differences in issue complexity, and thus comprehension, I expect *political sophistication to moderate metaphor- and literal-based persuasion when issues are “hard,” but not when they are “easy.”* When an issue is relatively easy to comprehend, citizens at all levels of political sophistication should understand the key arguments contained within a persuasive message, regardless of whether that message contains policy metaphors. In essence, metaphors should not serve a comprehension function for easy issues. This is not to say that a metaphor cannot be persuasive for easy arguments, since policy metaphors may still serve many other functions (e.g., arousing emotions) that facilitate attitude change.

For hard issues, citizens at low levels of political sophistication should be unable to grasp standard (i.e., literal) arguments and thus remain unpersuaded by the message. In contrast, a policy metaphor is likely to help unsophisticated citizens comprehend arguments within a persuasive message and thus produce attitude change. Citizens that are politically sophisticated should be able to understand even the most difficult issue-arguments; thus, they should be persuaded by literal messages. Yet, to the extent that a policy metaphor serves functions other than aiding comprehension, the metaphor will still be more persuasive than the comparable literal message. Stated differently, for easy issues I expect to find a main effect of

message condition (metaphor vs. literal) but no moderation by political sophistication; for hard issues, I expect to find a significant main effect of message, as well a significant message x sophistication interaction (i.e., moderation).

Moreover, I am interested in investigating whether a metaphor's location in a persuasive message influences its effectiveness on political attitudes. On the one hand, a metaphor introduced early in a message could prepare the audience by outlining the speaker's intent and provide a cognitive framework with which to interpret new information. On the other hand, a metaphor presented at the conclusion of a persuasive message could highlight metaphor-consistent information much like we would find in framing studies. Sopory & Dillard (2002) provide some evidence that a metaphor presented early in a message is more persuasive than a metaphor presented at the conclusion. Sopory & Dillard report that metaphors presented early in the message led to greater attitude change (weighted mean effect size: $r = 0.12$; 11 studies; $N = 1139$) than did metaphors occurring near then end of the message ($r = 0.01$; 10 studies; $N = 932$). Of course, this finding is correlational and does not provide a direct test of the metaphor location hypothesis.

There are reasons to believe that the effectiveness of a metaphor's location may be contingent upon the familiarity of an issue (among other things). The location of a metaphor should be inconsequential for familiar issues, since people will already be aware of the central arguments concerning the policy. When presented early in the message, a metaphor can activate information stored in memory, or when presented at the conclusion, a metaphor can highlight information contained within the message. For example, the metaphor *crime is a disease* could reasonably occur anywhere in a persuasive message because we are all familiar with the issue of crime and its "ill-effects" on society.¹²

In contrast, unfamiliar issues should require some explanation before a metaphor can be effective, since it is likely that the metaphor's implications will be unclear without some contextual information. This idea fits well with one of the dominant

theories of metaphor comprehension (i.e., Gentner’s, 1983, structure-mapping theory; see Section 2.5 for a full discussion), since relationships between the metaphor’s concepts cannot be identified without sufficient information about the policy. Once individuals have some basic knowledge about the new issue, the metaphoric inferences will be apparent and likely facilitate persuasion. Thus, I expect that *a metaphor presented at the introduction of a message should only be effective for familiar issues, while a metaphor presented at the conclusion will likely be persuasive for familiar and unfamiliar issues.*

The metaphor location hypothesis also suggests that policy metaphors should draw attention to the contents of a persuasive message. For instance, Ottati et al. (1999) demonstrated that a metaphor can increase an individual’s motivation to carefully scrutinize message arguments (see dual-process models of persuasion: For the heuristic-systematic model, see Chaiken, 1980, 1987; Chaiken, Liberman, & Eagly, 1989; for the elaboration likelihood model, see Petty & Cacioppo, 1986a,b). More specifically, they found that a sports metaphor increased the likelihood that sports enthusiasts would correctly differentiate between strong and weak arguments (i.e., systematic processing), while it reduced this likelihood among those who disliked sports (i.e., heuristic processing). Ottati et al. interpreted these results as evidence of metaphor-induced processing, an effect they called *motivational resonance*.

Ottati et al.’s results suggest that a less exclusive policy metaphor (e.g., a metaphor not bound to the domain of sports) may be able to influence processing mode for a much broader audience by increasing levels of motivation, ability, or both. Thus, I expect that *when motivation and ability are relatively low—as is often the case in politics—a policy metaphor (but not a literal statement) may induce systematic message processing.* Processing mode is important, since attitudes formed by the systematic route to persuasion are stronger than those formed by the heuristic route (Petty et al., 1995). Moreover, Krosnick & Petty (1995) note that

strong attitudes are more durable (i.e., persistent and resistant to change) and disproportionately influence subsequent information processing and judgments, which would presumably matter most as people evaluate political candidates and issues.

2.5 Processing Metaphors

In order to understand the impact of metaphors on citizens' grasp and evaluation of politics, we also need to examine what happens when people are exposed to a metaphor. Fortunately, there is a great deal of research in psychology that has explored these processes, and the debate centers around two dominant approaches. One theory views metaphors as cross-domain comparisons, in which relational similarities are highlighted between the source and target concepts in a structure-mapping process (Falkenhainer, Forbus, & Gentner, 1989/1990; Gentner, 1982, 1983; Gentner & Markman, 1997; see also early iterations of this theory: Malgady & Johnson, 1980; Ortony, 1979; Tversky, 1977). According to Gentner and colleagues, metaphors in the form "X is a Y" are actually treated as if they were explicitly comparative—that is, they were stated like analogies in the form "X is *like* Y."

The basic idea is that an analogical alignment implies a system of relations through a mapping of knowledge from one domain to another. Thus, analogy, and by extension metaphor, is a way of drawing relational similarities independently of the concepts in which these relations are embedded. Although potential analogies can sometimes be difficult to notice at first glance because they are only accessed by relational matches (Dunbar, 2001), analogies, once identified, offer novel insights to the individual. In this way, metaphors highlight existing but often obscure similarities between the source and target concepts.

One serious critique of Gentner's (1983) structure-mapping theory arises when the source and target share no relevant properties (Glucksberg, 2001, 2003; Glucks-

berg & Keysar, 1990; Glucksberg, McGlone, & Manfredi, 1997; Glucksberg, Newsome, & Goldvarg, 2001). This situation could occur if an individual were to have information about one object but not the other. Consider, for instance, the metaphor *Sam is a pig*. According to the structure-mapping theory of metaphor comprehension, this metaphor should only make sense if we know something about the source, a pig, and the target, Sam. Yet, as one can imagine, this metaphor is actually quite informative even if we originally know nothing at all about Sam. In fact, knowing only that *Sam is a pig* conveys information—for example, that Sam is messy—that one did not have prior to the metaphorical statement. As a result of this key weakness, the universality of pure comparison models of metaphor processing has been drawn into question.

To address this shortcoming, Glucksberg and colleagues argue that metaphors act as cross-domain categorizations, in which the target of a metaphor is attributed to a novel, abstract category determined by the source (Glucksberg, 2003; Glucksberg & Keysar, 1990; Glucksberg et al., 1997; Johnson, 1996; Jones & Estes, 2005, 2006). From this point of view, metaphors are understood exactly as they are expressed (i.e., “X is a Y”), meaning that X is a member of the larger category represented by the prototypical member Y. For example, the metaphor *my job is a jail* makes sense by including the word “job” into the superordinate category of “unpleasant and confining places,” which is invoked by the word “jail.” Once the target (i.e., my job) is assigned membership to this higher-order category (i.e., unpleasant and confining places), then the target assumes all of that category’s relevant properties.

One of the most important features of categorization is cognitive efficiency, since categorization is a basic, automatic process that simplifies the world into easily manageable information (McGarty, 1999). Studies have demonstrated that metaphor comprehension is not optional—that is, it is automatic and occurs as quickly as literal processing, which supports the categorization view (Blasko & Connine, 1993; Gibbs, Nayak, & Cutting, 1989). The categorization approach also provides a basis

for judging metaphor quality or goodness of fit: “Good” metaphors will be ones that have definitive prototypes, so that it is clear which category is being invoked. This quality is often referred to as the “aptness” of a metaphor.

However, critics argue that one serious problem for Glucksberg’s categorization theory occurs when a source concept elicits more than one potential metaphoric category. Bowdle & Gentner (2005) cite the example of a snowflake, which can be paired with two semantically related targets—child and youth—but generate two vastly different metaphoric meanings. In this example, the metaphor *a child is a snowflake* leads to the inference that every child is unique, while the metaphor *youth is a snowflake* implies that youth is ephemeral. As evidenced by this simple example, the categorization theory of metaphor comprehension also has its limitations.

Although these two perspectives of metaphor processing have received the greatest attention in psychology, it is worth noting that Lakoff & Johnson (1980; see also Gibbs, 1994; Gibbs, 1996) posit a more controversial approach called “conceptual metaphor theory.” The central idea underlying conceptual metaphor theory is that all concepts are inherently metaphorical and embodied in our everyday experiences. For example, when someone describes their love relationship with phrases such as “look how *far we’ve come*,” “it’s been *a long, bumpy road*,” or “we may have *to go our separate ways*,” this person is invoking the conceptual metaphor LOVE IS A JOURNEY.¹³

Lakoff & Johnson argue that such linguistic evidence reveals the person’s conceptual representation of love. In other words, they argue that love is represented in long-term memory by an actual node for a journey. Yet, as Pinker (2007; see also Murphy, 1996; 1997) notes, the major problem with Lakoff’s conceptual metaphor theory—that “our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature” (Lakoff & Johnson, 1980; p. 3)—is that we first need a set of literal (i.e., non-metaphorical) representations to determine how concepts could fit together metaphorically. In other words, we “can’t

think with a metaphor alone” (Pinker, 2007; p. 251).

To remedy these competing theories of metaphor comprehension, Bowdle & Gentner (2005; see also Gentner & Wolff, 1997; Wolff & Gentner, 2000) propose the “career of metaphor” hypothesis, which combines the comparison and categorization theories to track the evolution of metaphors. Essentially, Bowdle & Gentner argue that novel metaphors are first processed as comparisons via structure-mapping. However, one consequence of this mapping is that certain relational attributes will be activated and become more salient, while non-mapped relations will be suppressed. Repeated exposure to a specific metaphor or source concept with the same metaphorical meaning (i.e., *crime is a disease* and *immigration is a disease*) may eventually generate associations between the metaphoric meaning and the source. That is, a source concept may take on a new metaphorical attribute, in addition to its literal ones. Once this occurs—a metaphor or source becomes “conventionalized” (i.e., more familiar)—the metaphor will be processed as Glucksberg’s categorization theory specifies. In sum, novel metaphors are processed via structural mappings, while conventional metaphors are processed via categorizations (e.g., see Bowdle & Gentner, 2005).

These processing theories suggest other potential avenues for exploration—that policy metaphors may influence automatic, “knee-jerk” reactions to a particular issue. As a metaphor activates existing and relevant knowledge structures from one conceptual domain and relates them to a second domain, the metaphor should also theoretically activate and transfer evaluative information from source to target (e.g., see Charteris-Black, 2006; p. 13).¹⁴ For instance, when an individual encounters the phrase *war on drugs*, this political metaphor should transfer negative affect from the source, war, to the target, drugs. Thus, I hypothesize that *exposure to a policy metaphor, but not a literal equivalent, will create associations between source and target concepts, such that activation of the policy will simultaneously activate relevant attributes from the source of the metaphor*. Moreover, I hypothesize that

such *exposure will also transfer associated affect from the source of the metaphor to the policy itself.*

2.5.1 Are All Metaphors Simply Analogies?

Although Gentner argues that metaphors are processed as analogies, it is worth noting that there are important distinctions between metaphors and analogies (e.g., see Schlesinger & Lau, 2000). First, analogies tend to be within-domain comparisons, while metaphors juxtapose concepts across domains (Kittay, 1987). For instance, a U.S. military intervention (e.g., the Persian Gulf War) could be compared to World War II or the Vietnam War and suggest drastically different interpretations (Gilovich, 1981); yet, these analogies occur within the domain of foreign policy. As such, even though the source analogs are quite instructive, they do require knowledge about these specific events within the domain. A metaphor, on the other hand, can be more general and map characteristics from a more familiar source domain.

Second, since source analogs are often so closely related to the target (i.e., there is nearly a one-to-one mapping), analogies tend to be more prescriptive than metaphors (Holyoak & Thagard, 1995). Third, whereas analogies are limited because of their logical structure (e.g., A is to B, as C is to D), metaphors are flexible and can take many different linguistic forms. For instance, the metaphor *crime is a disease* takes the form “X is a Y,” while the metaphor *crime epidemic* is simply “X Y.” This flexibility of metaphors allows for interesting combinations, which may explain their literary appeal. And fourth, analogies are typically seen as reasoning devices or “cold cognitions” (Khong, 1992), while metaphors have long been known for their affectively charged nature (Edelman, 1971). These differences demonstrate why analogies and metaphors are related, but independent concepts.

2.6 Summary of Hypotheses

Below is the list of hypotheses that I will test empirically throughout this dissertation:

Metaphors in Politics

- Party leaders will use metaphors for a wide range of issues to strategically communicate their policies to the mass public.

Metaphor-Based Persuasion

- Exposure to a message with a policy metaphor will produce greater attitude change than exposure to a comparable literal message.

Metaphor Resonance

- Political sophistication will moderate metaphor- and literal-based persuasion when issues are “hard,” but not when they are “easy.” Stated differently, I expect to find a significant message x sophistication interaction (i.e., moderation) for hard issues but only a main effect of message condition (metaphor vs. literal) for easy issues. In every case, an apt metaphor should be more persuasive than a literal-only message, but it should confer its greatest benefits to unsophisticated citizens for complex political issues.

Metaphor Location

- A metaphor presented at the introduction of a message should only be effective for familiar issues, while a metaphor presented at the conclusion will likely be persuasive for familiar and unfamiliar issues.

Metaphor-Induced Systematic Message Processing

- When motivation and ability are relatively low—as is often the case in politics—a policy metaphor (but not a literal statement) may induce systematic message processing.

Metaphoric Associations

- Exposure to a policy metaphor, but not a literally equivalent statement, will create associations between source and target concepts, such that activation of the policy will automatically activate relevant attributes from the source of the metaphor.
- Exposure to a policy metaphor will transfer affect from the source of the metaphor to the target policy.

Notes

1. Quote taken from Holmes's (1892) *The Professor at the Breakfast-Table*.
2. The source is also known as the "vehicle" or "base" of the metaphorical expression, and the target is often referred to as the "tenor" or "topic."
3. For two excellent edited volumes about the representation and processing of metaphors, see Gibbs (2008) and Ortony (1993).
4. Of course, the amount of information that an individual would require depends largely on their motivation and ability to process the available political information.
5. Sopory & Dillard (2002) conducted a meta-analysis and report that metaphors located before an informational passage were more persuasive than those located at the end of the passage. The implication of this finding is that metaphors facilitate encoding of information rather than retrieval; that is, metaphors have an organizational function.
6. Note that a demand-side metaphor like *drug use is an illness* has different implications for how to address the problem of drugs in society, namely that those suffering from its effects must be "treated."
7. Based upon a ranking by Lucas and Medhurst at <http://www.americanrhetoric.com/>.
8. It may also be worth noting that metaphors can be used to obscure thinking as Orwell (1947) argued in his essay titled "Politics and the English Language."
9. One possible explanation for Johnson & Taylor's (1981) political sophistication findings is that the metaphors were actually complex and difficult to understand. Thus, only sophisticates could digest the information and update their attitudes.
10. The experimental materials used by Bosman & Hagendoorn (1991) are in Dutch; thus, the English translations of the stimulus materials are imperfect.

11. For each study, Sopory & Dillard (2002) estimated effect sizes (r) based upon cell-to-cell comparisons calculated from the reported (t) or (F) statistics. These estimates were weighted to account for unequal cell sizes, and whenever possible, the reliabilities of the attitude scales were used as corrections within individual studies. The average reliability for the attitude dependent variable was 0.88.
12. This particular metaphor may also be effective anywhere in a message because the metaphor itself is familiar (rather than the issue).
13. Following the convention in linguistics, I have written conceptual metaphors in all capital letters.
14. I present a formal test of this association hypothesis in Chapter 6.

Table 2.1: Examples of Political Metaphors by Presidential Era: From FDR to George W. Bush

Roosevelt 1933-1945	Truman 1945-1953	Eisenhower 1953-1961	Kennedy 1961-1963	Johnson 1963-1969
<i>arsenal of democracy</i>	<i>do-nothing Congress</i>	<i>atoms for peace</i>	<i>Camelot</i>	<i>Great Society</i>
<i>creeping socialism</i>	<i>Fair Deal</i>	<i>bigger bang for a buck</i>	<i>missile gap</i>	<i>pressing the flesh</i>
<i>New Deal</i>	<i>influence peddler</i>	<i>bird dog... kennel dog</i>	<i>New Frontier</i>	<i>smells of magnolias</i>
<i>rendezvous with destiny</i>	<i>red herring</i>	<i>domino theory</i>	<i>torch has been passed</i>	<i>war on poverty</i>
Nixon 1969-1974	Ford 1974-1977	Carter 1977-1981	Reagan 1981-1989	Bush 1989-1993
<i>black capitalism</i>	<i>back channel</i>	<i>born again</i>	<i>evil empire</i>	<i>line in the sand</i>
<i>Deep Throat</i>	<i>national nightmare</i>	<i>killer rabbit</i>	<i>October surprise</i>	<i>moving the goalposts</i>
<i>the Plumbers</i>	<i>quiet diplomacy</i>	<i>peanut politics</i>	<i>star wars</i>	<i>thousand points of light</i>
<i>wilderness years</i>	<i>shuttle diplomacy</i>	<i>steel magnolia</i>	<i>stay the course</i>	<i>voodoo economics</i>
Clinton 1993-2001	Bush 2001-2009			
<i>bubba factor</i>	<i>axis of evil</i>			
<i>ethnic cleansing</i>	<i>compassionate conservative</i>			
<i>political gridlock</i>	<i>netroots</i>			
<i>New Covenant</i>	<i>war on terror</i>			

Note: Data for this table was extrapolated from Safire's section titled "Presidents and the Phrases of Their Eras" (2008; p.xv-xx).

Chapter 3

Metaphors in Politics

The genius of democracies is
seen not only in the great
number of new words
introduced but even more in the
new ideas they express.

—Alexis de Tocqueville¹

During the second presidential debate of 2008, a member of the audience asked the candidates how the \$700 billion “bailout package” for the financial industry was going to affect the average American. McCain answered that it was “an excellent question” but implied that part of the resistance to the newly passed bill was due to the “bailout” metaphor used to describe it: “You just described it [as a] *bailout*, when I believe that it’s [a] *rescue*...this *rescue package* means that we will stabilize markets, we will shore up these institutions.” McCain’s choice of words was not accidental. Earlier in the week, just hours after House Republicans had helped defeat the initial version of the economic stimulus package, McCain argued that the problem was largely how the policy was being conceptualized:

The first thing I’d do is say, let’s not call it a *bailout*, let’s call it a *rescue* because it is a *rescue*. It’s a *rescue* of Main Street America. We haven’t convinced people that this is a *rescue effort*, not just for Wall Street, but

for Main Street America.²

Like McCain, President Bush and other prominent supporters of the financial stimulus package worked hard to define the legislation as a *rescue package*, carefully avoiding the loaded “bailout” metaphor.

Ultimately, it is unclear whether the *rescue package* metaphor mobilized more support for the economic policy than the competing *bailout plan*. What is clear, however, is that prominent politicians believed the metaphors used to conceptualize the policy was important. It is for this reason that the current chapter explores the metaphors that politicians choose to communicate their policies to the mass public.

3.1 Study 1

The content analysis presented in Study 1 is intended to answer several questions about the nature of political metaphors in a real campaign environment. First, are politicians even using metaphors when they talk about various policies? Second, assuming that policy metaphors are being used, are there any common source domains that occur frequently, or are there any particular issues that are rife with metaphors? Third, do any of the political metaphors contain strong emotional appeals, or are they primarily used to explain complicated policies? And finally, are there any noticeable differences between the political parties concerning their utilization of policy metaphors? That is, has one political party been more likely than the other to argue its position with metaphorical language?

3.1.1 Data

The data for this study come from weekly radio addresses of the Republican and Democratic parties preceding the 2006 election. Beginning on January 1st and ending on November 7th, 2006, I coded 44 Republican addresses from President Bush and 45 Democratic addresses from a wide array of party members.³ Thus,

the total number of speeches is 89, which comprises a corpus of more than 60,000 words (31,412 words for Republicans; 30,501 words for Democrats).⁴ The mean word length of Bush's speeches is 714 words, while Democrats averaged 689 words.

I chose to examine weekly radio addresses for a few important reasons. First, the radio addresses are a unique forum in which political leaders can craft weekly messages to communicate directly with the mass public. Second, these messages are well-thought out and provide insights into how the elites from both of the parties want citizens to conceptualize different policies. And third, although there were many different issues discussed throughout 2006, each radio address is generally centered around a single policy domain. As a result, the speeches provide us with a detailed record of the language used by the parties.

I opted to study the radio addresses leading up to the 2006 election, since campaigns are generally when political debates are fiercely competitive. It is also a time when the parties and candidates spend a great deal of energy "selling" their platform directly to the voters. The advantage of analyzing general campaign rhetoric (as opposed to a specific policy debate like that of Social Security privatization) is that this broad coverage during the election should provide a clear picture of the actual use of policy metaphors across a range of political issues.

3.1.2 Method

The procedure that I used for the content analysis is relatively straightforward. First, I downloaded transcripts of the weekly radio addresses from the Republican and Democratic parties' respective websites. Next, I read the full speech from start to finish to get a sense for how the speaker was conceptualizing the policy or policies contained in the radio address. Then I reread the speech and highlighted any political metaphors that could be identified. Note, however, that I did not necessarily code every single metaphorical statement; instead, I included only those metaphors that were politically relevant. For example, in a speech about Samuel Alito's Supreme

Court confirmation hearings, President Bush mentioned Alito’s aggressiveness going after “white-collar” crimes, as well as the praise he has received from attorneys “across the political spectrum.” While these examples technically are metaphors, they are *dead* metaphors in that they tell us little about how President Bush conceptualizes this particular political event. Instead, I focused my efforts on identifying policy metaphors that offer novel or evocative conceptualizations of the particular issue. Finally, after I coded policy metaphors used in each of the 89 radio addresses, I went back through them and tried to identify common patterns of usage for each issue domain and political party.

3.1.3 Results

National Security

I begin my discussion with national security policy, since it was the most frequently discussed issue during the 2006 election cycle. President Bush and the Democrats discussed national security issues in nearly half of their speeches for a combined total of 42 out of 89 radio addresses. The data reveal that President Bush invoked numerous political metaphors in his speeches about national security. The following excerpt provides a prime example of Bush’s metaphorical national security language:

This week the international community continued to *build a political and security framework* to confront the crisis in the Middle East...We saw that when an entire region *simmers in violence*, that violence will eventually *reach our shores* and *spread across the entire world*. The only way to secure our Nation is to *change the course of the Middle East*—by fighting the *ideology of terror* and *spreading the hope of freedom*...So we have *launched a forward strategy for freedom* in the broader Middle East, and that strategy has *set in motion a transformation* that is changing

millions of lives for the better. (July 29, 2006)

This example is particularly interesting because not only is it rife with metaphors, but it also contains three central metaphoric themes that Bush utilizes when talking about national security: Metaphors derived from motion, those concerning building, and those targeted at freedom.

First, President Bush conceptualized national security in terms of metaphors of motion in more than half (11 out of 21) of his speeches.⁵ Consider these representative examples:

The people of Iraq formed a national unity government. This is an important *milestone on the road to democracy* in Iraq...We have taken *great strides on the march to victory*. (April 29, 2006)

The *way forward* will be difficult, and it will require sacrifice and resolve. (August 19, 2006)

The *path to victory will be uphill and uneven*...yet we can be confident of the outcome because America will not waiver—and because the *direction of history leads toward freedom*. (September 2, 2006)

The political metaphors above highlight Bush's conceptualization of the situation in the Middle East as one of an arduous journey—one that can only be completed successfully with persistence and resolve. By using this language, Bush hopes his audience will understand that the U.S. is making progress (i.e., we are *moving forward*). This language is in stark contrast to many dire media reports at the time that called the status of Iraq a “quagmire,” or even worse, a situation that was deteriorating.

Second, Bush repeatedly used metaphors of building in his national security radio addresses. In more than 40% (9 out of 21) of his speeches, Bush invokes this building metaphor when discussing how he sees the U.S. role in the Middle East:

We will *unleash the entrepreneurial spirit of America* and *build a more prosperous future...and create a foundation for a sustainable peace...We will build a more peaceful world.* (August 19, 2006)

The excerpt reveals Bush's intent to *rebuild* the Middle East in a way that is less threatening to Americans and U.S. interests. Moreover, Lakoff & Johnson (1980) argue that this building metaphor is associated with a number of positive attributes like progress, strength, structure, and upward movement. Bush's positive conceptualization of the U.S. role is much different than critics who argue that the U.S. is destabilizing the region.

Bush continues this pattern of building metaphors when talking about specific crises in the Middle East. For instance, when talking about Afghanistan, he stated:

The Afghan people are *building a vibrant young democracy* that is an ally in *the war on terror...America will stand with the Afghan people as they build a free society...[we're] helping to lay the foundations of peace and prosperity* for generations to come. (March 4, 2006)

In Afghanistan, President Karzai continues the work of *building a safer and brighter future* for his nation...We will help the Afghan people *build a nation* that will never again oppresses them. (September 23, 2006)

And, Bush used similar building metaphors to discuss the status of Iraq's democratic government:

Iraq's leaders now have *laid the foundations* for a democratic government...By helping the Iraqi people *build their democracy*, America will...*establish a beacon of liberty* in the Middle East. (April 29, 2006)

America will stand with the democratic government of Iraq. We will help Prime Minister Maliki *build a free nation* that can govern itself, sustain itself, and defend itself. (October 21, 2006)

Finally, Bush invoked these policy metaphors in his discussions of the Israeli-Palestinian conflict:

[President Abbas is] working hard to oppose violent extremists and *build a society* in which the Palestinian people can raise their children in peace and hope...the United States can help the Israelis and Palestinians *build a more hopeful future* and achieve the peace we all want in the Holy Land. (September 23, 2006)

With his *nation-building* metaphors, President Bush attempts to draw attention away from the negativity of the conflicts and instead focus on how U.S. actions will lead to stability and peace in the region.

Third, President Bush invoked a range of metaphors related to freedom. In fact, Bush utilized metaphors of freedom in more than 75% (16 out of 21) of his weekly radio addresses, which makes it one of Bush's most important set of political metaphors. Below is an example of the variety of metaphors of freedom that Bush used in a single radio address:

I will have the honor of thanking many [U.S. soldiers] personally for their service in *freedom's cause...Freedom is the gift of God* and the right of all mankind...Our Nation remains proud to *carry freedom's torch*...We still pledge our lives, our fortunes, and our sacred honor to *freedom's defense*. (July 1, 2006)

In other instances, Bush instantiates what are called ontological metaphors of freedom, which are ways of viewing abstract concepts like freedom in terms of concrete entities and substances (Lakoff & Johnson, 1980). For instance, Bush argued that freedom is an entity that can be tasted or expanded:

And, 25 million people have now *tasted freedom*. (March 4, 2006)

We will defeat the terrorists and *expand freedom* across the world. (August 19, 2006)

In other addresses, Bush refers to freedom as a symbol for the rest of the world:

Our strategy...is to help establish a democratic Iraq, which will be a *beacon of liberty* in the region and an ally in the global *war on terror*.
(September 2, 2006)

Bush also frequently referred to freedom as a powerful force:

America's security depends on *liberty's advance* in this troubled region, and we can be confident of the outcome because we know the *unstoppable power of freedom*. (August 19, 2006)

We must work together to support the *forces of freedom and moderation* throughout the Middle East. (September 16, 2006)

And finally, Bush redefines enemy combatants as "*enemies of freedom*":

With vigilance, determination and courage, we will defeat the *enemies of freedom*. (September 9, 2006)

These various metaphors indicate the importance that freedom holds for the Bush Administration and are intended to provide concrete and novel meaning to the abstract concept of freedom.

Now if we turn to the Democrats' 21 weekly radio addresses that cover issues of national security, the data reveal only one consistent political metaphor, namely the metaphor of motion. More specifically, Democrats repeatedly invoked the metaphor that the *U.S. was moving in the wrong direction* in at least 12 of their 21 speeches. Consider these representative examples:

The Administration has taken us on a *path to nowhere*. (General Wesley Clark; March 31, 2006)

Our troops and the American people have been exceedingly patient as previous *mileposts in Iraq* have passed without progress...To most Americans, this looks like we're *moving in the wrong direction*, at a time when

our national security demands we *chart a new course*. (Senate Minority Leader Harry Reid; June 10, 2006)

The President has asked us to ‘*stay the course*’...Americans know and Democrats agree: We must *change the course*. 2006 must be a year of significant transition. It is time for a *new direction* in Iraq. (House Speaker Nancy Pelosi; June 17, 2006).

That’s why Democrats are pushing for a *new direction*. We have a new plan...and it starts by *charting a new course* in Iraq...the President and [*sic*] Congressional Republicans stubbornly insist on *staying a failed course*. It’s time for a *new direction*. (Representative Sherrod Brown; September 8, 2006).

The Democrats’ metaphors of motion are actually quite interesting, since they are a direct response to the Bush’s claims that the U.S. is *moving forward*, albeit slowly, in Iraq. Instead, Democrats challenged this conceptualization by arguing that what matters most is *which* direction the country is moving. Although their political metaphors were much less diverse than those of President Bush, Democrats did present a consistent policy metaphor to the American public.

The Economy

As was the case with national security, Bush invoked several policy metaphors in his 14 weekly radio addresses that touched on the economy. The data reveal that Bush consistently invoked 3 primary metaphors, namely positive metaphors of growth, expansion, and motion. The following excerpt highlights each of Bush’s key conceptualizations about economic policy:

Our agenda for *growing* the economy and helping small businesses starts with wise tax policy...America’s economy is strong and *growing* stronger.

Small businesses have been a *driving force* behind the tremendous *growth*...
By adopting sound policies that help our small businesses continue to
grow and *expand*, we will keep the economy *moving forward* and *extend*
prosperity and hope in our country. (January 21, 2006)

In essence, Bush uses ontological metaphors to talk about the economy as if it were a physical entity. For example, Bush states that the economy is “growing” 61 times in his 14 radio addresses:

The *economic growth* fueled by *tax relief* has helped *send tax revenues soaring*. When the *economy grows*, *businesses grow* with it. (July 15, 2006)

Similarly, Bush promoted the metaphor of “economic expansion,” which is another ontological metaphor aimed at redefining the economy as an entity that is getting larger:

Our *economic expansion* is *lifting the lives* of millions of Americans, and to keep this *expansion going*, we must maintain...low-tax policies. (July 8, 2008)

And finally, Bush utilized metaphors of motion to suggest that the economy is not static:

Our economy is heading into the summer on the *fast track*, and one of the best ways to keep our *momentum going* is to restrain spending in Washington, D.C. (June 24, 2006)

Each of these examples highlights the positive metaphors that President Bush invoked to talk about economic policy with the American public.

In addition to these positively valenced metaphors concerning the economy, Bush also utilized negative metaphors when speaking about taxes. For instance, Bush invoked the “*tax relief*” metaphor 22 times in 7 out of 11 different weekly radio

addresses that covered tax policy. The frequency of Bush's *tax relief* metaphor is interesting, given that Lakoff (2004) has argued this particular metaphor has been extremely effective in shaping attitudes toward taxes. Lakoff explains why: "When the word *tax* is added to *relief*, the result is a metaphor. Taxation is an affliction. And the person who takes it away is a hero, and anyone who tries to stop him is a bad guy" (p.4). In other words, simply using this metaphoric phrase makes it difficult for those opposed to President Bush's reduction in taxes, since they start the debate on the wrong side of the issue.

In addition to *tax relief*, Bush also invoked negative metaphors when referring to the estate tax, as well as taxes that affect married couples filing jointly. For instance, Bush stated:

We also put the *death tax* on the *road to extinction* because farmers and small business owners should not be taxed twice after a lifetime of work.
(January 21, 2006)

We also reduced the *marriage penalty*, because our tax code should encourage marriage, not penalize it. (April 15, 2006)

Rather than referring to this specific policy as an estate tax, Bush instantiated metaphors of death with his "*death tax*" and "*road to extinction*." In addition, the higher tax bracket that married couples often encounter when they file their taxes jointly is now a *penalty*. In effect, taxes are communicated as burdensome, associated with death, and penalizing the institution of marriage.⁶

In contrast to Bush, Democrats only focused on economic policy in 4 of their 45 weekly radio addresses. This lack of attention on the economy is not surprising, since Democrats likely did not want to remind voters of the relatively strong economy in 2006. As a result, it is difficult to identify any real patterns to the data, other than noting that Democrats invoked far fewer policy metaphors when discussing economic policies. This is not to say that Democrats speeches were completely devoid of

policy metaphors, as evidence by House Speaker Nancy Pelosi and Governor Jennifer Granholm:

The Republican budget is a moral failure, empty of spiritual hope and nourishing resources...[Democrats] must join the religious community in drawing a moral line in the sand. (House Speaker Nancy Pelosi; January 4, 2006)

I want to respond directly to the president, on behalf of the Michigan workers and families who are struggling as their *jobs are being shipped overseas*. As the governor of a state that is the *epicenter of America's manufacturing crisis*. (Governor Jennifer Granholm; February 3, 2006).

It is interesting to note that in the examples above, Pelosi draws a rather abstract metaphor about the budget—that it is devoid of “spiritual hope and nourishing resources”—while Granholm uses a more common disaster metaphor related to earthquakes (i.e., epicenter). Despite these two examples, Democrats instantiated relatively few economic policy metaphors.⁷

Health Care

In contrast to national security and economic policy, President Bush did not focus on the issue of health care in his weekly radio addresses. In fact, he only gave two speeches on Medicare and mentioned health-related issues in only two other speeches. Thus, at most, Bush devoted less than 10% of his 44 radio addresses to this issue. Moreover, unlike the other issue areas that have thus far been full of political metaphors, Bush's language is essentially devoid of any health-care metaphors. Of course, this may simply be the result of having much less data to analyze, but it noteworthy, nonetheless.

Democrats, on the other hand, focused on health-care in 7 of their 45 speeches (15% of the total), and they mentioned the issue in as many as 20 of their radio ad-

dresses (44%). The majority of the specific health-care speeches centered around the issue of Medicare, for which Democrats crafted many negative metaphors. Consider these representative examples:

Seniors are being denied medications. Their Medicaid drug coverage was abruptly terminated. And a *blizzard of red tape has engulfed seniors, pharmacists, and doctors alike*. (Representative Henry Waxman; January 30, 2006)

Medicare Part D is the FEMA of health care...[It] allows the drug and insurance companies to *rob our seniors...*[Seniors] do not deserve to be...made *victims of backroom deals* by pharmaceutical and insurance lobbyists. (Representative Marion Berry; March 24, 2006)

Seniors here in Connecticut are hitting what is called the '*doughnut hole*'—when the Medicare program they pay for stops covering the medicines they need. It's time to change the leadership in Washington so we can *fill that doughnut hole and go in a new direction on Medicare*. (State Senator Chris Murphy; September 19, 2006)

Each of these metaphors reflects a different cognitive strategy to persuade voters that Bush's Medicare plan is a failure. In particular, the last two examples—*Medicare Part D is the FEMA of health care* and *seniors are hitting the doughnut hole*—are relatively novel ways of thinking about the issue. In addition, the last excerpt also contains the *new direction* metaphor that Democrats adopted from their speeches concerning the wars in Iraq and Afghanistan.

There were two other health-related speeches that focused on the issue of stem cell research, which turned out to be a heated policy debate. Recall that Democrats led the effort to pass legislation that would ease the ban on federal funding of embryonic stem cell research, but that President Bush used his first veto in his nearly six years

in office to kill the legislation. Interestingly, these two Democratic speeches were rife of metaphorical language. Below is an example of the positive metaphors that senate candidate Claire McCaskill invoked to rally support for embryonic stem cell research:

Our great nation has always been a *beacon to the world* when it comes to medical advancement...This stem cell legislation will *hold up the light of hope* for those who suffer and their families...Please let you senator and the President know that you do not want America to *turn her back on cures, on life, on hope*. (July 15, 2006)

In contrast to McCaskill's policy metaphors of hope, Representative Diana DeGette unleashed a slew of negative metaphors castigating President Bush's decision to veto the legislation:

The President's veto had nothing to do with morals. It had everything to do with *cold, calculated, cynical political gain*—the kind of politics that *snuffs out the candle of hope* and condemns that disabled and the sick...*The President's veto is a sad sidebar* in a debate that has been about ethical scientific research and hope. The veto has *backfired* already, *putting the spotlight on his stubborn resistance to facts*. This *last-gasp* effort to stop stem cell research will be viewed by historians *as a sign more of the weakness of the opponents than a roadblock to progress*. (July 21, 2006)

Unlike the more cognitive metaphors to describe the Medicare fiasco, the Democrats' metaphors on stem cell research seemed largely affective. That is, the stem cell metaphors appeared to be less about helping voters understand the issue and more about evoking emotional reactions to the President's actions.

Immigration

Like national security and health care, the debates about immigration were marked by political wrangling and protests. Bush devoted 4 speeches to the issue of immigration, and he used two policy metaphors frequently to communicate his position to the public. First, Bush implied the current immigration policy is “broken,” and that a new “system” is needed:

By working together, we can *fix our immigration system*. (April 8, 2006)

We can *fix the problem* of illegal immigration and *deliver an immigration system* that is rational and compassionate...to keep America what she has always been—an *open door to the future*. (August 5, 2006)

Second, Bush invokes several different metaphors of fairness to imply that those wishing to come to the U.S. must do so legally:

Granting amnesty would be unfair, because it would allow those who *break the law to jump ahead of people who play by the rules and wait in the citizenship line*. Amnesty would also be unwise, because it would encourage *waves of illegal immigration*, increase *pressure on the border*, and make it more difficult for law enforcement to focus on those who mean us harm. (March 25, 2006)

We need a temporary worker program that will create a *legal and orderly path for foreign workers* to enter our country...They should not be given *an automatic path to citizenship*. (August 5, 2006)

As these two excerpts demonstrate, Bush conjures the image of immigrants waiting in an orderly line at the border to gain their citizenship. Moreover, he relates the familiar, yet irritating, feeling that one experiences when someone moves to the front of the line without waiting their turn. Of course, the reality is that becoming a citizen

is not a matter of waiting in line; generally it is a long and difficult bureaucratic process, which is why people often resort to entering the country as undocumented immigrants.

Democrats only devoted 2 speeches to immigration, although it was mentioned cursorily in 3 others. In their radio addresses to the public, Democrats used Bush's *broken system* metaphor, as well as other war metaphors. Consider this excerpt from a speech by Representative Mike Honda:

I was hopeful earlier this week when the President set out to address the nation regarding *our broken immigration system*...At a time when our country needed a detailed, long-term solution, we instead received *short-term window dressing fixes*. (Representative Mike Honda; May 20, 2006)

What is interesting about Honda's statement is that he turns Bush's metaphor around, by stating that the President only delivered "*short-term window dressing fixes*" instead of a long-term fix. Representative Hilda Solis continued the negative immigration metaphors but derived them from the domain of war:

The Republican Party has steadily *built up its assault on immigrants*...Republicans are not just alienating Latinos with their *surrender to the far right*, they're alienating Americans. (April 14, 2006)

As both of these examples demonstrate, Democrats did instantiate metaphors in their discussions of immigration, although it is difficult to determine if these metaphors reflected more general patterns because of data limitations.

Energy

Despite rising oil prices and the problems overseas, Bush devoted only 1 of his weekly radio addresses to energy policy, although he did mention it in as many as 10 other speeches. For the most part, Bush did not utilize many policy metaphors in his

discussions, except for metaphors calling for “*energy independence*,”⁸ as well as other metaphors like “*growing energy needs*.”⁹ Of course, my failure to identify political metaphors may be due to data limitations, rather than an intentional strategy on Bush’s part.

In contrast to Bush, Democrats used a series of negative policy metaphors to characterize the President’s energy policy. They focused on energy-related issues in 3 of their weekly radio addresses, and they mentioned energy in 11 other speeches. The Democrats’ metaphors were largely negative and conceptualized oil as an *addiction*, and that we cannot simply *drill our way out of this problem*:

President Bush says, “We have a serious problem. *America is addicted to oil*...We cannot *drill our way out of this problem*...dependence on foreign oil *puts a chokehold on our economy and military*. (Senator Bill Neslon; April 22, 2006)

From this Republican controlled Congress, we hear more of the same: ‘Let’s just *drill our way to energy independence*, sacrifice our environment, and provide *big tax breaks to Big Oil*’...Democrats, on the other hand, want to implement bold changes that ease *consumers’ pain* today, and in the longer term, *wean America from its addiction to foreign oil*. (Representative Bart Stupak; April 29, 2006)

Democrats want to *jumpstart America’s stalled energy strategy*...We cannot *drill our way to energy independence*...It’s time that we simply stop talking about *energy independence* and start *running towards a future* that will make America more secure and more economically competitive. (Senator Maria Cantwell; May 6, 2006)

As these excerpts demonstrate, Democrats mainly invoked negative metaphors to differentiate their position on energy with that of President Bush and other Republicans.

Lobbying

Although Bush did not discuss the issue of corporate lobbying in any of his speeches, Democrats allocated 3 entire speeches to the issue, as well as mentioned it in at least 7 others. As a result, I cannot make any comparisons between the parties, but I can discuss what metaphors Democrats chose to invoke for this issue. Not surprisingly, Democrats instantiated negative metaphors castigating “*the culture of corruption*” and influence of money in Washington politics. Here are just a few excerpts highlighting various Democratic metaphors:

Republicans have turned our democratic government into *an engine of patronage*...[Lobbyists] have *infiltrated every aspect now of our government*...Under Republican guidance, *America has truly been put up for sale to the highest bidder*. (Representative Loiose Slaughter; January 6, 2006)

A culture of corruption sic is preventing government from dealing with the real needs of our nation...We need to *close the revolving door between Congress and K Street*. (Senator Dick Durbin; January 13, 2006)

Senator Minority Leader Harry Reid continued this metaphoric reasoning by arguing that Washington works on a “*pay to play*” dictum. Moreover, he also instantiated the metaphor *corruption is a disease* to discuss how new legislation will curtail the power of lobbyists:

There’s the Republican ‘K-Street’ Project, which grants special interests the ability ‘*to play*’ in Republican controlled Washington—as long as they are willing to ‘*pay*’...This legislation not only *treats the symptoms of corruption*, it also *treats the disease*. (January 20, 2006)

As all of the examples demonstrate, Democrats used a variety of negative metaphors to characterize the perceived perils associated with lobbying.

Social Security

Social Security was another issue that did not get any attention from President Bush, while Democrats devoted 2 radio addresses to this issue (and it was mentioned briefly by 2 other speakers). Despite the relative lack of data on this issue, Democrats did instantiate several policy metaphors:

Social Security is a promise to America's senior citizens that has allowed millions of older Americans to be appropriately rewarded for their lifetime of hard work. Today, *Social Security is under attack*. Democrats are *fighting for a new direction for Social Security*. (House candidate Bruce Braley; July 8, 2006)

Republicans in Congress have been consistent *rubber stamps* for the misguided policies of the Bush administration. Not only do they want to privatize Social Security, they are *raiding the Social Security trust fund* as well. (House candidate Ed Perlmutter; September 23, 2006)

These two excerpts reveal that Democrats invoked both positive (e.g., *Social Security is a promise*) and negative (e.g., *Social Security is under attack*) policy metaphors concerning Social Security. In addition, Democrats used the *new direction* metaphor that appears in almost every Democratic speech since June, 2006.

3.1.4 Discussion

In this chapter, I set out to explore how Republican and Democratic party leaders used (or failed to use) policy metaphors in their routine communications with the American public. Recall that I had asked a series of questions about metaphors in politics. First, I asked if politicians were even using metaphors when they talk about various policies. Given my systematic analyses of nearly 90 weekly radio addresses, I can safely conclude that party leaders do indeed invoke metaphors to conceptualize a

wide range of policies. For example, President Bush and the Democrats instantiated policy metaphors in their fight for public opinion over the Iraq War and the War on Terror. President Bush stated that “the *path to victory will be uphill and uneven*,” while Democrats like General Wesley Clark countered that the Bush Administration has “taken us on a *path to nowhere*.” These dueling metaphors actually raise interesting questions about the effectiveness of metaphorical and literal language in competitive environments.

Second, I asked if there were any common source domains that occur frequently, or any particular issues that had more metaphors than others. Many of the source domains used by President Bush and the Democrats were actually discussed by Lakoff & Johnson (1980; see also Safire, 2008) nearly thirty years ago. For instance, both sides of the debate invoked metaphors of motion, building, war, disasters, and the body. This is not surprising, since by definition a metaphor explains an abstract or complicated concept in terms of an unrelated, but familiar source domain (which describes each of these domains). The second part of my question is a bit more difficult to answer, since the data I analyzed is not balanced among the various issues. This creates a potential confound, since issues that received more coverage are more likely to contain policy metaphors just by sheer volume.

Instead, the more interesting question concerns whether there are any noticeable differences between the parties in their utilization of metaphors for certain issues. Although such differences will also likely be affected by differences in issue coverage, they are at least determined by the party leaders themselves, which is the central question raised here. Reviewing the data, President Bush invoked metaphors to discuss national security, economic policy, and immigration, but he used relatively few obvious metaphors for health care and energy policy (there is no data for the issues of lobbying or Social Security). In contrast, Democrats instantiated metaphors mainly in health care, energy, immigration, lobbying, and Social Security, but they used far fewer with respect to the economy. For national security, Democrats did

repeat the theme of calling for a *new direction*, but it was a singular metaphoric theme centered around language Bush had championed.

I also wondered whether the policy metaphors would be cognitively-based and used to explain complicated issues, or if they would be affectively-based and intended to evoke emotional reactions. The answer to this question seems mixed: Sometimes the metaphors used by party leaders were almost entirely cognitive, while other times they appeared to be purely emotional. However, I would say that the balance tends to tilt toward affectively-based metaphors, as many seemed to be used to elicit an emotional response from the public. This trend suggests that future researchers should devise tests concerning how metaphors can be used to evoke specific emotional reactions from an audience, as well as what impact this may have on their political judgments.

In sum, politicians did use metaphors to convey their ideas about policy to the mass public. Note, however, that I am not arguing that these politicians did so effectively. For instance, President Bush instantiated several national security metaphors that did not seem to stem the tide of negative public opinion toward the Iraq War in 2006. Of course, these differences may be explained by differences in coverage of certain issues in my data, as well as the fact that the Republican speeches all originate from a single source, while Democratic speeches come from a group of speakers. Ultimately, this content analysis served its purpose, but it cannot answer the question of whether policy metaphors are particularly persuasive, which is why I turn to the experimental studies in subsequent chapters.

Notes

1. Quote taken from De Tocqueville's (1863) *De la democratie en Amerique*.
2. As quoted in Barr (2008; para. 2 & 3); my emphasis added.
3. Transcripts of the archived weekly radio addresses were readily available on the Internet. President Bush's addresses were downloaded from the White House website. Democratic radio addresses were accessed from <http://www.democrats.org>.
4. For the subsequent analyses, I excluded 6 radio addresses because they covered special topics: Three speeches about Hurricane Katrina (2 by Democrats, 1 by President Bush), 2 speeches about Samuel Alito's Supreme Court confirmation hearings (by Bush), and 1 about child safety in the wake of the Mark Foley sex scandal (by Democrats). In addition, I excluded a speech about education and gay marriage by President Bush, since each of these issues were only discussed in a single speech from one party. My decision to exclude these weekly radio addresses had nothing to do with the number of policy metaphors in these speeches, which varied wildly by issue.
5. I used Huening (2008)'s free TextSTAT software (Version 2.8) to help me determine the frequency of specific metaphors in the data, as well as to identify representative examples of metaphorical usage.
6. Of course, these are not the only metaphors that Bush used when speaking about economic policy. For instance, Bush spoke of creating a "*level the playing field* for our workers, farmers, and businesses" (March 4, 2006), as well as cautioning against those that want to "*wall off our economy* from the world" with more protectionist trade policies (February 4, 2006).
7. Granholm did use the word "fight" 10 times in her radio address, which could be argued invokes another conceptual metaphor.
8. Radio address delivered on February 25, 2006.
9. Radio address delivered on February 18, 2006.

Chapter 4

Policy Metaphors and Persuasion

One can resist the invasion of an army, but one cannot resist the invasion of ideas.

—Victor Hugo¹

In the previous chapter we saw how politicians readily employ metaphors to communicate their policies to the general public. Yet, we know surprisingly little about whether the use of policy metaphors actually affects political attitudes. The three experiments that I present in this chapter attempt to fill this void in the literature by testing if and how metaphors facilitate political persuasion. In the first study, I explore whether a metaphor's location in a speech leads to systematic message processing. In the second and third studies, I test whether policy metaphors confer a special advantage over literal language, as well as examine for whom and how this process may work.

4.1 Study 2

Gentner's (1983) structure-mapping theory of metaphor processing suggests that relational features from the source of a metaphor are mapped onto its target. In the case of a policy metaphor like *immigration is a disease*, features from the source,

disease (e.g., malfunction, spread, treatment, etc.), are structurally mapped onto the target policy of immigration. One interesting question derived from this theory is whether the metaphor-induced structural mapping is more effective when it occurs before or after other arguments and policy-relevant information. A metaphor introduced early in the message could prepare the audience by providing a cognitive framework with which to interpret new information, and it would be processed before limited cognitive resources have been devoted to other information. Yet, a metaphor presented at the end of a persuasive message could serve to highlight metaphor-consistent arguments (i.e., induce the audience to reconsider the message from this new perspective), as well as enjoy a recency effect.

There are reasons to believe that the effectiveness of a metaphor's location may depend upon the familiarity of an issue. For familiar issues, individuals should have sufficient information about the policy so that the structure-mapping process can occur when the metaphor is presented early or late in a persuasive message. In contrast, a metaphor presented early for unfamiliar issues should be problematic because individuals lack the requisite knowledge to map relational attributes from source to target concept. In this case, a metaphor is likely to cause confusion that interferes with subsequent message processing. However, a metaphor presented near the end of a message will ensure that individuals possess at least some basic knowledge about the new issue so that the structure-mapping can occur. Thus, I expect that a metaphor presented at the introduction of a message should only be effective for familiar issues, while a metaphor presented at the conclusion will likely be persuasive for familiar and unfamiliar issues.²

Ottati et al. (1999) revealed another interesting function of metaphors—that is, they can affect processing mode. This is an important discovery, since attitudes formed by the systematic route to persuasion are stronger than those formed by the heuristic route (Petty et al., 1995). Strong attitudes are consequential in the realm of politics because such attitudes are more stable, resistant to change, and disproportional

tionally predictive of subsequent judgments and behavior (Krosnick & Petty, 1995). In their study, Ottati et al. (1999) demonstrate that a sports metaphor resonates strongly for individuals who liked sports and caused metaphor-induced systematic processing, while the metaphor led to heuristic processing among those who disliked sports. Ottati et al.'s results suggest that a less exclusive policy metaphor may be able to influence a wider audience and increase levels of motivation or ability (or both) in situations where people would otherwise engage in heuristic processing. Given what we know about Americans' interest and sophistication within the realm of politics, the confirmation that a policy metaphor can induce more careful consideration and elaboration of message arguments (i.e., systematic processing) would be particularly important.

4.1.1 Overview

The design for this study is adapted from an experiment conducted by Read et al. (1990), in which they varied the location of metaphors in messages about four different political issues: 1.) At message encoding (i.e., the introduction), 2.) at message retrieval (which is unfortunately not the same as the conclusion), 3.) at both encoding and retrieval, or 4.) neither (i.e., the control condition). They found that subjects recalled a greater number of facts when a metaphor was present at encoding, rated those messages as qualitatively better on a number of subjective items (e.g., "better organized," "better developed," "clearer," etc.), and deemed the speaker as "more interesting," "memorable," and "persuasive." What they did not do, however, was present the metaphor near the end of the message and measure policy attitudes, which would have helped answer the metaphor location hypothesis.

To address these shortcomings, I designed an experiment in which a persuasive message was either introduced by or concluded with a policy metaphor (a third message condition contained the set of persuasive literal arguments). More specifically, subjects listened to an audio message about a proposed national youth service

program, in which young people would be required to perform civic (non-military) service in their local communities. This youth service program is similar to compulsory civic duty requirements of many European countries like Germany, Switzerland, and Sweden. Considering Carmines & Stimson's (1980) definition of issue difficulty, I suspect that this policy would be relatively easy to understand, since the policy was constructed to be non-technical and outcome-oriented (although it was unfamiliar to subjects). Thus, I do not expect political sophistication to moderate metaphor-induced persuasion, since individuals at all levels are likely to understand the core components of the message. However, since the issue is somewhat unfamiliar, I expect that the metaphor presented at the conclusion of the message will be more persuasive than one presented at the introduction (or for a set of persuasive literal arguments).

The audio clip contained a brief description of the program, as well as a series of arguments supporting the proposed policy. Subjects received one of 6 versions of the audio message that was determined by a 2 (argument quality: strong vs. weak) x 3 (message: introductory metaphor, concluding metaphor, literal) between-subjects factorial design. Following the audio message, subjects completed a questionnaire that assessed their attitudes toward the youth service program, which were measured by a 5-item semantic differential scale. In addition, subjects completed a thought-listing task, an 8-item political knowledge test, and provided other demographic information (e.g., gender, party identification, ideology, etc.).

4.1.2 Data

The data for this study come from a national sample of adults recruited on the Internet during the summer of 2007. I posted advertisements on Craigslist.org³ in cities and towns across the U.S., as well as on non-political blogs⁴. As an incentive, subjects were offered the opportunity to win a \$50 gift certificate to Amazon.com if they participated in the study. A total of 172 subjects attempted to take the survey,

and 158 completed the entire Internet-based experiment.⁵

My advertising strategy yielded a somewhat skewed sample of adults that contained more women, liberal Democrats, and educated respondents than typically found in the general public (see Table 4.1).⁶ Females comprised a surprising 82% of the total number of respondents.⁷ Moreover, 51% of the sample identified themselves as Democrats, 13% as Republicans, and 24% as Independents (12% listed some other political affiliation). In addition, 66% of the sample was comprised of liberals, 17% of conservatives, and 17% of moderates. Fifty-eight percent of the sample reported holding at least a bachelor's degree.

In other areas, the sample was relatively diverse—respondents reported that they came from 30 U.S. states and their ages ranged from 19 to 73 years old ($M_{age} = 34$ years old). Eighty-three percent of all participants identified their ethnicity as “White,” 8 % as “Asian,” 6% as “Latino,” and 3% as “African American.” Despite this unrepresentative sample, it does allow me to test my hypotheses in an adult population rather than with students, as is often the case with experimental research in the social sciences.

4.1.3 Experimental Manipulations

Subjects were instructed to listen to a speech that introduced a national youth service program called “Community Works” (see Table 4.2). Although Community Works is a fictional program, it is based upon ideas from influential political figures across the ideological spectrum such as President Barack Obama⁸ and the late conservative William F. Buckley, Jr.⁹ Following the description (55 seconds long), subjects were presented with a series of either 8 strong or weak supporting arguments (approximately 70 seconds), depending upon experimental condition.

As is standard practice among dual-process researchers, argument quality was determined in a pilot study of student subjects ($N = 34$), who rated the quality of 32 different supporting arguments. Strong arguments were selected from the top

third of the ranked list, and they consisted of statements that highlighted how the program would provide participants with “valuable skills and knowledge” and deliver “crucial services and support” to local communities (see Table 4.4 for the list of strong arguments used in this study). In contrast, weak arguments were selected from the bottom two-thirds of the statements and centered around superficial reasons for supporting the program (e.g., other countries have “programs just like this one” or that “it was a fun experience;” see Table 4.5). This type of argument quality manipulation has been used in numerous dual-process studies to differentiate between processing mode (e.g., see Chaiken, 1980, 1987; Chaiken et al., 1989; Petty & Cacioppo, 1986a,b); thus, it was used to test whether policy metaphors encourage systematic message processing. In the model, argument quality is a dummy variable in which weak arguments serve as the baseline category.

In addition to the supporting arguments, subjects heard a policy metaphor (10 seconds) that was inserted into either the introduction ($n = 50$) or conclusion ($n = 50$) of the audio message. A third group of subjects ($n = 58$) listened to the message without the policy metaphor. The metaphor was based upon the notion of *community building* and highlighted how the program would be responsible for “*building a solid foundation*” for young people, as well as “*building stronger communities for the future*” (see Table 4.3 for the exact wording).

According to Lakoff & Johnson (1980; see especially Chapter 17), the building metaphor implies positive attributes like progress, strength, and structure. In addition, they note that it implies movement in a particular direction, namely upward, which Lakoff & Johnson (1999) and other psychologists (e.g., Meier & Robinson, 2004) argue is associated with positive affect, as well as increased quantity, vitality, and status. Although this particular policy metaphor may not appear overly metaphorical, it does fulfill the cognitive science definition and was chosen for its broad appeal. In the model, message condition is captured with two dummy variables, in which the literal condition serves as the baseline category.

4.1.4 Measures

Dependent Variable

Policy attitude. Attitudes toward the national youth service program are captured by a 5-item semantic differential scale. Subjects provided their response to questions such as “Do you think that the Community Works program is a good idea or bad idea?” All of the items were measured on 9-point scales, with the remaining 4 items anchored by the following endpoints: “support-oppose” “fair-unfair,” “necessary-unnecessary,” and “positive-negative.” The 5-item scale was then rescaled from 0 to 1, where 1 indicates complete support for the proposed policy ($\alpha = 0.95$, $M = 0.67$, $SD = 0.26$; see Table 4.6 for summary statistics of all variables used in the analyses).

Cognitive responses. Before completing the attitude items, subjects completed a thought-listing task, which is a standard method to determine issue- and policy-related elaborations (e.g., Cacioppo & Petty, 1981; Zaller & Feldman, 1992). Subjects listed as many as 5 separate thoughts that they “were thinking when [they] heard about the program in the audio message.” Subjects were instructed to type the first idea that came to mind and move on to the next box, putting only one idea per box. After they were finished listing their thoughts, they could leave the remaining boxes blank and move on to the next set of items. A research assistant that was not privy to the details of the study coded all of the open-ended cognitive responses on two dimensions: Message tone (i.e., positive, negative, neutral) and policy relevance (e.g., see Cacioppo & Petty, 1981). The cognitive response measure was created by summing the number of positive thoughts (relevant to the policy) divided by the total number of thoughts, recoded to range from 0 to 1.

Independent Variables

Political sophistication was measured using 8 general knowledge questions about politics.¹⁰ For example, subjects answered questions such as “how many justices are there on the U.S. Supreme Court?,” “which party currently has the most members in the U.S. House of Representatives?,” and “what is the name of the current U.S. Secretary of State?” (for the full list of items, see Table 4.7). Correct responses were assigned a value of 1, while answers that were incorrect, “don’t know,” or missing were given a value of 0. The coded responses were averaged to create a composite index and recoded from 0 to 1 ($KR-20 = 0.74$, $M = 0.68$, $SD = 0.26$), as well as mean-centered (see Jaccard & Turrisi, 2003). In addition to political sophistication, I also included a 5-point measure of education, ranging from 0 to 1, mean-centered.

Party identification is the 7-point measure used by American National Election Study (ANES), ranging from 0 to 1, mean-centered, such that low scores represent strong Republicans. Ideological orientation is a 7-point measure (similar to the ones used by the ANES) and follows the same conventions as party identification. Gender is coded as a dummy variable (where females serve as the baseline category, since they make up the bulk of the sample).

4.1.5 Results

Recall that my goal for this study is to explore whether the location of a metaphor can induce systematic processing of message arguments and ultimately facilitate political persuasion. Since the youth service policy was fictional and thus unfamiliar, I expect a metaphor located at the conclusion (but not introduction) of the persuasive message to allow the structure-mapping to take place, thus producing attitude change. Moreover, I posited that a *community building* metaphor would induce systematic message processing when subjects would otherwise likely engage in heuristic processing. For this particular experiment, there is good reason to be-

lieve that motivation was set artificially low because the issue did not personally involve subjects—that is, the issue only applies to subjects under the age of 24 years old. This is important, since Petty & Cacioppo (1986a,b) and Chaiken et al. (1989) argue that personal involvement is a major determinant of motivation. Finally, I also suggested that political sophistication would not moderate persuasion for this particular issue because it falls on the “easy” end the issue-difficulty continuum (Carmines & Stimson, 1980).

Confirmation of these hypotheses would come from a significant interaction between the concluding metaphor dummy variable and argument quality. Moreover, we should find that subjects exposed to a concluding metaphor differentiate between argument quality, such that a message containing strong arguments leads to greater attitude change than a message with weak arguments. In addition, cognitive responses would provide further evidence of systematic message processing (e.g., Cacioppo & Petty, 1981), such that positive relevant thoughts should mediate changes in policy attitudes for subjects in the concluding metaphor condition but not in the persuasive literal message condition (Ottati et al., 1999).

To test the metaphor location hypothesis, I regressed attitudes toward the national youth service program on the metaphor and argument quality dummy variables, as well as their respective interactions and a set of controls. Model 1 of Table 4.8 shows the estimated coefficients and their standard errors when the literal and weak arguments conditions serve as the excluded categories.¹¹ There are statistically significant effects for political sophistication and partisanship, such that moving from the minimum to maximum level of political sophistication reduces overall support for the policy by 0.15 (i.e., 15% of the scale), while moving from “Strong Republican” to a “Strong Democrat” increases support by 21% of the scale. The lower order effects for metaphor location and argument quality depend upon how the excluded categories are specified in the model (see Jaccard & Turrisi, 2003). As such, I will discuss these simple effects in Table 4.9 when I present predicted policy

support by experimental condition.

More importantly, I find a nonsignificant interaction for an introductory metaphor and argument quality ($\beta = 0.037$, $s.e. = 0.106$, $n.s.$), but a significant and positively signed interaction between a concluding metaphor and argument quality ($\beta = 0.225$, $s.e. = 0.098$, $p < 0.05$). Consistent with my expectations, this significant interaction suggests that subjects exposed to a metaphor in the *conclusion* and not the introduction demonstrate more attitude change and evaluate the policy significantly differently depending upon the quality of the arguments contained within the message (relative to subjects exposed to the persuasive literal arguments). By recoding the metaphor location reference category so that a concluding metaphor now serves as the baseline, I can also test for significant differences in policy support for introductory versus concluding metaphors at different levels of argument quality (see Jaccard & Turrisi, 2003). The results for the new reference category are presented in Model 2 of Table 4.8. Once again, we see that there is a statistically significant (and negatively signed) interaction between an introductory metaphor and argument quality ($\beta = -0.193$, $s.e. = 0.108$, $p < 0.10$).

To explore these results further, I calculated predicted values of policy support for each of the 6 experimental conditions. The top half of Table 4.9 shows the effects of metaphor location when presented with strong arguments, while the bottom half of the table displays the effects for weak arguments. The differences in policy support for metaphor location at each level argument quality represent the simple effects.¹² Subjects exposed to strong arguments and a policy metaphor at the message's conclusion increase their support of the policy by 20% compared to subjects in the introductory metaphor condition, as well as an additional 18% relative to subjects in the persuasive literal message condition. There are no statistically significant differences for subjects in the introductory versus literal conditions.

Another way to conceptualize these results is to consider the effects of argument quality for different metaphor locations. Subjects that engage in systematic process-

ing should differentiate between argument quality by showing greater support for the policy when paired with strong rather than weak arguments. I have plotted the predicted values according to this framework in Figure 4.1. As we can see, only subjects exposed to the concluding metaphor correctly differentiate between argument quality—that is, they are more likely to support the policy when presented with strong, rather than weak, arguments. In fact, subjects in this condition increase their policy support by 22% when moving from weak to strong arguments. In stark contrast, subjects in the introductory and no metaphor conditions do not differentiate between argument quality and, in fact, show directional support for heuristic processing.

Petty and colleagues (e.g., Cacioppo & Petty, 1981) argue that cognitive responses mediate the effects of argument quality on attitudes during systematic (but not heuristic) message processing. To test the possibility of mediated moderation (see Baron & Kenny, 1986), I have already satisfied the first requirement, namely that the concluding metaphor X argument quality interaction significantly predicts policy attitudes ($\beta = 0.225$, $s.e. = 0.098$, $p < 0.05$; see Model 1, Table 4.10). Next, I regressed the mediating variable—cognitive responses in the form of positive relevant thoughts—on the concluding metaphor X argument quality interaction. Here, I find that this interaction significantly predicts the proportion of positive relevant thoughts to total number of thoughts, $\beta = 0.270$, $s.e. = 0.122$, $p < 0.05$ (see Model 2, Table 4.10). Finally, I regressed policy attitudes on the concluding metaphor X argument quality interaction and the cognitive responses mediator. Model 3 (Table 4.10) shows that the interaction no longer has a significant effect on the dependent variable, $\beta = 0.130$, $s.e. = 0.091$, $p > 0.15$, while the mediator significantly predicts the dependent variable, $\beta = 0.347$, $s.e. = 0.063$, $p < 0.001$. The cognitive response mediator accounts for nearly half (42%) of the total effect, Sobel statistic = 0.094, $p(z) < 0.05$.¹³ These results confirm the earlier evidence suggesting that concluding metaphors encourage systematic message processing, which in turn, affects policy

attitudes (see Figure 4.2).

We can decompose these results further by examining the simple mediated effects. To confirm that there is metaphor-induced systematic processing, we should find that positive relevant thoughts mediate the argument quality effect for subjects exposed to the concluding metaphor but not for those in the literal condition. First, for subjects in the concluding metaphor condition, argument quality significantly predicts policy attitudes ($\beta = 0.144$, $s.e. = 0.080$, $p < 0.10$) and cognitive responses ($\beta = 0.184$, $s.e. = 0.084$, $p < 0.05$) in the expected direction, which fulfills the first two of Baron & Kenny's (1986) requirements for mediation. Moreover, cognitive responses significantly predict policy attitudes ($\beta = 0.569$, $s.e. = 0.123$, $p < 0.001$), while argument quality no longer predicts attitudes ($\beta = 0.039$, $s.e. = 0.069$, $n.s.$). These results reveal a strong mediational effect that accounts for 73% of the total effect (Sobel statistic = 0.105, $p(z) < 0.05$).

In contrast, for subjects in the no metaphor condition, argument quality does not significantly predict policy attitudes ($\beta = -0.091$, $s.e. = 0.069$, $p > 0.15$) or cognitive responses ($\beta = -0.052$, $s.e. = 0.091$, $n.s.$), which indicates that there is no mediated effect. Taken together, these results indicate that subjects who are exposed to a policy metaphor at message conclusion engage in systematic processing and are thus able to differentiate between argument quality and elaborate their thoughts about the proposed policy. I find no evidence of systematic processing for subjects in the no metaphor condition (i.e., no mediation). Moreover, as expected for this relatively easy issue, I find no evidence that political sophistication moderates the interactions and attitude change: The 3-way interactions including concluding ($\beta = -0.119$, $s.e. = 0.419$, $n.s.$) and introductory metaphors ($\beta = -0.048$, $s.e. = 0.507$, $n.s.$) are nonsignificant.

4.1.6 Discussion

Consistent with my expectations, I find that a policy metaphor located at the conclusion rather than introduction of a persuasive message encourages subjects to engage in systematic processing. I presented additional evidence of systematic processing by demonstrating that cognitive responses (i.e., positive relevant thoughts) mediated the concluding metaphor x argument quality interaction and policy attitudes. Moreover, I demonstrated that these mediational effects only hold for subjects in the concluding metaphor condition (i.e., they did not occur for subjects in the persuasive literal condition). I also found that for this relatively easy issue, political sophistication did not moderate metaphor-induced persuasion.

These findings fit well within existing theories of information processing. That is, a metaphor presented at message conclusion seems to operate like framing by highlighting metaphor-consistent arguments, which ultimately facilitates persuasion. It is worth noting that in most framing studies the key manipulation occurs at the end, not beginning, of the persuasive message. However, one important advantage that a metaphor enjoys over more general frames is that a metaphor takes the unfamiliar domain of politics and explains it in more familiar terms.

There are two potential confounds that may limit the generalizability of these findings. First, the issue that I used in this study was fictional, which means that subjects had no prior information to rely upon when forming their evaluations of the policy. It is entirely possible that a metaphor presented early in a message could be persuasive if it were used for a familiar political issue.

Second, and more problematic, I did not hold “metaphor fit” constant across the argument quality conditions. That is, the *community building* metaphor that I used for this study may have fit better with the strong arguments, since they tended to focus on themes consistent with community building. In contrast, the weak arguments tended to be superficial and unrelated, so that they did not fit the building metaphor particularly well. Nonetheless, this study suggests that a

relatively innocuous metaphor can have strong effects on political attitudes.

4.2 Study 3

The previous study provided evidence that policy metaphors presented at the end of a persuasive message can encourage individuals to engage in systematic processing, which facilitates attitude change. However, a major limitation of Study 2 is that its design did not allow me to test whether metaphors definitively confer a special advantage over literal language, since there was no exact literal comparison for the policy metaphor. In the present study, I address this issue by presenting respondents with a more comparable literally equivalent message.

In addition, I plan to explore the metaphor resonance hypothesis—that political sophistication will moderate attitude change for “hard,” but not “easy,” issues—by selecting a policy that concerns a much more technical issue than the youth service program. In one of the early experimental studies of metaphorical persuasion, Johnson & Taylor (1981) tested the moderating role of policy metaphors on attitudes and found support for the hypothesis that only politically sophisticated subjects were persuaded by the metaphorical messages. However, subsequent metaphor researchers have failed to confirm this high sophistication effect by showing that the metaphor influenced the least knowledgeable individuals (Robins & Mayer, 2000) or individuals at all levels of sophistication (e.g., see Bosman, 1987; Lau & Schlesinger, 2005). Although this question has yet to be answered empirically, it is critical because it speaks to whom will be influenced with this type of political persuasion.

4.2.1 Overview

Subjects read a one-page article that contained background information about the issue of network neutrality. The article concluded with the primary manipulation, which was determined by exposure to either a metaphoric or comparable

literal statement. Following the passage, subjects completed a questionnaire that assessed their attitudes toward network neutrality, which were measured by a 4-item semantic differential scale. In addition, subjects reported their general interest and expertise in computers with 2 self-reported measures. Once again, I measured subjects' level of political sophistication with an 8-item knowledge test, as well as their party identification, ideology, race, and gender.

4.2.2 Network Neutrality

Network neutrality concerns how information is transmitted over the Internet. In recent years, web companies have begun offering higher quality audio, video, and voice data. Broadband service providers have been routing this huge increase in web traffic without collecting any additional revenue. Some service providers (e.g., AT&T) have lobbied Congress to establish a tiered system of content delivery, in which consumers would pay a premium to ensure that their data is transmitted at the highest possible speed to offset the increased costs associated with this data-intensive information.

Proponents of network neutrality argue that this tiered system violates the “neutrality” principle of the Internet—that is, the principle that the Internet was originally created to treat all data packets equally, regardless of their type. Advocates of network neutrality warn that special fees will advantage large companies, while hurting innovative web start-ups that cannot afford to pay the fees. Neutrality advocates want the government to pass network neutrality legislation to prevent broadband providers from establishing content-delivery fees. Opponents of network neutrality argue that this type of legislation adds another unnecessary layer of bureaucracy to the Internet, and that broadband service providers require such fees to pay for legitimate maintenance and expansion costs of their high-speed networks.

Against this backdrop, the issue of network neutrality has generated huge lobbying efforts from both sides of the debate, pitting broadband service providers like

AT&T, Verizon, and AOL Time Warner against web giants like Google, Yahoo!, and Microsoft. Yet, despite receiving a great deal of media attention in 2006, as well as concerted efforts to publicize the issue by grassroots movements (e.g., “Save the Internet”), network neutrality remains largely unknown to the general public. Complicating efforts to generate broad interest in network neutrality is the technical complexity of this issue that “make[s] it difficult for policymakers to define and frame the issue, much less identify an appropriate solution that reconciles the conflicting interests” (Peha, Lehr, & Wilkie, 2007).¹⁴ Recently, the issue has come back on the agenda of Congress, although legislative efforts to resolve the issue have failed to date. This relatively understudied but complex political issue seems like a good test of metaphorical persuasion, since the journalist Bill Moyers has noted that “the debate is hot, the language heady, the metaphors many.”

4.2.3 Data

A total of 131 Stony Brook University undergraduates enrolled in an introductory political science course completed this study for extra credit during the Spring Semester of 2008 (see Table 4.11). Fifty-two percent of subjects were male, 48% female. In addition, 53% of participants identified their ethnicity as “White,” 31% as “Asian,” 10% as “Latino,” and 6% as “African American.” The mean reported age of subjects is 20 years old. Forty-one percent of subjects identified themselves as Democrats, 20% as Republican, 31% as Independent, and 8% as other affiliations. Using a 7-point measure of ideological orientation reveals that 50% of the sample holds liberal views, 27% moderate views, and 23% conservative views. Eighty-eight percent of subjects reported never having heard of network neutrality, and of those that did hear about it, only 12% reported that they were “very knowledgeable” about the issue, which suggests that this issue fulfills Carmines & Stimson’s (1980) definition of a “hard” issue (i.e., that we would expect an apt policy metaphor at message conclusion to be particularly useful for the least politically sophisticated

subjects).

4.2.4 Experimental Manipulation

Subjects were asked to read a 1-page article about network neutrality. The first three paragraphs explained the current debate surrounding the issue (see Table 4.12 for the exact wording), while the last paragraph contained the experimental manipulation. Subjects were exposed to either a concluding passage that contained a policy metaphor ($n = 63$) or a literally equivalent message ($n = 68$) in support of network neutrality (see Table 4.13). The metaphor condition (72 words) invoked a toll booth metaphor and read as follows:

Congressman Alan Davidson, who specializes in technology issues, supports Network Neutrality legislation. He recently told reporters: “Telecoms want to **set up toll booths** on the Internet to **stand between** content providers **and** their customers. Network Neutrality would prevent this from happening. It would ensure that we don’t have a system where some companies have access to an *express lane*, while the rest are **stuck waiting in line at the toll booth.**”¹⁵

The toll booth metaphor was chosen for three reasons. First, toll booths generally conjure negative associations for anyone that has ever experienced them. Second, the toll booth metaphor maps well onto existing metaphors of the *Internet as an information superhighway*. And third, this toll booth metaphor has actually been used by network neutrality advocates (e.g., see “Save the Internet”; see also Moyers, n.d.), which bolsters the external validity of this experiment.

The literally equivalent message (64 words) uses similar language without invoking the toll booth metaphor:

Congressman Alan Davidson, who specializes in technology issues, supports Network Neutrality legislation. He recently told reporters: “Telecoms want to **charge fees** on the Internet to **connect** content providers **to** their customers. Network Neutrality would prevent this from happening. It would ensure that we don’t have a system where some companies have access to **fast services**, while the rest are **left with slower connections.**”

In this literally equivalent message, the fictional Congressman Alan Davidson argues that network neutrality would prevent telecoms from imposing special fees on the Internet and protect users from a two-tiered system. The only discernible difference between the two conditions (identified in bold) is that the equivalent message does not invoke the toll booth metaphor.

4.2.5 Measures

Dependent Variables

Policy attitude. The primary dependent variable is a 4-item semantic differential scale that was created to gauge subjects' attitudes toward network neutrality. Subjects were asked: "How favorable or unfavorable do you feel toward Network Neutrality legislation?" The three remaining scale items were anchored by the following endpoints: "very good idea–very bad idea," "very necessary–very unnecessary," and "very positive–very negative." Each item was measured on a 9-point scale, which created a composite index that could range from 4 (very negative attitudes toward network neutrality) to 36 (very positive attitudes). The resulting variable was then rescaled from 0 to 1 ($\alpha = 0.93$, $M = 0.58$, $SD = 0.23$; see Table 4.14 for summary statistics).

Independent Variables

Political sophistication. Political sophistication was measured using 8 general knowledge questions about politics (see Table 4.15). The 8-item political sophistication measure ($KR-20 = 0.71$, $M = 0.62$, $SD = 0.26$) was recoded from 0 to 1 and mean-centered.

Interest & expertise in computers. Individuals that are more interested or familiar with computers may care more about the issue of network neutrality than those who are not interested in or familiar with computers. Subjects were asked: "In

general, how interested are you in computers?” Interest in computers is a 4-point self-reported measure (1 = very interested, 0 = not at all interested), recoded from 0 to 1, and mean-centered. For the expertise item, subjects were asked: “Overall, how would you rate your knowledge of computers?”¹⁶ Level of computer expertise is a 4-point measure (1 = expert, 0 = beginner), recoded from 0 to 1, and mean-centered.

Party identification & ideological orientation. Party identification and ideological orientation are included in the analyses as control variables for two important reasons. Republicans and conservatives have opposed efforts to pass network neutrality in Congress, and these efforts could serve as a cue for those who said that they had heard of the issue. More likely, network neutrality is ideologically polarizing in that it calls for greater government oversight and regulation, something that most Republicans and conservatives should oppose. Party identification is the standard 7-point measure used by the ANES, recoded to a 0 to 1 scale (1 = strong Democrats, 0 = strong Republicans), and mean-centered. Ideological orientation is the 7-point ANES measure, recoded from 0 to 1 (1 = very liberal, 0 = very conservative), and mean-centered.

Race & gender. The ethnic diversity of subjects allows me to include additional race dummies, which are coded so that there are separate variables for Asians, African-Americans, and Hispanics (White subjects serve as the reference category). Gender is coded as a dummy variable, where females receive a value of 1 and males serve as the baseline category.

4.2.6 Results

To test whether a message with a policy metaphor is more persuasive than one with a literally equivalent statement, I regressed policy attitudes toward network neutrality on the experimental manipulation, as well as on a host of other independent variables described above.¹⁷ Looking at the “Simple Model” in Table 4.16, we see that there is a significant main effect for political sophistication, such that

moving from the minimum to maximum level of sophistication increases support by 16% of the scale. Somewhat surprisingly, there is also a counterintuitive significant main effect for interest in computers, such that moving from the lowest to highest level of interest decreases support for network neutrality by almost 19% of the scale. More importantly, I find no support for the hypothesis that a policy metaphor is more persuasive than a literal equivalent, $\beta = 0.006$, $s.e. = 0.041$, $n.s.$

Recall, however, that because this issue is complex (i.e., it is a hard issue), I expect political sophistication to moderate attitude change. To explore the possibility of moderation, I added an interaction between the experimental condition and political sophistication to the model. Turning to the second model in Table 4.16, we see that there is a statistically significant two-way interaction between experimental condition and sophistication, $\beta = -0.322$, $s.e. = 0.158$, $p < 0.05$. Thus, attitude change is moderated by political sophistication.

To explicate these results further, I calculated predicted policy support by experimental condition at various levels of sophistication (see Table 4.17).¹⁸ As expected, I find that it is the *least* politically sophisticated individuals that are most influenced by the policy metaphor. Subjects at the minimum level of sophistication increase their support from 0.42 in the literal condition to 0.62 in the metaphor condition, which is a significant difference of 20% ($p < 0.05$) of the scale's value (and an increase in support by almost 50%). However, this persuasive advantage becomes essentially zero ($\Delta = 0.010$, $n.s.$) at mean levels of sophistication, and it reverses in direction for the most highly sophisticated subjects ($\Delta = -0.116$, $p < 0.15$) but does not reach statistical significance.

Figure 4.3 provides a clearer picture of the moderating effect of political sophistication on policy attitudes. Essentially, it looks as though the policy metaphor has a relatively consistent effect on political attitudes for individuals at different levels of sophistication—that is, predicted levels of support for the policy hover around 0.60. What varies wildly, however, is the effect of the literally equivalent message, which

ranges from a predicted level of support of 0.42 for unsophisticated citizens to 0.70 for political sophisticates, or a difference of nearly 30% of the scale. It appears that the literal message is quite ineffectual for unsophisticated citizens perhaps because they lack the ability to comprehend the message without the aid of a metaphor. As levels of sophistication rise, however, so too does the persuasiveness of the literal message.

4.2.7 Discussion

The results of this study are an important first step to demonstrate that a policy metaphor confers a distinct persuasive advantage relative to a comparable literal statement. I find that only those individuals at the lowest levels of political sophistication are significantly more likely to support the policy after exposure to a metaphor compared to a literal equivalent. This finding is quite encouraging, given that other theories of how average citizens make sense of politics generally find just the opposite, namely that only the most sophisticated individuals are able to correctly apply heuristics (Lau & Redlawsk, 2001) or likely to utilize frames (Chong & Druckman, 2007b).

Of course, the results of the study come from a single student sample, which raises some questions about the generalizability of these metaphor-induced effects. To address this concern, I replicate these results in Study 4 with an adult sample. Moreover, I explore what facilitated these effects by testing whether perceptions of message quality mediate metaphor-based attitude change.

4.3 Study 4

The purpose of the current study is to replicate the results from Study 3 with a non-student adult sample. In addition, I also explore one potential mediator of metaphor-induced persuasion, namely that metaphors exert influence over attitudes

by increasing subjects' perceptions of message quality. Since one of their core functions is to explain abstract concepts in familiar terms and experiences, metaphors should be judged as making qualitatively better arguments than their literal counterparts.

4.3.1 Overview

Subjects read the same 1-page article containing information about the issue of network neutrality (see Table 4.12). The article included the primary manipulation, which was determined by exposure to 1 of 3 message conditions: A metaphor, literal, or background-only passage. Following the passage, subjects completed a questionnaire that measured their attitudes toward network neutrality, as well as their general political knowledge and other demographic information.

4.3.2 Data

A total of 141 adults (see Table 4.18) completed this study on the Internet for a chance to win a \$50 gift certificate to Amazon.com. Respondents were recruited by several research assistants, who were instructed to send E-mail invitations to non-student adults in their contact lists. Participants were also encouraged to forward the study on to other individuals so that the adult convenience sample was essentially recruited based upon social networking.

Fortunately, this recruiting strategy yielded a more demographically balanced sample than obtained in Study 2. Subjects reported living in 18 U.S. states—a majority (65%) are from California, and the second most populous group (13%) are from New York. The mean age of subjects is just under 44 years old. Eighty-four percent of respondents identified their ethnicity as “White,” 10% as “Asian,” 4% as “Latino,” and 2% as “African American.” Once again, there are more Democrats (48%) than Republicans (28%), Independents (16%), or those with other political affiliations (8%). The sample also consists of more liberals (46%) than conservatives

(33%) or moderates (21%). As with the previous study, the sample is skewed somewhat with female (67%) participants, and a majority (60%) of subjects indicated that they held at least a Bachelor's degree. As expected, only a small group of subjects (14%) reported of ever having heard of network neutrality.

4.3.3 Experimental Manipulation

As in Study 3, subjects were asked to read a 1-page article about network neutrality, in which the first 3 paragraphs explained the current debate surrounding the issue (see Table 4.12), while the last paragraph contained the experimental manipulation. Subjects were randomly exposed to one of three conditions: A policy metaphor ($n = 44$), a literally equivalent message ($n = 40$), or a control (background information) condition ($n = 57$). The metaphor condition (93 words) was intended to equate telecoms' attempts to levy special Internet fees with the creation of toll booths on the web. The message in the metaphor condition read as follows:

Congressman Alan Davidson, a respected technology expert, supports Network Neutrality legislation. He recently told reporters: "Telecoms want to **set up toll booths** all over the Internet to **stand between** content providers **and** consumers. These **tolls** would restrict the free movement of information. While some companies could afford to pay for access to **an express lane**, the majority would be **stuck** with **everyone else in a data traffic jam**. I don't know about you, but I don't like the idea of having **toll booths at every on-ramp on the information superhighway**."¹⁹

The literally equivalent message (85 words) contained similar language without invoking the toll booth metaphor:

Congressman Alan Davidson, a respected technology expert, supports Network Neutrality legislation. He recently told reporters: "Telecoms want to **charge fees** all over the Internet to **connect** content providers **to their** consumers. These **fees** would restrict the free movement of information. While some companies could afford to pay for **faster** access to **the Internet**, the majority would be **left** with **slower connections**. I don't know about you, but I don't like the idea of having **special fees imposed on content providers on the Internet**."

In the control condition, subjects only read the 1-page background information about network neutrality. Once again, The only difference between metaphor and literal conditions is that the literally equivalent message does not invoke the toll booth metaphor.

4.3.4 Measures

Dependent Variables

Policy attitude. The primary dependent variable is a 2-item semantic differential scale that was created to gauge subjects' attitudes toward network neutrality. Subjects were asked: "Overall, do you think Network Neutrality is a good idea or a bad idea?" The other scale item asked whether subjects thought that network neutrality was "very necessary" or "very unnecessary." Each item was measured on a 9-point scale, which created a composite index that could range from 2 (very negative attitudes toward network neutrality) to 18 (very positive attitudes). The resulting variable was then rescaled from 0 to 1 ($\alpha = 0.89$, $M = 0.55$, $SD = 0.29$; see Table 4.20 for summary statistics).

Message quality. Message quality is a 2-item semantic differential scale. Subjects rated "how convincing or unconvincing" and "how clear or unclear" they thought the speaker's argument was in favor of network neutrality. The 9-point items were summed to create a range of 2 (very poor message argument quality) to 18 (very high message argument quality), which was then rescaled from 0 to 1 ($\alpha = 0.80$, $M = 0.57$, $SD = 0.24$).

Independent Variables

Political sophistication. Political sophistication was measured using 8 general knowledge questions about politics (see Table 4.21; $KR-20 = 0.70$, $M = 0.65$, $SD = 0.25$), recoded from 0 to 1, and mean-centered.

Issue familiarity. Familiarity with the issue is included in this model, since some individuals may have already formed attitudes about network neutrality. Issue familiarity is dummy coded so that those respondents who reported ever having heard of the issue (14% of the sample) receive a value of 1, while the rest serve as the reference group.

Education. Education is a 5-point self-reported measure, in which low values indicate little or no schooling (i.e., less than a high school diploma) and high values identify those subjects who hold advanced degrees. Education has been recoded from 0 to 1 and mean-centered.

Other controls. In addition to the variables listed above, I included the same set of control variables from Study 3. That is, I also include in the model computer interest and expertise, party identification, ideology, and, gender, which have all been recoded from 0 to 1 and mean-centered (except for gender, which is a dummy variable with females serving as the reference group).

4.3.5 Results

To test whether a message with a policy metaphor is more persuasive than one with a literally equivalent statement or control condition, I regressed policy attitudes toward network neutrality on the 2 experimental condition dummy variables, as well as the other control variables in the model (see Table 4.22).²⁰ Recall that I expect political sophistication will moderate attitude change for this complex issue. Looking at the results, I find that there are statistically significant main effects for political sophistication and issue familiarity. Individuals that move from the minimum to maximum level of sophistication increase their policy support by 17% of the scale, holding all other variables constant at their mean (or baseline) values. Likewise, subjects that were familiar with the issue increase their overall support by 13% of the scale. Consistent with my expectations, I find a main effect for message condition, such that a policy metaphor is more persuasive than a literally equivalent statement,

$\beta = -0.147$, $s.e. = 0.062$, $p < 0.05$ (The coefficient is negative in this case because the metaphor condition serves as the reference category.). This metaphor-induced persuasion effect is even more pronounced when compared to a control condition, $\beta = -0.163$, $s.e. = 0.059$, $p < 0.01$.

To explicate these results further, I calculated predicted policy support by experimental condition (see Table 4.23).²¹ Beginning with the control condition, we see that subjects' predicted support for network neutrality is a modest 0.44 on a scale from 0 to 1. Subjects who were exposed to the comparable literal statement in favor of network neutrality show no effects of persuasion, as their predicted support is 0.45, a non-significant difference of 0.01 from the control condition. In stark contrast, support for the policy jumps almost 37% from the control condition to a predicted value of 0.60 for those subjects who received the message containing the metaphor ($\Delta_{policy} = 0.163$, $p < 0.01$). Similarly, the metaphor increases support by almost 33% from the literal condition ($\Delta_{policy} = 0.147$, $p < 0.05$). This strong metaphor-induced persuasion effect is also evident in Figure 4.4. Note that a value of 0.60 in the metaphor condition is consistent with the results from Study 3, in which metaphor-induced policy support ranged from 0.62 (for the least sophisticated) to 0.59 (for political sophisticates).

Now, I turn my attention to one potential mediator of this process—that metaphors heighten perceptions of message quality. To test this mediational hypothesis (see Baron & Kenny, 1986), I note that I have already satisfied the first criterion, namely that a policy metaphor is more persuasive than a literally equivalent statement ($\beta = 0.146$, $s.e. = 0.067$, $p < 0.05$; see Model 1, Table 4.24).²² Next, I regressed the mediating variable—perceptions of message quality—on the metaphor dummy variable. Here, I find that policy metaphors significantly predict perceptions of the message quality, $\beta = 0.141$, $s.e. = 0.057$, $p < 0.05$ (see Model 2, Table 4.24). Finally, I regressed attitudes toward network neutrality on the policy metaphor and message argument mediating variable.

In an equation with both the mediator and independent variable, Model 3 (Table 4.24) shows that the independent variable no longer has a significant effect on the dependent variable, $\beta = 0.023$, *s.e.* = 0.053, *n.s.*, while the mediator significantly predicts the dependent variable, $\beta = 0.855$, *s.e.* = 0.104, $p < 0.001$. The message argument mediator accounts for a whopping 86% of the total effect, Sobel statistic = -0.121 , $p(z) < 0.05$.²³ Taken together, these results suggest that metaphors influence individuals' perception of message quality, which in turn, affect political attitudes (see Figure 4.5).

Interestingly, I find no support for the hypothesis that political sophistication moderates this persuasion effect. Both the treatment dummy variables and their interactions are statistically insignificant: Literal X sophistication, $\beta = -0.161$, *s.e.* = 0.246, *n.s.*; control X sophistication, $\beta = -0.209$, *s.e.* = 0.226, *n.s.* These null findings indicate that the metaphor was persuasive for subjects at all levels of political sophistication, not just the least sophisticated, as we saw in Study 3.

4.3.6 Discussion

Despite the fact that I did not find a political sophistication moderating effect as predicted by my issue difficulty theory, the results of this study provide strong support for the hypothesis that a policy metaphor confers a special, persuasive advantage over literal language. In fact, I showed that a exposure to a metaphor increased support for the policy by 33% more than subjects who received an equivalent literal message. We also learned that one of the processes through which metaphors influence political attitudes is by increasing perceptions of message quality.

The only discrepancy between Studies 3 and 4 is the nonsignificant moderation effect of political sophistication. This sophistication effect could be explained by differences in the samples—that is, it is possible that college students scored higher on the political knowledge test than the adults in the follow-up study. In addition, students may be more knowledgeable about computers, since younger people tend

have greater exposure to technological issues.

To test this possibility of differences in sophistication and knowledge between samples, I combined the samples and conducted difference of means tests for computer expertise and interest, as well as political sophistication. I find a statistically significant mean difference between samples in computer expertise, $t(270) = 2.51$, $p < 0.05$, such that mean level of expertise of the student sample is 21% (mean difference of 0.083) higher than the adult sample. In addition, I find a statistically significant mean difference between samples in levels of political sophistication, $t(270) = 2.89$, $p < 0.01$, such that subjects in the student sample scored 17% better than those in the adult sample on the 8 knowledge items (mean difference = 0.090). There were no significant differences in levels of computer interest between the samples. These differences in samples suggest the conflicting results from Studies 3 and 4 may be attributable to lower levels of technological expertise and political sophistication for the adult sample.

4.4 General Discussion

The studies that I presented in this chapter were intended to demonstrate the effectiveness of using metaphors to facilitate political persuasion. In Study 2, I demonstrated that a metaphor presented at the conclusion of a message is more persuasive than one presented at the introduction (or containing only literal arguments). This finding fits with the idea that the effectiveness of a metaphor's location is dependent upon the familiarity of the issue—that is, metaphors are only effective at message conclusion for unfamiliar issues. In addition, I demonstrated that for an issue in which motivation is likely low (due to a lack of personal involvement), a policy metaphor can induce individuals to engage in systematic processing, which does not occur for individuals in the literal persuasive condition. This effect was shown to be mediated by cognitive responses (i.e., positive relevant thoughts). And,

I also showed that persuasion was not moderated by political sophistication, since the issue was relatively easy to comprehend.

In Study 3, I showed that for a complicated issue like network neutrality, a policy metaphor leads to greater persuasion than a comparable literal statement for individuals at low levels of political sophistication. This finding is encouraging, since many other theories concerning how people make sense of politics usually find significant effects for only the most politically sophisticated citizens. And, in the follow-up Study 4, I replicated this metaphor versus literal persuasion effect, albeit for individuals at all levels of political sophistication. Moreover, I showed that this metaphor-induced persuasion is mediated by increased perceptions of message quality. Ultimately, I take these findings as relatively strong evidence that policy metaphors can be effective persuasive devices in politics.

Of course, much more work is needed in this area, since previous studies are at odds with some of the findings I discovered in Studies 2, 3, and 4. Future studies should test the effectiveness of metaphors for a broad range of issues that vary on their level of complexity (e.g., Carmines & Stimson, 1980), while paying special attention to finding strong comparable literal statements. In addition, researchers should further explore the cognitive functions of metaphors, as well as their emotive power (which I did not examine). Studies that can answer other important questions, such as how long metaphor-based persuasion effects last, are also needed. Of particular importance are studies that can validate the persuasiveness of metaphors in realistic settings, in which subjects may be exposed to competing metaphors or messages with a combination of metaphor and literal arguments. In sum, the studies I presented above by no means end the debate about metaphorical persuasion; instead, they simply (re)start the discussion.

Notes

1. Quote taken from Hugo's (1877) *Histoire d'un Crime*.
2. Sopory & Dillard (2002), however, provide some evidence that metaphors presented early in the message lead to greater attitude change than metaphors that occur near then end of the message (weighted mean effect size was $r = 0.12$ for introductory metaphors; $r = -0.01$ for concluding metaphors).
3. Craigslist is a popular on-line forum that has, for many people, replaced print newspapers' Classified Ads sections. As evidence of its widespread usage, Craigslist has information boards for cities in every U.S. state and boasts that it has 25 million unique visitors every month.
4. I invited a randomly selected sample of 50 bloggers and their readers to participate in this study. Of this total, 6 bloggers formally agreed to post a link to the survey.
5. Eight subjects indicated that they could not hear the audio clip, and 6 people did not complete the entire survey.
6. Recent research suggests that nonprobability Internet samples tend to overrepresent young people, Whites, and educated respondents, and in some cases, women and Democrats (e.g., see Alvarez, Sherman, & VanBeselaere, 2003; Berrens, Bohara, Jenkins-Smith, Silva, & Weimer, 2003; Malhotra & Krosnick, 2007).
7. The high number of females in my sample likely resulted from the readership of the blogs that were included in this study.
8. Obama's national service proposal is called "The Plan for Universal Voluntary Public Service" and can be found on his campaign website.
9. For example, see Buckley (1990).
10. Items for the political sophistication scale were selected following recommendations by Delli Carpini & Keeter (1996).
11. Estimated coefficients and their standard errors were calculated using Clarify (King, Tomz, & Wittenberg, 2000; Tomz, Wittenberg, & King, 2003) with 1,000 sets of simulated parameters.
12. The confidence intervals presented in Table 4.9 were calculated using bootstrapped standard errors.
13. The Sobel Test was calculated using the Aroian method discussed by Baron & Kenny (1986).
14. Note that this line of reasoning has all of the hallmarks of a "hard" issue, as laid out by Carmines & Stimson (1980).

15. Italicized text highlights the policy metaphors in the message, while bolded text indicates differences between the metaphoric and literal passages. None of the text was italicized or bolded in the actual experiment.
16. Subjects would consider their level of expertise as “beginner” if they “simply use computers for basic E-mail, Internet, and word processing functions.” They would rate themselves as “intermediate” if they could “install new programs, add peripheral devices like a printer, and troubleshoot *minor* issues.” Subjects would rate themselves as “advanced” if they could “configure advanced settings in the control panel, maintain a personal webpage, and troubleshoot *some* issues.” Finally, subjects would select “expert” if they could “partition a hard drive and install a fresh OS, add or replace internal components, and troubleshoot *major* issues.”
17. Estimated coefficients and their standard errors were calculated using Clarify (King et al., 2000; Tomz et al., 2003) with 1,000 sets of simulated parameters.
18. Predicted values were calculated using Clarify to simulate 1,000 sets of parameters, while holding all other variables constant at 0 (i.e., each variable’s mean or baseline value).
19. Italicized text highlights the policy metaphors, while the bolded text identifies differences between the metaphorical and literal passages.
20. Estimated coefficients and their standard errors were calculated using Clarify (King et al., 2000; Tomz et al., 2003) with 1,000 sets of simulated parameters.
21. Predicted values were calculated using Clarify to simulate 1,000 sets of parameters, while holding all other variables constant at 0 (i.e., each variable’s mean or baseline value.)
22. The control condition ($n = 56$) was excluded from these analyses because subjects did not receive the metaphorical or literally equivalent arguments; therefore, they did not provide any ratings of the message arguments.
23. The Sobel Test was calculated using the Aroian method discussed by Baron & Kenny (1986).

Table 4.1: Study 2 Demographics

	Item	Percent (%)	<i>N</i>
Gender	Female	81.65	129
	Male	18.35	29
Race	Asian	7.69	12
	Black	3.21	5
	Hispanic	5.77	9
	White	83.33	130
Education	No college degree	41.94	65
	Bachelor's degree	35.84	54
	Graduate degree	23.33	36
Party ID	Democrat	50.96	80
	Independent	24.20	38
	Republican	13.38	21
	Other	11.46	18
Ideology	Liberal	66.24	104
	Moderate	16.56	26
	Conservative	17.20	27

Note: $N = 158$. Two respondents did not reveal their race; 3 did not list their level of education; and 1 did not identify his or her partisanship and ideology.

Table 4.2: Study 2 Transcript of Audio Message

It is my pleasure to tell you about a new and exciting program called Community Works.

[Introductory Metaphor]

So, let me tell you a little bit more about the details of the program. Community Works is a nation-wide program that would require our young people to help their local communities. Anyone between the ages of 18 to 24 years old would have to work 30 hours per week for a period of 10 months. During this time, participants would be compensated with a monthly stipend to cover living expenses, as well as earn credits toward education costs. They would be able to choose their assignment from a range of activities such as literacy programs, development projects, environmental protection, and care for people with special needs. Now as many of you may have heard, a pilot program is scheduled to begin in August of 2008.

So that's a basic overview of what Community Works is, but I want to give you a set of arguments for why I support it, and why I think you should also support it.

[Set of Arguments]

[Concluding Metaphor]

Thank you, and now I am prepared to take some of your questions. . .

Note: Subjects were randomly assigned to 1 of 6 audio messages determined by a 2 (argument quality: strong vs. weak) x 3 (message: introductory metaphor, concluding metaphor, literal) between-subjects factorial design. See Table 4.3 for the exact wording of the policy metaphor, as well as Tables 4.4 and 4.5 for the full set of strong and weak arguments respectively. The description of the policy lasted 55 seconds.

Table 4.3: Study 2 Policy Metaphor

Policy Metaphor

Community Works is about building—building a solid foundation for our young people, and in the process, building stronger communities for the future.

Note: Subjects were randomly assigned to hear the policy metaphor (10 seconds) at the introduction of the message ($n = 50$) listed in Table 4.2, the conclusion ($n = 50$), or not at all ($n = 58$).

Table 4.4: Study 2 Strong Supporting Arguments

Strong Arguments

1. This program provides participants with truly valuable skills and knowledge.
2. It gives young people full-time work experience and career exploration making their transition from school to work easier.
3. It offers them the opportunity to meet new people and expand their social and professional networks.
4. Participants will take an active role in solving local, state, and national problems.
5. They will be prepared to face natural disasters such as hurricanes, floods, and earthquakes.
6. Community Works provides young Americans with a great way to contribute to the betterment of their country.
7. It serves as preparation for responsible citizenship, as participants gain understanding that only comes from serving others.
8. Community Works will deliver crucial services and support to those Americans who are in desperate need of our help.

Note: Subjects were randomly assigned to listen to either a set of strong ($n = 78$) or weak ($n = 74$) arguments about the national youth service program. Argument quality was determined in a pilot test of student subjects, $N = 34$. Strong arguments were selected from the top 1/3 of ranked arguments.

Table 4.5: Study 2 Weak Supporting Arguments

Weak Arguments

1. There are many countries in the world that already have programs just like Community Works.
2. As a world leader, the U.S. needs to set an example for others to follow.
3. This program contributes to the development of young people by offering them a rite of passage from adolescence to adulthood.
4. The program will help young Americans develop more active lifestyles which could reduce overall rates of obesity.
5. Participants of volunteer programs indicate that it was a fun experience for them.
6. Volunteers say that they tend to live happier, healthier, and more fulfilled lives.
7. This program has the potential to prevent Americans from being socially isolated from each other.
8. The cost of the services provided by Community Works nearly matches the monetary cost of the program.

Note: Subjects were randomly assigned to listen to either a set of strong ($n = 78$) or weak ($n = 74$) arguments about the national youth service program. Argument quality was determined in a pilot test of student subjects, $N = 34$. Weak arguments were selected from the bottom 2/3 of ranked arguments.

Table 4.6: Study 2 Summary Statistics

Variable	Mean	Std. Dev.	Min.	Max.
Policy Attitude	0.674	0.260	0	1
Cognitive Response	0.322	0.323	0	1
Introductory Metaphor	0.316	0.467	0	1
Concluding Metaphor	0.316	0.467	0	1
Argument Quality	0.519	0.501	0	1
Political Sophistication	0	0.256	-0.557	0.318
Education	0	0.252	-0.456	0.544
Party ID	0	0.301	-0.694	0.306
Ideology	0	0.255	-0.655	0.345
Age	0	11.623	-14.768	39.232
Male	0.184	0.388	0	1

Note: $N = 158$, except for education and age (where $N = 155$), partisanship and ideology (where $N = 157$), and cognitive responses (where $N = 152$).

Table 4.7: Study 2 Political Sophistication Items

-
-
1. What job or office is currently held by Dick Cheney? *Vice President* (90%)
 2. Whose responsibility is it to determine if a law is constitutional or not? *Supreme Court* (82%)
 3. How much of a majority is required for the U.S. Senate and House of Representatives to override a presidential veto? *2/3* (51%)
 4. Which party currently has the most members in the U.S. House of Representatives? *Democratic Party* (77%)
 5. Is one of the parties more conservative than the other at the national level? *Yes, Republican Party* (91%)
 6. What is the name of the current U.S. Secretary of State? *Condoleezza Rice* (68%)
 7. How many justices are there on the U.S. Supreme Court? *9* (52%)
 8. Which branch of government does the U.S. Constitution give the sole authority to declare war? *Legislative Branch* (34%)
-
-

Note: $N = 158$. $M = 0.68$, $SD = 0.26$; reliability: $KR-20 = 0.74$; $\alpha = 0.74$. Correct answers are listed in italics at the end of each question, along with the frequency of correct responses in parentheses.

Table 4.8: Study 2 Regression Results

Variable	(1) Baseline:				(2) Baseline:			
	Literal Message		Concluding Metaphor		Literal Message		Concluding Metaphor	
	β	s.e.	$p(t)$	$p(t)$	β	s.e.	$p(t)$	$p(t)$
Introductory Metaphor	-0.053	0.076	0.479	0.066	0.073	0.369	—	—
Concluding Metaphor	-0.111	0.070	0.116	—	—	—	—	—
Literal	—	—	—	0.112	0.074	0.132	—	—
Argument Quality	-0.089	0.067	0.188	0.140	0.075	0.063	—	—
Introductory X Argument	0.037	0.106	0.730	-0.193	0.108	0.075	—	—
Concluding X Argument	0.225	0.098	0.022	—	—	—	—	—
Literal X Argument	—	—	—	-0.227	0.099	0.023	—	—
Political Sophistication	-0.152	0.092	0.101	-0.157	0.088	0.076	—	—
Education	-0.031	0.085	0.714	-0.030	0.087	0.732	—	—
Party ID	0.213	0.098	0.031	0.210	0.096	0.031	—	—
Ideology	-0.057	0.116	0.626	-0.054	0.118	0.647	—	—
Age	0.003	0.002	0.135	0.003	0.002	0.119	—	—
Male	-0.063	0.058	0.279	-0.061	0.058	0.295	—	—
Intercept	0.740	0.052	0.000	0.626	0.053	0.000	—	—
R^2	0.119		0.119		0.119		0.119	
<i>Adjusted</i> R^2	0.050		0.050		0.050		0.050	
N	152		152		152		152	

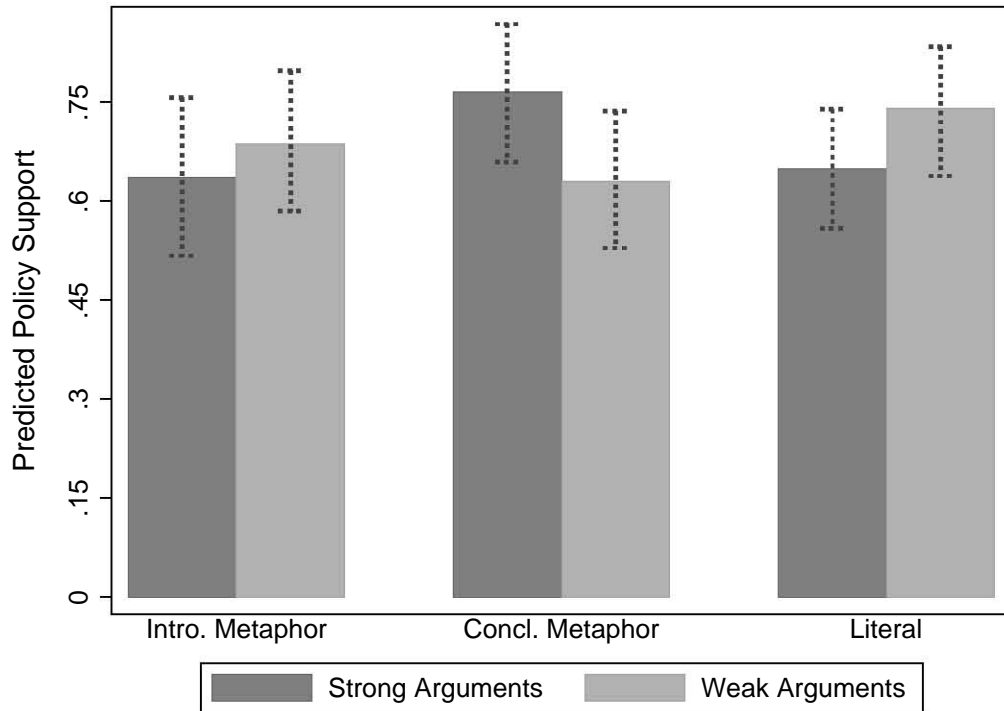
Note: Cell sizes for the various conditions are as follows: Introductory metaphor, $n = 44$; concluding metaphor, $n = 50$; literal, $n = 58$; strong arguments, $n = 78$; weak arguments, $n = 74$. Mean cell size of the interactions is approximately $n = 25$. Estimates were calculated using King et al.'s Clarify with 1,000 sets of simulated parameters.

Table 4.9: Study 2 Predicted Policy Support by Metaphor Location & Arguments

Arguments	\hat{Y}_{end}	\hat{Y}_{begin}	$\hat{Y}_{literal}$	Δ	95% CI for Δ	z	$p(z)$
Strong	0.765	—	0.649	0.116	0.026 to 0.205	2.53	0.012
Strong	0.765	0.636	—	0.128	-0.003 to 0.254	2.01	0.045
Strong	—	0.636	0.649	-0.013	-0.171 to 0.146	-0.16	0.874
Weak	0.629	—	0.738	-0.109	-0.255 to 0.038	-1.46	0.146
Weak	0.629	0.689	—	-0.060	-0.219 to 0.099	-0.74	0.459
Weak	—	0.689	0.738	-0.049	-0.194 to 0.097	-0.65	0.513
Δ	0.136*	-0.053	-0.089	—	—	—	—

Note: Cell sizes for the various conditions are as follows: Introductory metaphor, $n = 44$; concluding metaphor, $n = 50$; literal, $n = 58$; strong arguments, $n = 78$; weak arguments, $n = 74$. Mean cell size of the interactions is approximately $n = 25$. Predicted values were calculated holding all other variables constant (i.e., at their mean or baseline values), and confidence intervals were calculated using bootstrapped standard errors.

Figure 4.1: Study 2 Predicted Policy Support By Metaphor Location & Arguments



Note: Cell sizes for the various conditions are as follows: Introductory metaphor, $n = 44$; concluding metaphor, $n = 50$; literal, $n = 58$; strong arguments, $n = 78$; weak arguments, $n = 74$. Mean cell size of the interactions is approximately $n = 25$. Predicted values were calculated holding all other variables constant (i.e., at their mean or baseline values), and confidence intervals were calculated using bootstrapped standard errors.

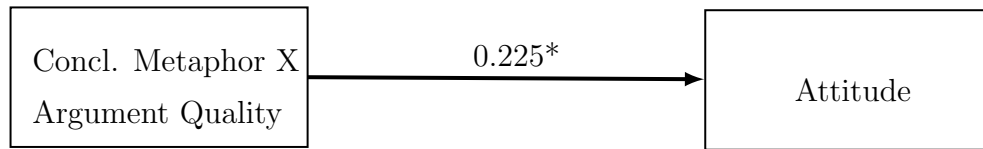
Table 4.10: Study 2 Mediated Moderation Results

Variable	(1) DV: Attitude		(2) DV: Cog. Resp.		(3) DV: Attitude				
	β	s.e.	$p(t)$	β	s.e.	$p(t)$	β	s.e.	$p(t)$
Introductory Metaphor	-0.053	0.076	0.479	-0.104	0.096	0.281	-0.026	0.069	0.709
Concluding Metaphor	-0.111	0.070	0.116	-0.108	0.091	0.238	-0.078	0.069	0.255
Argument Quality	-0.089	0.067	0.188	-0.086	0.086	0.323	-0.053	0.064	0.411
Intro. Metaphor X Arg. Qual.	0.037	0.106	0.730	0.203	0.132	0.126	-0.030	0.097	0.762
Concl. Metaphor X Arg. Qual.	0.225	0.098	0.022	0.270	0.122	0.028	0.130	0.091	0.155
Cognitive Responses	—	—	—	—	—	—	0.347	0.063	0.000
Political Sophistication	-0.152	0.092	0.101	-0.044	0.115	0.700	-0.140	0.084	0.101
Education	-0.031	0.085	0.714	-0.155	0.113	0.173	0.048	0.081	0.552
Party ID	0.213	0.098	0.031	0.154	0.123	0.211	0.152	0.089	0.090
Ideology	-0.057	0.116	0.626	-0.239	0.145	0.103	0.033	0.107	0.756
Age	0.003	0.002	0.135	0.002	0.002	0.423	0.002	0.002	0.284
Male	-0.063	0.058	0.279	-0.063	0.072	0.379	-0.034	0.052	0.515
Intercept	0.740	0.052	0.000	0.378	0.067	0.000	0.599	0.053	0.000
R^2		0.119			0.091			0.293	
<i>Adjusted</i> R^2		0.050			0.017			0.230	
N		147			147			147	

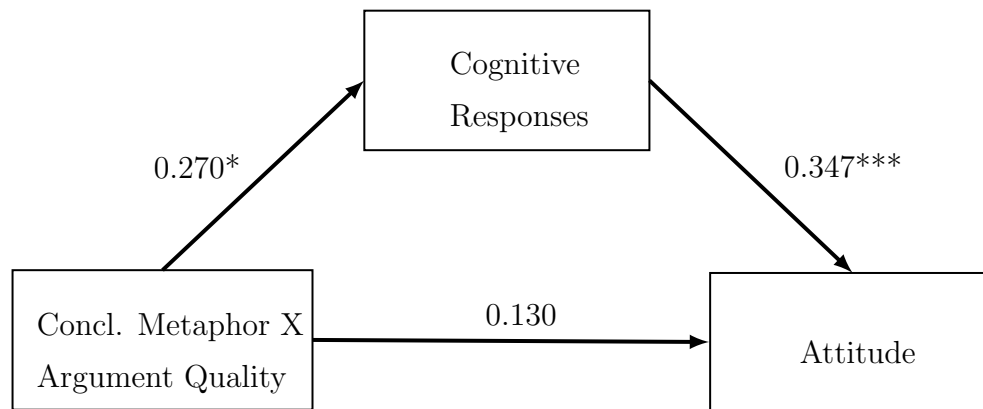
Note: Cell sizes for the various conditions are as follows: Introductory metaphor, $n = 44$; concluding metaphor, $n = 50$; literal, $n = 58$; strong arguments, $n = 78$; weak arguments, $n = 74$. Mean cell size of the interactions is approximately $n = 25$. Estimates calculated using Clarify with 1,000 sets of simulated parameters. Sobel statistic = 0.094, $p(z) = 0.049$; total mediated effect = 41.85%; ratio of the indirect to the direct effect = 0.720.

Figure 4.2: Study 2 Mediated Moderation Demonstrating Systematic Message Processing

Panel A: Direct Effect (Moderated Regression)



Panel B: Indirect Effect (Mediated Moderation)



Note: $N = 147$. Sobel statistic = 0.094, $p(z) = 0.049$; total mediated effect = 41.85%; ratio of the indirect to the direct effect = 0.720.

Table 4.11: Study 3 Sample Demographics

	Item	Percent (%)	<i>N</i>
Gender	Female	48.46	63
	Male	51.54	67
Race	Asian	30.53	40
	Black	6.11	8
	Hispanic	9.92	13
	White	52.67	69
Party ID	Democrat	41.22	54
	Republican	19.85	40
	Independent	30.53	17
	Other	8.40	11
Ideology	Liberal	50.38	66
	Moderate	26.72	35
	Conservative	22.90	30

Note: $N = 131$. One subject identified his race as Native American / Pacific Islander.

Table 4.12: Study 3 Network Neutrality Article (Main Body of Passage)

Network Neutrality and the Future of the Internet

By Samuel Johnson

Network Neutrality is at the center of an ongoing debate in Washington, pitting major technology companies against one another. While few people have heard of this issue, its outcome could drastically affect the future of the Internet. On one side of the issue are telecommunications companies like AT&T and Verizon that own the networks that make up the Internet. On the other side of the debate are content providers like Google, Yahoo!, and Microsoft that transmit information over the Internet to their customers.

Recently, some of these content providers have begun offering services like streaming videos and voice communication that take up a large amount of a network's overall capacity. Telecoms say that these data-intensive services cause enormous stress on their networks that can lead to slower or dropped Internet connections for their customers. To resolve this problem, telecoms want to charge content providers a special fee to route video, voice, and other large data streams more efficiently. Telecoms argue that these fees are necessary to offset the rising costs of expanding and improving the infrastructure of the Internet.

Content providers want Congress to pass Network Neutrality legislation to prevent telecoms from charging them special fees based upon the type of data that they transmit over the Internet. They argue that the prospect of telecoms imposing new fees on innovative ventures is exactly the kind of thing that deters online commerce.

Note: All subjects read the above paragraphs (245 words). The article concluded with the experimental manipulation (see Table 4.19 for the exact wording).

Table 4.13: Study 3 Experimental Manipulation (Concluding Paragraph)

Metaphor Condition (72 words)

Congressman Alan Davidson, who specializes in technology issues, supports Network Neutrality legislation. He recently told reporters: “Telecoms want to **set up *toll booths*** on the Internet to **stand between** content providers **and** their customers. Network Neutrality would prevent this from happening. It would ensure that we don’t have a system where some companies have access to an *express lane*, while the rest are **stuck *waiting in line at the toll booth***.”

Literal Condition (64 words)

Congressman Alan Davidson, who specializes in technology issues, supports Network Neutrality legislation. He recently told reporters: “Telecoms want to **charge fees** on the Internet to **connect** content providers **to** their customers. Network Neutrality would prevent this from happening. It would ensure that we don’t have a system where some companies have access to **fast services**, while the rest are **left with slower connections**.”

Note: After reading the main body of the network neutrality passage (see Table 4.12), subjects were randomly exposed to one of the above messages. Italicized text highlights the policy metaphors in the message, while bolded text identifies differences between the metaphoric and literal passages. None of the text was italicized or bolded in the actual experiment.

Table 4.14: Study 3 Summary Statistics

Variable	Mean	Std. Dev.	Min.	Max.
Policy Attitude	0.586	0.233	0	1
Metaphor	0.481	0.502	0	1
Political Sophistication	0	0.262	-0.617	0.383
Party ID	0	0.330	-0.617	0.383
Ideology	0	0.259	-0.594	0.406
Computer Interest	0	0.287	-0.318	0.682
Computer Expertise	0	0.264	-0.470	0.529
Female	0.485	0.502	0	1
Asian	0.305	0.462	0	1
Black	0.061	0.240	0	1
Hispanic	0.099	0.300	0	1

Note: $N = 131$.

Table 4.15: Study 3 Political Sophistication Items

-
-
1. Whose responsibility is it to determine if a law is constitutional or not?
Supreme Court (79%)
 2. Which party currently has the most elected members in the U.S. House of Representatives?
Democratic Party (62%)
 3. What job does Harry Reid currently hold?
Senate Majority Leader (35%)
 4. How much of a majority of the both the House of Representatives and Senate are required to override a presidential veto?
2/3 (63%)
 5. Which one of the parties is more conservative than the other at the national level?
Republican Party (79%)
 6. How many justices are there on the U.S. Supreme Court?
9 (53%)
 7. What job does Condoleezza Rice currently hold?
Secretary of State (82%)
 8. Which branch of government does the U.S. Constitution give the sole authority to declare war?
Legislative Branch (44%)
-
-

Note: $N = 131$. $M = 0.62$, $SD = 0.26$; reliability: $KR-20 = 0.71$, $\alpha = 0.70$. Correct answers are listed in italics at the end of each question, along with the frequency of correct responses in parentheses.

Table 4.16: Study 3 Regression Results

Variable	(1) Simple Model			(2) Moderated Model		
	β	s.e.	$p(t)$	β	s.e.	$p(t)$
Metaphor	0.006	0.041	0.889	0.010	0.041	0.810
Political Sophistication	0.162	0.082	0.050	0.291	0.105	0.006
Metaphor X Sophistication	—	—	—	-0.322	0.158	0.043
Party ID	0.133	0.090	0.143	0.160	0.094	0.093
Ideology	0.060	0.116	0.605	0.041	0.112	0.716
Computer Interest	-0.186	0.085	0.030	-0.189	0.078	0.017
Computer Expertise	-0.024	0.090	0.790	-0.023	0.090	0.795
Female	0.035	0.046	0.444	0.038	0.044	0.391
Asian	-0.075	0.048	0.118	-0.076	0.050	0.130
Black	0.031	0.088	0.722	0.020	0.081	0.803
Hispanic	-0.084	0.075	0.261	-0.094	0.071	0.184
Intercept	0.595	0.039	0.000	0.596	0.037	0.000
R^2		0.126			0.156	
<i>Adjusted R²</i>		0.052			0.077	
N		129			129	

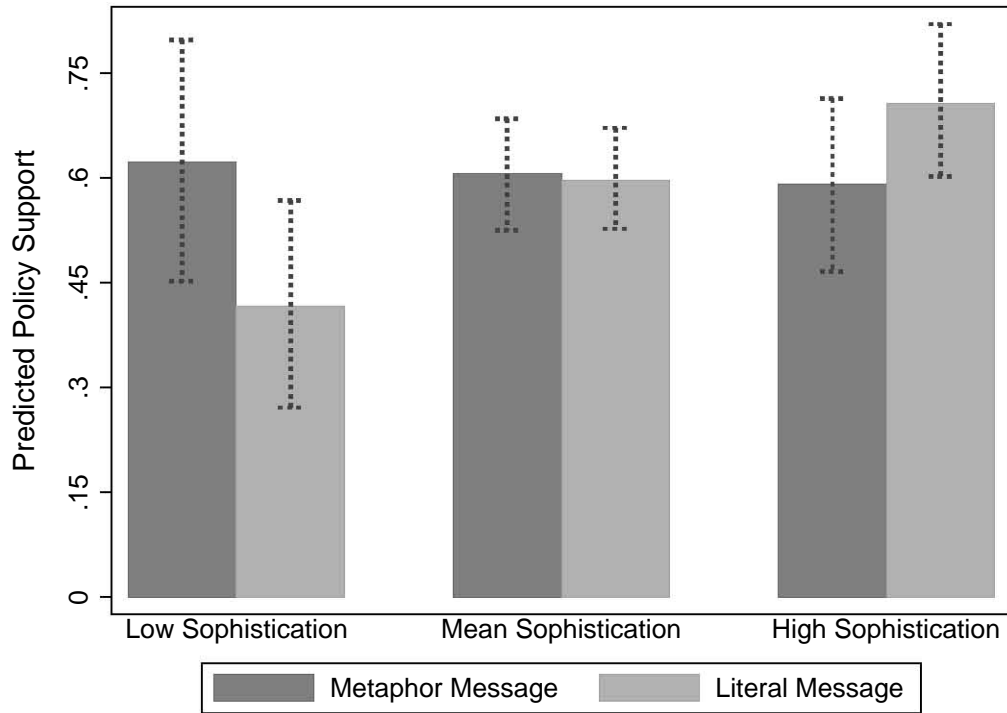
Note: Metaphor message, $n = 62$; literal message, $n = 67$. Estimates calculated using Clarify (see King et al., 2000; Tomz et al., 2003) with 1,000 sets of simulated parameters.

Table 4.17: Study 3 Predicted Policy Support by Political Sophistication

Sophistication	\hat{Y}_{met}	\hat{Y}_{lit}	Δ	95% CI for Δ	t	$p(t)$
Minimum	0.623	0.416	0.207	0.032 to 0.374	1.979	0.050
SD (-1)	0.615	0.516	0.099	0.009 to 0.194	1.739	0.084
Mean	0.606	0.596	0.010	-0.053 to 0.079	0.241	0.810
SD (+1)	0.595	0.674	-0.078	-0.177 to 0.011	-1.353	0.178
Maximum	0.591	0.707	-0.116	-0.241 to 0.007	-1.579	0.117

Note: $N = 129$. “Met” = metaphor message ($n = 62$); “lit” = literal message ($n = 67$). Predicted values were calculated using Clarify to simulate 1,000 sets of parameters, while holding all other variables constant at 0 (i.e., each variable’s mean or baseline value).

Figure 4.3: Study 3 Moderated Regression Results



Note: Note: $N = 129$. Metaphor message ($n = 62$) and literal message ($n = 67$).

Table 4.18: Study 4 Sample Demographics

	Item	Percent (%)	<i>N</i>
Gender	Female	66.67	94
	Male	33.33	47
Race	Asian	10.14	14
	Black	2.17	3
	Hispanic	3.62	5
	White	84.06	116
Education	No college degree	30.00	42
	Bachelor's degree	37.86	53
	Graduate degree	32.14	45
Party ID	Democrat	48.23	68
	Republican	27.66	39
	Independent	15.06	22
	Other	8.51	12
Ideology	Liberal	46.10	65
	Moderate	21.28	30
	Conservative	32.62	46

Note: $N = 141$. The category “no college degree” includes subjects that completed an Associate’s—but not a Bachelor’s—Degree. Three subjects failed to identify their race, and 1 subject did not disclose his or her educational background.

Table 4.19: Study 4 Experimental Manipulation (Concluding Paragraph)

Metaphor Condition (93 words)

Congressman Alan Davidson, a respected technology expert, supports Network Neutrality legislation. He recently told reporters: “Telecoms want to **set up toll booths** all over the Internet to **stand between** content providers **and** consumers. These *tolls* would restrict the free movement of information. While some companies could afford to pay for access to **an *express lane***, the majority would be **stuck** with **everyone else in a *data traffic jam***. I don’t know about you, but I don’t like the idea of having *toll booths at every on-ramp on the information superhighway*.”

Literal Condition (85 words)

Congressman Alan Davidson, a respected technology expert, supports Network Neutrality legislation. He recently told reporters: “Telecoms want to **charge fees** all over the Internet to **connect** content providers **to their** consumers. These **fees** would restrict the free movement of information. While some companies could afford to pay for **faster** access to **the Internet**, the majority would be **left** with **slower connections**. I don’t know about you, but I don’t like the idea of having **special fees imposed on content providers on the Internet**.”

Note: After reading the main body of the network neutrality passage (see Table 4.12), subjects were randomly exposed to one of the above messages. Italicized text highlights the policy metaphors in the message, while bolded text identifies differences between the metaphoric and literal passages. None of the text was italicized or bolded in the actual experiment.

Table 4.20: Study 4 Summary Statistics

Variable	Mean	Std. Dev.	Min.	Max.
Policy Attitude	0.551	0.286	0	1
Message Quality	0.569	0.243	0	1
Literal Condition	0.284	0.452	0	1
Control Condition	0.404	0.492	0	1
Political Sophistication	0	0.251	-0.527	0.348
Education	0	0.273	-0.707	0.293
Party ID	0	0.352	-0.590	0.410
Ideology	0	0.310	-0.544	0.456
Computer Interest	0	0.230	-0.274	0.726
Computer Expertise	0	0.281	-0.388	0.612
Issue Familiarity	0.142	0.350	0	1
Female	0.667	0.473	0	1

Note: $N = 141$, except for Message Quality ($n = 84$), since subjects could not rate the argument quality in the control condition.

Table 4.21: Study 4 Political Sophistication Items

-
-
1. Whose responsibility is it to determine if a law is constitutional or not?
Supreme Court (82%)
 2. Which party currently has the most elected members in the U.S. House of Representatives?
Democratic Party (80%)
 3. What job does Harry Reid currently hold?
Senate Majority Leader (40%)
 4. How much of a majority of the both the House of Representatives and Senate are required to override a presidential veto?
2/3 (60%)
 5. Which one of the parties is more conservative than the other at the national level?
Republican Party (86%)
 6. How many justices are there on the U.S. Supreme Court?
9 (50%)
 7. What job does Condoleezza Rice currently hold?
Secretary of State (82%)
 8. Which branch of government does the U.S. Constitution give the sole authority to declare war?
Legislative Branch (42%)
-
-

Note: $N = 141$. $M = 0.65$, $SD = 0.25$; reliability: $KR-20 = 0.70$, $\alpha = 0.70$. Correct answers are listed in italics at the end of each question, along with the frequency of correct responses in parentheses.

Table 4.22: Study 4 Regression Results

Variable	β	s.e.	$p(t)$
Literal Message	-0.147	0.062	0.020
Control Condition	-0.163	0.059	0.007
Political Sophistication	0.168	0.101	0.099
Education	-0.046	0.091	0.610
Party ID	0.061	0.099	0.535
Ideology	0.047	0.115	0.685
Computer Interest	-0.018	0.120	0.879
Computer Expertise	0.133	0.102	0.196
Issue Familiarity	0.128	0.073	0.082
Female	0.057	0.057	0.317
Intercept	0.601	0.059	0.000
R^2		0.139	
<i>Adjusted R²</i>		0.072	
N		140	

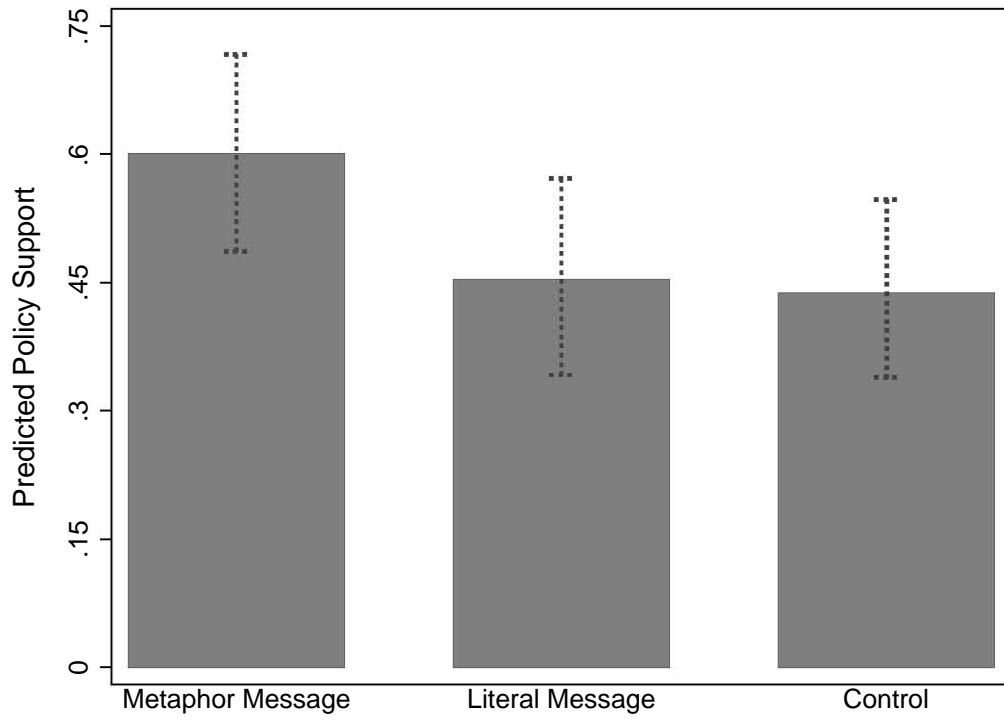
Note: The metaphor condition ($n = 44$) served as the baseline for the literal ($n = 40$) and control ($n = 56$) dummy variables entered into the model. Estimates calculated using Clarify with 1,000 sets of simulated parameters.

Table 4.23: Study 4 Predicted Policy Support by Message Condition

Comparison	$\hat{Y}_{metaphor}$	$\hat{Y}_{literal}$	$\hat{Y}_{control}$	Δ	95% CI for Δ	t	$p(t)$
Metaphor vs. Literal	0.601	0.454	—	0.147	0.046 to 0.253	2.355	0.020
Metaphor vs. Control	0.601	—	0.438	0.163	0.067 to 0.259	2.751	0.007
Literal vs. Control	—	0.454	0.438	0.016	-0.100 to 0.133	0.277	0.782

Note: $N = 140$. Metaphor message ($n = 44$); literal message ($n = 40$); control condition ($n = 56$). Predicted values were calculated using Clarify to simulate 1,000 sets of parameters, while holding all other variables constant at 0 (i.e., each variable's mean or baseline value).

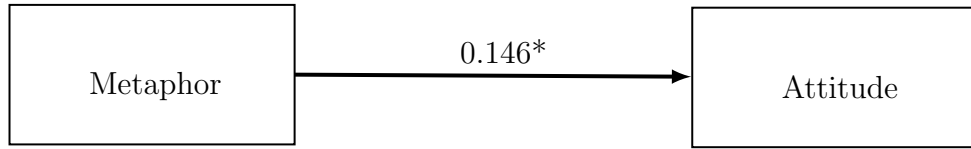
Figure 4.4: Study 4 Regression Results



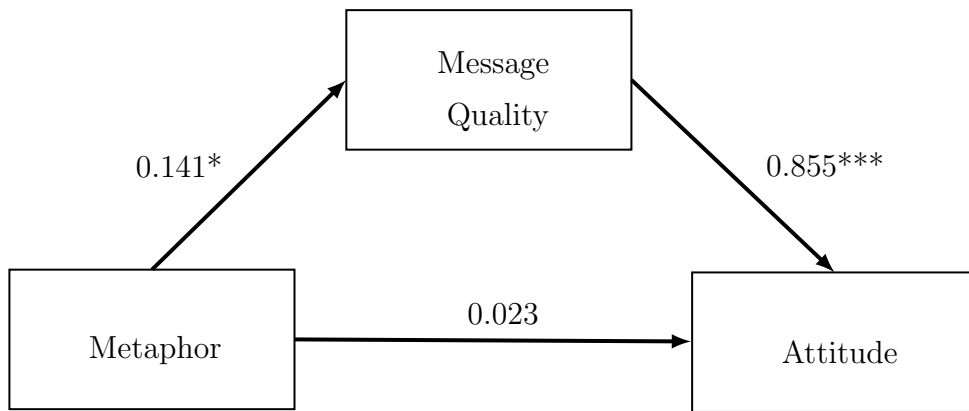
Note: $N = 140$. Metaphor message ($n = 44$); literal message ($n = 40$); control condition ($n = 56$). Predicted values were calculated using Clarify to simulate 1,000 sets of parameters, while holding all other variables constant at 0 (i.e., each variable's mean or baseline value).

Figure 4.5: Study 4 Mediation

Panel A: Direct Effect (Simple Model)



Panel B: Indirect Effect (Mediated Model)



Note: $N = 84$. Sobel statistic = -0.121 , $p(z) = 0.019$; total mediated effect = 85.58%; ratio of the indirect to the direct effect = 5.936.

Chapter 5

Automatic Affect

The mind is like an iceberg, it floats with one-seventh of its bulk above water.

—Sigmund Freud¹

In the last chapter, we discovered that policy metaphors are particularly persuasive relative to their non-metaphorical counterparts because they are more likely to induce systematic message processing (Study 2), resonate differently for citizens at various levels of political sophistication (Study 3), and increase perceptions of message quality (Study 4). Yet, Gentner’s (1983) structure-mapping theory of metaphor processing suggests another potential avenue for exploration—that policy metaphors may affect automatic, “knee-jerk” reactions to a particular issue. As a metaphor activates existing knowledge structures from one conceptual domain and relates them to a second domain, it is conceivable that the metaphor will also activate and transfer evaluative information from source to target (Charteris-Black, 2006).² For instance, when an individual encounters the phrase *war on drugs*, this political metaphor may transfer negative affect from the source, war, to the target, drugs.

An alternative explanation to the *affective transference* hypothesis above is that metaphors may affect automatic evaluations because policy metaphors are simply more persuasive than their literally equivalent counterparts. Under this interpreta-

tion, metaphors would naturally affect the underlying evaluations of policy objects in reaction-time tasks by creating stronger attitudes. Although I cannot adjudicate between these competing possibilities in the present study, I will explore whether policy metaphors influence people's automatic evaluations toward political issues.

5.1 Study 5

Automaticity research has a long-standing tradition within cognitive and social psychology, and has until only recently been largely ignored by political scientists.³ Although there are minor differences in the way the term “automaticity” has been applied (e.g., see Moors & De Houwer, 2006), scholars generally mean processes that occur “without the individual's intent” (Fazio, 2007; p. 610) and that “operate outside of conscious awareness and guidance” (Bargh & Chartrand, 1999; p.462). In terms of attitudes, automaticity refers specifically to attitudes that are activated “effortlessly and inescapably” (Fazio, 1995; p. 248). In other words, whenever an individual encounters a particular attitude object, well-learned associations are called automatically to mind, even if the individual is engaging in another activity (Fazio, 2001).

Of all the different approaches to the study of automaticity, Fazio et al.'s (1986) evaluative priming paradigm integrates nicely with Gentner's (1983) structure-mapping theory of metaphor processing. According to Fazio (1995), an attitude is simply “an association in memory between a given object and a given summary evaluation of the object” (p. 247). In other words, the probability that an attitude will be activated from memory is determined largely by the strength of the association between the object and its evaluation (Fazio, Williams, & Powell, 2000). Of course, some object-evaluations are well-learned and activated at the slightest mention of the specific object (e.g., “cockroach” to negativity), while others are weakly associated in memory so that they are not easily activated (e.g., one's evaluation of Belgium;

Fazio, 1995).

In practice, Fazio's evaluative priming paradigm works by measuring response latencies to a series of prime-target word pairs. For each trial, a subject is first presented with a prime word (e.g., "cockroach") and then asked to indicate as quickly as possible whether the subsequent target adjective is "good" or "bad." The researcher then measures response latencies (in milliseconds) to these prime-target word pairs. The key comparison is the degree to which congruent prime-target word pairs (e.g., "bad-bad," as is the case with the pair "cockroach-disgusting") are facilitated relative to incongruent word pairs (e.g., "bad-good," as is the case with the pair "cockroach-appealing"). Put differently, the crucial test is a significant two-way interaction between the valence of the prime words and the valence of the target words. What makes this a test of automaticity is that Fazio's priming procedure does not require participants to consciously evaluate the prime words. In fact, only when the interval between presentation of the prime and target is relatively short (i.e., less than 300ms) do we find significant priming effects.

Lodge & Taber (2005) provide an important extension of the evaluative priming paradigm by demonstrating the automaticity of political attitudes. With their "hot cognition" theory of political information processing, Lodge & Taber argue that all political objects that have been "evaluated in the past become affectively charged," and that this affect is "linked directly to the concept in long-term memory" (p. 456). In several studies (e.g., see Burdein et al., 2006; Lodge & Taber, 2005; Morris, Squires, Taber, & Lodge, 2003), they demonstrate that sociopolitical concepts—political figures, groups, and issues—are affect-laden, and that this evaluative "tally" comes automatically to mind. For instance, when an individual encounters a political figure like "President Bush," that person's evaluation of President Bush comes immediately (and unconsciously) to mind. Moreover, some of Lodge & Taber's strongest automaticity findings occur for political issues (e.g., the death penalty, gun control, taxes, and welfare), rather than for political figures and

groups.

Taken together, Fazio's (1995) conceptualization of attitudes as "object-evaluation associations" and Lodge & Taber's 2005 automaticity findings for political issues suggest that policy metaphors may be a fruitful area for study for this type of research. Recall that in her structure-mapping theory, Gentner (1983) argues that certain relational features from the source of a metaphor are structurally mapped onto its target. If we think of this process in terms of *associations between unrelated concepts*, metaphors would transfer affect linked to the source of a particular object to the metaphor's target. For example, exposure to the metaphor *crime is a disease* may transfer negative affect from the source, crime, to the target, disease.

Of course, an alternative theory is that the structure-mapping process does not transfer affect from source to target *per se*; instead, policy metaphors are simply more persuasive than their non-metaphorical counterparts. Under this interpretation, exposure to a metaphor would create a stronger attitude than exposure to a literally equivalent statement. This difference in attitude strength is important because Fazio (1995) has shown that strong attitudes are more readily activated from memory than weakly held evaluations. Regardless of the specific process at work—whether it be affective transference or persuasion (or both)—what makes these automatically-activated attitudes theoretically interesting is that they disproportionately influence judgments and behavior (Fazio, 1995).

In Study 5, I present a test of whether policy metaphors fundamentally alter the evaluative strength underlying political attitude objects. As with all evaluative priming tasks, my general expectation is that subjects should respond faster to prime-target word pairs that are evaluatively congruent than incongruent. However, unlike most studies within the evaluative priming paradigm, I am interested in *changes* in response latencies measured immediately before and after presentation of a passage containing a policy metaphor or comparable literal statement. Thus, exposure to a policy metaphor may strengthen or weaken the evaluative priming effect,

depending upon an individual's original attitude, as well as the valence of the policy metaphor instantiated in the passage. I expect the policy metaphor to strengthen an evaluatively congruent attitude and weaken an evaluatively incongruent attitude.

Consider the issue of immigration. If a subject were to have a negative attitude toward this issue and encounter a metaphor with an affectively negative source domain (e.g., "cancer" in the case of *immigration is a cancer*), then it is likely that his or her automatic evaluation will become even more negative, as either negativity from the source, cancer, is transferred to the target policy, immigration, or the metaphor is viewed as a particularly persuasive argument. Evidence of this reinforced attitude would come in the form of shorter response latencies in a post-manipulation priming task to negative target words (since we assumed that the original evaluation of the prime was negative), as well as longer response times to positive target words, relative to those in a persuasive literal message condition.

If on the other hand, this same subject encountered a positive metaphor (e.g., *immigration is a hidden treasure*), then I expect an individual's attitude to be less negative, or weakened, which would manifest itself in longer post-manipulation response latencies for negative targets and shorter response latencies for positive adjectives relative to those in the literal condition. Note, however, that an individual's attitude need not be changed entirely from negative to positive (or vice versa) to demonstrate the effects of exposure to a given policy metaphor. Instead, subjects need only show differences in response latencies from their own baseline measured in the pre-manipulation task.

5.1.1 Overview

Subjects completed a pre- and post-manipulation evaluative priming task to test whether exposure to policy metaphors (relative to non-metaphorical equivalents) affected subjects' automatic policy evaluations. Subjects were assigned to read 2 brief passages about the issues of international trade and immigration (separately). The

key manipulation involved whether the passage contained, and thus, instantiated a policy metaphor. The policies (i.e., international trade and immigration) served as the prime words, while a list of 10 positive and 10 negative words taken from normed word lists served as the target words for each issue.⁴ Thus, each subject evaluated 40 target words for a set of trials at a short (i.e., 300ms) and long (i.e., 1000ms) stimulus onset asynchrony (SOA), which is the time that elapses between the presentation of the prime word and target word. As is standard practice, the priming trials at the short SOA specifically measure automatic evaluations, since this time interval is too brief to allow subjects to engage in strategic processing. In contrast, the trials at the long SOA (i.e., 1000ms) are used to test whether any observed effects occur when more deliberative processes are at work.

A subject's response latencies from the pre-manipulation were subtracted from the post-manipulation scores, so that each subject served as his or her own baseline. Thus, Study 5 is a 2 (passage: metaphor vs. literal) x 2 (prime issue: international trade vs. immigration) x 2 (target word valence: positive vs. negative) x 2 (stimulus onset asynchrony: 300ms vs. 1000ms) mixed design, with repeated measures on the last 3 factors. The within-subjects issue factor is not theoretically interesting, and in fact, I expect this factor to be non-significant, which would demonstrate that the automaticity effect holds for more than one issue.

5.1.2 Data

A total of 48 Stony Brook University undergraduates enrolled in an introductory political science course completed this experiment for extra credit during the summer of 2007 (see Table 5.1).⁵ Sixty-one percent of subjects were female, 39% male. Thirty-three percent of the sample identified his or her race as "White," 29% as "Asian," 16% as "Black," and 12% as "Hispanic." Moreover, 59% of subjects identified themselves as Democrats, 20% as Republicans, and 20% as Independents. Likewise, 55% of the sample stated that they held liberal political views, 22% held

conservative views, and 22% held moderate views.

5.1.3 Experimental Procedure

Upon arriving at the experimental lab, each subject was seated in a cubicle equipped with a Dell workstation running Microsoft Windows XP and DirectRT 2006.⁶ Subjects were instructed that they would be completing a study that investigates how people process information about politics, and that some of these processes would be measured with reaction time tasks. More specifically, subjects were told that the reaction time tasks required them to “ignore the first word presented on the screen and judge as quickly as possible—without making too many mistakes—whether the second word is positive or negative.”

Subjects pressed the “Z” key whenever they thought the second word was positive and the “?” key whenever that word was deemed negative. The first word, or prime, was displayed very briefly on the screen for 200ms, and the second word, or target, followed at either 100ms in the short SOA condition or 800ms in the long SOA condition. Thus, the short condition had an actual SOA of 300ms, while the long condition had an SOA of 1000ms. These 2 conditions use standard SOAs to distinguish between attitudes that were activated automatically versus those that were the result of more strategic processes. Fazio and colleagues (e.g., Fazio et al., 1986; see also Bargh, Chaiken, Gollwitzer, & Pratto 1992, 1996) have demonstrated that this type of reaction time task measures associations between attitude objects and their evaluations—that is, it tests automatic attitude activation.

Subjects completed a pre-manipulation evaluative priming task, which consisted of 80 test trials (40 trials at the long SOA followed by 40 trials at the short SOA).⁷ Two political issues—international trade and immigration—served as the prime words for the reaction time task. For each political issue, subjects rated the valence of 10 positive and 10 negative target words, which were taken from Bradley & Lang’s (1999) list of normed words (see Table 5.2 for the full word lists used in this

experiment). Great care was taken to select targets that had received high scores on the valence (i.e., positive and negative) and arousal (i.e., the intensity of activation) dimensions. In addition, I specifically chose target words that were semantically unrelated to the policy primes.

The key manipulation concerned whether subjects read passages that instantiated the policy metaphors *international trade is war* and *immigration is a disease* or simply contained literal statements (see Table 5.3). The two sets of passages were constructed to be functionally equivalent—that is, message direction was held constant and only a few words were altered to ensure that the literal passages did not instantiate the policy metaphors. For analytical purposes, subjects were assigned to read metaphorical or literal versions of the text, but not one of each type. In order to ensure they read the passages before moving on to the next task, subjects were instructed that they may be asked to discuss the readings in the debriefing session.

After reading the brief passages, subjects completed the same evaluative priming task of 80 test trials. Thus, subjects completed a total of 160 trials for the entire experiment. This pre- and post-manipulation design means that each subject effectively served as his or her own baseline, so that the attitudinal effect of exposure to the political metaphor could be clearly measured. Moreover, controlling for individual variations in response latencies greatly increases the statistical power of the study.

Before beginning the study, subjects completed 16 practice trials to allow them to become acquainted with the reaction time task. Before each trial, a warning signal (“+”) appeared in the center of the screen for 750ms and was followed by a blank screen for 250ms. The target word then appeared and remained on the screen until the subject rated the valence of the word. At the end of the study, subjects were asked to answer 11 standard political knowledge questions (Delli Carpini & Keeter, 1996; see Table 5.4). In addition, subjects were asked several demographic questions, as well as their level of English fluency.

5.1.4 Measures

Dependent Variable

Differences between the mean post- and pre-manipulation response latencies serve as the dependent variable and offer several advantages over non-differenced reaction time data.⁸ First, the differenced dependent variable measures what we are most interested in, namely changes in response latencies (from $time_1$ to $time_2$) caused by exposure to passages that instantiate a policy metaphor. Second, unlike reaction time data that are positively skewed and bounded by zero, the differenced dependent variable can assume positive or negative values. In addition, it is normally distributed (see Figure 5.1); thus, this dependent variable satisfies an important assumption of analysis of variance (ANOVA) models. Third, this dependent variable accounts for individual variation in responses that typically plague reaction time data, since each individual serves as his or her own baseline.

As is standard practice, I only include trials in the final analysis for which a correct response was recorded (The error rate for the entire study was 4.6% of the total response latencies.). No independent analyses were conducted on the error rates. Response latencies that were more than three times the standard deviation of the mean ($M = 737.57\text{ms}$, $SD = 281.77\text{ms}$) were replaced with cutoff values (i.e., 434ms and 1757ms). Finally, I calculated the mean response latency for each set of 10 trials (for positive and negative target words) for the various conditions.

Political Sophistication

Political sophistication is determined by correct responses to 11 political knowledge questions ($KR-20 = 0.61$; $M = 0.44$, $SD = 0.20$). For the subsequent ANOVA analyses, sophistication is split at the scale mean. Political sophistication is considered a possible moderator of evaluative priming effects.

5.1.5 Results

To examine whether exposure to a policy metaphor affects automatic evaluations, I conducted a 2 (passage: metaphor vs. literal) x 2 (prime issue: international trade vs. immigration) x 2 (target word valence: positive vs. negative) x 2 (stimulus onset asynchrony: 300ms vs. 1000ms) mixed-model ANOVA on subjects' differenced response latencies. Recall that I expect to find a statistically significant passage x target word valence x SOA interaction, which would indicate that exposure to policy metaphors fundamentally alters the evaluative strength underlying subjects' issue attitudes relative to those exposed to a literal message. More specifically, I hypothesized that such exposure may strengthen or weaken existing attitudes, depending primarily upon the valence of the original attitude and the subsequent policy metaphor.

Since the policy metaphors used in this study were negatively valenced (i.e., *international trade is war* and *immigration is a disease*), I hypothesized that subjects would respond faster to negative target words in the post-manipulation priming task and slower to positive targets. In other words, I expect to find negative values (i.e., faster response latencies) for the differenced dependent variable for negative target words and positive values (i.e., slower response latencies) for positive targets. One advantage of this bi-directional expectation is that it accounts for repetition or practice effects at $time_2$ (i.e., response latencies for the post-manipulation task may be faster than those recorded at $time_1$), since we should find slower response latencies for incongruent target words. In addition, we should observe these priming effects only for subjects exposed to the metaphorical passages at short (300ms) SOA's, which would indicate that the priming effects are the result of automatic processes and not strategic, deliberate thinking.

Turning to the results of the mixed-model ANOVA, I find a significant main effect for SOA ($F[1, 46] = 12.70, p < 0.001$) and a marginally significant passage x issue x SOA interaction ($F[1, 46] = 5.08, p < 0.10$). Neither of these significant

results is theoretically interesting because they do not include an interaction with target word valence. More importantly, the critical passage x target word valence x SOA interaction is statistically significant, $F[1, 46] = 5.52, p < 0.05, \hat{\omega}_{interaction}^2 = 0.05$.⁹ In addition, the 4-way interaction involving political issue is non-significant, $F[1, 46] = 0.92, n.s.$, which suggests that the automaticity effects hold across the two issues used in this experiment.

To explicate these results further, I examined the simple passage X target valence interactions at each level of SOA.¹⁰ As hypothesized, the 2-way interaction is statistically significant for the short SOA condition (300ms), $F[1, 46] = 6.92, p < 0.05, \hat{\omega}_{interaction}^2 = 0.06$. In contrast, the 2-way interaction for the long SOA condition (1000ms) is non-significant, $F[1, 46] = 0.26, n.s.$. These findings demonstrate that the evaluative priming effects are only result of automatic processes.

Follow-up, planned comparisons reveal a significant simple main effect of target valence (i.e., positive vs. negative words) for people exposed to the policy metaphors, $t(40) = 1.36, p < 0.10$, one-tailed. As predicted, the mean difference in response latencies ($time_2 - time_1$) for positive targets is positive ($M_{positive} = 10.69ms, SE_{positive} = 18.79ms$), while the mean difference for negative targets is negative ($M_{negative} = -23.59ms, SE_{negative} = 16.90ms$; see Figures 5.2 and 5.3, as well as Table 5.5). This statistically significant difference of 34.28ms suggests that subjects did respond slower to positive target words and faster to negative target words after reading passages that invoked a negative policy metaphor. In addition, I find that subjects in the literal condition actually responded to target words in the wrong direction ($M_{positive} = -16.66ms, SE_{positive} = 18.46ms; M_{negative} = 25.58ms, SE_{negative} = 21.68ms$). Given my directional hypothesis, this difference of -42.24ms is nonsignificant ($t(52) = 1.48, n.s.$, one-tailed). The negative policy metaphors appear to have shifted automatic evaluations significantly more negatively, while the comparable literal statements shifted these evaluations in the opposite expected direction (i.e., more positively).

Now, if we compare mean differences in response latencies for the target words across passages, I find a statistically significant simple main effect for negative target words ($\Delta = -49.17\text{ms}$, $t(46) = 1.71$, $p < 0.05$, one-tailed). In contrast, I do not find a statistically significant effect for positive target words ($\Delta = 27.35\text{ms}$, $t(46) = 1.02$, *n.s.*, one-tailed). This finding suggests that although the means for positive targets was in the expected direction, negative targets account for much of the variance in the differenced response latencies.

Finally, there is no evidence that political sophistication moderates the evaluative priming effects discussed above. When I include this factor into the model, none of the theoretically important interactions are significant. The 5-way interaction is nonsignificant, $F[1, 44] = 0.001$, *n.s.*, as is the 4-way interaction (without issue) $F[1, 44] = 0.11$, *n.s.*

Discussion

The results from this study suggest that policy metaphors are unique in that they alter the evaluative strength underlying political attitudes, which does not occur for literally equivalent passages. Moreover, these priming effects hold across issues, which suggests that the automaticity effect may be broad-ranging. These priming effects are quite interesting, particularly considering that the mean reading times for the metaphorical passages on international trade and immigration were 19.1 and 16.7 seconds, respectively (For the literal passages, the mean reading times were 18.3 and 17.3 seconds, respectively.). This suggests that subjects were able to quickly distill important information contained in a passage with a policy metaphor after a single exposure and successfully update their political attitudes.

To my knowledge, the data and analyses that I presented in Study 5 represent the only empirical test of metaphor-induced evaluative priming effects. Since this study is the first of its kind, further research is needed to validate these findings. First, a study with an adult population and new issues would help to rule out the

possibility that there was something unique about the sample or stimulus materials for this particular study. In addition, I suggest that scholars pay particular attention to the valence of the words used in the metaphor and literal conditions (which I unfortunately did not do) to ensure that the results are not just an artifact of exposure to more negative words in the metaphor versus literal treatment condition.

Notes

1. Quote taken from Freud & Bullitt's (1966) *Thomas Woodrow Wilson*.
2. A formal test of metaphor-induced semantic associations is presented in Chapter 6.
3. For notable exceptions, see the work of Lodge and colleagues (e.g., Burdein et al., 2006; Lodge & Taber, 2005).
4. See Bradley & Lang (1999) for more information.
5. Eight subjects were dropped from further analyses because they did not read the assigned passages (i.e., they had recorded reading times of less than 6 seconds per passage); 1 subject committed so many errors in the evaluative priming task that reliable mean differences could not be calculated.
6. DirectRT is a program specifically designed for recording millisecond reaction times within Microsoft Windows. For more information, visit Empirisoft's website: <http://www.empirisoft.com>.
7. After each block of 40 trials, subjects were allowed to rest as long as they liked before moving on to the next test block.
8. Although some scholars have long cautioned the use of differenced dependent variables (e.g., Cronbach & Furby, 1970), others suggest that these concerns are largely unwarranted (e.g., Allison, 1990).
9. For a methodological discussion of partial omega-squared ($\hat{\omega}_{interaction}^2$) as a measure of effect size for within-subjects, and by extension mixed, designs, see Keppel (1991).
10. Although there are technically three different ways to explicate the significant 3-way interaction, I chose to examine the simple interaction effects at levels of SOA because this analysis fits best with my theoretical approach.

Table 5.1: Study 5 Sample Demographics

	Item	Percent (%)	<i>N</i>
Gender	Female	60.42	29
	Male	39.58	19
Race	Asian	29.17	14
	Black	16.67	8
	Hispanic	10.42	5
	White	33.33	16
Party ID	Democrat	60.41	29
	Republican	20.83	10
	Independent	18.75	9
Ideology	Liberal	56.25	27
	Moderate	20.83	10
	Conservative	22.92	11

Note: $N = 48$. Five subjects identified their race as “other.”

Table 5.2: Study 5 Prime-Target Word Pairs by Issue

Prime Word	Positive Targets	Negative Targets
International Trade	liberty	murderer
	confident	suffocate
	ecstasy	torture
	hug	unhappy
	diploma	misery
	vacation	abuse
	terrific	mutilate
	lucky	depressed
	graduate	slave
	promotion	hurt
Immigration	handsome	suicide
	fame	rape
	satisfied	funeral
	aroused	rejected
	acceptance	disloyal
	joke	terrified
	valentine	disaster
	music	hatred
	rainbow	ulcer
	romantic	tragedy

Note: Each test block consisted of 40 trials, in which the prime words were paired with 10 positive and 10 negative target words (presented in random order). Subjects completed 4 test blocks (160 trials) for the entire experiment.

Table 5.3: Study 5 Experimental Manipulation

International Trade Metaphor Condition (51 words)

International trade is war. In today’s global markets, countries **use their** economies—**not their militaries**—*to attack potential enemies*. Increasing international trade without adequate **protection** makes U.S. markets extremely **vulnerable**. The U.S. needs to **devise new strategies that will** ensure its **victory and defend** American jobs, wages, and standards of living.

International Trade Literal Condition (47 words)

International trade is **bad**. In today’s global markets, countries’ economies **are very sensitive to external pressures**. Increasing international trade without adequate **regulation** makes U.S. markets extremely **volatile**. The U.S. needs to **develop new ways to** ensure its **success** and **protect** American jobs, wages, and standards of living.

Immigration Metaphor Condition (65 words)

The United States is facing an *immigration epidemic*. Today there are an estimated 12 to 20 million people living illegally in the U.S., with 1 million more entering each year. Despite lawmakers efforts to **contain this outbreak**, the problem **is spreading rapidly to** communities throughout the entire U.S. Many people are worried that if a **cure** is not found soon, the damage may be irreversible.

Immigration Literal Condition (63 words)

The United States is facing an immigration **crisis**. Today there are an estimated 12 to 20 million people living illegally in the U.S., with 1 million more entering each year. Despite lawmakers efforts to **address this issue**, the problem **now concerns** communities throughout the entire U.S. Many people are worried that if a **solution** is not found soon, the damage may be irreversible.

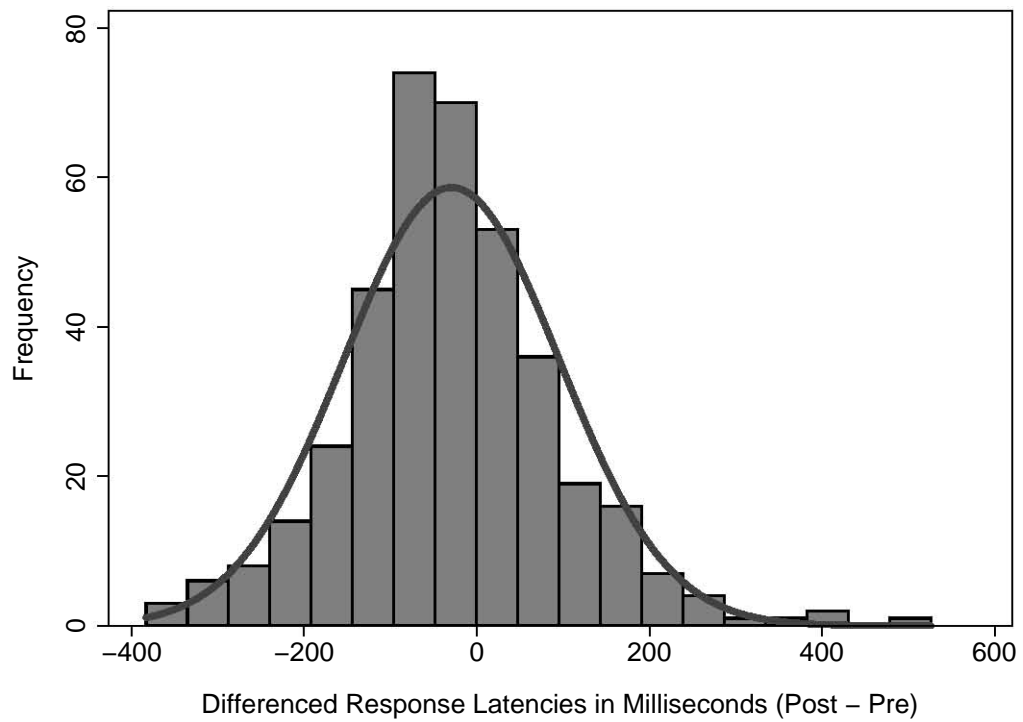
Note: Subjects were randomly assigned to read either the metaphorical or literal passages as a set. Italicized text highlights the policy metaphors in the message, while the bolded text identifies differences between the metaphoric and literal passages. None of the text was italicized or bolded in the actual experiment.

Table 5.4: Study 5 Political Sophistication Items

-
-
1. Who is the current U.S. Secretary of State? *Condoleezza Rice* (53%)
 2. Who is the current U.S. Attorney General? *Alberto Gonzales* (11%)
 3. Who is the current U.S. Speaker of the House? *Nancy Pelosi* (40%)
 4. How many justices are there on the U.S. Supreme Court? *9* (77%)
 5. How many votes are necessary to override a filibuster in the U.S. Senate?
60 (18%)
 6. How much of a majority of the both the House of Representatives and
Senate are required to override a presidential veto? *2/3* (60%)
 7. How many U.S. Constitutional Amendments make up the Bill of Rights?
10 (67%)
 8. Who is the current Chief Justice of the Supreme Court? *John Roberts*
(21%)
 9. Which branch of government does the U.S. Constitution give the sole
authority to declare war? *Legislative Branch* (68%)
 10. Who is the current U.S. Secretary of Defense? *Robert Gates* (7%)
 11. Which political party currently has the most seats in both the U.S. House
and Senate? *Democratic Party* (67%)
-
-

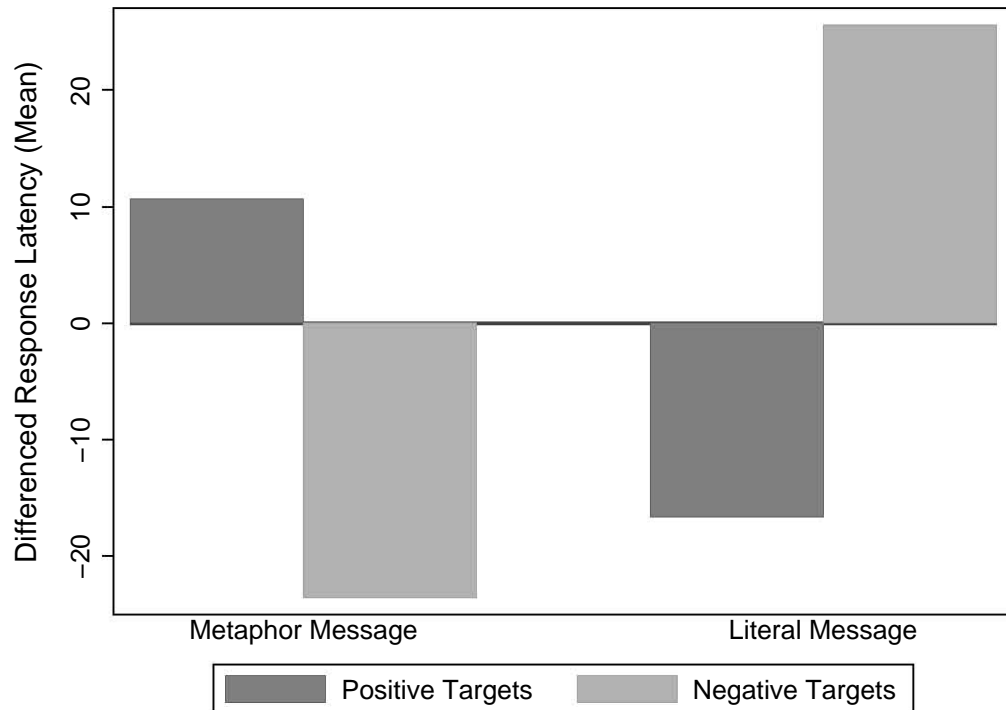
Note: $N = 48$. $M = 0.44$, $SD = 0.20$; reliability: $KR-20 = 0.61$, $\alpha = 0.61$. Correct answers are listed in italics at the end of each question, along with the frequency of correct responses in parentheses.

Figure 5.1: Study 5 Histogram Showing the Normality of the Dependent Variable



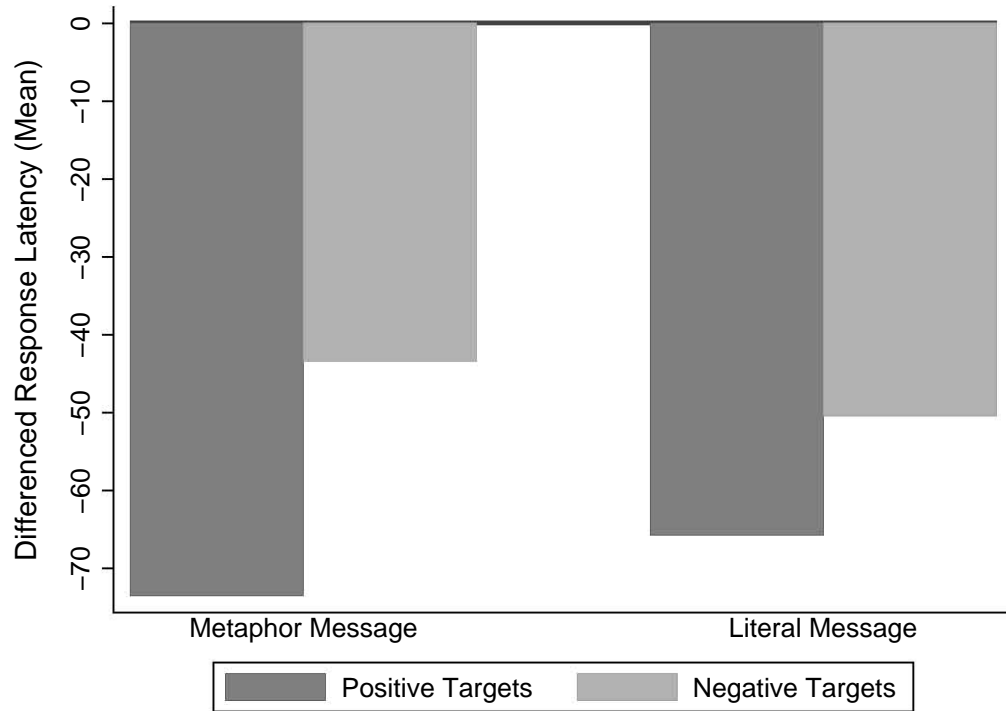
Note: $N = 48$. The dependent variable is the difference in response latencies of the post-manipulation evaluative priming task minus the pre-manipulation task.

Figure 5.2: Study 5 Differenced Response Latencies (Mean) of the Passage x Target Valence Interaction at Levels of Short SOA (300ms)



Note: $N = 48$. The dependent variable is the difference in response latencies of the post-manipulation evaluative priming task minus the pre-manipulation task.

Figure 5.3: Study 5 Differenced Response Latencies (Mean) of the Passage x Target Valence Interaction at Levels of Long SOA (1000ms)



Note: $N = 48$. The dependent variable is the difference in response latencies of the post-manipulation evaluative priming task minus the pre-manipulation task.

Table 5.5: Study 5 Differenced Response Latencies (Mean) by Passage, Target Valence, and SOA

		SOA: 300ms		SOA: 1000ms			
		Positive Targets	Negative Targets	Positive Targets	Negative Targets		
	Δ		Δ		Δ		
Passage	Metaphor	10.69ms	-23.59ms	34.28ms	-73.53ms	-43.40ms	-30.13ms
	Literal	-16.66ms	25.58ms	-42.24ms	-65.68ms	-50.44ms	-15.24ms
	Δ	27.35ms	-49.17ms	76.52ms	-7.85ms	7.04ms	-14.89ms

Note: Cell entries are mean change scores ($time_2 - time_1$) measured in milliseconds. $N = 48$, $n_{metaphor} = 21$, $n_{literal} = 27$.

Chapter 6

Automatic Associations

Lulled in the countless chambers
of the brain,
Our thoughts are linked by
many a hidden chain.
Awake but one, and lo! what
myriads rise!

—Samuel Rogers¹

In Chapter 5, I demonstrated that policy metaphors significantly alter the evaluative strength underlying political attitudes, a feat which does not seem to occur for comparable literal statements. I speculated that two processes may account for these effects. On the one hand, the affective transference hypothesis suggests that metaphors, by definition, create associations between semantically unrelated objects. Provided that these associations are strong enough, they should activate and transfer evaluative information from a metaphor's source to its intended target (Charteris-Black, 2006). On the other hand, metaphors may simply be more persuasive than their literal counterparts, which means that they would naturally affect the underlying evaluations of policies by creating stronger attitudes Fazio (1995).

The purpose of this study is to explore whether policy metaphors create semantic associations between concepts.² Although theory indicates that metaphors link concepts across distinct domains, virtually no empirical research to date has tested

whether such associations are stored in memory (for exceptions, see Allbritton, McKoon, & Gerrig, 1995; Hubbell & O’Boyle, 1995). The implication of this study is that if distinct concepts can become associated by political metaphors, such that the source is then automatically activated whenever the target is retrieved from memory, then these associations could influence subsequent thinking and evaluations of the political issue.

6.1 Study 6

There are a number of priming studies that support the idea that new associations can be generated between unrelated words (for a full discussion, see Zeelenberg, Pecher, & Raaijmakers, 2003). Such studies, typically referred to as repetition or episodic priming, use designs in which subjects study unrelated word pairs (e.g., “cow-sand”) prior to completing a lexical decision task (LDT). For instance, Pecher & Raaijmakers (1999) demonstrated that with enough repetition in a “learning phase,” subjects would respond significantly faster to semantically unrelated but learned word pairs relative to unlearned pairs. Pecher & Raaijmakers noted that these priming effects would probably have been stronger if the word pairs were “related in some meaningful way” (p. 604).³ Although it may have been difficult for Pecher & Raaijmakers’s subjects to create strong associations between word pairs like “silver-crime,” it seems plausible that an apt political metaphor would generate strong semantic links because metaphors, by definition, relate distinct concepts in meaningful ways.

Allbritton et al. (1995; see also Hubbell & O’Boyle, 1995) actually provide evidence that metaphors can create semantic links in memory. They conducted a series of experiments in which they had participants read short vignettes that contained a metaphor early in the passage and varied whether the concluding sentence invoked that metaphorical frame. For instance, for the metaphor *crime is a disease*,

Allbritton et al. used the sentence “The city’s crime epidemic was raging out of control” to prime recognition of two possible concluding sentences: 1) “Public officials desperately looked for a *cure*,” or 2) “Public officials desperately looked for a solution.” They found that participants recognized sentences (Experiment 1) and word pairs (Experiments 3 and 4) faster when primed with items that invoked the metaphorical frame compared to those that did not. Allbritton et al.’s findings are supportive of the idea that exposure to metaphors may create associative links in the realm of politics. However, since they intentionally chose to use common, pre-existing metaphors (e.g., *time is money*) for their stimulus materials, it is not clear whether a single exposure to a policy metaphor would be sufficient to create new associations between concepts.

The implication of this study is that if distinct concepts can become associated by political metaphors (i.e., the source is automatically activated whenever the target is retrieved from long-term memory), then these associations could influence subsequent evaluations of the political issue. For instance, Devine’s (1989) research on racial stereotypes found that high and low prejudiced persons not only recognized common stereotypes (Study 1), but automatically activated them when thinking about minorities (Study 2). Only individuals with sufficient motivation, cognitive capacity, and time were able to consciously inhibit these automatically activated racial stereotypes to express explicitly unprejudiced responses (Study 3).

6.1.1 Overview

As I am interested in whether associations are generated or activated by policy metaphors, I use a semantic priming task for this study’s design. More specifically, I use an LDT (for a review see Burdein et al., 2006), in which subjects are first presented with a word (i.e., the prime) and then asked to indicate whether the subsequent letter string (i.e., the target) is a “word” or “not a word.” Since there is no specific evaluative or categorization task for the LDT, this activity is purely

an associative task (Fazio & Olson, 2003).⁴ Furthermore, at time intervals of less than an SOA of 300ms, the LDT is thought to be a pure indicator of the spreading activation of associations (e.g., Anderson, 1983; Collins & Loftus, 1975), since short SOA's do not allow conscious strategies of the respondent to interfere with automatic activation (Neely, 1991). As such, the LDT is an appropriate method for testing the hypothesis that political metaphors create associations in memory between concepts.

This study is a 2 (passage: metaphor vs. literal) x 2 (prime: policy vs. neutral) x 2 (target: word vs. nonword) x 4 (issue: trade, immigration, welfare, deficit) mixed design, with repeated measures on the last factor. The primary dependent variable is differenced response latencies, in which prime-target latencies for the neutral baseline primes were subtracted from pairs containing policy primes. That is, the key comparison involves differences in response latencies between the policy and neutral prime words for the same set of target words by passage type. The general expectation is that subjects should respond faster to metaphor-related target words when when exposed to a metaphoric passage compared to subjects exposed to a literal equivalent.

6.1.2 Data

A total of 62 undergraduate students from Stony Brook University participated in this study for extra credit during the fall of 2007 (see Table 6.1).⁵ Fifty-two percent of subjects were male, 48% male. Fifty-three percent of the sample identified his or her race as "White," 23% as "Asian," 6% as "Black," and 3% as "Hispanic." Moreover, 53% of subjects identified themselves as Democrats, 11% as Republicans, and 36% as Independents. Likewise, 50% of the sample stated that they held liberal political views, 13% held conservative views, and 37% held moderate views.

6.1.3 Experimental Procedure

I used DirectRT to create the computer-based experiment for this study. As in the previous experiment, subjects were instructed that they would be completing a study that investigates how people process information about politics, and that some of these processes would be measured with reaction time tasks. Subjects were told that the reaction time tasks required them to ignore the first word presented on the screen and judge as quickly as possible (without making too many mistakes) whether the following string of letters is a “word” or “not a word.”

Participants were instructed to press the “Z” key whenever they thought the letter string was a word in the English language and the “?/” key whenever that letter string was deemed to be a nonword. First, a warning signal (“+”) appeared for 750ms in the center of the screen, which was followed by a blank screen for 250ms. The prime was then displayed on the screen for 200ms, and the letter string followed after 100ms of a blank screen. Thus, the SOA for this study is 300ms, which is outside of conscious awareness. This short SOA was chosen to minimize awareness of the primes, which were repeated often within each test block. In addition, this short SOA eliminates the possibility of conscious strategies interfering with responses to the LDT—that is, response latencies can only be the result of automatic processes. Once a response was recorded, the screen was cleared and the process was repeated. After the last prime-target word pair was presented, the words “End of Session” appeared, and participants signaled when they were ready to move on to the next screen.

Subjects completed 2 test blocks of 64 trials, each of which contained prime-target pairs for 2 political issues (see Table 6.2 for the full word lists used in this experiment). During each test block, 2 primes were relevant to a specific policy domain, while the other 2 primes were neutral words that served as the baseline (e.g., see Neely, 1991). In addition, 32 targets were words taken from an English dictionary, and each word was repeated only once to get comparisons between response

latencies for the policy and neutral primes. These related target words were chosen from a list of known word associates (Nelson, McEvoy, & Schreiber, 1998), although they varied in their strength of association to the core concept. The remaining 32 letter strings were used to balance subjects expectancies of a word or nonword appearing on the screen. To avoid sensitization to the nonword targets, they were not reused (see Wagenmakers, Zeelenberg, Steyvers, Shiffrin, & Raaijmakers, 2004; Zeelenberg, Wagenmakers, & Shiffrin, 2004).

Before beginning each test block, subjects first read 2 passages that either instantiated a policy metaphor or contained a comparable literal message (see Table 6.3). The two sets of passages were constructed to be functionally equivalent so that the message direction was held constant and only a few words were altered to ensure that the literal passages did not instantiate the policy metaphors. Subjects were assigned to read metaphorical or literal versions of the text, but not a combination of these types of passages. In order to ensure they read the passages before moving on to the next task, subjects were instructed that they may be asked to discuss the readings in the debriefing session.

Before beginning the study, subjects completed 8 practice trials to allow them to become acquainted with the lexical decision task. Following the test blocks that comprised a total of 128 trials, subjects were asked to answer 11 standard political knowledge questions Delli Carpini & Keeter (1996; see Table 6.4). In addition, subjects were asked several demographic questions, as well as their level of English fluency.

6.1.4 Measures

Dependent Variable

The dependent variable is a difference score between mean prime-target response latencies for the policy primes minus the neutral baseline primes (for a discussion

of this type of dependent variable, see Allison, 1990). The advantage of using a difference score in this case is that it is normally distributed (see Figure 6.1) and thus satisfies an important assumption of analysis of variance (ANOVA) models. Moreover, unlike other reaction time studies, each individual serves as his or her own baseline, which dramatically increases the amount of statistical power to find a significant effect. Following standard conventions, response latencies of more than 3 standard deviations from the mean of all trials ($M = 701.13\text{ms}$, $SD = 259.26\text{ms}$) were replaced with cutoff values (i.e., 390ms and 1821ms). Incorrect responses (e.g., misidentifying the target letter string as a nonword) were excluded from the analysis. This error rate is 4.33% (344 incorrect responses recorded out of 7,936 trials).

Political Sophistication

Political sophistication is determined by correct responses to 11 political knowledge questions ($KR-20 = 0.57$, $M = 0.33$, $SD = 0.21$). For the subsequent ANOVA analyses, sophistication is split at the scale mean. Political sophistication is considered a possible moderator of automaticity effects.

6.1.5 Results

Recall that one explanation for the evaluative priming results from Study 5 is that affect is transferred from source to target concepts during the structure-mapping process. The idea is that the policy metaphor will create strong associations between concepts, such that activation of the policy will also activate relevant source attributes. This activation would necessarily carry with it affective information. Consistent with this hypothesis, subjects exposed to policy metaphors versus literal equivalents should respond faster to metaphor-related target words when primed with the policies compared to neutral words. To test this hypothesis, I first conducted a one-way analysis of variance (ANOVA) on the differenced response latencies with the treatment condition serving as the between-subjects factor (Note

that this model assumes that there are no significant differences across the 4 issues.). The results from this simple model reveal a nonsignificant treatment effect, $F[1, 60] = 0.072$, *n.s.*, which indicates that there is no difference in mean response latencies between subjects exposed to the policy metaphor versus those who read the literal version of the passage.

It is possible that there are significant differences in response latencies across the 4 issues used in this study, which may have resulted from the choice of issues, passages, metaphors, or a combination of these factors. To test for this possibility, I conducted a mixed-model ANOVA on the differenced response latencies with the treatment condition serving as the between-subjects factor and issue serving as the repeated measure. Results from this mixed-model ANOVA do not reveal differences among the issues. I find a nonsignificant main effect for issue, $F[1, 60] = 2.18$, $p > 0.10$, as well as a nonsignificant two-way interaction, $F[1, 60] = 0.89$, *n.s.* As an added check on these results, I conducted separate one-way ANOVAs for each of the 4 issues with the metaphor-literal treatment as the between-subjects factor. As expected, none of these individual ANOVAs revealed a significant treatment effect (international trade: $F[1, 60] = 0.48$, *n.s.*; immigration: $F[1, 60] = 0.23$, *n.s.*; welfare: $F[1, 60] = 2.05$, $p > 0.15$; federal deficit: $F[1, 60] = 0.12$, *n.s.*). Moreover, the means are positive in every case (except for the welfare literal condition), which suggests that the policy primes resulted in *slower* response latencies than a neutral baseline prime in 7 out of 8 cases.

It is possible that these results are moderated by levels of sophistication, since political sophisticates may be better able to create strong associations after a single (and brief) exposure to a policy metaphor. Thus, I first conducted a simple 2 (treatment passage: metaphor vs. literal) x 2 (political sophistication: low vs. high) ANOVA on the difference scores. Once again, none of the main effects or interactions significantly predicts the difference scores: Treatment, $F[1, 58] = 0.24$, *n.s.*; political sophistication, $F[1, 58] = 0.22$, *n.s.*; and their interaction, $F[1, 58] =$

0.37, *n.s.* Finally, I conducted a mixed-model ANOVA on the difference scores, which included issue as a repeated measure. Looking at the results, I find no statistically significant main effects, nor do I find the critical 3-way interaction to be significant, $F[1, 56] = 1.24$, *n.s.* These results reaffirm the conclusion that exposure to a policy metaphor does not create associations that are activated upon mere exposure to the policy.

6.1.6 Discussion

The null findings from this study do not lend support to the affective transference hypothesis, namely because none of the policy metaphors created sufficiently strong associations to allow the possibility for affect to be transferred from source to target concept. Instead, these results suggest that metaphors may be effective persuasive devices because they alter the underlying evaluations of political objects. In other words, exposure to a policy metaphor seems to generate qualitatively stronger attitudes relative to comparable literal passages, such that these stronger attitudes are more accessible and consequently retrieved more easily from working memory. I should note that an alternative explanation is that the structure-mapping process associated affect along with other relational features between source and target concepts. Although I find no evidence of semantic associations, the evaluative priming results from Study 5 could have resulted from the transfer of affect in this way.

Of course, it is entirely possible that experimental design flaws caused the null findings reported above. One possibility is that a single exposure to a metaphor may simply be insufficient to create associations that are strong enough to be automatically activated in a priming experiment. This may be particularly true for political concepts, which are not generally given much consideration. Recall Bowdle & Gentner's (2005) "career of metaphor" hypothesis, which suggests that novel metaphors are processed as comparisons via structure-mapping. However, once a they have been encountered repeatedly, these metaphors are processed as catego-

rizations, in which the abstract metaphoric category is accessed immediately and directly (without the structure-mapping). Thus, it may be that with repeated exposure to specific policy metaphors can lead to automatically activated concepts and affective transference.

One good reason to discount this possibility, however, is that I used two of the same issues, experimental materials, and procedures from the largely successful Study 5. One would expect that this study would have also generated null results if metaphors affect attitudes mainly through associated attributes and evaluations. Instead, the findings from Study 5 point to the possibility that the metaphor directly affected the political attitude—either consciously or unconsciously—and this newly updated attitude was retrieved more easily from memory (than subjects who did not receive the policy metaphor).

Notes

1. Quote taken from Rogers's (1792) *The Pleasures of Memory*.
2. It is unclear whether any observed priming effects would be the result of newly created semantic or episodic associations between previously unrelated concepts.
3. The small priming effect (20ms) could also be the result of Pecher & Raaijmakers (1999) conservative experimental design—they used an SOA of 60ms to rule out the possibility that repetition priming is caused by anything other than automatic associations (i.e., not a conscious, strategic process).
4. Priming may be a useful method to investigate the impact of policy metaphors because the task produces a temporary level of activation and accessibility outside of an individual's conscious awareness that can mirror long-term automatic processes (Bargh & Chartrand, 1999).
5. Six participants were excluded from further analysis because they indicated that they were not fluent English speakers by age 12. Three other respondents were dropped because they did not read the assigned passages (i.e., they had recorded reading times of less than 3 seconds per passage).

Table 6.1: Study 6 Sample Demographics

	Item	Percent (%)	<i>N</i>
Gender	Female	48.39	30
	Male	51.61	32
Race	Asian	22.58	14
	Black	6.45	4
	Hispanic	3.23	2
	White	53.23	33
Party ID	Democrat	53.23	33
	Republican	11.29	7
	Independent	35.48	22
Ideology	Liberal	50.00	31
	Moderate	37.10	23
	Conservative	12.90	8

Note: $N = 62$. Nine subjects identified their race as “other.”

Table 6.2: Study 6 Prime-Target Word Pairs by Issue

Prime Words	Target Words	Target Nonwords
International Trade Butterfly	war	ebamines
	battle	pecried
	struggle	paceased
	conflict	prulpted
	fight	roff
	harm	goiey
	combat	gub
Immigration Umbrella	compete	anjoys
	epidemic	tampsits
	contagious	lirdness
	infection	isdigent
	plague	nortions
	disease	hengthy
	illness	gackwards
Welfare Table	sickness	meaffirm
	contamination	eltombed
	drug	rawning
	addicted	shoried
	abuse	frites
	habit	plares
	craving	suddled
Federal Deficit Square	crack	dolusion
	junkie	dostile
	cocaine	annigrate
	cancer	eraptr
	tumor	fesrt
	death	lariet
	ill	sairleds
dying	unfrosm	
cure	broutkes	
sick	resiftol	
harmful	heled	

Note: Each test block consisted of 64 trials, in which the prime words were paired with 8 target words and 8 target nonwords (presented in random order). Subjects completed 2 test blocks (128 trials) for the entire experiment.

Table 6.3: Study 6 Experimental Manipulation

International Trade Metaphor Condition (51 words)

International trade is war. In today's global markets, countries **use their** economies—**not their militaries**—**to attack potential enemies**. Increasing international trade without adequate **protection** makes U.S. markets extremely **vulnerable**. The U.S. needs to **devise new strategies that will** ensure its **victory and defend** American jobs, wages, and standards of living.

International Trade Literal Condition (47 words)

International trade is **bad**. In today's global markets, countries' **economies are very sensitive to external pressures**. Increasing international trade without adequate **regulation** makes U.S. markets extremely **volatile**. The U.S. needs to **develop new ways to** ensure its **success and protect** American jobs, wages, and standards of living.

Immigration Metaphor Condition (65 words)

The United States is facing an *immigration epidemic*. Today there are an estimated 12 to 20 million people living illegally in the U.S., with 1 million more entering each year. Despite lawmakers efforts to **contain this outbreak**, the problem **is spreading rapidly to** communities throughout the entire U.S. Many people are worried that if a **cure** is not found soon, the damage may be irreversible.

Immigration Literal Condition (63 words)

The United States is facing an immigration **crisis**. Today there are an estimated 12 to 20 million people living illegally in the U.S., with 1 million more entering each year. Despite lawmakers efforts to **address this issue**, the problem **now concerns** communities throughout the entire U.S. Many people are worried that if a **solution** is not found soon, the damage may be irreversible.

Welfare Metaphor Condition (91 words)

Welfare is a drug. Once hooked on it, users just can't get themselves out of the cycle of dependency. In essence, people become welfare addicts. The problem with welfare addiction is that it affects the health of our economy. And although the U.S. spends billions of dollars on welfare every year (and has for decades), it has done little to reduce poverty in this country. So, let's provide them with job skills and training, so that they don't need to turn to welfare. We need to rehabilitate people suffering from welfare.

Welfare Literal Condition (74 words)

Welfare is **terrible**. Once **people are** on it, **they generally stay on welfare for years**. The problem with **this** is that **welfare** affects our economy. And although the U.S. spends billions of dollars on welfare every year (and has for decades), it has done little to reduce poverty in this country. So, let's provide them with job skills and training, so that they don't need **it**. We need to **reeducate** people **who use** welfare.

Federal Deficit Metaphor Condition (52 words)

We must act now! *The federal deficit is a cancer that* threatens to **kill** the U.S. economy. Since 2000, the federal deficit has **grown** to over 9 trillion dollars. It is currently **spreading** at an enormous rate. If we don't act to **treat this deficit cancer** soon, our *economy might not survive*.

Federal Deficit Literal Condition (51 words)

We must act now! The federal deficit is **dangerous and** threatens to **destabilize** the U.S. economy. Since 2000, the federal deficit has **increased** to over 9 trillion dollars. It is currently **increasing** at an enormous rate. If we don't act to **stop** this **federal** deficit soon, our economy might not **recover**.

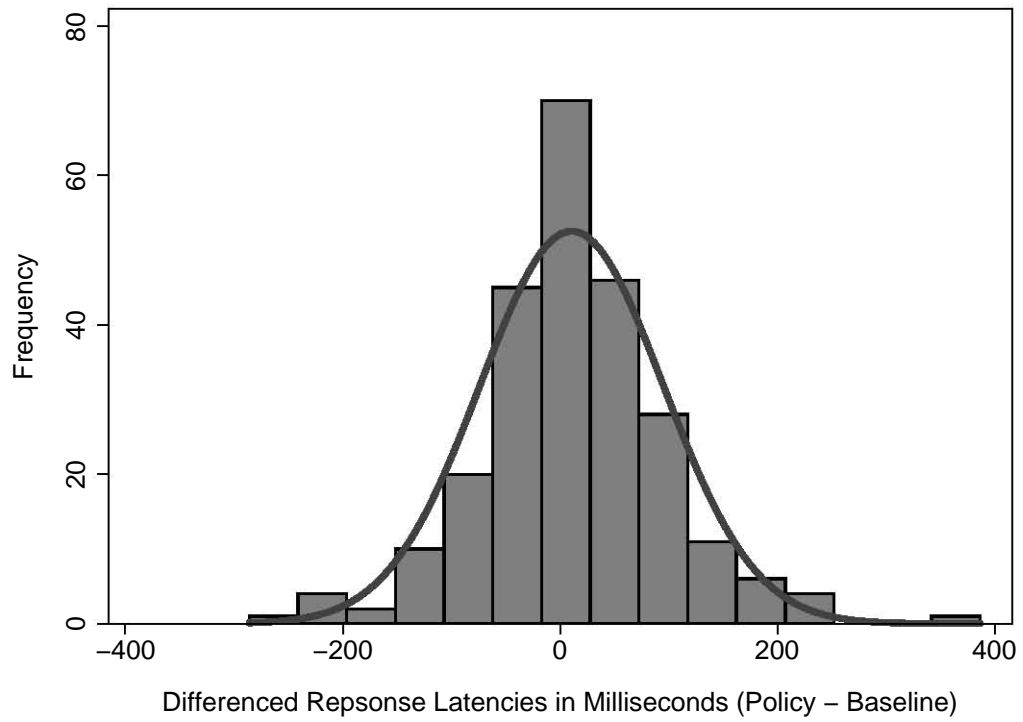
Note: Subjects were assigned to read either the metaphorical or literal passages as a set. Italicised text highlights the policy metaphors in the message, while bolded text identifies differences between the metaphoric and literal passages. None of the text was italicized or bolded in the actual experiment.

Table 6.4: Study 6 Political Sophistication Items

-
-
1. Who is the current U.S. Secretary of State? *Condoleezza Rice* (54%)
 2. Who is the current U.S. Senate Majority Leader? *Harry Reid* (6%)
 3. Who is the current U.S. Speaker of the House? *Nancy Pelosi* (29%)
 4. How many justices are there on the U.S. Supreme Court? *9* (65%)
 5. How many votes are necessary to override a filibuster in the U.S. Senate?
60 (13%)
 6. How much of a majority of the both the House of Representatives and
Senate are required to override a presidential veto? *2/3* (73%)
 7. How many U.S. Constitutional Amendments make up the Bill of Rights?
10 (77%)
 8. Who is the current Chief Justice of the Supreme Court? *John Roberts*
(19%)
 9. Which branch of government does the U.S. Constitution give the sole
authority to declare war? *Legislative Branch* (60%)
 10. Who is the current U.S. Secretary of Defense? *Robert Gates* (6%)
 11. Which political party currently has the most seats in both the U.S. House
and Senate? *Democratic Party* (61%)
-
-

Note: $N = 62$. $M = 0.33$, $SD = 0.21$; reliability: $KR-20 = 0.57$, $\alpha = 0.55$. Correct answers are listed in italics at the end of each question, along with the frequency of correct responses in parentheses.

Figure 6.1: Study 6 Histogram Showing the Normality of the Dependent Variable



Note: $N = 62$. The dependent variable is the mean difference in response latencies involving the policy primes minus the neutral (baseline) primes.

Chapter 7

Conclusion

He who wants to persuade
should put his trust not in the
right argument, but in the right
word.

—Joseph Conrad¹

I began this dissertation by noting that a single metaphor—Churchill’s *iron curtain*—had captured the public’s imagination and helped define the Soviet Union as a threat for more than 4 decades. I chose this example (among countless others) because it represents a recurrent theme throughout the preceding chapters: Metaphors can provide novel and provocative ways of conceptualizing politics that leads to persuasion. With just a few carefully chosen words, Churchill managed to do more than simply describe a political reality—he encouraged his audience to fundamentally alter their perception of the U.S.S.R., a staunch ally against the Axis powers in World War II. My hope is that after having worked through this dissertation, readers will have a better understanding of why policy metaphors such as this one are so persuasive in the realm of politics.

7.1 Key Findings

My initial search for research on the effects of metaphors in politics yielded relatively few studies, and even fewer that provided direct empirical tests of how and when metaphors actually influence political attitudes. As a result, my primary goal was to develop systematic tests of policy metaphors to flush out their unique effects, independent of standard (i.e., literal) language. Recall that my first effort was exploratory—to examine whether politicians routinely use metaphors when discussing political issues and events. The results of my content analysis of nearly 90 weekly radio addresses during the 2006 election cycle (Study 1, Chapter 3) are unambiguous: Party leaders do in fact invoke metaphors to conceptualize a wide range of policies. For instance, President Bush and the Democrats invoked several common metaphoric themes throughout their speeches such as metaphors of motion, building, war, disasters, and the body. What makes this finding particularly interesting is that these source domains mirror those that Lakoff & Johnson (1980; see also Kovecses, 2002) cited as fundamental to the human experience and likely to be used in metaphors.

My research also provides strong support for the hypothesis that an apt policy metaphor is more persuasive than a comparably-worded literal message. To demonstrate this persuasive power, I designed an experiment in which the words between conditions were carefully controlled, so that the only difference between conditions was whether subjects received a metaphor (i.e., the content of the message remained constant). In both an adult and student sample (Studies 3 and 4, Chapter 4), I found that individuals exposed to a metaphor in favor of a particular policy were much more likely to support this legislation. Moreover, this attitude change appears to be a function of message quality (Study 4, Chapter 4), since higher ratings of argument quality significantly mediated metaphor- versus literal-based persuasion.

In addition to message quality, metaphors also appear to facilitate systematic

processing of political information (Study 2, Chapter 4), which did not occur for individuals assigned to the literal-only condition. In other words, individuals carefully scrutinized the message arguments that were coupled with a metaphor but did not so without it. This is a particularly important finding, since we know that attitudes formed by this processing mode tend to be stronger than those formed by heuristic (or peripheral) routes to persuasion (Petty et al., 1995). And, the consequence of strong attitudes is that they tend to be persistent, resistant to change, and disproportionately influential on subsequent judgments and behavior (Krosnick & Petty, 1995). In short, people attend more closely to metaphoric messages than they do to literal statements, which means that metaphors have a greater opportunity to influence political attitudes than standard language.

One way to determine whether policy metaphors create strong attitudes is to look at the results from my evaluative priming study (Study 5, Chapter 5). In an evaluative priming task, one way strong attitudes should manifest themselves is in terms of accessibility—that is, the more accessible an attitude is, the quicker individuals should respond to congruent prime-target word pairs (i.e., positive-positive or negative-negative), and the slower they should respond to incongruent pairs (i.e., positive-negative or negative-positive). This pattern is exactly what I find in my experiment: Only subjects exposed to policy metaphors respond faster to congruent and slower to incongruent word pairs. In fact, subjects in the literal message condition consistently responded in the opposite direction (i.e., faster to incongruent word pairs, and vice versa). Of course, these results should be interpreted cautiously, since they come from a single, small-*N* study, and it is unclear whether the accessibility effects resulted from differences in the extremity of target words used in the metaphor and literal conditions (e.g., “war” vs. “bad”). However, these results do hold across two different issues after a short and single message exposure (i.e., an average reading time of less than 20 seconds).

One encouraging finding throughout my experiments is that policy metaphors

generally benefited individuals at all levels of political sophistication. In only one student sample (Study 3, Chapter 4) did the policy metaphor fail to significantly affect political sophisticates and confer a special advantage over literal language. However, in a replication of this experiment with an adult sample (Study 4, Chapter 4), I found the expected metaphor-based persuasion effect for subjects at all levels of sophistication. These divergent findings may have been the result of differences in sophistication between the samples: Since students were significantly more knowledgeable on the relevant dimension than the adult sample, student subjects may not have needed the metaphor to help them distill important information about the policy. Despite this one exception, policy metaphors did significantly affect politically unsophisticated individuals in every study. The implication of this finding is that it demonstrates why policy metaphors have such promise—unlike other theories of information processing, policy metaphors should affect the bulk of the American electorate.

7.2 Future Research

As with many research endeavors, my experiments actually generate more questions than answers. Throughout the chapters, I have discussed potential areas of exploration, which center around 4 major themes: 1.) Effects of political sophistication, 2.) implications of metaphor-induced processing, 3.) differences between affective and cognitive functions of metaphors, and 4.) competitive message environments. First, future studies should test the effectiveness of metaphors for a broad range of issues that vary on their level of complexity (e.g., Carmines & Stimson, 1980). This issue difficulty dimension should help to define when and for whom metaphors should be most influential to political attitude formation and change. Issue complexity could be manipulated in one of two ways. First, one could simply choose different issues that vary in their conceptual difficulty (i.e., “easy” vs.

“hard”). Or, second, researchers could manipulate the comprehensibility of information contained within a single issue. Both of these methods are likely to uncover valuable information regarding the effects of policy metaphors. Ultimately, future studies that can demonstrate strong persuasion effects for citizens at low levels of political sophistication could help validate the importance of policy metaphors versus other competing theories, which generally fail to fully explain the judgments and behaviors of unsophisticated citizens.

Second, the finding that metaphors can induce systematic message processing (Study 2, Chapter 4) needs replication, since there is only one other study (to my knowledge) that has demonstrated this phenomenon (see Ottati et al., 1999). It is still unclear whether metaphors increase levels of motivation or ability, or if they influence these dimensions simultaneously. Moreover, researchers should also consider exploring the implications of systematic processing modes, namely that this route to persuasion will generate attitudes that are stronger than those formed via heuristic processing. Measures of attitude strength should be included in future studies, and designs could be undertaken that will test other aspects of attitude strength (i.e., persistence, resistance, etc.) as I have done with the evaluative priming study (Study 5, Chapter 5). For instance, researchers could employ panel designs that test differences in stability over time for political attitudes generated from metaphor versus literal messages. Or, researchers could conduct an experiment to test how resistant newly changed attitudes are to counterarguments.

Third, throughout much of these chapters, I have focused more on the cognitive implications of metaphor-based persuasion than on the affective implications. Yet, as my content analysis (Study 1) and other anecdotal evidence demonstrate, speakers often use metaphors to evoke an emotional response among listeners. In fact, just thinking about the rhetoric of some of the great speakers in recent memory (e.g., Martin Luther King, Jr., John F. Kennedy, Ronald Reagan, etc.) reveals their reliance on metaphors. Researchers could explore differences in cognitive and affective

functions of metaphors by including measures that would capture these dimensions. For example, the cognitive implications of metaphors might be measured with items that gauge subjects' understanding or comprehension of the message arguments or policy in question. Likewise, affective consequences of exposure to metaphors might be captured by including measures of discrete emotions such as anxiety, anger, and enthusiasm. Moreover, studies could be designed to evaluate a series of specific policy metaphors on these two dimensions.

And fourth, studies that can validate the persuasiveness of metaphors in realistic settings—that is, those environments in which individuals may be exposed to competing metaphorical or literal messages, are needed. This is the direction in which current research on framing has moved, although it is unclear whether different combinations of metaphoric versus literal messages would result in the same null results reported in many counterframing studies (e.g., Chong & Druckman, 2007b). To this end, Read et al. (1990) have suggested that since “a metaphor often conveys its message by implication, it may be harder to counterargue” (p. 145). One way to test this possibility is to pit competing messages against one another (e.g., metaphor vs. literal, metaphor vs. metaphor, etc.).

For instance, consider the following example: In March 2005, Republican lawmakers rolled out a brown 1935 Ford Coupe on the sidewalk outside of Capitol Hill to convince a skeptical public that Social Security was badly in need of reform. Leading the public relations effort, Representative McHenry (N.C.) exclaimed: “I wouldn’t be caught dead in a 1935 automobile, and I want to make sure we have an updated system of Social Security because that’s America’s *investment vehicle*.” Presumably, Republicans chose the 1935 Ford as their metaphor for Social Security (i.e., *the program is an investment vehicle*) to show Americans just how antiquated and undesirable the program had become over the past seventy years. However, the Ford’s owner disagreed with Republican’s assessment—raising the hood to show off the car’s beautiful hot-rod engine, he quipped: “I didn’t like that comment...[the car

is] in very good shape for a 1935, [and] it's been improved with an updated engine, so it keeps up with traffic." Democrats found it easy to echo this sentiment—after all, the Ford looked more like a classic car than a heap of steel ready for the junkyard. In little time, Democratic leaders gathered for a press conference in front of a banner repeatedly proclaiming “Fix It, Don’t Nix It.” And Representative Rangel (N.Y.) added: “Long before the ‘35 Ford, we had the United States Constitution—it is not out of date, [but] sometimes it needs a little amending.”

As it turned out, the Republicans’ *investment vehicle* metaphor using the 1935 Ford Coupe was a complete public relations failure. As is often the case, however, this failure raises several interesting questions. For instance, why did the metaphor fail to shift public opinion about Social Security? Was it simply a poor policy metaphor that did not resonate with the public? Or, was the metaphor problematic because it invited easy criticism? Recall that the Ford’s owner used the Republicans’ own metaphor to argue the idea that his car (i.e., Social Security) is not a scrap heap, but a classic. Thinking about this rhetorical strategy begs the question: Would literal messages have been equally successful in countering the Republicans’ argument?

7.3 Final Thoughts

Existing theories in political science fail to fully explain how average Americans understand and evaluate politics. For each of the theories that I reviewed—ideological constraint (Converse, 1964), heuristics (Popkin, 1991; Sniderman et al., 1991), the online tally (Lodge et al., 1995), and framing (Chong & Druckman, 2007b; Kinder & Sanders, 1996; Nelson et al., 1997)—a major limitation of their explanatory power is that they necessitate the user possess a high degree of political sophistication to ensure that the strategy is used correctly (i.e., the desired outcome is obtained). Yet, given what we know about the low levels of motivation and ability

of American electorate in the realm of politics (Delli Carpini & Keeter, 1996), it is likely that the requisite level of political sophistication is rarely met. Put differently, these theories seem to explain the exception rather than the rule.

One of the reasons that the study of policy metaphors is so promising is that they seem to directly address this problem by explaining how an unsophisticated electorate could conceptualize politics. As a metaphor draws comparisons between abstract or complicated political issues and more familiar domains of experience, the least politically sophisticated citizens will benefit most by being able to understand important policy-relevant information. With that increased understanding, unsophisticated citizens will be able to properly evaluate an issue's merits. In essence, citizens that typically lack political sophistication can be brought into the debate with an apt policy metaphor.

Notes

1. Quote taken from Conrad's (1912) *A Personal Record*.

References

- Allbritton, D. W. (1995). When metaphors function as schemas: Some cognitive effects of conceptual metaphors. *Metaphor and Symbolic Activity, 10*(1), 33–46.
- Allbritton, D. W., McKoon, G., & Gerrig, R. J. (1995). Metaphor-based schemas and text representations: Making connections through conceptual metaphors. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 21*(3), 612–625.
- Allison, P. D. (1990). Change scores as dependent variables in regression analysis. *Sociological Methodology, 20*, 93–114.
- Alvarez, M. R., Sherman, R. P., & VanBeselaere, C. (2003). Subject acquisition for web-based surveys. *Political Analysis, 11*(1), 23–43.
- Anderson, J. R. (1983). A spreading activation theory of memory. *Journal of Verbal Learning and Verbal Behavior, 22*, 261–295.
- Bargh, J. A., Chaiken, S., Govender, R., & Pratto, F. (1992). The generality of the automatic attitude activation effect. *Journal of Personality and Social Psychology, 62*(6), 893–912.
- Bargh, J. A., Chaiken, S., Raymond, P., & Hymes, C. (1996). The automatic evaluation effect: Unconditional automatic attitude activation with a pronunciation task. *Journal of Experimental Social Psychology, 32*(5), 104–128.
- Bargh, J. A., & Chartrand, T. L. (1999). The unbearable automaticity of being. *American Psychologist, 54*(7), 462–479.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173–1182.
- Barr, A. (2008). McCain: Change name from “bailout” to “rescue”. Retrieved from Politico.com on October 9, 2008, from the World Wide Web. <http://www.politico.com/news/stories/0908/14117.html>.
- Bartels, L. M. (1996). Uninformed votes: Information effects in presidential elections. *American Journal of Political Science, 40*(1), 194–230.
- Beer, F. A., & De Landtsheer, C. (Eds.) (2004). *Metaphorical World Politics*. East Lansing, MI: Michigan State University Press.

- Belt, T. L. (2003). *Metaphor & Political Persuasion*. Ph.D. thesis, University of Southern California.
- Berrens, R. P., Bohara, A. K., Jenkins-Smith, H., Silva, C., & Weimer, D. L. (2003). The advent of internet surveys for political research: A comparison of telephone and internet samples. *Political Analysis*, *11*(1), 1–22.
- Blanchette, I., & Dunbar, K. (2001). Analogy use in naturalistic settings: The influence of audience, emotion, and goals. *Memory & Cognition*, *29*(5), 730–735.
- Blasko, D. G., & Connine, C. M. (1993). Effects of familiarity and aptness in metaphor processing. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *19*(2), 295–308.
- Bosman, J. (1987). Persuasive effects of political metaphors. *Metaphor and Symbolic Activity*, *2*(2), 97–113.
- Bosman, J., & Hagendoorn, L. (1991). Effects of literal and metaphorical persuasive messages. *Metaphor and Symbolic Activity*, *6*(4), 271–292.
- Bowdle, B. F., & Gentner, D. (2005). The career of metaphor. *Psychological Review*, *112*(1), 193–216.
- Bowers, J. W., & Osborn, M. M. (1966). Attitudinal effects of selected types of concluding metaphors in persuasive speeches. *Speech Monographs*, *33*, 147–155.
- Bradley, M. M., & Lang, P. J. (1999). Affective norms for english words (anew). Gainesville, FL. The NIMH Center for the Study of Emotion and Attention, University of Florida.
- Brady, H. E., & Sniderman, P. M. (1985). Attitude attribution: A group basis for political reasoning. *American Political Science Review*, *79*(4), 1061–1078.
- Brewer, P. R. (2002). Framing, value words, and citizens explanations of their issue opinions. *Political Communication*, *19*, 303–316.
- Brewer, P. R. (2003). Values, political knowledge, and public opinion about gay rights: A framing based account. *Public Opinion Quarterly*, *67*, 173–201.
- Brewer, P. R., & Gross, K. (2005). Values, framing, and citizens thoughts about policy issues: Effects on content and quantity. *Political Psychology*, *26*(6), 929–948.
- Buckley, W. F. J. (1990). *Gratitude: Reflections on What We Owe to Our Country*. New York: Random House.
- Burdein, I., Lodge, M., & Taber, C. (2006). Experiments on the automaticity of political beliefs and attitudes. *Political Psychology*, *27*(3), 359–371.

- Cacioppo, J. T., & Petty, R. E. (1981). Social psychological procedures for cognitive response assessment: The thought-listing technique. In T. V. Merluzzi, C. R. Glass, & M. Genest (Eds.) *Cognitive Assessment*, (pp. 309–342). New York: Guilford Press.
- Camac, M. K., & Glucksberg, S. (1984). Metaphors do not use associations between concepts, they are used to create them. *Journal of Psycholinguistic Research*, *13*(6), 443–455.
- Campbell, A., Converse, P. E., Miller, W. E., & Stokes, D. E. (1960). *The American Voter*. New York: Wiley.
- Carmines, E. G., & Kuklinski, J. H. (1990). Incentives, opportunities, and the logic of public opinion in american political representation. In J. A. Ferejohn, & J. H. Kuklinski (Eds.) *Information and Democratic Processes*. Urbana: University of Illinois Press.
- Carmines, E. G., & Stimson, J. A. (1980). The two faces of issue voting. *American Political Science Review*, *74*(1), 78–91.
- Chaiken, S. (1980). Heuristic versus systematic information processing in the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology*, *39*(5), 752–766.
- Chaiken, S. (1987). The heuristic model of persuasion. In M. P. Zanna, J. M. Olson, & C. P. Herman (Eds.) *Social influence: The Ontario symposium, Vol. 5*, (pp. 3–39). Hillsdale, N.J.: Lawrence Erlbaum Associates.
- Chaiken, S., Liberman, A., & Eagly, A. H. (1989). Heuristic and systematic processing within and beyond the persuasion context. In J. S. Uleman, & J. A. Bargh (Eds.) *Unintended Thought*, (pp. 212–252). New York: The Guilford Press.
- Charteris-Black, J. (2006). *Politicians and Rhetoric: The Persuasive Power of Metaphor*. New York: Palgrave MacMillan.
- Chilton, P. A. (1996). *Security Metaphors: Cold War Discourse from Containment to Common House*. New York: Peter Lang.
- Chong, D. (1993). How people think, reason, and feel about rights and liberties. *American Journal of Political Science*, *37*(3), 867–899.
- Chong, D., & Druckman, J. N. (2007a). Framing public opinion in competitive democracies. *American Political Science Review*, *101*(4), 637–655.
- Chong, D., & Druckman, J. N. (2007b). A theory of framing and opinion formation in competitive elite environments. *Journal of Communication*, *57*, 99–118.
- Collins, A. M., & Loftus, E. F. (1975). A spreading-activation theory of semantic processing. *Psychological Review*, *82*(6), 407–428.
- Conrad, J. (1912). *A Personal Record*. New York: Harper.

- Converse, P. E. (1964). The nature of belief systems in mass publics. In D. E. Apter (Ed.) *Ideology and Discontent*, (pp. 206–261). New York: The Free Press.
- Cronbach, L. J., & Furby, L. (1970). How should we measure “change”—or should we? *Psychological Bulletin*, *74*(1), 68–80.
- De Tocqueville, A. (1863). *Democracy in America*, vol. 2 (H. Reeve, Trans.). Cambridge: Sever and Francis, 3rd ed.
- Delli Carpini, M. X., & Keeter, S. (1996). *What Americans Know About Politics and Why It Matters*. New Haven: Yale University Press.
- Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, *56*(1), 5–18.
- Disraeli, B. (1832). *Contarini Fleming*. New York: Harper.
- Druckman, J. N., & Nelson, K. R. (2003). Framing and deliberation: How citizens’ conversations limit elite influence. *American Journal of Political Science*, *47*(4), 729–745.
- Dunbar, K. (2001). The analogical paradox: Why analogy is so easy in naturalistic settings, yet so difficult in the psychological laboratory. In D. Gentner, K. J. Holyoak, & B. N. Kokinov (Eds.) *The Analogical Mind: Perspectives from Cognitive Science*, (pp. 313–334). Cambridge: Cambridge University Press.
- Edelman, M. J. (1971). *Politics As Symbolic Action: Mass Arousal and Quiescence*. Chicago: Markham Publishing Co.
- Fainsilber, L., & Ortony, A. (1987). Metaphorical uses of language in the expression of emotions. *Metaphor and Symbolic Activity*, *2*(4), 239–250.
- Falkenhainer, B., Forbus, K. D., & Gentner, D. (1989/1990). The structure-mapping engine: Algorithm and examples. *Artificial Intelligence*, *41*(1), 1–63.
- Fazio, R. H. (1995). Attitudes as object-evaluation associations: Determinants, consequences, and correlates of attitude accessibility. In R. E. Petty, & J. A. Krosnick (Eds.) *Attitude Strength: Antecedents and Consequences*, (pp. 247–282). Mahwah, NJ: Lawrence Erlbaum Associates.
- Fazio, R. H. (2001). On the automatic activation of associated evaluations: An overview. *Cognition and Emotion*, *15*(2), 115–141.
- Fazio, R. H. (2007). Attitudes as object-evaluation associations of varying strength. *Social Cognition*, *25*(5), 603–637.
- Fazio, R. H., & Olson, M. A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual Reviews in Psychology*, *54*, 297–327.
- Fazio, R. H., Sanbonmatsu, D. M., Powell, M. C., & Kardes, F. R. (1986). On the automatic activation of attitudes. *Journal of Personality and Social Psychology*, *50*(2), 229–238.

- Fazio, R. H., Williams, C. J., & Powell, M. C. (2000). Measuring associative strength: Category-item associations and their activation from memory. *Political Psychology, 21*(1), 7–25.
- Fiske, S. T., & Taylor, S. E. (1991). *Social Cognition*. New York: McGraw-Hill, 2nd ed.
- Freud, S., & Bullitt, W. C. (1966). *Thomas Woodrow Wilson: A Psychological Study*. Houghton Mifflin, 1st ed.
- Gamson, W. A. (1992). *Talking Politics*. New York: Cambridge University Press.
- Gamson, W. A., & Modigliani, A. (1987). The changing culture of affirmative action. In R. Braumgart (Ed.) *Research in Political Sociology*, (pp. 137–177). Greenwich, CT: JAI Press.
- Gamson, W. A., & Modigliani, A. (1989). Media discourse and public opinion on nuclear power: A constructionist approach. *American Journal of Sociology, 95*(1), 1–37.
- Gentner, D. (1982). Are scientific analogies metaphors? In D. S. Miall (Ed.) *Metaphor: Problems and Perspectives*, (pp. 106–132). Atlantic Highlands, N.J.: Humanities Press.
- Gentner, D. (1983). Structure-mapping: A theoretical framework for analogy. *Cognitive Science, 7*, 155–170.
- Gentner, D., & Markman, A. B. (1997). Structure mapping in analogy and similarity. *American Psychologist, 52*(1), 45–56.
- Gentner, D., & Wolff, P. (1997). Alignment in the processing of metaphor. *Journal of Memory and Language, 37*, 331–355.
- Gibbs, R. W. J. (1994). *The Poetics of Mind: Figurative Thought, Language, and Understanding*. New York: Cambridge University Press.
- Gibbs, R. W. J. (1996). Why many concepts are metaphorical. *Cognition, 61*(3), 309–319.
- Gibbs, R. W. J. (2002). Identifying and appreciating poetic metaphor. *Journal of Literary Semantics, 31*(2), 101–112.
- Gibbs, R. W. J. (2008). *The Cambridge Handbook of Metaphor and Thought*. New York: Cambridge University Press.
- Gibbs, R. W. J., Nayak, N. P., & Cutting, C. (1989). How to kick the bucket and not decompose: Analyzability and idiom processing. *Journal of Memory and Language, 28*(5), 576–593.
- Gilovich, T. D. (1981). Seeing the past in the present: The effect of associations to familiar events on judgments and decisions. *Journal of Personality and Social Psychology, 40*(5), 797–808.

- Glucksberg, S. (2001). *Understanding Figurative Language: From Metaphors to Idioms*. New York: Oxford University Press.
- Glucksberg, S. (2003). The psycholinguistics of metaphor. *Trends in Cognitive Science*, 7(2), 92–96.
- Glucksberg, S., & Keysar, B. (1990). Understanding metaphorical comparisons: Beyond similarity. *Psychological Review*, 97(1), 3–18.
- Glucksberg, S., McGlone, M. S., & Manfredi, D. (1997). Property attribution in metaphor comprehension. *Journal of Memory and Language*, 36(1), 50–67.
- Glucksberg, S., Newsome, M. R., & Goldvarg, Y. (2001). Inhibition of the literal: Filtering metaphor-irrelevant information during metaphor comprehension. *Metaphor and Symbol*, 16(3/4).
- Holmes, O. W. (1892). *The Professor at the Breakfast-Table*, vol. II of *The Complete Works of Oliver Wendell Holmes in Thirteen Volumes*. New York: Houghton Mifflin.
- Holyoak, K. J., & Thagard, P. (1995). *Mental Leaps*. Cambridge: MIT Press.
- Howe, N. (1988). Metaphor in contemporary american political discourse. *Metaphor and Symbolic Activity*, 3(2), 87–104.
- Hubbell, J. A., & O'Boyle, M. W. (1995). The effects of metaphorical and literal comprehension processes on lexical decision latency of sentence components. *Journal of Psycholinguistic Research*, 24(4), 269–287.
- Huening, M. (2008). Textstat: Version 2.8. Free University of Berlin. <http://www.niederlandistik.fu-berlin.de/textstat/>.
- Hugo, V. (1877). *History of a Crime: Deposition of a Witness*, vol. 1 (H. Smith, Trans.). New York: Thomas Y. Crowell.
- Jaccard, J., & Turrisi, R. (2003). *Interaction Effects in Multiple Regression, 2nd Ed.*, vol. 72 of *Quantitative Applications in the Social Sciences*. Thousand Oaks, CA: Sage Publications.
- Johnson, A. T. (1996). Comprehension of metaphors and similes: A reaction time study. *Metaphor and Symbol*, 11(2), 145–159.
- Johnson, J. T., & Taylor, S. E. (1981). The effect of metaphor on political attitudes. *Basic and Applied Social Psychology*, 2(4), 305–316.
- Jones, L. L., & Estes, Z. (2005). Metaphor comprehension as attributive categorization. *Journal of Memory and Language*, 53(1), 110–124.
- Jones, L. L., & Estes, Z. (2006). Roosters, robins, and alarm clocks: Aptness and conventionality in metaphor comprehension. *Journal of Memory and Language*, 55(1), 18–32.

- Keppel, G. (1991). *Design and Analysis: A Researcher's Handbook (3rd ed.)*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Khong, Y. F. (1992). *Analogies at War: Korea, Munich, Dien Bien Phu, and the Vietnam Decisions of 1965*. Princeton, NJ: Princeton University Press.
- Kinder, D. R., & Sanders, L. M. (1996). *Divided by Color: Racial Politics and Democratic Ideals*. Chicago: University of Chicago Press.
- King, G., Tomz, M., & Wittenberg, J. (2000). Making the most of statistical analyses: Improving interpretation and presentation. *American Journal of Political Science*, 44(2), 347–361.
- Kittay, E. (1987). *Metaphor: Its Linguistic Structure and Its Cognitive Force*. New York: Oxford University Press.
- Kovecses, Z. (2002). *Metaphor: An introduction*. New York: Oxford University Press.
- Krosnick, J. A., & Petty, R. E. (1995). Attitude strength: An overview. In R. E. Petty, & J. A. Krosnick (Eds.) *Attitude Strength: Antecedents and Consequences*, vol. 4, (pp. 1–24). Mahwah, NJ: Lawrence Erlbaum Associates.
- Kuklinski, J. H., & Quirk, P. J. (2000). Reconsidering the rational public: Cognition, heuristics, and mass opinion. In A. Lupia, M. D. McCubbins, & S. L. Popkin (Eds.) *Elements of Reason: Cognition, Choice, and the Bounds of Rationality*, (pp. 153–182). New York: Cambridge University Press.
- Lakoff, G. (1996). *Moral Politics: What Conservatives Know that Liberals Don't*. Chicago: University of Chicago Press.
- Lakoff, G. (2004). *Don't Think of An Elephant! Know Your Values and Frame the Debate: The Essential Guide for Progressives*. White River Junction, VT: Chelsea Green Publishing.
- Lakoff, G., & Johnson, M. (1980). *Metaphors We Live By*. Chicago: University of Chicago Press.
- Lakoff, G., & Johnson, M. (1999). *Philosophy in the Flesh: The Embodied Mind and Its Challenges to Western Thought*. New York: Basic Books.
- Lau, R. R., & Redlawsk, D. P. (1997). Voting correctly. *American Political Science Review*, 91(3), 585–598.
- Lau, R. R., & Redlawsk, D. P. (2001). Advantages and disadvantages of cognitive heuristics in political decision making. *American Journal of Political Science*, 45(4), 951–971.
- Lau, R. R., & Schlesinger, M. (2005). Policy frames, metaphorical reasoning, and support for public policies. *Political Psychology*, 26(1), 77–114.

- Lavine, H. (2002). On-line versus memory-based process models of political evaluation. In K. R. Monroe (Ed.) *Political Psychology*, (pp. 225–247). Mahwah, NJ: Lawrence Erlbaum Associates.
- Lodge, M., & Hamill, R. (1986). A partisan schema for political information processing. *American Political Science Review*, *80*(2), 505–520.
- Lodge, M., McGraw, K. M., & Stroh, P. (1989). An impression-driven model of candidate evaluation. *American Political Science Review*, *83*(2), 399–419.
- Lodge, M., Steenbergen, M. R., & Brau, S. (1995). The responsive voter: Campaign information and the dynamics of candidate evaluation. *American Political Science Review*, *89*(2), 309–326.
- Lodge, M., & Taber, C. S. (2005). The automaticity of affect for political leaders, groups, and issues: An experimental test of the hot cognition hypothesis. *Political Psychology*, *26*(3), 455–482.
- Lupia, A. (1994). Shortcuts versus encyclopedias: Information and voting behavior in california insurance reform elections. *American Political Science Review*, *88*(1), 63–76.
- Malgady, R. G., & Johnson, M. G. (1980). Measurement of figurative language: Semantic feature models of comprehension and appreciation. In R. P. Honeck, & R. R. Hoffman (Eds.) *Cognition and Figurative Language*, (pp. 239–258). Hillsdale, N.J.: Lawrence Erlbaum Associates.
- Malhotra, N., & Krosnick, J. A. (2007). The effect of survey mode and sampling on inferences about political attitudes and behavior: Comparing the 2000 and 2004 anes to internet surveys with nonprobability samples. *Political Analysis*, *15*, 286–323.
- McGarty, C. (1999). *Categorization in Social Psychology*. Thousand Oaks, CA: Sage Publications.
- McGraw, K. M., Lodge, M., & Stroh, P. (1990). On-line processing in candidate evaluation: The effects of issue order, issue salience and sophistication. *Political Behavior*, *12*(1), 41–58.
- McGuire, W. J. (1968). Personality and attitude change: An information-processing theory. In A. G. Greenwald, T. C. Brock, & T. M. Ostrom (Eds.) *Psychological Foundations of Attitudes*, (pp. 171–196). San Diego, CA: Academic Press.
- McGuire, W. J. (1985). Attitudes and attitude change. In L. Gardner, & E. Aronson (Eds.) *The Handbook of Social Psychology*, vol. 2, (pp. 233–346). New York: Random House, 3rd edition ed.
- Medhurst, M. J., Ivie, R. L., Scott, R. L., & Wander, P. (1997). *Cold War Rhetoric: Strategy, Metaphor, and Ideology*. East Lansing, MI: Michigan State University Press.

- Meier, B. P., & Robinson, M. D. (2004). Why the sunny side is up: Associations between affect and vertical position. *Psychological Science*, *15*(4), 243–247.
- Miller, G. A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological Review*, *63*(2), 81–97.
- Mio, J. S., & Lovrich, N. P. (1998). Men of zeal: Memory for metaphors in the iran-contra hearings. *Metaphor and Symbol*, *13*(1), 49–68.
- Mio, J. S., Thompson, S. C., & Givens, G. H. (1993). The commons dilemma as metaphor: Memory, influence, and implications for environmental conservation. *Metaphor and Symbol*, *8*(1), 23–42.
- Mondak, J. (1993). Source cues and policy approval: The cognitive dynamics of public support for the reagan agenda. *American Journal of Political Science*, *37*(1), 186–212.
- Moors, A., & De Houwer, J. (2006). Automaticity: A theoretical and conceptual analysis. *Psychological Bulletin*, *132*(2), 297–326.
- Morris, J. P., Squires, N. K., Taber, C. S., & Lodge, M. (2003). Activation of political attitudes: A psychophysiological examination of the hot cognition hypothesis. *Political Psychology*, *24*(4), 727–745.
- Moyers, B. (n.d.). The net at risk: Net neutrality. Retrieved from Moyers on America on May 1, 2008, from the World Wide Web. <http://www.pbs.org/moyers/moyersonamerica/net/neutrality.html>.
- Murphy, G. L. (1996). On metaphoric representation. *Cognition*, *60*(2), 173–204.
- Murphy, G. L. (1997). Reasons to doubt the present evidence for metaphoric representation. *Cognition*, *62*(1), 99–108.
- Musolff, A. (2004). *Metaphor and Political Discourse: Analogical Reasoning in Debates about Europe*. New York: Palgrave MacMillan.
- Neely, J. H. (1991). Semantic priming effects in visual word recognition: A selective review of current findings and theories. In D. Besner, & G. W. Humphreys (Eds.) *Basic Processes in Reading: Visual Word Recognition*, (pp. 264–336). Hillsdale, N.J.: Lawrence Erlbaum Associates.
- Nelson, D. L., McEvoy, C. L., & Schreiber, T. A. (1998). The university of south florida word association, rhyme, and word fragment norms. <Http://www.usf.edu/FreeAssociation/>.
- Nelson, T. E., Clawson, R. A., & Oxley, Z. M. (1997). Media framing of a civil liberties conflict and its effect on tolerance. *American Political Science Review*, *91*(3), 567–583.
- Nelson, T. E., & Kinder, D. R. (1996). Issue frames and group-centrism in american public opinion. *Journal of Politics*, *58*(4), 1055–1078.

- Ortony, A. (1975). Why metaphors are necessary and not just nice. *Educational Theory*, 25(1), 45–53.
- Ortony, A. (1979). Beyond literal similarity. *Psychological Review*, 87, 161–180.
- Ortony, A. (1993). *Metaphor and Thought*. New York: Cambridge University Press, 2nd ed.
- Orwell, G. (1947). *Politics and the English Language: An Essay*. New York: Herbert W. Simpson.
- Ottati, V., Rhoads, S., & Graesser, A. C. (1999). The effect of metaphor on processing style in a persuasion task: A motivational resonance model. *Journal of Personality and Social Psychology*, 77(4), 688–697.
- Page, B. I., & Shaprio, R. Y. (1992). *The Rational Public: Fifty Years of Trends in Americans' Policy Preferences*. Chicago: University of Chicago Press.
- Pecher, D., & Raaijmakers, J. G. W. (1999). Automatic priming effects for new associations in lexical decision and perceptual identification. *Quarterly Journal of Experimental Psychology*, 52 A(3), 593–614.
- Peha, J. M., Lehr, W. H., & Wilkie, S. (2007). The state of the debate on network neutrality. *International Journal of Communication*, 1, 709–716.
- Petty, R. E., & Cacioppo, J. T. (1986a). *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*. New York: Springer-Verlag.
- Petty, R. E., & Cacioppo, J. T. (1986b). The elaboration likelihood model of persuasion. In L. Berkowitz (Ed.) *Advances in Experimental Social Psychology*, Vol. 19. New York: Academic Press.
- Petty, R. E., Haugtvedt, C. P., & Smith, S. M. (1995). Elaboration as a determinant of attitude strength: Creating attitudes that are persistent, resistant, and predictive of behavior. In R. E. Petty, & J. A. Krosnick (Eds.) *Attitude Strength: Antecedents and Consequences*, vol. 4, (pp. 93–130). Mahwah, NJ: Lawrence Erlbaum Associates.
- Pinker, S. (1997). *How the Mind Works*. New York: W. W. Norton.
- Pinker, S. (2007). *The Stuff of Thought: Language as a Window into Human Nature*. New York: Penguin Group.
- Popkin, S. L. (1991). *The Reasoning Voter: Communication and Persuasion in Presidential Campaigns*. Chicago: University of Chicago Press.
- Rahn, W. M. (1993). The role of partisan stereotypes in information processing about political candidates. *American Journal of Political Science*, 37(2), 472–496.

- Rahn, W. M., Aldrich, J. H., & Borgida, E. (1994). Individual and contextual variations in political candidate appraisal. *American Political Science Review*, *88*(1), 193–199.
- Read, S. J., Cesa, I. L., Jones, D. K., & Collins, N. L. (1990). When is the federal budget like a baby? Metaphor in political rhetoric. *Metaphor and Symbolic Activity*, *5*(3), 125–149.
- Robins, S., & Mayer, R. E. (2000). The metaphor framing effect: Metaphorical reasoning about text-based dilemmas. *Discourse Processes*, *30*(1), 57–86.
- Rogers, S. (1792). *The Pleasures of Memory: A Poem in Two Parts*. London: J. Davis.
- Rosenthal, R. (1991). *Meta-Analytic Procedures for Social Science Research*. Beverly Hill, CA: Sage Publications.
- Safire, W. (2008). *Safire's Political Dictionary*. New York: Oxford University Press.
- Santa Ana, O. (1999). 'like an animal i was treated': Anti-immigrant metaphor in u.s. public discourse. *Discourse Society*, *10*(2), 191–224.
- Schlesinger, M., & Lau, R. R. (2000). The meaning and measure of policy metaphors. *American Political Science Review*, *94*(3), 611–626.
- Schon, D. A. (1979). Generative metaphor: A perspective on problem-setting in social policy. In A. Ortony (Ed.) *Metaphor and Thought*, (pp. 254–283). Cambridge: Cambridge University Press.
- Simon, H. A. (1974). How big is a chunk? *Science*, *183*(4124), 482–488.
- Slothuus, R. (2008). More than weighting cognitive importance: A dual-process model of issue framing effects. *Political Psychology*, *29*(1), 1–28.
- Sniderman, P. M. (1993). The new look in public opinion research. In A. W. Finifter (Ed.) *Political Science: The State of the Discipline, II*, (pp. 219–245). Washington, D.C.: American Political Science Association.
- Sniderman, P. M., Brody, R. A., & Tetlock, P. E. (1991). *Reasoning and Choice: Explorations in Political Psychology*. New York: Cambridge University Press.
- Sopory, P., & Dillard, J. P. (2002). The persuasive effects of metaphor: A meta-analysis. *Human Communication Research*, *28*(3), 382–419.
- Thagard, P., & Shelley, C. (2001). Emotional analogies and analogical inference. In D. Gentner, K. J. Holyoak, & B. N. Kokinov (Eds.) *The Analogical Mind: Perspectives from Cognitive Science*, (pp. 335–362). Cambridge: MIT Press.
- Tomz, M., Wittenberg, J., & King, G. (2003). Clarify: Software for interpreting and presenting statistical results, version 2.1. Stanford University, University of Wisconsin, and Harvard University. January 5. [Http://gking.harvard.edu/](http://gking.harvard.edu/).

- Tversky, A. (1977). Features of similarity. *Psychological Review*, *84*(4), 327–352.
- Voss, J. F., Kennet, J., Wiley, J., & Schooler, T. Y. E. (1992). Experts at debate: The use of metaphor in the u.s. senate debate on the gulf crisis. *Metaphor and Symbolic Activity*, *7*(3/4), 197–214.
- Wagenmakers, E.-J. M., Zeelenberg, R., Steyvers, M., Shiffrin, R., & Raaijmakers, J. G. W. (2004). Nonword repetition in lexical decision: Support for two opposing processes. *Quarterly Journal of Experimental Psychology*, *57 A*(7), 1191–1210.
- Wolff, P., & Gentner, D. (2000). Evidence for role-neutral initial processing of metaphors. *Journal of Experimental Psychology*, *26*(2), 529–541.
- Zaller, J. R. (1992). *The Nature and Origins of Mass Opinion*. New York: Cambridge University Press.
- Zaller, J. R., & Feldman, S. (1992). A simple theory of the survey response: Answering questions versus revealing preferences. *American Journal of Political Science*, *36*(3), 579–616.
- Zeelenberg, R., Pecher, D., & Raaijmakers, J. G. W. (2003). Associative repetition priming: A selective review and theoretical implications. In J. S. Bowers, & C. S. Marsolek (Eds.) *Rethinking Implicit Memory*, (pp. 261–283). New York: Oxford University Press.
- Zeelenberg, R., Wagenmakers, E.-J., & Shiffrin, R. M. (2004). Nonword repetition priming in lexical decision reverses as a function of study task and speed stress. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *30*(1), 270–277.