

# UC San Diego

## UC San Diego Electronic Theses and Dissertations

### Title

Can Television Ads Persuade? Strategy and Choice of Television Advertising in U.S. House of Representatives Elections

### Permalink

<https://escholarship.org/uc/item/2q6048q1>

### Author

Searle, David Mordecai

### Publication Date

2017

Peer reviewed|Thesis/dissertation

UNIVERSITY OF CALIFORNIA, SAN DIEGO

**Can Television Ads Persuade? Strategy and Choice of Television Advertising in U.S.  
House of Representatives Elections**

A dissertation submitted in partial satisfaction of the  
requirements for the degree  
Doctor of Philosophy

in

Political Science

by

David Mordecai Searle

Committee in charge:

Professor Marisa Abrajano, Chair  
Professor Zoltan Hajnal  
Professor Seth Hill  
Professor Gary Jacobson  
Professor John Skrentny

2017

Copyright  
David Mordecai Searle, 2017  
All rights reserved.

The dissertation of David Mordecai Searle is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

---

---

---

---

---

Chair

University of California, San Diego

2017

DEDICATION

To Naomi

## TABLE OF CONTENTS

Signature Page . . . . .	iii
Dedication . . . . .	iv
Table of Contents . . . . .	v
List of Figures . . . . .	vi
List of Tables . . . . .	viii
Acknowledgements . . . . .	xi
Vita . . . . .	xiii
Abstract of the Dissertation . . . . .	xiv
Chapter 1 Introduction . . . . .	1
Chapter 2 Advertising and Electoral Success in Low Information Elections . . . . .	7
Chapter 3 The (Un)Persuasive Effects of Negative Advertising: An Experimental Analysis . . . . .	30
Chapter 4 Interest Group or Candidate: Sponsor Irrelevance in the Persuasiveness of Television Advertising . . . . .	57
Chapter 5 Conclusion . . . . .	80
Appendix A Chapter 2 Appendix: Aggregate Analysis . . . . .	85
Appendix B Chapter 3 Appendix: Experimental Analysis . . . . .	113
Appendix C Chapter 4 Appendix: Interest Group Advertising . . . . .	124

## LIST OF FIGURES

Figure 2.1:	Number of Ads Over the Campaign in Competitive Elections . . . . .	25
Figure 3.1:	Main Dependent Variable: Vote Choice . . . . .	40
Figure 3.2:	Effect of Advertising Tone on Vote Choice: MTurk Sample 1 . . . . .	43
Figure 3.3:	Effect of Advertising Tone on Vote Choice: CCES Sample . . . . .	44
Figure 3.4:	Effect of Advertising Tone on Vote Choice: MTurk Sample 2 . . . . .	45
Figure 3.5:	LaTeX Error: There’s no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue	it. 46
Figure 3.6:	LaTeX Error: There’s no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue	it. 47
Figure 3.7:	LaTeX Error: There’s no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue	it. 48
Figure 4.1:	Main Dependent Variable: Vote Choice . . . . .	65
Figure 4.2:	LaTeX Error: There’s no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue	it. 68
Figure 4.3:	Percent of Respondents Correctly Identifying the Sponsor, 3 Types . . .	70
Figure 4.4:	Percent of Respondents Correctly Identifying the Sponsor, 6 Types . . .	71
Figure 4.5:	Persuasiveness by 3 Types of Ads . . . . .	72
Figure 4.6:	Persuasiveness by 6 Types of Ads . . . . .	74
Figure A.1:	Number of Ads Over the Campaign in All Elections . . . . .	108
Figure A.2:	Number of Ads Over the Campaign in Uncompetitive Elections . . . .	109
Figure A.3:	Number of Ads Over the Campaign in All Elections by Partisanship . .	110
Figure A.4:	Number of Ads Over the Campaign in Competitive Elections by Parti- sanship . . . . .	111

Figure A.5:	LaTeX Error: There's no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue	without	it. 112
Figure C.1:	Percent of Respondents Correctly Identifying the Sponsor: Binary Choice, 6 Types . . . . .		126



## LIST OF TABLES

Table 2.1:	Total Advertising Effect on Democratic Vote Share in Competitive Elections	19
Table 2.2:	Binary OLS Regression by Advertising in Competitive Elections . . . . .	21
Table 2.3:	OLS Regression of Democratic Vote Share by Ad Tone in Competitive Districts . . . . .	22
Table 2.4:	LaTeX Error: There's no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue without it. . . . .	24
Table 2.5:	Aggregate Number of Ads in Competitive Elections . . . . .	26
Table 3.1:	Experimental Treatment Groups . . . . .	38
Table 3.2:	Example Matrix for Scaling . . . . .	41
Table 3.3:	T-tests for Change in Vote Choice by Advertising Tone . . . . .	50
Table 3.4:	LaTeX Error: There's no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue without it. . . . .	51
Table 3.5:	LaTeX Error: There's no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue without it. . . . .	52
Table 3.6:	Emotional Responses by Advertising Tone to Democratic Ads . . . . .	53
Table 3.7:	Emotional Responses by Advertising Tone to Republican Ads . . . . .	54
Table 4.1:	Sample Demographics . . . . .	64
Table 4.2:	Experimental Treatment Groups . . . . .	64
Table 4.3:	Example Matrix for Scaling . . . . .	66
Table 4.4:	T-tests for Change in Vote Choice by Advertising Sponsor . . . . .	75
Table 4.5:	LaTeX Error: There's no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue without it. . . . .	76
Table 4.6:	LaTeX Error: There's no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue without it. . . . .	77
Table A1:	Table of Means . . . . .	86
Table A2:	Total Advertising Effect on Democratic Vote Share in Competitive Elections	87
Table A3:	Total Advertising Effect on Democratic Vote Share in Competitive Elections	88
Table A4:	OLS Regression of Democratic Vote Share by Ad Tone in Competitive Districts . . . . .	89

Table A5:	LaTeX Error: There's no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue without it. . . . .	90
Table A6:	Table of Means, All Single Media-Market Districts . . . . .	91
Table A7:	Total Advertising Effect on Democratic Vote Share . . . . .	92
Table A8:	Total Advertising Effect on Democratic Vote Share by Weeks Aggregated	93
Table A9:	Binary OLS Regression of Democratic Vote Share by Ad Tone for All Ad Data . . . . .	94
Table A10:	OLS Regression of Democratic Vote Share by Ad Tone, All Ad Data . .	95
Table A11:	LaTeX Error: There's no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue without it. . . . .	96
Table A12:	OLS Regression of Natural Log of Number of Ads, Competitive Districts	98
Table A13:	OLS Regression of Ad Tone, with Squared Ad Totals, Competitive Elections . . . . .	99
Table A14:	OLS Regression of Proportion of Ads, Competitive Elections . . . . .	100
Table A15:	Logit Regression of Democratic Winner by Ad Tone in Competitive Elections . . . . .	102
Table A16:	LaTeX Error: There's no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue without it. . . . .	103
Table A17:	OLS Regression by Ad Tone, Weighted by Cost, Competitive Elections .	104
Table A18:	OLS Regression by Logged Ad Tone, Weighted by Cost, Competitive Elections . . . . .	105
Table A19:	LaTeX Error: There's no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue without it. . . . .	106
Table A20:	Aggregate Proportion of Ads in Competitive Elections . . . . .	107
Table A21:	Aggregate Number of Ads in Competitive Elections by Partisanship . .	108
Table A22:	Aggregate Proportion of Ads in Competitive Elections by Partisanship .	109
Table B1:	Republican Vote Share by Treatment Groups . . . . .	113
Table B2:	Balance Table of Covariates, MTurk Sample 1 . . . . .	114
Table B3:	Balance Table of Covariates, CCES Sample . . . . .	114
Table B4:	Balance Table of Covariates, MTurk Sample 2 . . . . .	114
Table B5:	Table of Covariate Comparison . . . . .	115
Table B6:	Advertisements in the Experiments . . . . .	116
Table B7:	Characteristics of 2008 Michigan House Advertisements . . . . .	116
Table B8:	Characteristics of 2012 Virginia House Advertisements . . . . .	117
Table B9:	Democratic Candidate Thermometer Rating by Advertising Tone . . . .	118

Table B10:	Republican Candidate Thermometer by Advertising Tone . . . . .	118
Table B11:	T-tests for Change in Support by Advertising Tone . . . . .	119
Table B12:	T-tests for Change in Support by Advertising Tone . . . . .	119
Table B13:	Thermometer Ratings by Advertising Tone . . . . .	119
Table B14:	Thermometer Ratings by Advertising Tone . . . . .	120
Table B15:	Thermometer Ratings by Advertising Tone . . . . .	120
Table B16:	Thermometer Ratings by Advertising Tone . . . . .	120
Table B17:	Correlations Between Vote Choice and Thermometer Ratings . . . . .	121
Table B18:	Treatment Group Size by Partisanship . . . . .	121
Table B19:	Republican Vote Share by Treatment Groups and Partisanship . . . . .	122
Table B20:	T-tests for Change in Vote Choice by Advertising Tone, Democrats Only	122
Table B21:	T-tests for Change in Vote Choice by Advertising Tone, Republicans Only	122
Table B22:	LaTeX Error: There's no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue without it. . . . .	122
Table B23:	LaTeX Error: There's no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue without it. . . . .	123
Table B24:	LaTeX Error: There's no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue without it. . . . .	123
Table B25:	LaTeX Error: There's no line here to endSee the LaTeX manual or LaTeX Companion for explanation.Your command was ignored.Type I ;command; ;return; to replace it with another command,or ;return; to continue without it. . . . .	123
Table C1:	Republican Vote Share by Treatment Groups . . . . .	125
Table C2:	Balance Table of Covariates . . . . .	125
Table C3:	Advertisements in the Experiments . . . . .	127
Table C4:	Characteristics of 2010 Ohio House Advertisements . . . . .	127

## ACKNOWLEDGEMENTS

Thanks to my entire committee for helping and guiding me through this long process, as they have been instrumental in my success. Seth has provided valuable insight, especially in the research design phase. He provided critical feedback in designing my survey experiments as well as joining with Gary to provide me the opportunity to place my experiment on the 2014 CCES. Gary was also incredibly helpful with any and all questions regarding congressional elections. He also provided careful readings of drafts of my papers and providing both substantive and grammatical feedback. Zoli has read many drafts and provided beneficial comments and suggestions on the writing as well as suggestions for alternative analyses. He has provided crucial suggestions in how best to present my results and prepare my papers and research for publication.

I especially want to thank Marisa for all her help over the last six years, guiding me from entering graduate school all the way through the finish line with the dissertation. Marisa has worked closely with me and was instrumental in my success. She has directed my research and guided me with my dissertation topic and how best to contribute to the state of the literature. She has also read more drafts than I care to admit and always providing important feedback on my work.

I have also received valuable feedback from countless graduate students and faculty within the Department of Political Science at UC, San Diego. This has included during several presentations at the department workshop and American politics workshop. This research would not have been completed without the Sanford Lakoff Fellowship that funded three MTurk experiments, Gary Jacobson and Seth Hill who allowed me to place on questions on the Cooperative Congressional Election Study in 2014, and various individuals through Experiments.com who helped fund my final MTurk experiment.

Thanks also to my constant office made Newton, who has provided endless support. Finally, Naomi for her never-wavering support and belief in my ability to complete this

dissertation.

## VITA

2010	B. S. in Mathematics, University of Maryland, College Park
2010	B. A. in Government and Politics, University of Maryland, College Park
2015	M. A. in Political Science, University of California, San Diego
2011-2017	Graduate Teaching Assistant, University of California, San Diego
2017	Ph. D. in Political Science, University of California, San Diego

ABSTRACT OF THE DISSERTATION

**Can Television Ads Persuade? Strategy and Choice of Television Advertising in U.S.  
House of Representatives Elections**

by

David Mordecai Searle

Doctor of Philosophy in Political Science

University of California, San Diego, 2017

Professor Marisa Abrajano, Chair

Congressional candidates spend the majority of their campaign funds on television advertising to reach the highest number of voters, spending almost \$300 million in 2014 alone. Yet previous research has not fully answered if advertising is associated with increased electoral success. In particular, this represents the first analysis of television advertising in elections for the United States House of Representatives. It also represents the first analysis of competitive, low information elections where voters have limited knowledge of the candidates. First, I examine U.S. House races over six electoral cycles from 2000-2012 to test how positive, negative, or contrast ads correlate with electoral success. Then, I

build upon this analysis with a novel experiment that more closely models the information environment in competitive, low information campaigns by exposing respondents to one advertisement from each candidate using past television advertisements. This provides causal evidence linking the tone of an advertisement with changes in electoral support. Finally, since the 2010 *Citizens United* ruling interest groups are spending increasingly large amounts of money in U.S. congressional elections. Instead of advertising tone, I test whether the advertising sponsor influences how voters perceive and evaluate the candidates, comparing traditional candidate-sponsored ads with interest group-sponsored ads. The results highlight how tone and sponsor yields little effect on electoral support. The effect that does exist is not the intended effect of an ad, but rather the backlash against the candidate sponsoring a negative ad. However, candidates can avoid this issue by having interest groups air their negative ads on their behalf. I find that interest group ads are equally persuasive compared to candidate-sponsored ads and yield a smaller backlash penalty against the preferred candidate. Taken together, these findings have important consequences for the role of advertising in U.S. elections and the power interest groups are increasingly wielding to influence electoral outcomes.



# Chapter 1

## Introduction

Television advertising represents the single largest expenditure for political candidates running for the U.S. House of Representatives. Every election candidates spend an increasingly large amount of money airing advertisements; today that results in candidates in competitive districts spending millions of dollars each. Collectively, in 2016 U.S. House candidates spent approximately \$335 million airing over 600,000 ads (Fowler, Ridout and Franz 2016). Television advertising has become so commonplace that no competitive candidate would consider not airing ads during a campaign. Every electoral cycle there are several competitive House elections that may determine control of Congress, and advertising may be influencing who wins and who loses. Despite the power vested in the House of Representatives and widespread use of advertising, no previous research has focused on House elections. This dissertation fills that gap by focusing on television advertising in House elections; examining to what extent advertising may influence electoral outcomes, and ultimately control of Congress.

Advertising represents a common campaign tool that candidates use in order to spread their message (Popkin 1991; Kaid and Johnston 1991; Vavreck 2009). Advertising provides an opportunity for candidates to reach voters with their message, especially voters who may not otherwise be following the election (Freedman, Franz and Goldstein 2004;

Prior 2014). While, much scholarship has focused on the role of advertising in influencing voter turnout (Ansolabehere and Iyengar 1995; Djupe and Peterson 2002; Geer and Lau 2006; Goldstein and Freedman 2002; Kahn and Kenney 1999*a*; Wattenberg and Briens 1999), the primary purpose of advertising is to persuade voters. I define persuasion as the act of convincing voters to vote for one candidate instead of the opposing candidate. In this analysis, I focus on electoral outcomes, primarily the binary vote choice as the measure of persuasion.

In conversations with ten campaign consultants, both Democratic and Republican, they consistently highlighted that the primary purpose of television advertising is to persuade voters. In fact, one put it thus, “There wouldn’t be so much money devoted to this...if it didn’t persuade voters.” It then becomes incumbent upon researchers to understand if advertising yields the intended effect. To date, previous research has found mixed findings as to whether or not advertising can persuade voters (Lau, Sigelman and Rovner 2007). However, past research has not examined the case of U.S. House elections or other low information environments.

U.S. House elections are significantly lower profile compared to presidential or senatorial races. They receive less attention as they are not at the top of the ballot. Additionally, in these and other low information elections, voters frequently cannot name one or both of the candidates running for office (Jacobson 2009). While U.S. House candidates are certainly spending large amounts of money on advertising, it remains significantly less than senate or presidential candidates (Fowler, Ridout and Franz 2016; Fowler and Ridout 2012, 2010). This results in voters having limited information about the candidates prior to entering the polling booth. While much research has been done on presidential advertising (Franz and Ridout 2010; Geer 2006; Huber and Arceneaux 2007; Shaw 1999) and even senate advertising (Franz and Ridout 2007; Kahn and Kenney 1999*b*; Ridout and Franz 2011), little has been done to examine these low information elections. This analysis provides the first

examination of how advertising may operate in these and other elections where voters have limited information about the candidates.

Candidates use a variety of different types of advertisements over the course of the campaign (Kaid and Johnston 1991; Vavreck 2009). In particular, scholars have focused on differences between positive, negative, and contrast ads. These represent three distinct advertising tones, and each may yield different effects on an individual's vote decision. Positive ads provide a optimistic and upbeat depiction of a candidate promoting themselves. Whereas negative or attack ads purposely use black and white imagery and other visual tactics to portray the opponent unfavorably. Contrast ads sit half way between these two by combining aspects of both positive and negative ads, to both promote a candidate and attack an opponent. Chapters two and three focus specifically on these three types of advertisements and their level of influence on vote choice in U.S. House races.

Chapter 2 provides an initial examination into the relationship between advertising and electoral success in U.S. House elections. I conduct an aggregate analysis across all competitive House elections in six electoral cycles from 2000-2012. I estimate the effect of positive, negative, and contrast ads by both the Democratic and Republican candidates on their electoral success. Although this provides only correlational evidence, it does provide initial evidence on the relationship between advertising and electoral success. These results demonstrate the limited effect that advertising yields in low information elections. Only in the final days of the election does any type of ad reach statistical significance in influencing electoral success. This result stems from both candidates in competitive elections choosing to air similar numbers and proportions of positive, negative, and contrast ads.

Advertising may yield a larger effect than the aggregate analysis suggests. In particular, by conducting a survey experiment I can directly test the causal impact of advertising on vote choice. Building on previous work, I use a novel experimental design in Chapter 3 to more closely approximate the campaign environment to more precisely

test my research question. Since advertising is most prevalent in competitive elections, I expose all respondents to two advertisements, one from each opponent. Over the course of a competitive campaign, it is highly likely that voters will be exposed to both candidates at some point, and so I include that aspect in the design itself. Secondly, the design uses past television advertisements in order to use realistic stimuli in the experiment. This improved experimental design represents the second important contribution of the dissertation as this analysis sheds light on the relationship between advertising and vote choice. The results confirm Chapter 2's finding that television advertising yields limited benefits. In fact the only effect of advertising appears to be backlash against the sponsor of a negative ad, not any intended effect on the opponent.

While it is essential to understanding how candidates' advertising influences their chances at winning, increasingly interest groups are playing a larger role in elections. In 2010 the Supreme Court ruled in the *Citizens United* case that interest groups may explicitly advocate for or against a candidate in their television advertisements. Prior to this ruling, under the Federal Elections Campaign Act (FECA) of 1972 and the Bipartisan Campaign Reform Act (BCRA) of 2002 interest groups were limited to advocating on policy issues and barred from discussing specific candidates during elections. Since this ruling interest group spending has exploded, including an increase in the number and proportion of television advertisements sponsored by interest groups (Fowler, Ridout and Franz 2016). This final analysis examines the role of interest groups in influencing U.S. House elections, and this represents the third key contribution of this dissertation.

It remains unknown how voters are viewing and processing interest group advertisements. The campaign consultants that I interviewed had mixed opinions. While some suggested that voters are aware of the differences and will treat them differently, others believed that voters would not notice the difference and consider them equally with candidates' ads. Chapter 4 answers this question by examining how interest group advertising

operates similarly or differently compared to traditional candidate-sponsored advertising. I conduct a similar survey experiment as in Chapter 3, but instead of comparing tone I test how ad sponsorship influences vote choice. I directly compare the relative effects of a candidate-sponsored ad, political party-sponsored ad, and an interest group-sponsored ad. This analysis highlights how voters are not aware of the sponsor of advertisements and find them equally persuasive. While some differences do exist, overall, these results demonstrate the power of interest groups in potentially influencing who gets elected to office.

The United States House of Representatives represents one of the most powerful institutions in American government. It becomes imperative to understanding the factors that influence which individuals get elected and which do not. This analysis adds to our understanding of what factors drive voters to vote for one candidate over another in U.S. House elections. In particular, television advertising represents the largest expense in campaigning today and this analysis directly tests if advertising persuades voters.

The analysis has three key contributions to the current research on television advertising. First, it represents the first analysis of U.S. House elections. Previous work has examined presidential and senate races, but no other research has examined the House or any other low information election. Secondly, it builds upon previous work to develop a more accurate experimental design to test if advertising causes persuasion. Previous work has often used only a single advertisement or fake ads. The experiments presented in chapters three and four use real, past House ads and expose all respondents to both candidates' ads in order to more closely approximate a competitive election. Finally, going beyond tone, the final chapter examines interest group advertising, which represents a growing concern since *Citizens United*. This final analysis systematically tests the level of interest group power in House elections by comparing how voters respond to interest group ads compared to candidate ads. This adds to our understanding of how interest groups can wield influence in elections by directly persuading voters with their own advertising.

The analysis adds to our understanding of how television advertising persuades voters in U.S. House elections. Chapter 2 will address this research question using an aggregate analysis across six election cycles from 2000-2012. Chapter 3 will then build upon this analysis and using an experimental design provide causal evidence linking television advertising to individuals' vote choice. Chapter 4 will use a similar experimental design as in Chapter 3, but instead of examining tone, it tests how the sponsor of the ad, interest group or candidate, influences persuasion. Finally, Chapter 5 will summarize the results and provide some concluding thoughts on the implications for these results.

## **Chapter 2**

# **Advertising and Electoral Success in Low Information Elections**

Television advertising is ubiquitous with United States elections; candidates at almost every level of government, from Congress to mayoral candidates air thousands of advertisements. In 2014, federal elections alone accounted for over a billion advertising dollars on advertising (*Ad Spending Tops \$1 Billion* 2014). However, advertising may operate differently depending on the context of the election, be it low or high information environment. Previous research has not determined if advertising correlates with electoral success in low information environments, such as U.S. House elections, despite a large body of literature (Brader 2006; Franz and Ridout 2007; Huber and Arceneaux 2007; Kaid and Boydston 1987; Krupnikov 2012; Ridout and Franz 2011; Roddy and Garramone 1988). This study provides the first analysis of U.S. House elections and adds to our understanding of how advertising may operate in these and other low information elections.

Previous research has primarily focused on high information elections, such as presidential or senate elections. Researchers have examined aggregate advertising effects using a single presidential cross-sectional analysis or a handful of senate races. These studies examine the link between advertising and electoral outcomes in high information

elections (Huber and Arceneaux 2007; Franz and Ridout 2010; Ridout and Franz 2011). Importantly, these results may not apply in low information contexts, where voters have limited information about the candidates, and limits our ability to extrapolate from these studies to U.S. House or local elections. While voters may be familiar with some of the positions of candidates in presidential elections, voters often have difficulty recalling the names or even recognizing the names of one or both of their House candidates (Jacobson 2009). Advertising may yield different effects in these circumstances where voters may not be paying attention to the election or candidates. If voters cannot recall candidates names, then they are also unlikely to recall any information from advertising when making a vote decision. As a result, voters may rely more on the partisan heuristic and less on television advertising. This would suggest that despite large amounts of campaign funds spent on advertising, it may yield limited effects on electoral outcomes.

This paper is the first to examine advertising in elections for the House of Representatives, and in so doing provides initial evidence linking advertising to electoral success in low information environments. The analysis goes beyond a small number of races to include over a hundred House races by combining advertising data from six election cycles. This will provide new insight into the relationship between advertising and electoral success by examining a range of elections, candidates, contexts, and years. This analysis offers a highly systematic and rigorous test of the correlation between advertising and electoral outcomes.

This paper first addresses if increased advertising is correlated with greater electoral success, and then goes beyond this basic question to examine which types of ads correlate with success. Advertising is a targeted tool campaigns employ, and so I can determine which of the types of advertisings are most associated with electoral outcomes. I distinguish types of ads by their tone: positive, negative, and contrast. Positive ads promote the candidate who is sponsoring the ad; negative ads serve to attack an opponent; and contrast ads include elements of both positive and negative ads. Each type of ad represents a distinct and



different way for candidates to appeal to voters. Conventional wisdom suggests that negative advertisements should be correlated with electoral success (Lau 1982). While previous studies at the presidential and senate level have demonstrated this relationship (Fridkin and Kenney 2004; Kaid 1997; Krupnikov 2012), across a wide range of studies no conclusive evidence that negative ads positive correlate with success (Lau, Sigelman and Rovner 2007). Therefore, I test this assertion that negative ads are the key to increasing a candidate's vote share, in particular in low information elections.

In order to test this question, I use the Campaign Media Analysis Group (CMAG) data for six House election cycles (2000, 2002, 2004, 2008, 2010, and 2012) that contains every airing of a political advertisement in the top media markets and on the most popular channels. I then aggregate this advertising data and regress it on a candidate's vote share. Although this provides over 700 House races with at least one advertisement aired, I focus on the approximate 160 competitive races. These results speak directly to what types of advertisements correlate with electoral performance in competitive congressional elections. Candidates advertise differently if they are in a competitive versus uncompetitive election, and so this analysis focuses on the tight races where advertising can potentially influence the outcome of the election.

Overall, the results demonstrate that in competitive elections, both candidates advertise similarly. As a result, no single type of advertisement is a statistically significant positive predictor of electoral success, after controlling for key electoral predictors. Even by aggregating ads aired on only the last day before the election yields no positive correlation for any type of advertisement with electoral performance. Counter to conventional wisdom negative ads are not associated with greater electoral success, however positive and contrast ads also yield no net advantage for a candidate. This analysis adds to our understanding of the relative importance of television advertising, and provides guidance on how advertising may operate in other less salient elections as opposed to presidential or senate campaigns.

Additionally this study questions the role and importance of television advertising in influencing electoral outcomes in low information elections. This study suggests that advertising may serve to only cancel out an opponent's advertising effects and that other non-advertising campaign activities determine the success of a candidate.

## **Television Advertising in Low Information Environments**

Candidates use advertising as a key campaign tool to reach voters with their message (Popkin 1991; Vavreck 2009). Advertising allows candidates to define themselves as well as their opponents. It can be used to control the narrative of a campaign and how candidates are presented to voters. Although existing literature does illustrate how ads can influence electoral results (e.g. Hill, et al. 2013, Ridout and Franz 2011), it does not tell us which types of ads are most associated with altering an individuals' vote choice. Over the course of an election, a candidate will employ various types of advertisements (Kaid and Johnston 1991; Vavreck 2009), typically an array of positive and negative ads. Candidates should be choosing to air different types of ads for different purposes, such as positive ads to build name recognition and negative ads to attack an opponent. Extensive work focuses on the importance and effects of negative advertising (e.g. Ansolabehere and Iyengar 1995, Geer 2006). However, previous research finds inconsistent results on whether negative ads truly are the most effective type at influencing electoral outcomes (Lau, Sigelman and Rovner 2007). I seek to clarify this relationship by focusing on previously unstudied House races, and over a longer time frame than has typically been tested before.

Candidates use advertising because voters learn from it and advertising represents an easy way to reach a large number of voters. An extensive history of survey research has repeatedly demonstrated the limited knowledge of voters (Campbell et al. 1960; Delli Carpini and Keeter 1996), which can in turn potentially influence voter behavior (Stokes and Miller 1962). Advertising serves an important role in educating the public, and operates as an

information-provider, which is particularly important in low information elections. Due to limited information, any additional piece of information gleaned from an ad will reduce the level of uncertainty in a voter's decision. Voters learn and gain important information from advertising (Patterson and McClure 1976; Gilens, Vavreck and Cohen 2007). Campaigns are about providing information to voters and with that information, they hope to convince voters to support a particular candidate (Popkin 1991). It remains to be seen what the role of advertising is in low information elections.

Advertising has become commonplace in low information elections including U.S. House, county, and local elections. These types of elections receive less attention compared to presidential or senate races that come at the top of the ballot. Compared to high information elections, low information elections involve less spending and as a result less television advertising. This results in an information environment where voters may have a limited amount of knowledge about the candidates (Jacobson 1975). In fact, from 1978-2000 the American National Election Study (ANES) asked respondents if they could recall their House candidates' names, and 63% could not name either candidate. When pressed further to name something they like or dislike about the candidates about 38% could not name anything for either candidate (*The American National Election Studies Time Series Cumulative Data File* 2010). These percentages do not change much over the time period, including in 2000, the first year of the advertising data used in this analysis.

Previous work demonstrates how in these types of elections voters rely on heuristics, such as party identification or the race and gender of the candidates (McDermott 1998; Rahn 1993). Similarly, since advertising is easily accessible to all types of voters (Prior 2014), television advertising may play a more important role in low information elections. Since we know voters are more reliant on other heuristics, they may be increasingly reliant on television advertising to determine their vote choice. Voters only need a small amount of information in order to make a vote decision, and campaigns have the ability to provide that

necessary information in a low information context (Lupia 1994; Lupia and McCubbins 1998). This would suggest that television advertising may be more important compared to high information elections.

While voters may be more reliant on heuristics, advertising can only yield an effect if respondents receive or recall the message. Voters may not be aware of the advertisements in low information elections due to their less prevalence compared to the high information, top of the ballot elections. Two key aspects of preference formation and change are receiving the message and recalling the message (Zaller 1992). Yet, voters who cannot recall the names of their House candidates may also not be paying attention to their television advertising. If this holds true, then ads may be less relevant in determining electoral results U.S. House and other low information contests as voters rely on the partisan heuristic as their only source of information. This study provides the first examination to determine the relationship of advertising in House and other low information elections.

I separate three types of candidate-sponsored advertisements: positive, negative, and contrast. Each type of ad represents a unique way to present information to voters and goes beyond the text to their use of visual imagery and design elements (Kaid and Johnston 1991, 2001). Positive ads focus on promoting a candidate and typically have happy, colorful imagery of the candidate; whereas negative or attack ads use black and white imagery to make disparaging claims about an opponent. These include some of the most notorious advertisements, such as the Daisy ad in 1964. The third type of ad is contrast or comparative, which includes both elements of a positive and negative advertisement. They usually begin by attacking an opponent then contrasting that with a positive promotion of the preferred candidate.

## **Advertising and Vote Choice**

Numerous scholars have sought to establish the relationship between advertising and vote choice. Under certain conditions and in particular elections advertising has the ability to alter individuals' vote. At both the senate and presidential level, aggregate analysis suggests that the more a candidate advertises, the higher the chances of electoral success (Franz and Ridout 2007, 2010; Huber and Arceneaux 2007; Ridout and Franz 2011; Shaw 1999; Stevens 2009). These studies have primarily tested which of the two candidates' advertising increases their likelihood of winning. The size of the advertising effect may even have a large enough effect to swing a presidential election (Gordon and Hartmann 2013). However, the problem with these analyses is that they make it difficult to extrapolate beyond these circumstances. These studies similarly suffer from examining only high information presidential or senate races. Where this analysis resolves that issue and should provide greater insight into a wider range of elections.

The other primary focus of past research has been on negative advertisements. The commonly held belief is that negative ads are more effective at swaying voters to support a candidate than are positive advertisements. Researchers have used similar data to this study, by testing this hypothesis using aggregate advertising data in past elections. These studies find that negative advertising may be particularly effective against incumbents in senate elections (Fridkin and Kenney 2004). Negative information tends to be over-weighted in decision-making (Lau 1982; Geer 2006). Therefore, negative advertisements ought to be more effective at persuading voters (Lau 1985). Some evidence has supported this hypothesis (Krupnikov 2012; Lau 1985), but they have been far from conclusive. These studies have also focused on high information elections by examining cross-sectional data in one or two presidential elections, or across a small number of senate elections.

Whereas much research has focused on the positive-negative advertising dichotomy, little research to date has been conducted examining contrast advertisements. Contrast

advertisements combine both positive and negative components; they typically begin by attacking the opponent and finish on a positive note about the favored candidate. Due to the inclusion of the positive component, they may be viewed as a less severe version of negative ads (Hill 1989). Some evidence supports this notion that compared to negative ads, respondents view contrast ads as less negative (Meirick 2002). Additionally, since contrast ads are less severe, they may be able to reduce the risk of backlash that accompanies negative advertising and that would make contrast ads notably less risky than negative ads. Experimental evidence provides some support for the contention that contrast ads evoke less of a backlash effect, albeit with a small sample size (Pinkleton 1997). However, it remains to be seen how such ads correlate to electoral performance.

### **Why Advertising May Not Effect Vote Choice**

Despite the body of research highlighting the effectiveness of television advertising, and in particular negative advertising, other researchers have found little effect of advertising on electoral success. Such studies reveal that advertising is ineffective in senate elections in influence the outcome (Lau and Pomper 2004). One potential explanation over these differing results may be the increasingly polarized atmosphere (Poole and Rosenthal 1997). Polarization may decrease the relative effectiveness of an advertisement since most voters will view them through a partisan lens (Campbell et al. 1960). Evidence does indicate that advertising's effectiveness may be limited by a voters' partisan identity (Chang 2003). On the other side, if the voter agrees with the candidate's ideology, then the effectiveness of an ad may increase, since voters will be more likely to believe the advertisement (Houston, Doan and Roskos-Ewoldsen 1999). By examining elections over the last several years, this analysis provides evidence on how advertising correlates with electoral success in an age of high levels of polarization.

Advertising, in particular negative ads, also have the potential to result in the opposite

of its the intended effect. That is, instead of positively correlated with more votes for the sponsor of the ad, negative advertising can backfire and decrease their vote share. Experimental evidence suggests that negative ads can incur backlash against the sponsoring candidate (Kahn and Geer 1994). Multiple experiments have demonstrated how negativity can backfire against the source of the claim, especially if the attack is seen as unfair (Brooks and Geer 2007; Carraro, Gawronski and Castelli 2010; Haddock and Zanna 1997; Kahn and Geer 1994; Roese and Sande 1993; Shapiro and Rieger 1992). Advertising may influence elections in this unintended direction, such that the sponsor of the advertisement gets penalized for running these ads. Backlash could potentially be problematic if negative advertising only nets a benefit for a candidate's opponent, not the sponsoring candidate. This would suggest that the more a candidate goes negative, the greater likelihood their opponent will win.

In a meta-analysis that included over a hundred studies, Lau, et al. (2007) uncovered no clear evidence that negative advertisements influence vote choice more so than do positive ads. By aggregating virtually all-existing studies on advertising, they attempted to achieve an overall state of knowledge on the extensive research up to that point. However, none of these studies addressed low information elections, such as U.S. House races.

## Data

In order to establish the relationship between advertising and electoral performance, I examine past congressional advertising efforts. The advertising data comes from the Campaign Media Analysis Group (CMAG)<sup>1</sup>. The dataset includes every advertisement aired in the top media markets<sup>2</sup> and the most common television channels (e.g. ABC, CBS).

---

<sup>1</sup>The 2000, 2002, 2004, and 2008 data are provided through the Wisconsin Advertising Project. The Wesleyan Advertising Project provided the 2010 and 2012 data.

<sup>2</sup>The 2000 data come from the top 75 media markets; the 2002, 2004, and 2008 data come from the top 100 media markets. The 2010 and 2012 data comes from all 210 media markets in the United States.

This data already pre-codes all congressional advertisements on a variety of attributes. For instance, it includes information for where the advertisement was aired, such as the media market, the congressional district, and the sponsor. Importantly, it provides a consistent coding scheme for the tone of the advertisements across all six elections<sup>3</sup>.

I aggregate the advertising data by media market and congressional district to directly match ads to vote shares. The analysis only uses congressional districts that exist in a single media market<sup>4</sup>, so that all voters were potentially exposed to all of the ads. Otherwise the candidate vote shares do not match with the advertising in their area and the analysis would not provide interpretable results. Focusing on single-media market districts ensures that the ads and vote shares are the same unit of analysis.

Altogether, that includes over 100 congressional districts per election cycle, for a total of 705 House races during this time period. Since advertising is ubiquitous in U.S. elections, there are no competitive elections where neither candidate aired any television advertisements. I focus on competitive elections, which I define as the candidates finishing within 10% of each other. This limits the analysis to approximately 160 House races<sup>5</sup>.

The analysis estimates the effect of advertising on a candidate's vote share. As such, the dependent variable is the share of the two-party vote won by the Democratic candidate in each district in each year<sup>6</sup>. Positive coefficients indicate a Democratic advantage; a negative coefficient indicates a Republican improvement. The analysis uses an ordinary least squares (OLS) regression to estimate advertising's effect.

Given that I am focusing on the differential effects of advertising based on its tone,

---

<sup>3</sup>The coding scheme aligns with my definition for each type of ad. Positive ads solely promote a candidate, negative ads solely attack an opponent, and contrast ads include both aspects.

<sup>4</sup>In the Appendix, I replicate the analysis using all congressional races where advertisements were aired. I aggregate by district instead of by media market. This adds significant noise and predictably weakens the effects since all voters were not exposed to the same possible set of ads. The results do not greatly differ.

<sup>5</sup>The Appendix includes the results from all 705 congressional races where at least one advertisement aired.

<sup>6</sup>The Appendix includes a secondary dependent variable, a binary variable, taking the value of 1 if the Democratic candidate won, zero if the Republican won. This analysis uses logit regression and the results do not greatly differ.



my six key independent variables of interest are: positive, negative, and contrast ads by the Democratic candidate, and positive, negative, and contrast ads by the Republican candidate. I aggregate the number of ads aired in every congressional race for each of these six types. These six distinct variables are therefore a count of the number of times each candidate aired a particular type of advertisement<sup>7</sup>. By measuring advertising in this way, it allows for equal weighting across congressional districts. We know the cost of advertising varies tremendously across districts; ads in a Los Angeles congressional district will be much more expensive than a district in Little Rock. Constructing the advertising variables in this way ensures that ads aired in more expensive media markets will not be over-weighted in the analysis. As an alternative, the Appendix replicates the analysis using a candidate's proportion of positive and negative advertisements.

I then merge the advertising data with congressional electoral results and other relevant control variables. One of the control variables is non-candidate advertising. This variable captures the total number of ads aired by non-candidates, such as political parties and Political Action Committees (PACs) in each congressional district. These non-candidate ads are becoming increasingly prevalent and may influence voters differently than candidate-sponsored advertising (Dowling and Wichowsky 2013, 2015). Additionally, to account for a district's mean level of partisanship and competitiveness, I control for the vote share of the Democratic presidential candidate in each congressional district. I account for the incumbency advantage by including a dummy variable if an incumbent was running in the election. To account for more vulnerable incumbents, I include a dummy variable if that incumbent is a freshman member, as well as using a dummy variable for the presence of a quality challenger to control for quality opponents. Finally, it may be that advertising is a proxy for other campaign activities or dependent on overall resources, which may

---

<sup>7</sup>The Appendix includes an alternative specification using the weighted count of each type of advertisement by the cost of each airing. The results are weakened as this analysis over-weights more expensive media markets, but the results remain consistent.

influence electoral success. In order to control for this possibility, I include measures of both Democratic and Republican campaign expenditures.

The analysis combines the data from six election cycles and includes year fixed effects. The fixed effects will help account for the difference between presidential and non-presidential cycles as well as idiosyncrasies of a particular election. It may be that the same districts are competitive year after year, so in order to account for this, I cluster the standard errors at the district and media market level.

Lastly, it is possible that advertising has a quickly deteriorating effect (Hill et al. 2013; Gerber et al. 2011). If advertising's effects are indeed momentary and fleeting, I test for this possibility by focusing the analysis, only aggregating the advertisements aired in the final two weeks of the campaign, instead of over the course of the entire general election. I then replicate the analysis by decreasing the time frame of aggregation all the way to just the final day before the election.

## Results

First, I examine if increasing total candidate advertising correlates with electoral success. Table 2.1 presents the first examination of House television advertising by regressing total advertising by each candidate on the Democratic vote share. Positive coefficients would be expected for the Democratic candidate and negative coefficient for the Republican candidate to indicate a positive correlation between advertising and vote share. Since advertising effects may be momentary, Table 2.1 presents the total advertising by aggregating different time periods during the campaign. The first model aggregates the entire general election campaign in the eight weeks before the election, then three weeks, two weeks, one week, two days, and just one day before the election. Regardless of the time period of aggregation, television advertising in House elections does not reach statistical significance<sup>8</sup>.

---

<sup>8</sup>The Appendix includes the tables including full set of control variables.

**Table 2.1:** Total Advertising Effect on Democratic Vote Share in Competitive Elections

	8 Weeks	3 Weeks	2 Weeks	1 Week	2 Days	1 Day
Intercept	37.06*** (7.06)	37.15*** (6.96)	37.44*** (6.97)	40.59*** (7.19)	40.57*** (7.07)	39.49*** (7.24)
<i>Democrat Candidate's Ads</i>						
Total Ads	0.00 (0.00)	0.00 (0.01)	0.00 (0.01)	0.01 (0.02)	0.02 (0.04)	0.01 (0.05)
<i>Republican Candidate's Ads</i>						
Total Ads	-0.00 (0.00)	0.00 (0.01)	-0.00 (0.01)	0.01 (0.01)	0.02 (0.04)	0.04 (0.05)
Dem Pres Vote Share	0.20*** (0.03)	0.19*** (0.03)	0.19*** (0.03)	0.19*** (0.03)	0.19*** (0.03)	0.19*** (0.03)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.40	0.42	0.42	0.43	0.43	0.41
Adj. R <sup>2</sup>	0.34	0.36	0.36	0.37	0.37	0.35
Num. obs.	169	164	164	162	162	160

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Ads are in 10s. Errors are clustered on district and media market. Expenses are in natural logs. Controls include non-candidate advertising, incumbency, freshman, challenger experience, and both Democratic and Republican expenditures.

The Appendix includes the same table including uncompetitive elections. However, at least in competitive races, advertising does not correlate with electoral success.

However, this result may obscure the effects of advertising tone on electoral success. In a simple bivariate regression I examine which types of advertisements are associated with electoral performance. Table 2.2 presents these initial results and highlights how only positive advertisements, for both Democrats and Republicans, correlate with electoral success with a non-zero and statistically significant effect of 0.04 increase in vote share for every 10 ads aired. This correlation provides initial evidence that only the allocation of positive advertisements is associated with electoral performance. In low information elections, including House races, positive ads may hold the key to winning. This suggests that name recognition or positive affect may be more beneficial than attacking an opponent

through negative advertising. However, this result is prior to adding in control variables that may attenuate this relationship.

The next step in the analysis examines if this use of advertising holds after controlling for key campaign factors; Table 2.3 presents these results<sup>9</sup>. The findings indicate that the impact of positive ads on electoral performance disappear after controlling for district partisanship and campaign expenditures. Model 3 includes the full set of control variables, including incumbency and partisanship of the district. The results indicate none of the different types of advertisements yields a statistically significant effect on a candidate's vote share. This provides evidence that in competitive elections, where both candidates advertise heavily, advertising does not hold the key to winning the election. Since no type of advertisement correlates with greater electoral performance, then candidates' advertising may only serve to cancel out their opponent's advertisements. In uncompetitive elections, advertising may yield a different effect, especially if one candidate is significantly outspending their opponent. The Appendix replicates these results using the entire set of House races with television advertising. Importantly, in the races with the most advertisements, these competitive races, advertising does not correlate with success.

As mentioned, previous research has illustrated how advertising may exhibit a short lifespan. Tables 2.2 and 2.3 aggregates all advertising over the course of the final two weeks of the election. But that may be too long of a timeframe. Voters are bombarded with ads over the final weeks of a campaign and probably do not recall everything they have seen or heard. If the only ads that matter are on the top-of-the-head, as Zaller (1992) would contend, then the analysis should focus only on the advertisements immediately prior to the election. To determine whether this is the case, Table 2.4 presents the results by decreasing the timeframe of aggregation. The first model begins by aggregating ads during the general election campaign, the final eight weeks. Then it moves to the final three weeks, two weeks,

---

<sup>9</sup>The full table including effects for control variables is included in the Appendix.

**Table 2.2:** Binary OLS Regression by Advertising in Competitive Elections

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	50.26*** (0.31)	49.40*** (0.29)	49.71*** (0.28)	50.02*** (0.30)	50.34*** (0.28)	49.94*** (0.28)
<i>Democrat Candidate's Ads</i>						
Contrast	-0.02 (0.01)					
Positive		0.04** (0.02)				
Negative			0.02 (0.02)			
<i>Republican Candidate's Ads</i>						
Contrast				-0.01 (0.02)		
Positive					-0.04** (0.02)	
Republican						-0.00 (0.01)
R <sup>2</sup>	0.02	0.05	0.01	0.00	0.05	0.00
Adj. R <sup>2</sup>	0.01	0.04	0.01	-0.00	0.04	-0.01
Num. obs.	165	165	165	165	165	165

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Table includes all advertisements aired in final two weeks of the campaign. Ads are in 10s.

**Table 2.3:** OLS Regression of Democratic Vote Share by Ad Tone in Competitive Districts

	Model 1	Model 2	Model 3
Intercept	50.08*** (0.44)	49.97*** (0.68)	39.83*** (6.77)
<i>Democrat Candidate's Ads</i>			
Contrast	-0.01 (0.01)	-0.01 (0.01)	-0.00 (0.01)
Positive	0.05** (0.02)	0.05*** (0.01)	0.02 (0.01)
Negative	0.01 (0.02)	0.01 (0.02)	-0.00 (0.01)
<i>Republican Candidate's Ads</i>			
Contrast	-0.02 (0.02)	-0.02 (0.02)	-0.01 (0.01)
Positive	-0.05** (0.02)	-0.05*** (0.01)	-0.02 (0.01)
Negative	0.00 (0.01)	0.00 (0.01)	0.02 (0.01)
Dem Pres Vote Share			0.19*** (0.03)
Controls	No	No	Yes
Year Fixed Effects	No	Yes	Yes
R <sup>2</sup>	0.12	0.13	0.45
Adj. R <sup>2</sup>	0.09	0.07	0.38
Num. obs.	165	165	164

\*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$

Table includes all advertisements aired in final two weeks of the campaign. Ads are in 10s. Last 2 columns errors are clustered on congressional district and media market. Expenses are in natural logs. Controls include non-candidate advertising, incumbency, freshman, challenger experience, and both Democratic and Republican expenditures.

two days, and the last day before the election.

Across all levels of aggregation no type of advertisement positively correlates with an increase in their electoral performance. Interestingly, the effect of negative ads becomes statistically significant for Republican candidates in the final days of the election. However, the direction of the effect is against the Republican candidate, so that it associates with a decrease in his or her vote share. This represents a backlash effect towards the sponsor of the advertisement. It presents the possibility that the only effect of negative advertising may be against the sponsor, rather than the target of the ad. It also may indicate that in the final moments of a campaign, going negative may be particularly harmful. The sample size may be insufficient to detect the effect on the Democratic side, or there may be asymmetrical results based on partisanship. However, regardless, the evidence illustrates the lack of any benefit of advertising for the sponsor of advertising.

## **Advertising Like Your Opponent**

One way to explain this phenomenon would be to examine how candidates are advertising similarly or differently. In the final weeks of the election, both candidates in these competitive elections advertise similarly. Figure 2.1 presents the number of ads each candidate aired by type, aggregated by each week of the campaign, for the final eight weeks until the election. This classifies candidates as either the winning or losing candidate, instead of by political party. By examining winning and losing candidates, I can determine if losing candidates advertise differently than winning candidates in these competitive House elections.

Figure 2.1 demonstrates how both candidates in a competitive low information election advertise similarly over the course of the election. Although there is fluctuation in each of the three types of advertisements, overall it appears that winning and losing candidates air approximately the same number of ads during the campaign. This supports

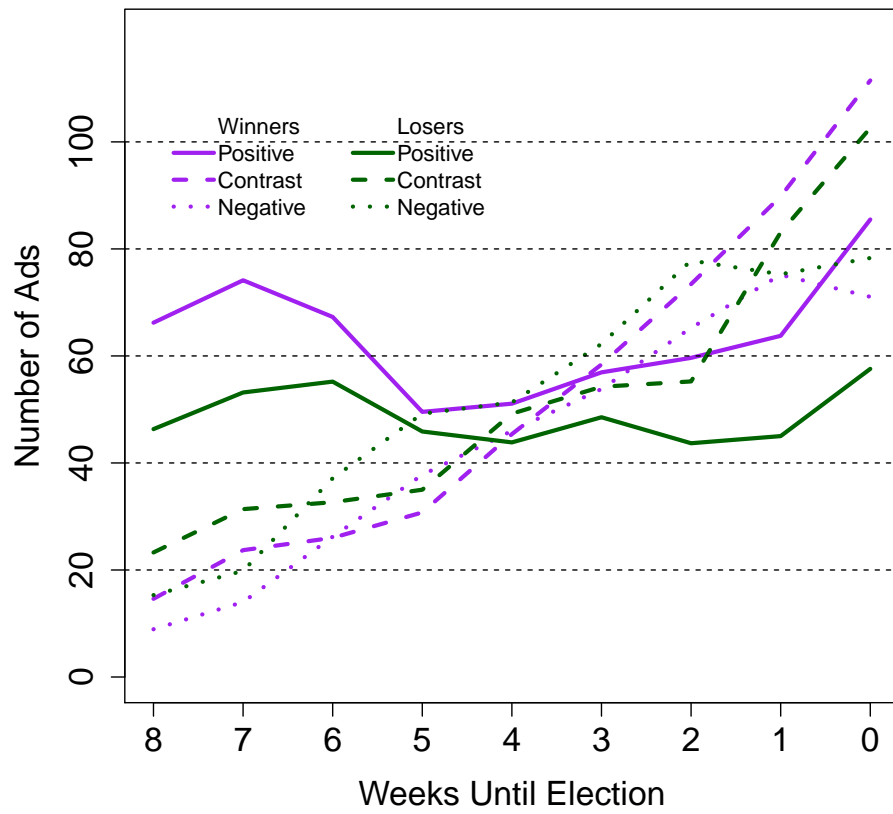
**Table 2.4:** OLS Regression of Democratic Vote Share by Cumulative Days to Election in Competitive Elections

	8 Weeks	3 Weeks	2 Weeks	1 Week	2 Days	1 Day
Intercept	40.15*** (6.54)	40.13*** (6.72)	39.83*** (6.77)	41.31*** (6.71)	41.00*** (6.69)	39.74*** (6.93)
<i>Democrat Candidate's Ads</i>						
Contrast	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.02)	-0.01 (0.05)	-0.03 (0.07)
Positive	0.02*** (0.01)	0.01 (0.01)	0.02 (0.01)	0.04 (0.02)	0.09 (0.05)	0.09 (0.07)
Negative	-0.01* (0.00)	-0.01 (0.01)	-0.00 (0.01)	-0.00 (0.02)	-0.01 (0.05)	-0.03 (0.06)
<i>Republican Candidate's Ads</i>						
Contrast	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.02 (0.02)	-0.08 (0.06)	-0.10 (0.08)
Positive	-0.01** (0.01)	-0.02* (0.01)	-0.02 (0.01)	-0.03 (0.02)	-0.07 (0.05)	-0.07 (0.07)
Negative	0.01** (0.00)	0.02 (0.01)	0.02 (0.01)	0.04* (0.02)	0.09* (0.04)	0.13* (0.05)
Dem Pres Vote Share	0.20*** (0.03)	0.19*** (0.03)	0.19*** (0.03)	0.20*** (0.03)	0.20*** (0.03)	0.20*** (0.03)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.48	0.45	0.45	0.47	0.47	0.45
Adj. R <sup>2</sup>	0.41	0.38	0.38	0.40	0.40	0.38
Num. obs.	169	164	164	162	162	160

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Ads are in 10s. Errors are clustered on district and media market. Expenses are in natural logs. Controls include non-candidate advertising, incumbency, freshman, challenger experience, and both Democratic and Republican expenditures.





**Figure 2.1:** Number of Ads Over the Campaign in Competitive Elections

**Table 2.5:** Aggregate Number of Ads in Competitive Elections

Weeks To Election	Positive Ads			Negative Ads			Contrast Ads		
	Winners	Losers	<i>p</i>	Winners	Losers	<i>p</i>	Winners	Losers	<i>p</i>
5	51.08	43.84	0.42	45.99	51.30	0.57	45.39	49.21	0.66
4	56.93	48.54	0.37	53.81	62.24	0.39	58.40	54.24	0.67
3	59.64	43.68	0.06	65.25	77.81	0.25	73.42	55.23	0.06
2	63.76	45.02	0.02	75.15	75.27	0.99	89.81	83.10	0.54
1	85.50	57.58	0.01	71.05	78.30	0.56	111.48	102.60	0.51

the previous result finding that no type of ad positively correlates with electoral success. No such relationship would exist if both candidates advertise identically. Table 5 presents pairwise t-tests to demonstrate if any of the appeared differences are statistically significant.

Table 2.5 presents the aggregate number of positive, negative, and contrast ads each candidate aired in the final weeks of the campaign. Week one indicates the week before the election and week five indicates five weeks prior to Election Day. The pairwise t-tests resulted in no statistical difference in contrast or negative ad usage. There is a slight difference in the use of positive ads, with winning candidates airing more, but overall both candidates are advertising similar numbers of advertisements. The Appendix examines how the proportion of positive and negative ads changes week by week in competitive House elections, and the same result holds that winning and losing candidates are airing the same types of advertisements during the campaign.

Importantly, this trend only holds in competitive House elections. In uncompetitive races, the winning and losing candidates advertise extremely differently. The winning candidates in uncompetitive races have more resources and as a result air more advertisements than their opponents. This different in advertisements aired can be completely accounted for by the winning candidates airing significantly more positive advertisements, while engaging in the same number of negative and contrast ads. The Appendix includes these results.

Both candidates in a competitive election are advertising approximately the same number of positive, negative, and contrast ads. Since advertising does not appear to correlate

with electoral success, then this pattern supports the notion that in these competitive elections, it is non-advertising choices and actions by candidates that drive electoral success, such as mobilization campaigns. Alternatively, television advertising by non-candidates might influence the results. This analysis focused solely on candidate-sponsored advertising, yet non-candidates, such as interest groups, are increasingly spending large sums of money in congressional elections. These outside groups may be able to avoid the backlash effect associated with negative ads (Dowling and Wichowsky 2015). But based on the results presented here, candidate-sponsored television advertising appears to have little effect on electoral success in competitive congressional elections. It is noteworthy that this trend is not driven by incumbency; in competitive elections, incumbents do not air significantly more ads than do challengers.

## **Conclusion**

This study presents the first examination on the association between television advertising and electoral success in low information elections, namely U.S. House elections. By examining elections from 2000 to 2012, the analysis combines data from many types of districts, contexts, and candidates. Candidates' advertising choices help define who they are as well as their opponent. Such choices may influence how voters evaluate the candidates and ultimately make their vote decision. However, the analysis provides evidence that both total advertising and the tone of advertising does not correlate with electoral success. These results remain robust by aggregating only the final days of the election, and after controlling for standard predictors of electoral success. Counter to conventional wisdom, not only is negative advertising not the key to winning an election, but neither are positive nor contrast advertisements.

This analysis brings to light how advertising may not be influential in competitive congressional elections. These results may also apply to other low information elections

compared to the previous work on presidential and senate campaigns. If two-thirds of voters cannot name the candidates, then they also may not be able to recall any information from television advertising. This highlights the problem that despite the increased spending on television advertising, it may be yielding a limited effect on electoral outcomes.

These results may also suggest that other advertising aspects other than tone may be key to the effectiveness of television advertising. While tone may not be associated with electoral success, other aspects such as the issues raised may be more impactful on voters' decision-making. Some researchers have begun investigating the emotional aspects of advertising (Brader 2006), and more work is needed to examine how other aspects of an advertisement's videostyle (Kaid and Johnston 2001) may influence individuals' vote choice.

Unfortunately, this analysis also suggests the limitations of using aggregate data. It establishes the need to investigate the causal relationship between advertising and vote choice, as this analysis only provides correlational evidence. Both candidates end up advertising similar numbers of positive, negative, and contrast advertisements, which limits the ability to infer any causal relationship between advertising and electoral outcomes. Advertising is but one campaign tool that candidates employ in order to win elections. In order to identify the impact of advertising on electoral success, researchers may want to employ experimental designs, as have been used in the past (Cobb and Kuklinski 1997; Brader 2006). Although experiments too have their own limitations, they can focus on certain aspects of advertisements that may hold the key to effectiveness.

Finally, these findings question the role of television advertising in elections. They speak to the millions of dollars that candidates spend on advertising with no clear benefit on their electoral performance. As a campaign consultant put it, "There wouldn't be so much money devoted to this...if it didn't persuade voters." Yet, this remains an open question. An increasing number of local politicians in low information elections are employing television

advertising. More research is needed to determine what other aspects of advertisements yield the largest impact on individuals' vote choice.

## Chapter 3

# The (Un)Persuasive Effects of Negative Advertising: An Experimental Analysis

“What is the purpose of television advertisements?”

“To persuade...” “Persuasion” “...persuade”<sup>1</sup>

Campaign consultants agree that the primary purpose of television advertising is to persuade voters. Candidates need to convince individuals to vote for them, and to achieve that, candidates need to reach voters; the primary method is through television advertising. In 2014 candidates spent over a billion dollars on advertising alone (*Ad Spending Tops \$1 Billion* 2014). Importantly, both candidates in a competitive election are spending enormous amounts of funds on television ads, often topping millions of dollars per candidate.

Advertising is a widely used campaign tool by congressional candidates (Cobb and Kuklinski 1997; Kahn and Geer 1994; Kahn and Kenney 1999*b*; Lau, Sigelman and Rovner 2007; Ridout and Franz 2011; Vavreck 2009). Extensive work, both observational and experimental, has demonstrated the central role that advertising plays in congressional campaigns. Candidates air hundreds of ads in a single election, with a wide variety of

---

<sup>1</sup>Quotes from interviews by the author with Democratic and Republican campaign consultants.

types and content over the course of the campaign (Kaid and Johnston 1991; Vavreck 2009). First and foremost, they do so to win elections (Ansolabehere and Iyengar 1995; Druckman, Jacobs and Ostermeier 2004; Johnston and Kaid 2002; Lupia and Menning 2009). Advertising represents the best campaign tool to reach a large number of voters. However, in recent years as polarization has increased, the level of cross-party voting has decreased, resulting in fewer persuadable voters (Jacobson 2012). That makes it more relevant to understanding if and which type of ads, and the billions spent, can influence electoral results in present day elections. Yet, we have little information on which types of ads are more effective compared to the others. To answer this question, I employ an experimental design that more closely approximates the information environment in competitive elections.

Conventional wisdom suggests that negative advertising is most effective at influencing individuals' vote choice. However, previous research finds mixed results. In a 2007 meta-analysis, Lau, et al. find no clear evidence to suggest television advertising influences voters' choice of candidate (Lau, Sigelman and Rovner 2007). However, this result stems from aggregating dozens of studies with different experimental designs, many of which may not accurately reflect the advertising environment in competitive elections. I resolve these issues, detailed below, by using a more realistic experimental design to model the competitive campaign environment by exposing respondents to both candidates' ads and using real television ads from past elections.

The experimental design more closely approximates the information environment in competitive elections by exposing all respondents to ads from both candidates to estimate the net effect of a single advertisement. I employed past television advertisements in the experiment to use as realistic stimuli. I conduct three separate experiments, two on Amazon's Mechanical Turk (MTurk) and one on the Cooperative Congressional Election Study (CCES). My results highlight the limited differences between each of the types of advertisements across all three experiments, including the nationally representative CCES

sample.

In this study, I focus on vote choice as a measure of persuasion and use the two terms interchangeably. Across all three samples the results consistently demonstrate how tone does not influence individuals' vote choice. Despite huge amounts of money spent on television advertising, I find few differences between ad tone and candidate choice. The results do demonstrate that negative ads impact respondents' affect towards the candidates, but only through backlash against the sponsor of the ad. None of the types of ads provide much intended effect on the target of the ad.

While advertising may not directly persuade voters to support a particular candidate, it does have an effect on how voters perceive the candidates. Negative ads leave voters with a distinctly more negative impression of the candidate sponsoring a negative ad. This has important implications for how negative ads are indirectly influencing our elections. Advertising represents the cheapest and easiest way for campaigns to reach voters, and this study adds to our understanding of how campaigns influence perceptions of our elected officials.

## **Television Advertising in Elections**

Beginning over two decades ago, researchers linked negative ads to persuasion by finding them to be more effective than positive ads at influencing vote choice (Roddy and Garramone 1988). This study benefited from exposing all respondents to two political ads - one for each candidate. Another important study by Cobb and Kuklinski highlighted the benefit that negative ads can yield (Cobb and Kuklinski 1997). They hypothesized that negative arguments may be more persuasive due to loss aversion (Kahneman and Tversky 1979) as well as the distinctiveness of negative ads (Lau 1985).

In contrast, Kahn and Geer (1994) find no difference between positive and negative ad effectiveness. They were able to incorporate ads from a past senate election and found



little benefit to negative ads over positive ads. They highlight how negative ads may backlash with more airings, but positive ads do not suffer this issue. Additionally, aggregate analyses of presidential and senatorial races show little benefit to negative advertising (Lau and Pomper 2004; Ridout and Franz 2011). While other studies have examined this issue (Chang 2001; Kaid 1997; King and McConnell 2003; Lemert, Wanta and Lee 1999; Pfau and Burgoon 1989; Schultz and Pancer 1997; Shen and Wu 2002), little consensus exists. It remains debatable if negative ads increase a candidate's likelihood of success in competitive elections.

It is important to build on previous studies and improve the experimental design in order to more closely approximate a competitive electoral environment. Increasingly, studies are using real television ads (Kahn and Geer 1994; Kaid 1997; Dowling and Wichowsky 2015), which may represent more realistic realistic stimuli for voters. It is unclear how respondents may react to ads that are not akin to what they see on television every election season. Even the youngest of voters have grown up with television advertising and can recognize what may or may not be a realistic advertisement.

Additionally, only a small number of studies expose respondents to both candidates' ads (Ansolabehere and Iyengar 1995). The other experiments expose respondents to only a single advertisement, which does not represent the competitive electoral environment where most voters will be exposed to both candidates' messages. Since voters may respond differently when exposed to both candidates as opposed to only a single candidate, it is important to build that into the experimental design. Through these two key advancements, this study more closely models a competitive electoral environment by incorporating the two-way flow of information as well as using realistic stimuli.

## Competing Messaging

An experimental design that provides both candidates messages moves closer to mirroring the information environment of a real campaign where individuals are exposed to both candidates' messages. Candidates often try to define the narrative of a campaign in a number of ways, including through television advertising (Vavreck 2009). Recent work has examined counter-framing in which instead of providing individuals a single frame and gauging their reaction, the experiments provide both frames and evaluate the result (Chong and Druckman 2007). This experimental design can be useful in evaluation advertising, as the information environment of a campaign includes both candidates' messages.

Counter-framing provides a risk that the two campaigns' cross-cutting messages may cancel each other out (Chong and Druckman 2010). However, in congressional elections, voters are provided the partisanship of the candidates which may help induce persuasion as individuals move towards their preferred candidate (Druckman, Peterson and Slothuus 2013; Druckman 2004; Haider-Markel and Joslyn 2001; Jerit 2007). Along with recent trends in the decline in split-ticking voting (Jacobson 2012), it increases the difficulty in persuading voters after exposing voters to both sides of an issue or election. The main drawback of the past research is its focus on written as opposed to visual information. Since campaign advertising is primarily through television, the use of video rather than written prompts the results can have greater external validity to congressional campaigns.

One study has explicitly examined how people respond to two competing television advertisements. The Ansolabehere and Iyengar (1995) study compared individuals' responses to seeing two fictional advertisements compared to seeing only one of the ads. However, this study focused primarily on the acquisition of information, not persuasion. They find that exposing respondents to two ads instead of one increases the amount of information people learn. But in real campaigns, voters see both advertisements, so it is important to determine if voter preferences change with the new information.

## Which Ads Persuade?

Advertising provides a convenient and easy opportunity for individual voters to gain information for their vote choice. It does not take much information for individuals to make a voting decision (Lupia 1994; Lupia and McCubbins 1998). Advertisements can provide essential information in a short amount of time. People can learn a great deal from a single 30-second spot and use that in their evaluations (Just, Crigler and Wallach 1990; Popkin 1991). Importantly, everyone learns from ads; as the use of visual imagery over pure text allows for low knowledge individuals to close the knowledge gap (Prior 2014). The combination of visual and auditory imagery in television advertising improves voters' ability to learn. Advertising plays a critical role in American democracy in facilitating knowledge of the candidates and issues. Voters have less information about candidates in congressional elections compared to presidential races, and so how they learn about the candidates should influence their preferences.

I present three types of advertisements that differ not just in their use of words but in their design elements as well. Videostyle represents the entire presentation of the advertisements, including visual, auditory, and script. Each of these types differ in their videostyles (Kaid and Johnston 1991, 2001). For example, a positive advertisement includes happy visuals, sounds, and content, whereas a negative ad often includes black and white imagery and sinister music. A contrast advertisement's videostyle incorporates both of these elements by typically beginning dark, similar to an attack, and then turning positive about the favored candidate. When I differentiate between types of ads, it is not just in words and message, but the entire "package" that determines their persuasive ability. The information conveyed through the script, as well as the emotional responses evoked through the audiovisual elements, influence the persuasiveness of an advertisement. My definition aligns with previous studies that have focused on this three-way categorization (Krasno and Green 2008).

The first type of ad is negative or attack advertisements that solely focus on making claims about an opponent and seek to put that opponent in as negative a light as possible. They are the most recognizable and studied type of ad. Some research suggests they should be persuasive. Negative ads convey important information that often becomes over-weighted in candidate evaluations (Krupnikov 2012; Lau 1985). They are also more credible than positive ads since candidates must support their attacks through evidence, such as newspaper citations, which serves to boost the credibility of the claim (Geer 2006; Houston, Doan and Roskos-Ewoldsen 1999; Yoon, Pinkleton and Ko 2005). Along with past work, conventional wisdom would dictate that negative ads persuade voters. *Hypothesis 1: Negative ads are more persuasive than positive ads.* But airing negative ads comes at a great cost with the ever-present risk of backlash if a candidate attacks an opponent too harshly (Fridkin and Kenney 2004). *Hypothesis 2: Candidates will incur a penalty for airing a negative ad.*

The other well-recognized type of ad is positive advertisements. They seek to promote a particular candidate through affirmative statements, without mentioning the opposition or the opponent's policy views. These can include testimonials of the candidate's character and personal background or a platform for a candidate to explain his or her own issue positions. When they discuss policy, these statements tend to be on valence issues (Geer 2006). These ads may not provide any new or useful information to voters, but may build positive affect towards a candidate. While they may not be persuasive, they should evoke more positive feelings towards a candidate. *Hypothesis 3: Positive ads increase positive affect towards a candidate.*

The third and final type of ad is contrast or comparative advertisements. These include both an attack on the candidate's opponent as well as a promotion of themselves. Although recent research has begun to treat these separately (Fowler and Ridout 2012), little research exists on contrast ads and in particular how they may operate differently or similarly to the other two types. Marketing research has shown contrast ads to be perceived

by viewers as less negative than attack ads (Meirick 2002; Pinkleton 1997; Pinkleton, Um and Austin 2002). These ads leave individuals feeling better than negative ads, therefore reducing the risk that candidates will face a backlash from voters. However, it remains to be known if voters differentiate between negative and contrast ads, and if they will be more or less persuasive compared to positive or negative ads.

In order to increase external validity, I use past candidate-sponsored advertisements to better simulate a campaign environment. My hypotheses, including if negative ads are the most persuasive, should hold true even when respondents are exposed to an opponent's advertisement. Additionally, my theory focuses on different types of advertisements, regardless of the sponsor being Democrat or Republican. In either case, it is important to see whether negative ads across both parties are the most persuasive type, or not. However, it is possible for asymmetrical results along partisan lines. For example, Republican negative (or positive) ads may be more effective than Democratic negative (or positive) ads. I test for this possibility later on.

## **Data and Methods**

The experimental setting provides a prime opportunity to isolate the causal effect of advertisements. This design offers direct evidence on which ads are the most persuasive in comparison to each other by directly linking advertisements with respondents' vote choice. The use of an experimental design allows me to eliminate intervening explanations and compare how respondents voted when exposed to a negative ad compared to a positive ad.

The experiment was conducted three times, including twice on Amazon's Mechanical Turk (MTurk) platform, which has become increasingly used for experiments by social scientists (Berinsky, Huber and Lenz 2012; Mullinix et al. 2015). The sample population represents a slightly younger, masculine, higher educated, and more Democratic sample than the overall population. For these reasons, the identical experiment was placed on a module

**Table 3.1:** Experimental Treatment Groups

Treatment Group	Democrat Candidate	Republican Candidate
Treatment 1	Positive	Contrast
Treatment 2	Positive	Negative
Treatment 3	Contrast	Negative
Treatment 4	Contrast	Positive
Treatment 5	Negative	Contrast
Treatment 6	Negative	Positive

of the 2014 Cooperative Congressional Election Study (CCES) in order to both replicate the results as well as validate them on a nationally representative sample<sup>2</sup>. Conducting the experiments across multiple sample populations with two different sets of advertising stimuli provides more validity for the results. Respondents were successfully randomized across the treatment groups, with balance across a range of variables in each sample<sup>3</sup>.

Table 3.1 lists the treatments with respondents randomized equally across groups. For MTurk Sample 1 and the CCES, each group consists of approximately 160 respondents for a total of 1,000 participants. The MTurk Sample 2 experiment consisted of approximately 200 respondents per group, 1,200 total. The ordering that the ads were viewed was randomized since the sequence may influence candidate preference, to prevent any priming or framing effect of the first advertisement. I conducted a series of pairwise t-tests and found no ordering effect on respondents' vote choice. I then collapse the treatments into the six groups listed in Table 1.

I purposely exclude treatment groups of both candidates airing the same type of ad, such as negative vs. negative, as those groups do not add any additional leverage to determine which type of advertisement is more persuasive compared to the others. While it is important to understand how candidate vote choice may change when both candidates air the same type of ad, I focus on the relative persuasiveness of positive compared to negative.

<sup>2</sup>The Appendix includes a comparison of the MTurk and CCES sample demographics.

<sup>3</sup>See the Appendix for a full balance table across treatment groups for both samples.

Rather than focusing on if advertising can yield an effect, here I examine which types of ads are more effective than the others.

Respondents were first introduced to the two names of the candidates and asked to watch two 30-second ads. After the video they were asked to complete a short survey that included my main dependent variable of interest, vote choice, as well as other variables of interest. Since the ultimate goal of advertising is to convince voters for or against a particular candidate, I focus on the electoral outcome as the primary dependent variable to measure persuasion. Other questions include candidate thermometer ratings and how each advertisement made them feel, such as hopeful or angry. Respondents were then asked a range of questions about themselves to provide information on their education, income, gender, race, and marital status.

After the video, respondents were presented with a choice between the two candidates, which includes their partisan affiliation, as seen in Figure 1<sup>4</sup>. As is typical of most ads today, the candidates' partisanship was never mentioned in the ads themselves. However, when citizens enter a polling booth, partisanship is always listed for congressional elections as well as a wide range of other state and local elections. This makes it essential to understand not just if advertising can persuade, but rather if this persuasion can supersede or outweigh voters' partisan attachments. Voters have limited information in House elections as they represent low information elections (Jacobson 1975). Due to this limited information respondents may be more likely to rely on partisan cues once they enter the ballot box (McDermott 1998; Rahn 1993). As such, the experiment modeled this environment by revealing the partisanship of the candidates after the videos when they cast their vote as in Figure 3.1.

The pairwise t-tests, which proceeded later in the study, allow comparison between treatment groups; first I wanted to assess the relative success of all three types of ads. I

---

<sup>4</sup>The candidate ordering was randomized.

If you were to vote in this election, who do you prefer?

Tim Walberg, Republican

Mark Schauer, Democrat

**Figure 3.1:** Main Dependent Variable: Vote Choice

implemented a scaling technique in order to compare the relative persuasiveness of positive, negative, and contrast ads. It provides a single scale to compare the relative effects of all three types. It also will allow me to test if there are any asymmetrical results, as I can scale all six types, separated by partisanship in the same manner.

Using a technique developed by Groseclose and Stewart, I scaled respondents' vote choice (Groseclose and Stewart III 1998). For each respondent, the type of ad they preferred receives a +1, the ad they did not prefer gets a -1, and the other types get zeros. Table 3.2 presents an example of five respondents. The first and second respondents both viewed a Democratic positive ad and a Republican contrast ad. The first respondent preferred the Republican candidate after viewing the ads, while the second respondent preferred the Democratic candidate. Then I regress these types of ads on a dependent variable of all ones in a probit regression. This method identifies the hierarchy in persuasiveness between positive, negative, and contrast ads. It identifies the size of the effects so I can compare the persuasive impact of a contrast ad compared to a positive ad. In other words, I am not only able to determine whether contrast advertisements are more effective than a positive ad, but also the magnitude of this effect. Importantly, this technique does not add any more assumptions than would be used in an ordinary least squares (OLS) regression<sup>5</sup>.

I validate the results from the scaling technique by examining candidate thermometer ratings. They measure how individuals feel about the candidates on a hundred-point scale. Although it may represent a significant hurdle for individuals to change their vote choice, I

<sup>5</sup>The scaling method assumes errors are independent and identically distributed, a linear ordering of ads, and transitivity. For a more detailed description of the scaling method see Groseclose and Stewart (1998).



**Table 3.2:** Example Matrix for Scaling

Respondent	<i>Democratic Ads</i>			<i>Republican Ads</i>			DV
	Positive	Contrast	Negative	Positive	Contrast	Negative	
1	-1	0	0	0	1	0	1
2	1	0	0	0	-1	0	1
3	0	1	0	0	0	-1	1
4	0	1	0	-1	0	0	1
5	0	0	-1	1	0	0	1

can examine more subtle changes in candidate evaluations via these thermometer ratings. It is possible for interactive effects, in other words how views of a positive ad change when paired with a contrast ad, compared to being paired with a negative ad. However, I find no evidence of any interactive effects, and so the effect of a single ad does not significantly vary depending on the opponent's choice of advertising.

## Advertising Stimuli

Another improvement in this experimental design lies in its use of past campaign advertisements, as they are realistic and representative of what candidates would and have aired. Furthermore, by using ads from a competitive election, the candidates were equally matched and equally funded. I use that competitiveness and equal financial backing as a proxy for advertisement quality. These represent typical political advertisements; the Appendix includes a description of the sets of ads used along several key characteristics.

To select the ideal congressional race for this study, I focused on competitive districts where both candidates were white and male. These characteristics represent the modal candidate running for Congress. By using white, male candidates also reduces the possible confounds in the experiment<sup>6</sup>.

For the MTurk Sample 1 and the CCES experiments, I selected the 2008 United

---

<sup>6</sup>I also ensured that the type of advertisement is consistent with previous definitions and coding schemes by using advertisements from 2008 and 2012, which have all previously been coded by the Wisconsin Advertising Project and Wesleyan Media Project identically.

States House of Representatives election for Michigan's 7th congressional district. The race exemplifies a hyper-competitive election where the first-term Republican incumbent Tim Walberg lost to Democrat Mark Schauer by less than 3%<sup>7</sup>. The race also provides some inherent benefits in that both candidates were well qualified, with the challenger being a longtime member of the state legislature.

The MTurk Sample 2 experiment used ads from the 2012 House race in Virginia's 2nd Congressional District. Similar to the Michigan race, this fulfilled all the criteria of white, male candidates in a competitive district. Republican Incumbent Scott Rigell defeated the Democratic challenger Paul Hirschbiel in a close race. The ads used during this race are quite similar and typical among television advertisements. They contain characteristics of conventional advertisements aired in congressional campaigns, including not mentioning political party affiliation, negative ads citing sources, and focusing on issues such as economics<sup>8</sup>.

## Results

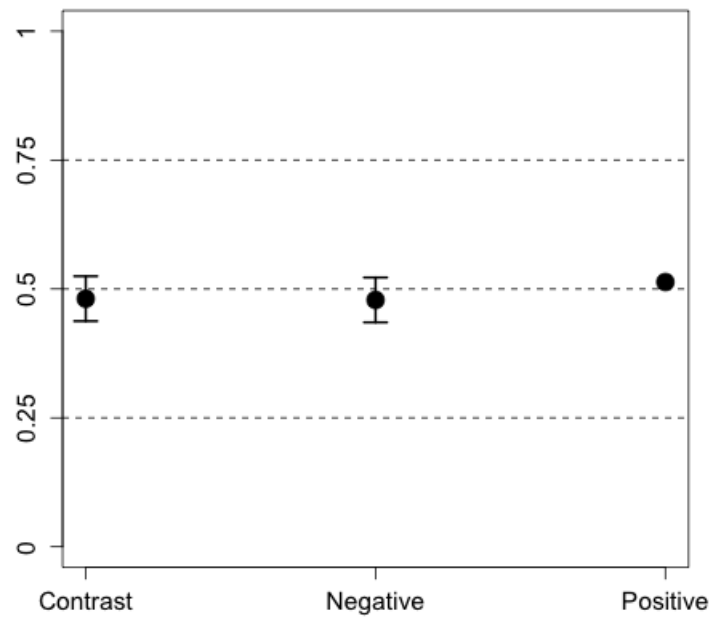
First, I demonstrate the relative effectiveness of each of the different types of advertisements. This result provides a first test on which are the most and least influential types of ads on individuals' vote choice. Figures 3.2-3.4 illustrate the effect of a single advertisement, regardless of the sponsor's partisanship for each sample<sup>9</sup>. As the figures suggest, advertising tone has little effect on vote choice. Since all three point estimates overlap, none are statistically significantly different. These results demonstrate how all advertisements influence vote choice with equal probability. Counter to conventional wis-

---

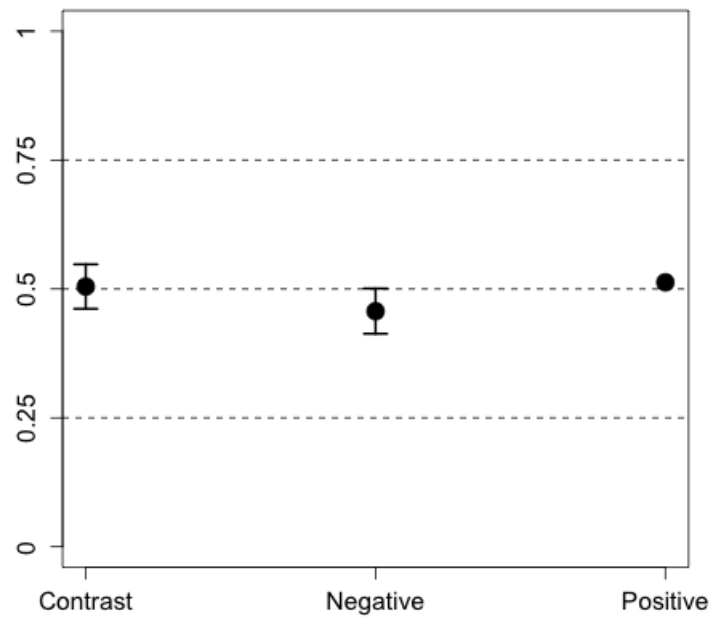
<sup>7</sup>The 2010 election saw a rematch between these candidates, with Republican Tim Walberg winning back his seat narrowly.

<sup>8</sup>The Appendix includes a comparison on a number of dimensions of how these advertisements compare to the rest of the advertisements aired in 2008 and 2012 House races respectively.

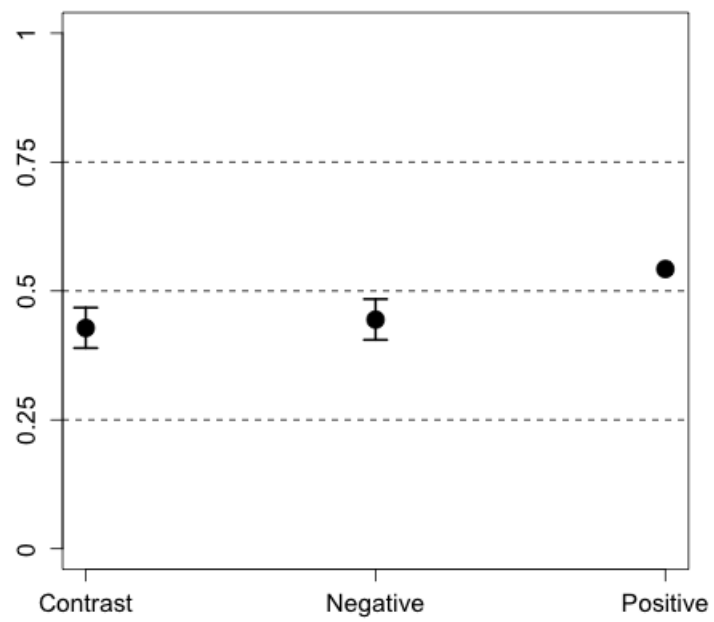
<sup>9</sup>The positive advertisement has no error bars since in the scaling method, it represents the excluded category. The results are consistent if a different ad is the excluded category.



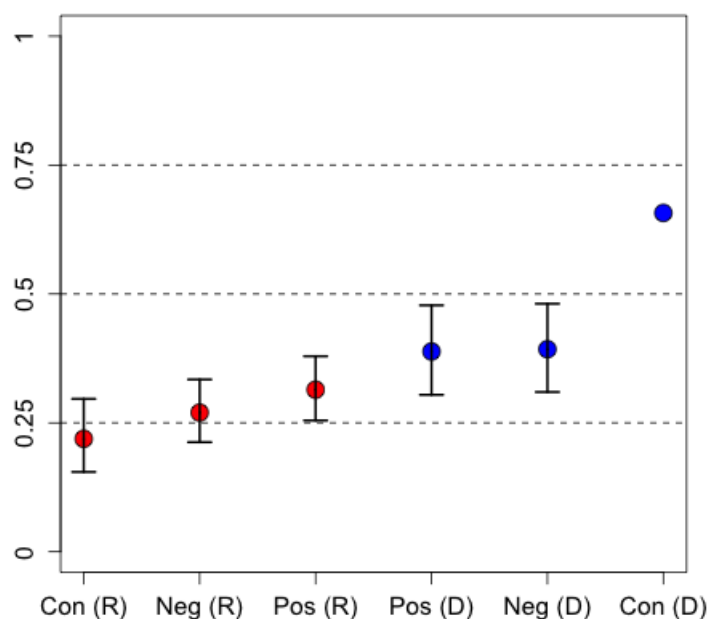
**Figure 3.2:** Effect of Advertising Tone on Vote Choice: MTurk Sample 1



**Figure 3.3:** Effect of Advertising Tone on Vote Choice: CCES Sample



**Figure 3.4:** Effect of Advertising Tone on Vote Choice: MTurk Sample 2

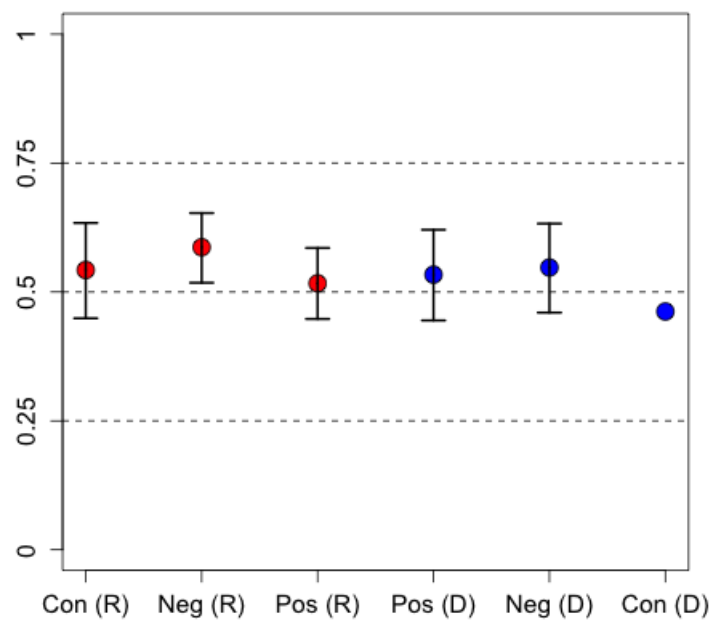


**Figure 3.5:** Effect of Advertising Tone on Vote Choice by Candidate's Partisanship: MTurk Sample 1

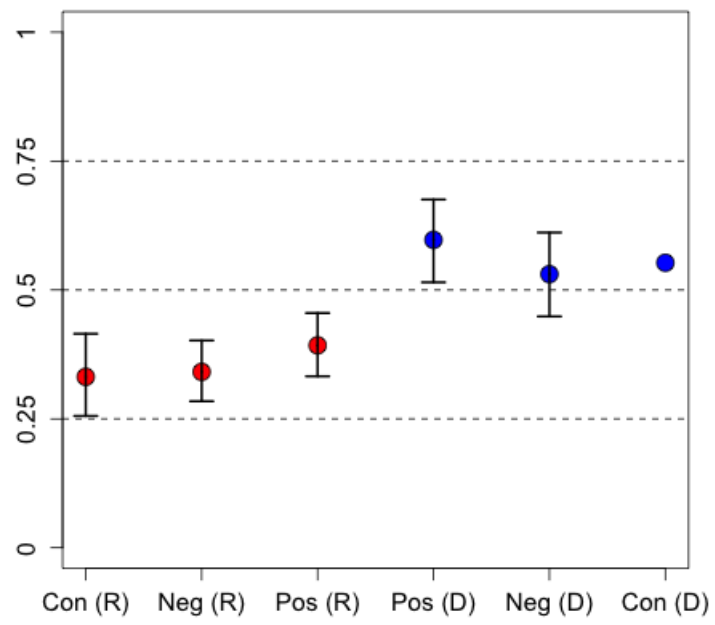
dom and Hypothesis 1, little difference exists between positive and negative ads. However, there could be partisan effects, whereby a negative ad by a Democrat operates differently than a negative ad by a Republican. The next step would be to analyze the six types of advertisements as unique and separate.

To do so, I then separate between Democratic and Republican sponsors, and find the results are mirrored for both sponsors. Figures 3.5-3.7 present the results for all three experiments<sup>10</sup>. Importantly, no consistent pattern emerges across the three experiments. In both of the MTurk samples, there appears to be a partisan effect with Democratic ads being more persuasive than Republican ads. However, this difference is expected of Mechanical Turk. The nationally representative sample from the CCES illustrates no

<sup>10</sup>The Democrat contrast advertisement has no error bars since in the scaling method, it represents the excluded category. Identical results are produced if using a different excluded category. If that value is outside the other error bars, then it is statistically significant.



**Figure 3.6:** Effect of Advertising Tone on Vote Choice by Candidate's Partisanship: CCES Sample



**Figure 3.7:** Effect of Advertising Tone on Vote Choice by Candidate's Partisanship: MTurk Sample 2



significant differences. Importantly, within each party, the effects of a positive, negative, and contrast ads are similarly effective.

In fact, both Democratic and Republican ads resemble each other. The results further highlight how little differences exist between a Democratic negative ad and a Democratic positive ad. The Republican sponsored ads exhibit the same pattern with little differences based on tone. This presents initial evidence that the tone of an advertisement is not significantly contributing to the persuasiveness of advertising. Across all three samples and two advertising stimuli, advertising tone consistently does not significantly define which ad is most persuasive. Thus, there may be other factors that contribute to the effectiveness of an ad, such as visual imagery or narration.

### **Positivity or Negativity: What Works Best?**

In line with much of the past research, I focus on the positive-negative dichotomy to determine if there is any truth to the conventional wisdom that negative ads are the most effective. An additional way to test the persuasiveness of advertising is to conduct pairwise t-tests between the treatment groups. I examine the raw vote totals for the treatment groups to re-test if any difference can be found between these two polar methods of persuasion through advertising. I perform t-tests between treatment groups on candidate vote choice. I examine if a candidate who aired the positive ad received greater vote support compared to when they aired a negative ad. The research design, in which respondents were exposed to both candidates' ads, allows me to examine this hypothesis in a competitive electoral environment. Table 3.3 presents these results, comparing positive versus negative for the Republican candidate, and then the same comparison but with a Democratic sponsor. The values in the table represent support for the Republican candidate.

Across all three experiments, regardless of the partisan affiliation of the sponsor, advertising tone yields little effect on candidate vote choice. None of the comparisons come

**Table 3.3:** T-tests for Change in Vote Choice by Advertising Tone

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Republican Vote	p-value	Republican Vote	p-value	Republican Vote	p-value
<b>Positive (R)</b> vs Contrast (D)	31.5%	0.36	45.8%	0.71	38.2%	0.51
<b>Negative (R)</b> vs Contrast (D)	26.9%		43.8%		35.1%	
<b>Positive (D)</b> vs Contrast (R)	31.1%	0.95	51.3%	0.50	25.7%	0.41
<b>Negative (D)</b> vs Contrast (R)	30.8%		47.5%		29.4%	

close to reaching statistical significance. Although the conventional wisdom may suggest that negative ads are more effective than positive ads, the evidence indicates otherwise, and provides further proof against Hypothesis 1. Using this improved experimental design of the electoral environment provides evidence that negative ads are no more effective than positive ads. However, it remains to be seen if negative ads affect people at all. Perhaps negative ads are no more persuasive but they may still influence perceptions of candidates.

Individual vote choice may remain the same but perhaps the perception of the candidates varies by the tone of each ad. I test this possibility by using candidate thermometer ratings, which provide a finer scale to examine how candidate impressions alter due to the advertisement viewed. While I may be only able to detect approximately a 10% shift in vote choice, I can detect a 5-point shift in thermometer ratings. This represents a small shift on a 100-point scale, as each respondent was asked to rate each candidate on a 100-point scale. I replicate the t-tests from Table 3.3 in Tables 3.4 and 3.5 using the thermometer ratings. Table 3.4 presents the tests of Hypothesis 2, if the ad-sponsor receives a penalty for airing a negative ad compared to a positive ad, in other words, backlash. Table 3.5 then shows the results if the intended target of the ad was affected differently by the negative ad versus the positive ad.

The results from Table 3.4 present clear evidence of backlash against the sponsor

**Table 3.4:** Testing Backlash: T-tests on Candidate Thermometer Rating by Advertising Tone

Treatment	MTurk Sample 1 Rating	p-value	CCES Sample Rating	p-value	MTurk Sample 2 Rating	p-value
<i>Republican Candidate Thermometer</i>						
<b>Positive (R)</b> vs Contrast (D)	47.7	0.02	55.6	0.28	48.0	<0.01
<b>Negative (R)</b> vs Contrast (D)	40.6		52.3		41.0	
<i>Democratic Candidate Thermometer</i>						
<b>Positive (D)</b> vs Contrast (R)	56.9	<0.01	53.8	<0.01	59.7	<0.01
<b>Negative (D)</b> vs Contrast (R)	46.1		41.2		53.3	

of negative ads. The Democratic candidate received lower thermometer scores when he aired a negative ad, compared to a positive ad, and the same holds true for the Republican candidate. The sponsor of the negative ad received lower ratings in all cases compared to when they aired a positive ad, with five of the six tests reaching statistical significance. In the CCES, this ranged from the Republican receiving only 3% less support when airing a negative ad, to the Democrat receiving almost 12% lower ratings due to his negative ad. The results illustrate the detrimental and risky aspect to airing negative advertisements. While advertising tone appears to yield little effect on vote choice, it clearly does have an impact on candidates.

But did the negative ad have any effect on the target of the advertisement? A candidate airing a negative ad does so in order to influence the ratings of his or her opponent. The results presented in Table 3.5 examine whether the rating of the intended target of the ad did decrease as expected; the Democratic candidate airing a negative ad would hope to see the Republican thermometer ratings decrease compared to a positive ad. While in most cases, the target did receive lower ratings, these differences were not statistically significant. For example, the first MTurk sample saw a 4.3% reduction in support for the

**Table 3.5:** Effect on Target: T-tests on Candidate Thermometer Rating by Advertising Tone

Treatment	MTurk Sample 1 Rating	p-value	CCES Sample Rating	p-value	MTurk Sample 2 Rating	p-value
<i>Republican Candidate Thermometer</i>						
<b>Positive (D) vs Contrast (R)</b>	42.0	0.13	47.2	0.84	45.1	<0.01
<b>Negative (D) vs Contrast (R)</b>	37.7		47.9		38.9	
<i>Democratic Candidate Thermometer</i>						
<b>Positive (R) vs Contrast (D)</b>	54.4	0.53	59.4	0.19	50.0	0.55
<b>Negative (R) vs Contrast (D)</b>	52.7		54.8		51.5	

Republican candidate when the Democrat aired a negative ad. Similarly, the Democratic candidate received 1.7% lower ratings due to the Republican airing a negative ad. Neither of these differences reach statistical significance. Only one of the six tests reaches statistical significance that the target was affected by his opponent's negative ad. In all other instances there appears to be little effect of the negative ad on the target.

This finding is important as it shows that negative ads may only work to lower evaluations of the sponsor, not the target. In other words, candidates should avoid negative ads since they seem to only hurt themselves. While thermometer ratings of candidates do correlate with vote share, they do not correlate perfectly, as there are voters who rate both candidates highly or lowly. In previous work, studies have found an effect on candidate affect while not on vote choice due to the imperfect correlation (Lau, Sigelman and Rovner 2007). The Appendix includes the correlation between vote choice and the thermometer ratings.

Voters evidently do feel differently towards candidates who air a negative ad compared to a positive ad. I examine the effects of negative advertising on both positive and negative emotional responses. I focus on excitement and hopefulness for positive emotions

**Table 3.6:** Emotional Responses by Advertising Tone to Democratic Ads

Treatment	Excited	Hopeful	Disgust	Angry
<i>MTurk Sample 1</i>				
Positive (D)	0.84	1.30	0.46	0.44
Negative (D)	0.54*	0.60*	1.26*	1.09*
<i>MTurk Sample 2</i>				
Positive (D)	0.84	1.31	0.42	0.52
Negative (D)	0.43*	0.67*	1.02*	0.99*

\* $p < 0.05$

and disgust and anger for negative emotions. Respondents were asked, after viewing the ads, to rate how the ads made them feel regarding each of these emotions on a four-point scale, with the values in the table representing the average for respondents who viewed that type of ad. These questions were only asked in the MTurk samples and I present the results in Tables 3.6 and 3.7. Table 3.6 presents the differences in emotional responses after viewing a negative ad by the Democrat compared to the positive ad, while Table 3.7 replicates this analysis for the Republican candidate. I conduct a t-test between the treatment groups who saw a positive ad compared to those who saw a negative ad.

The results present evidence that positive ads are more likely to evoke positive emotions and negative ads evoke more negative emotional responses. In Table 3.6 the MTurk Sample 1 demonstrates that while respondents who viewed a Democratic positive ad felt hopeful on average 1.30, while Democratic negative ad viewers felt hopeful at only 0.60, a difference that is statistically significant. Similarly, the positive ad viewers were disgusted on average at 0.46, while the negative ad viewers at 1.26, also a statistically significant effect. Across all four emotions, both sponsors, and the two samples, the differences are almost all statistically significant. As we would expect, positive ads cause voters to be more hopeful and excited towards the sponsoring candidate, while negative ads make voters more disgusted and angry at the sponsoring candidate. These results provide support for Hypothesis 3, that positive ads do evoke more positive affect towards a candidate. These

results have important implications as negative advertisements may not alter the outcome of an election, but influence voters' perceptions of the candidates. In an era with record low approval for government and many politicians, negative advertising may be contributing to this atmosphere.

**Table 3.7:** Emotional Responses by Advertising Tone to Republican Ads

Treatment	Excited	Hopeful	Disgust	Angry
<i>MTurk Sample 1</i>				
Positive (R)	0.54	0.84	0.71	0.68
Negative (R)	0.55	0.74	1.12*	1.07*
<i>MTurk Sample 2</i>				
Positive (R)	0.61	0.92	0.54	0.46
Negative (R)	0.43*	0.52*	1.10*	1.02*

\* $p < 0.05$

## Conclusion

The research design employed here more closely approximates the information environment in competitive elections. The experiments utilized past candidate advertisements from two separate competitive congressional elections. These ads represent typical advertisements used in House elections. Further, built into the experiment was the competitive nature of campaigns by exposing all respondents to both candidates' advertisements. Elections represent highly competitive and contrasting viewpoints and it is important to recognize that. As a result, the effects of an individual advertisement are not as inflated as in previous work that only exposes respondents to a single ad. Both of these aspects improve the validity of the experiment and progress the current research towards understanding advertising's effects.

By using this experimental design, the results may be more applicable to the competitive electoral environment. The results across three studies and two sets of advertisements

provide support that the tone of advertising does not determine the effectiveness of an advertisement. Each of the three types; positive, negative, and contrast; resulted in a similar level of electoral support. Persuasion is crucial, as candidates use television advertising to reach out and convince voters of their candidacies. Since that is the primary intended purpose, these results provide important evidence that the previous focus on advertising tone may not be the key factor driving electoral success.

The results illustrate that while vote choice totals do not change, perceptions of the candidates do. Candidates who aired negative ads were hurt with lower thermometer ratings, compared to airing a positive ad. Backlash remains an important consideration to negative ads, especially since these experiments highlight the limited effect on the actual target of the ad. Additionally, the results indicated that this may be driven by negative ads evoking more negative emotions such as disgust and anger, while positive ads evoked excitement and hope. While thermometer ratings do correlate with vote choice, they do not do so perfectly as some respondents rate both candidates highly or lowly. As such this has important implications as electoral results may not change, but increased negative advertising may still influence views of politicians and government.

These results may be driven by one of two explanations. First, vote choice may not be affected by the tone of the ad due to our highly polarized political environment. Once accounting for party affiliation, persuasion may be hard to achieve as voters align with their political party. This study supports the recent decline in cross-party voting (Jacobson 2012). If individuals become increasingly loyal to their party, then advertising or any other campaign activity will yield a much smaller persuasive impact. In that instance, voter attitudes towards candidates may change, but ultimately who they vote for may not.

While this is a hypothetical election with the respondents unfamiliar with the candidates, that does describe typical low information elections, such as the House of Representatives, county, and city elections. These results may be most applicable to elections whose

information environments involve little knowledge on the part of voters. Voters often know little about their House candidates and other down-ballot elections, unlike the presidential election, where voters are familiar with the candidates. As such, advertisements may be a key way for voters to learn about the candidates and rely on for their vote choice.

A second possibility is that the experiment does highlight the beginning stages of persuasion. Evidence from these experiments demonstrates how individuals' ratings of candidates on a thermometer rating change with the exposure of negative advertising. Respondents were only presented with two ads, whereas over the course of an election, voters view hundreds of ads. In that case, the effects may increase with exposure and eventually cross a threshold to result in persuasion. This second possibility would describe an additive characteristic to advertising exposure, and both of these possibilities may hold true. However, even if this were true, advertising yielded no intended effect, which greatly questions the use of negative ads by candidates in their attempt to win elections.

These results speak to the greater literature on campaigns and the ability for candidates to persuade voters, supporting the previous work highlighting that tone is not key for persuasion (Lau, Sigelman and Rovner 2007). In future research, it will be important for researchers to look beyond the positive-negative dichotomy and look at other factors in advertising that influence an advertisement's persuasiveness.



## **Chapter 4**

# **Interest Group or Candidate: Sponsor Irrelevance in the Persuasiveness of Television Advertising**

Since the 2010 *Citizens United* Supreme Court ruling, interest groups have an increased ability to influence elections. Prior to 2010, non-candidates, such as interest groups, were limited in their ability to advertise on television. Under both the 1972 Federal Election Campaign Act (FECA) and the 2002 Bipartisan Campaign Reform Act (BCRA), interest groups lacked the ability to directly support any particular candidate; they were only able to discuss policy issues. However, since 2010, under the new guidelines due to *Citizens United* interest groups can now directly advocate for and against candidates, and they are making use of this ability by playing an increasingly sizable role in congressional elections. Interest group advertising comprised less than 10% of all advertisements in federal elections in 2008, by 2016 that percentage had grown to over 30% to one in three ads being sponsored by interest groups (Fowler 2016). This represents the first major change to television advertising in decades and it remains unknown how these ads are influencing

electoral outcomes.

As a result of this increased prevalence of interest group advertising, researchers have begun examining their influence (Dowling and Wichowsky 2013, 2015; Weber, Dunaway and Johnson 2012). While research has demonstrated that interest groups have the ability to influence legislative outcomes (Facchini, Mayda and Mishra 2011; Gillion 2012; Richter, Samphantharak and Timmons 2009), it then becomes important to understand if interest groups can influence who gets into office in the first place. Importantly, if interest groups can wield influence on electoral outcomes, then their power within the halls of Congress would be expected to increase. This analysis adds to the research to help understand the extent to which interest groups can influence electoral outcomes using a more realistic and representative experiment that more closely approximates the information environment in House elections. This analysis builds on previous work to answer this question by being the first analysis to examine whether interest group ads are more or less persuasive compared to traditional candidate-sponsored television advertising in competitive House elections.

In order to test my hypotheses, I develop an experimental design that more accurately estimates the effect of advertising in congressional elections compared to previous work. In order to account for the competitive nature of campaigns, the design exposes all respondents to two ads, one from each side of the election. This is highly important as in competitive elections, almost all voters become exposed to both candidates over the course of an election. Exposing respondents to only a single advertisement does not represent the electoral environment. This represents a key contribution as it is essential to examine if advertising persuades in competitive elections where advertising may be influential in determining the outcome.

Each ad may be sponsored by the candidate, the political party, or an interest group. While exposing all respondents to two ads moderates the effect of any single ad, it represents a more realistic design. Since the vast majority of non-candidate advertisements

are negative ads, all the ads in the experiment are negative. The other key advancement of this experimental design lies in its use of past congressional ads, which makes them highly realistic stimuli to respondents. Unlike fictional advertisements, the ads used in this experiment have previously been used by real candidates and organizations towards trying to persuade voters. This improved experimental design allows me to compare the relative impact on electoral outcomes between an interest group negative ad and a candidate-sponsored negative ad.

The results demonstrate that although respondents are aware when ads are not sponsored by candidates, they are less aware of the the specific sponsor of the interest group ads. This highlights the ability that interest groups can influence individuals, since most individuals are not familiar with specific groups, their backgrounds, or partisanship. Additionally, while negative candidate ads suffer a backlash penalty against the candidate, interest group ads suffer a reduced penalty since the favored candidate is not responsible for the advertisement. This result suggests that interest groups can do the dirty work on behalf of candidates and air negative ads attacking their opponent with little backlash on the preferred candidate. Finally, despite these differences, in the end, interest group ads are equally persuasive compared to a candidate or political party sponsored television ad. While voters may notice it was not a candidate advertisement, they weigh all ads equally in their vote decision. This analysis highlights the increasing power that interest groups wield in congressional elections and their role in influencing voters due to the *Citizens United* ruling.

## **Television Advertising**

Television advertising dominates the airwaves in American elections, especially competitive congressional elections (*Ad Spending Tops \$1 Billion* 2014). Voters use this free information source in order to learn about the candidates (Patterson and McClure 1976; Gilens, Vavreck and Cohen 2007). Campaigns understand the role of advertising

and seek to use it to inform voters and shape the nature of the election (Popkin 1991; Vavreck 2009). This may be especially important in low information elections, such as House elections, where voters have limited information about the candidates (Jacobson 1975). Although potentially short in timespan, advertising has the potential for significant effects on candidate preferences (Hill et al. 2013). While candidates typically employ a wide range of advertisements in order to convince voters to support their candidacy, much focus has been placed on the role of negative or attack advertisements.

Television advertising has long been the subject of research to understanding its effects (see Lau, et al. 2007 for a complete review). In particular, many studies have focused on the persuasive impact television advertising may yield on electoral outcomes. Researchers primarily have examined the positive-negative dichotomy to gain a greater understanding of how different tones of advertisements influence voters (Roddy and Garramone 1988; Kahn and Geer 1994; Ridout and Franz 2011; Cobb and Kuklinski 1997). This has been dominated by the discussion of the role and influence negative ads have in our elections (Geer 2006). Going beyond the tone of ads, scholars have more recently examined other factors, including the emotional content of the ad (Brader, Valentino and Suhay 2008) or candidate characteristics such as gender (Fridkin, Kenney and Woodall 2009). However little is known about how the sponsor of the advertisement may serve as an intervening factor in these relationships.

## **Non-Candidate Advertising**

Prior to *Citizens United* non-candidates were limited in their ability to air advertisements. Under the previous rules, interest groups could primarily sponsor issue advertisements. They were legally not allowed to explicitly promote or oppose any candidate. Some research examined how these issue-ads influenced candidates in the policymaking process and in elections. Interest groups often would run issue-ads to influence legislators

towards their preferred policy outcomes (Hall and Reynolds 2012). In terms of elections, some researchers found that these issue-ads can be more effective than candidate-sponsored ads (Groenendyk and Valentino 2002). Since individuals may discount what one candidate may say about the other, non-candidate advertising may serve as a more credible source for information about the candidates.

On the other hand, given the highly polarized environment, voters often look towards their partisan cues to guide their decisions. The effectiveness of issue-ads may be diverse and depend upon the audience. Some scholars found that issue-ads primarily influence non-partisans, while candidate-sponsored ads yield the greatest effects on partisan voters (Pfau et al. 2001, 2002). These issue-ads may avoid the pitfalls of other forms of negative advertising by avoiding the backlash effect, and some evidence does support this hypothesis (Shen and Wu 2002).

Some recent work has begun to address the new role that interest group advertising is taking in U.S. elections. Since *Citizens United* non-candidates such as interest groups are increasingly airing political advertisements promoting and opposing candidates (Fowler 2016). In a study ahead of its time, in a small lab experiment researchers demonstrated that non-candidate advertisements may be more persuasive and less likely to incur backlash compared to candidate-sponsored ads (Garramone 1985). Researchers found that when respondents do not recognize the sponsor, then advertisements may be particularly effective (Weber, Dunaway and Johnson 2012). Similar to the issue-ad research, previous research highlights how non-candidate advertising can limit the effect of backlash against the favored candidate when the non-candidate entity airs a negative advertisement (Dowling and Wichowsky 2015). However, these studies have their limitations. Most notably, not replicating the information environment during elections. These experiments expose respondents to only a single advertisement, be it from a candidate or interest group. This study more closely models the advertising environment of an election by exposing all respondents to ads from

both sides.

Since respondents have responded differently in previous experiments (Garramone 1985; Dowling and Wichowsky 2015), then respondents must be able to notice that the sponsor of the advertisements is not one of the candidates up for election. However, respondents may be surprised that the sponsor was not one of the candidates. The sponsor does need to be verbally announced in the ad, however it is often rushed passed at the very end. As such, voters may learn that the candidate was not the sponsor, but may not pick up the identity of the specific sponsor. While respondents may correctly identify if the sponsor was a candidate or not, they will be less likely to select the correct sponsor from a list of options.

*H1: Respondents will be less likely identify the sponsor of an interest group-sponsored ad compared to candidate-sponsored ads.*

In past research on interest group ads respondents have exacted less backlash on the advertisement's favored candidate (Garramone 1985; Dowling and Wichowsky 2015). This results despite the fact that respondents may not recognize the sponsor of the interest group ad, but most likely realize it is not the opposing candidate. Since the favored candidate is not airing the negative ad, but rather the interest group, therefore respondents are not blaming the favored candidate for the negative ad since they were not responsible. Despite the differences in experimental designs, I expect the same would carry through to this experiment.

*H2: Candidates will incur less of a backlash penalty due to an interest group-sponsored ad compared to a candidate-sponsored ad.*

Since candidates will incur a smaller backlash penalty when interest groups advertise. Therefore, that should carry through to candidate preference. Respondents should be more likely to vote for the favored candidate from an interest group advertisement compared to the favored candidate from a candidate-sponsored advertisement.

*H3: Interest group ads will be more persuasive than candidate-sponsored ads.*

## Methods

The experimental design provides a great opportunity to directly test the persuasiveness of one type of advertisement sponsor compared to another. This design focuses on the key aspects of the information environment in competitive elections, while also eliminating any intervening explanations linking the television advertisements to increases or decreases in electoral support by respondents. Importantly, by exposing all respondents to two advertisements, the experiment allows me to directly compare how respondents react when viewing a candidate-sponsored ad compared to an interest group ad, given that respondents are exposed to both sides of the election. Voters do not view advertisements in a vacuum and it is important to build that competitive environment into the experimental design.

The experiment was conducted on Amazon's Mechanical Turk platform (MTurk) with 1,200 respondents, and each were compensated for their time with \$0.50. Although the sample is not representative of the United States, it does produce comparable results with student samples and is increasingly common among social science researchers (Berinsky, Huber and Lenz 2012; Mullinix et al. 2015). In particular, the sample population does skew younger, more Democratic, and higher educated than a nationwide sample. Table 4.1 presents the demographic data from the sample compared to the 2014 Cooperative Congressional Election Study (CCES).

Individuals were then randomized across six treatment groups listed in Table 4.2. To ensure there were no framing or priming effects, the ordering of the advertisements was randomized. The treatment groups were well-balanced on a range of covariates, and the Appendix includes a full balance table. Notably, all respondents were exposed to two advertisements. Since in competitive elections respondents typically are exposed to

**Table 4.1:** Sample Demographics

	Sample	CCES
Democrat	44.1%	36.4%
Female	49.8%	53.2%
Age	34.0	37.4*
Non-white	22.9%	26.3%
Married	51.6%	53.8%
College Diploma	54.8%	36.9%
Voted in 2012	71.8%	76.6%
Unemployed	5.3%	6.5%

\*Age was unavailable from the CCES, this value represents the median age of the U.S. based on the 2014 American Community Survey 5-year estimate.

**Table 4.2:** Experimental Treatment Groups

Treatment Group	Democrat	Republican
Treatment 1	Candidate	Party
Treatment 2	Candidate	Interest Group
Treatment 3	Party	Interest Group
Treatment 4	Party	Candidate
Treatment 5	Interest Group	Party
Treatment 6	Interest Group	Candidate

advertisements from both sides, this design replicates that environment. Additionally, treatment groups where both ads were of the same sponsor were purposely excluded. While this can provide important information on how voters respond to advertising, it does not add explanatory power to why one sponsor may be more persuasive compared to a different sponsor. Additionally, since interest group ads are typically negative in tone, all ads are negative or attack ads. That way I can directly compare the effect of a negative ad by a candidate to a negative ad by an interest group.

Respondents were initially presented with no information other than the names of the candidates and then exposed to the television ads. After viewing both advertisements, respondents were presented with a series of questions including my key dependent variable, vote choice, as well as candidate thermometer ratings and emotional responses to the



If you were to vote in this election, who do you prefer?

- Jim Renacci, Republican
- John Bocchieri, Democrat

**Figure 4.1:** Main Dependent Variable: Vote Choice

advertisements. The binary vote choice question is the key variable used to determine ad persuasiveness. The candidate thermometer ratings are used to test for advertising backlash. After these questions respondents filled out a standard series of sociodemographic background information including: age, gender, race, income, education, and party identification.

While the respondents received no prior information about the candidates, such as party affiliation, before viewing the advertisements, they did see each candidates' party affiliation when casting their vote. Candidates and interest groups rarely mention the political party of the candidates, as such, this was excluded prior to viewing the advertisements. In fact, of all the 2010 House advertisements, where this set of ads come from, 80.7% did not mention any political party. However, when voters enter a ballot box they are always presented with the political party of the candidates in House elections. As such, I replicated that environment in the experiment by including party affiliation when respondents selected their vote preference, as see in Figure 4.1.

In order to directly compare all six treatment groups, I employ a scaling technique that allows for direct comparison of each of the different advertisements in the experiment. The technique was developed by Groseclose and Stewart (1998) which allows for this direct comparison without adding any additional assumptions than OLS regression<sup>1</sup>. Each respondent is assigned a +1 for the advertisement they preferred and a -1 for the ad they voted against. For the four remaining advertisements respondents are assigned zeros. These values get regressed as a probit regression with the dependent variable taking the value of 1

---

<sup>1</sup>The scaling method assumes errors are independent and identically distributed, a linear ordering of ads, and transitivity. For a more detailed description of the scaling method see Groseclose and Stewart (1998).

**Table 4.3:** Example Matrix for Scaling

Respondent	<i>Democratic Ads</i>			<i>Republican Ads</i>			DV
	Candidate	Party	Interest Group	Candidate	Party	Interest Group	
1	-1	0	0	0	+1	0	1
2	+1	0	0	0	-1	0	1
3	0	+1	0	0	0	-1	1
4	0	+1	0	-1	0	0	1
5	0	0	-1	+1	0	0	1

in all cases. A sample of five respondents are listed below in Table 4.3.

In the example presented in Table 4.3, both the first and second respondents viewed the candidate-sponsored ad by the Democratic candidate and the Republican party-sponsored ad. The first respondent preferred the Republican candidate, whereas the second respondent preferred the Democratic candidate. The third respondent preferred the Democratic party-sponsored ad over the Republican interest group ad. Each respondent gets assigned these values based on the ads they were exposed to and their vote choice.

I employ this scaling method twice, first examining the three main sponsors of the advertisements - candidate, political party, and interest group. Then, I rerun the scaling method focusing on the six sponsors, separating out by partisanship. This second scaling allows for partisan differences whereby a Republican interest group ad may be more or less effective than a Democratic interest group ad. Furthermore, I then focus the analysis on comparing the candidate-sponsored ad to the interest group ads by using pairwise t-tests instead of the scaling technique.

## **Experimental Stimuli**

In order to use realistic stimuli in the experiment, I use House advertisements from a past election. These are unaltered versions of the advertisements that aired on television for and against candidates. Since all respondents have grown up with television advertisements, they may be able to identify a realistic versus unrealistic advertisement.

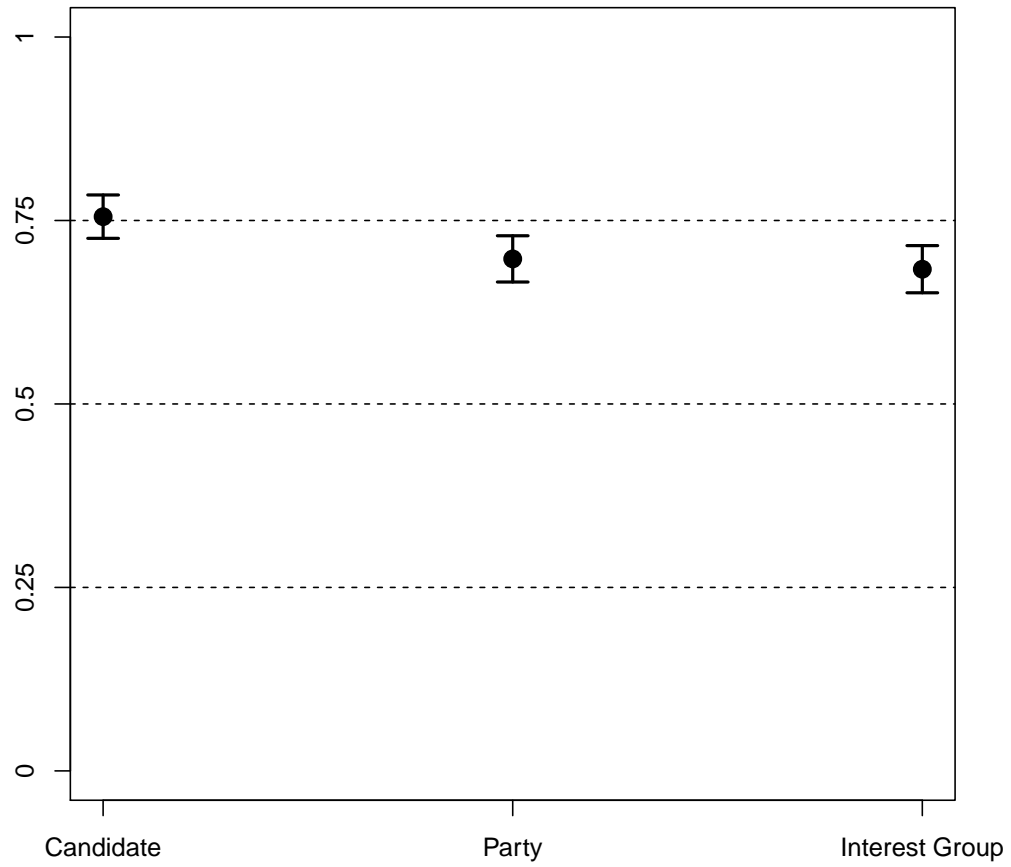
These advertisements were taken from a highly competitive election where the candidates were fairly equally matched. I use this competitiveness as a proxy for advertisement quality. These ads represent typical advertisements aired in congressional elections. The Appendix includes a table of the various characteristics of these advertisements and how their attributes are common among other advertisements.

To select a House election for the experiment, I focused on competitive House elections. I then further narrowed down to white, male candidates. These represent the most common type of congressional candidates, as well as reducing the potential confounds in the experiment by eliminating race and gender as potential intervening variables.

For this experiment the television advertisements came from a 2010 House race in Ohio's 16th House district. The race featured the freshman Democratic House member John Boccieri against an experienced challenger Republican Jim Renacci. Both are white male candidates and both are experienced politicians having held previous elected office. The political party advertisements were sponsored by the Democratic Congressional Campaign Committee (DCCC) and the National Republican Congressional Committee (NRCC). These represent the two primary arms of the political parties in House races. The Democratic interest group ad was aired by the American Worker and League of Conservation Voters, while the Republican interest group ad was aired by Crossroads GPS. Both of these are typical interest groups that have spent millions of dollars in various congressional elections.

## **Results**

First I examine whether or not respondents noticed that the advertisements were aired by interest groups instead of candidates. For each ad aired, respondents answered two questions successively. They were first asked if the advertisement was sponsored by a candidate or someone else in a binary choice. Then they were asked to identify the specific sponsor from a list. Based on previous work, I expect that respondents should be able to



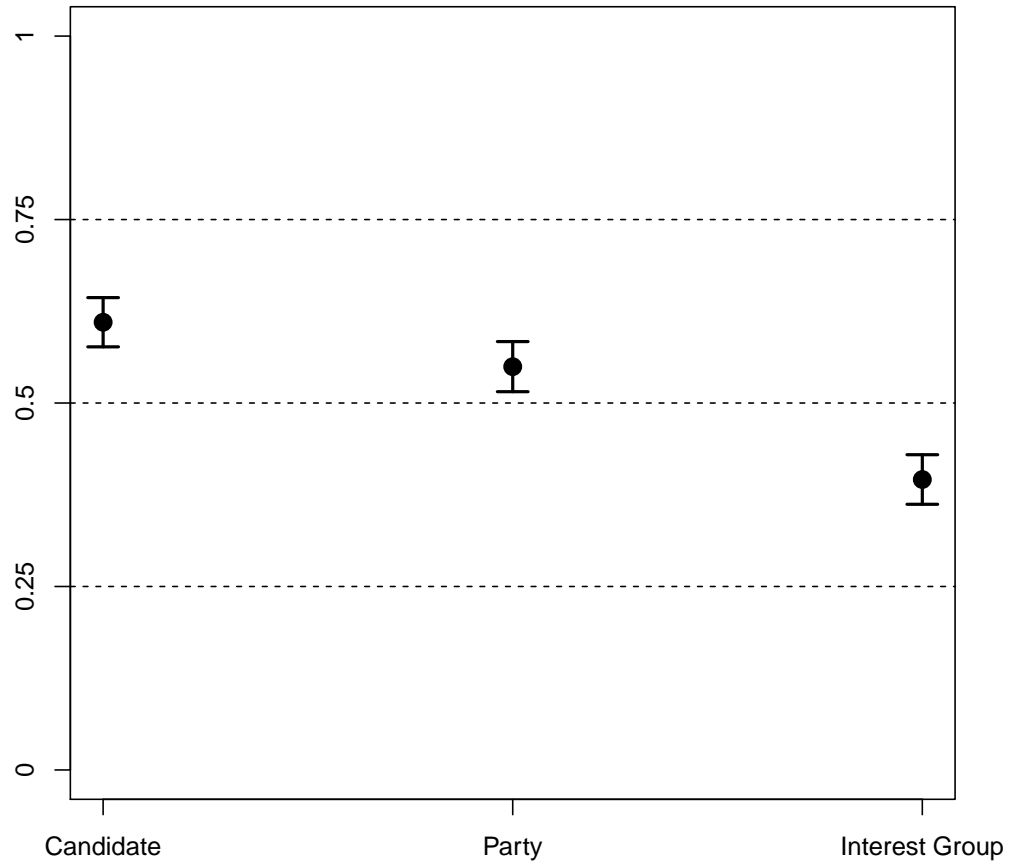
**Figure 4.2:** Percent of Respondents Correctly Identifying the Sponsor: Binary Choice, Three Types

notice that the sponsor was not a candidate, but not specifically identify the exact sponsor.

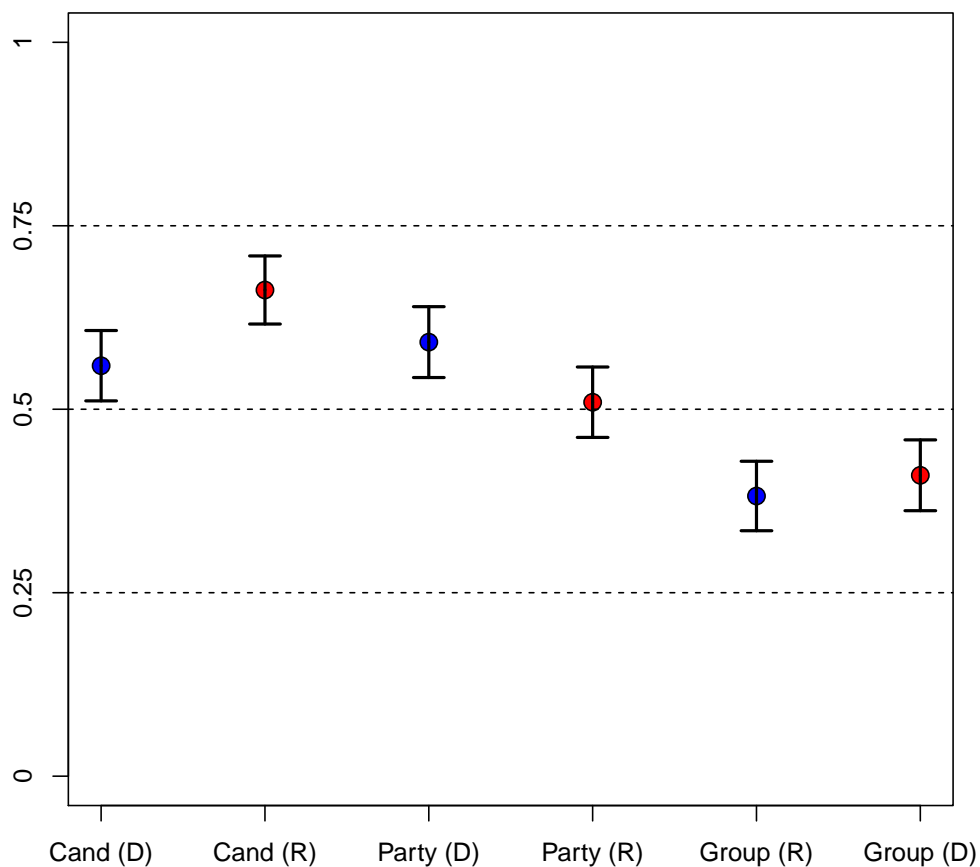
Figure 4.2 presents results of the binary sponsor question for each of the three key ad sponsors with 95% confident intervals. Respondents were able to correctly identify the sponsor as a candidate slightly more often than when the sponsor was an interest group or political party, and these differences do reach statistical significance at the 0.05 level. There is no difference in the binary choice whether the ad was by a political party or an interest group. Overall, respondents are correctly identifying the sponsor as not a candidate more than 2/3 of the time, which is significantly higher than we would expect by pure chance. However, this leaves a third of respondents unaware of the sponsor, and that is not a insignificant number of voters that may influence electoral outcomes.

While respondents were almost able to correctly identify the sponsor in a binary question, this changed dramatically when confronted with the specific sponsor. Figure 4.3 presents the results of how often respondents correctly picked the sponsor from a list of alternatives. A notable larger gap exists. Respondents could identify the candidate as the sponsor in 2/3 of the time, however significantly less often in the case of the political party or interest group. In fact, respondents correctly identified the interest group sponsor in less than 50% of the cases. This highlights how respondents are not aware of the various sponsors advertising in congressional elections. Notably, this effect does not result from respondents confusing the first and second ads.

Finally, I examine if there were any differences by respondents in identifying sponsors by partisanship. Since the sponsors were not exactly the same, it may be that respondents were quicker to remember one party or the other. Figure 4.4 presents these results. There are no statistical differences between between Democratic and Republican sponsors for any of the three pairs of ads. In other words, respondents did not identify the Democratic sponsor more often than the Republican sponsor or vice versa. The trend that was apparent in Figure 4.3 continues in Figure 4.4, demonstrating the significantly lower percentage of



**Figure 4.3:** Percent of Respondents Correctly Identifying the Sponsor, 3 Types

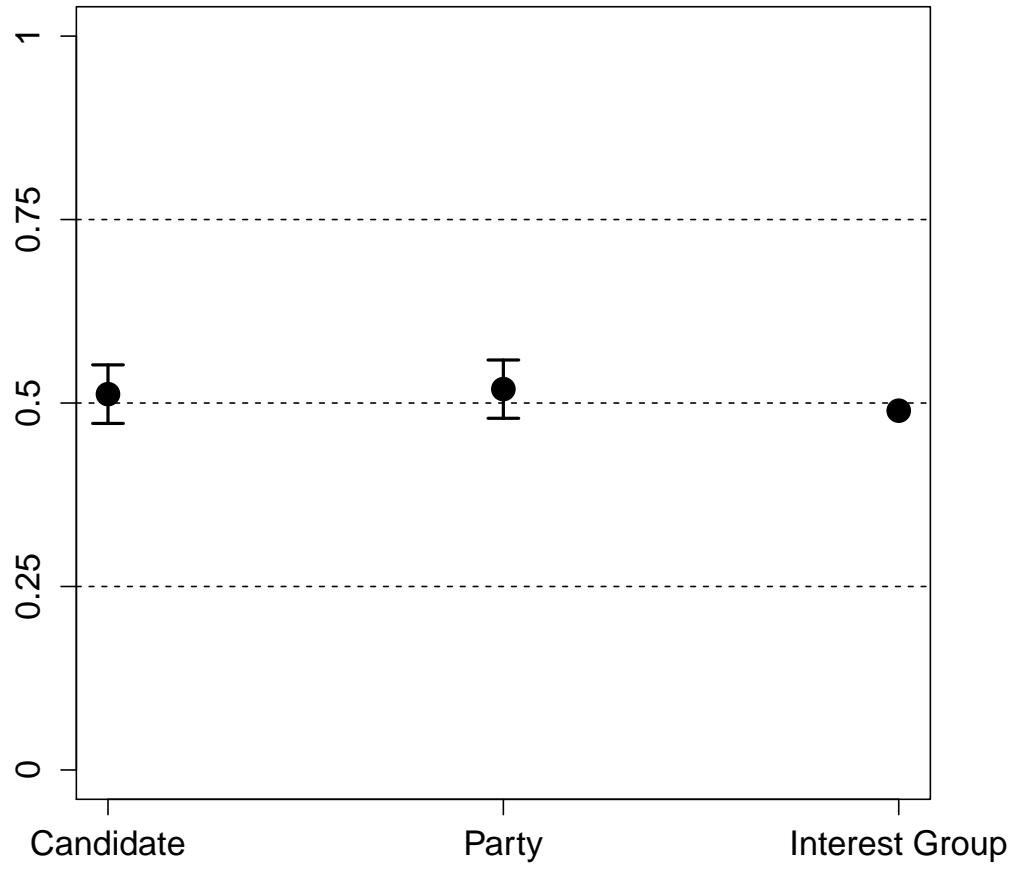


**Figure 4.4:** Percent of Respondents Correctly Identifying the Sponsor, 6 Types

correct identifications for the interest group advertisements.

## Interest Group Influence

Figure 4.5 presents the initial results comparing the sponsorship of the advertisements by the candidate, political party, and interest group. This figure collapses both Democratic and Republican sponsorship into a single sponsor. The y-axis indicates increasing support for respondents who viewed that particular advertisement as one of the two ads. The interest



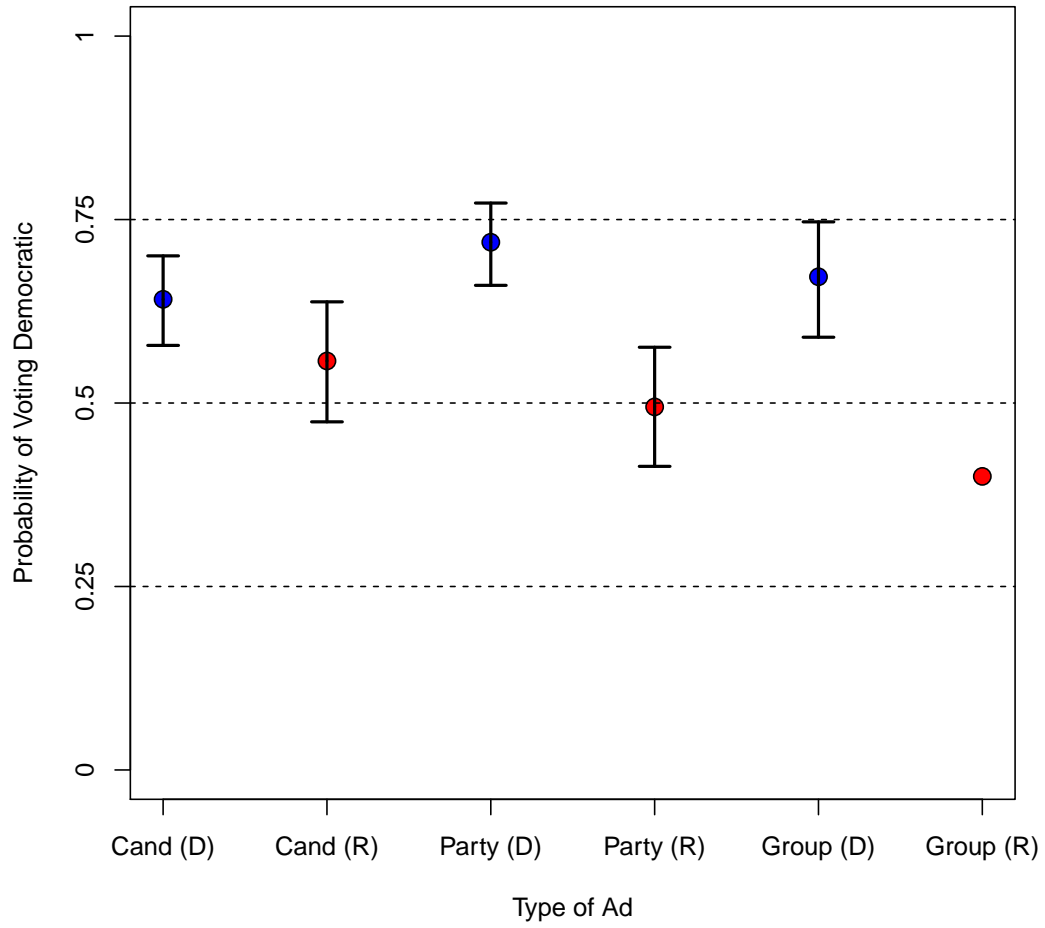
**Figure 4.5:** Persuasiveness by 3 Types of Ads



group point estimate lacks a confidence interval as the scaling technique uses one of the categories as an excluded category. This is similar to an excluded category in a regression. Since the point estimate of the interest group ad is within the bounds of the other two types of advertisements indicates that interest group ads are no more effective than candidate or party sponsored advertisements. In fact, all three types of ads overlap such that ad-sponsorship does not suggest any differences in persuasive ability. Given exposure to both candidates' advertisements, ad sponsorship does not suggest an increased ability to persuade. However, this may hide differences based on partisanship if Democratic and Republican ads operate differently.

Figure 4.6 separates out the six types of advertisements based on sponsorship and political affiliation. This figure's y-axis represents increasing support for the Democratic candidate. Similar to Figure 4.5, the Republican interest group ad represents the excluded category and has no confidence interval on purpose. When a different advertisement is used as an excluded category, it does not change the results. Both candidate-sponsored advertisements' confidence intervals overlap so there appears to be no difference between their persuasive ability. However, the political party advertisements are statistically different. The Democratic party ad increases the likelihood of a voter preferring the Democratic candidate compared to the Republican party ad. Similar to the party ads, the Democratic interest group ad significantly increases a respondents' likelihood of voting Democratic, whereas the Republican interest group ad increases their odds of voting Republican.

Taken together, all three types of Democratic sponsored ads yield similar levels of persuasiveness. None of the Democratic sponsors is significantly different than the others. While among Republican advertisements, the candidate and party-sponsored ads also yield no statistical different. However, the Republican interest group ad does appear to be significantly more persuasive compared to either the candidate or party-sponsored advertisements. In fact, all three Democratic-sponsored ads and two of the Republican



**Figure 4.6:** Persuasiveness by 6 Types of Ads

**Table 4.4:** T-tests for Change in Vote Choice by Advertising Sponsor

Treatment	Sample Republican Vote	P-value
<b>Candidate (R)</b> vs Party (D)	32.5%	0.41
<b>Interest Group (R)</b> vs Party (D)	28.7%	
<b>Candidate (D)</b> vs Party (R)	36.0%	0.36
<b>Interest Group (D)</b> vs Party (R)	31.7%	

sponsored ads do not yield differences that are statistically significant. As a whole, given exposure to both candidates, this result highlights the limited benefits of ad-sponsorship on the persuasiveness of advertising.

While the political party advertisements provide an intermediate stimulus, most advertisements are either candidates or interest groups. Additionally, since *Citizens United* questions have arisen about the relative influence of interest groups on elections. To focus on this relationship, I conducted pairwise t-tests between the candidate-sponsored and interest group-sponsored treatment groups. Table 4.4 presents this first test using the binary vote choice. In line with the previous results in Figures 4.5, 4.6 interest group ads were not statistically significantly more persuasive compared to candidate-sponsored advertisements. This result holds for both Democrats and Republicans.

It may be that respondents preferences may not change, yet their perceptions of the candidates may still change based on the sponsor of the advertisement. While, it may take more than one or two ads to change a vote choice, smaller changes may be seen on a 100-point thermometer rating. Due to the sample size, the binary vote choice can only detect a 10% shift in preferences, while the thermometer ratings can catch a 5-point shift. Table 4.5 tests whether or not there was backlash against the sponsor of the advertisement. Interestingly, the Republican candidate suffered backlash when the interest group aired a negative ad instead of sponsoring his own negative ad. In contrast, there were no statistical

**Table 4.5:** Testing Backlash: T-tests on Candidate Thermometer Rating by Advertising Sponsor

Treatment	Sample Rating	P-value
<i>Republican Candidate Thermometer</i>		
<b>Candidate (R)</b> vs Party (D)	40.5%	<0.01
<b>Interest Group (R)</b> vs Party (D)	30.4%	
<i>Democratic Candidate Thermometer</i>		
<b>Candidate (D)</b> vs Party (R)	49.5%	0.48
<b>Interest Group (D)</b> vs Party (R)	47.8%	

differences for the Democratic candidate, meaning there was no increase in backlash when the democratic interest group aired an attack instead of the candidate.

Similarly, I can assess whether an interest group advertisement had a greater impact on the target of the advertisement. In other words, did the opposition candidate's rating change as a result of the negative ad; this is the intended effect of the sponsor. Table 4.6 presents these results with the interest group ad being more impactful than the candidate-sponsored ad in both cases. The Democratic interest group ad lowered the rating of the Republican candidate significantly more compared to a candidate-sponsored advertisement. Similarly, the Republican interest group ad was more effective than the Republican candidate's advertisement.

Combining the results from Tables 4.5 and 4.6 demonstrate the different effect interest group advertisements may yield compared to candidate-sponsored advertisements. Interest group ads can significantly lower the ratings of the candidates they oppose. While at the same time, they may or may not incur a penalty for their favored candidate. This provides mixed support if interest groups can in fact do the dirty work on behalf of candidates. In this context interest group negative ads were able to attack without consequence for the Democratic but not Republican candidate.

**Table 4.6:** Effect on Target: T-tests on Candidate Thermometer Rating by Advertising Sponsor

Treatment	Sample Rating	P-value
<i>Republican Candidate Thermometer</i>		
<b>Candidate (D)</b> vs Party (R)	41.2%	<0.01
<b>Interest Group (D)</b> vs Party (R)	34.5%	
<i>Democratic Candidate Thermometer</i>		
<b>Candidate (R)</b> vs Party (D)	47.4%	0.08
<b>Interest Group (R)</b> vs Party (D)	42.7%	

## Conclusion

The analysis supports my hypotheses that individuals do notice when interest groups advertise instead of candidates. However, individuals often do not recall who was the specific interest group that sponsored the advertisement. Additionally, since respondents understand that candidates are not responsible for these ads, respondents attribute less backlash towards them when viewing a negative ad by an interest group. However, despite these differences, respondents remain equally persuaded by an interest group ad compared to a candidate-sponsored advertisement.

The experimental design represents a key advancement as it more closely simulates the competitive electoral environment by exposing respondents to two ads - one Democratic and one Republican. Experiments can often find a single advertisement influences individuals, however in competitive elections both candidates advertise heavily. It is essential to account for this in the design itself. This moderates the effect of any single advertisement but represents a more realistic test of advertising as most voters are exposed to both candidates' ads over the course of the election. Given that respondents viewed two ads, the results demonstrate how they found interest group and candidate-sponsored ads equally persuasive.

These results add to the literature that test the role these interest group advertisements are having on our electoral results. In particular, this adds to our understanding of how interest groups may be able to persuade voters. This becomes particularly relevant when in recent elections interest groups are advertising just as much or more than candidates in certain congressional races. As such the winner or loser of the election may be more due to these interest groups than actual candidates' campaigns.

Based upon these findings, candidates ought to decrease their use of negative advertisements. Instead, they should rely upon outside groups to do air the attack ads on their behalf. This would decrease the backlash against the candidate while maintaining the attacks on an opponent. Previous work highlights mixed findings if negative ads are more persuasive than positive ads (Lau, Sigelman and Rovner 2007), however this research focuses primarily on candidate-sponsored ads. Candidates may increase their chances of winning by outsourcing their attacks to interest groups thereby decreasing their level of backlash.

Future research would benefit from including more than two advertisements in the experimental design, since over the course of a congressional campaign, voters will be exposed to hundreds of ads. Additionally, an alternative explanation may be that advertising yields an additive effect. Since respondents did alter their thermometer ratings of the candidates, it may be that more advertising exposure would eventually equate to a change in vote choice. However, given our highly polarized politics, it may be that views of the candidates change but ultimately vote choice may not change due to stronger factors, notably party identification. Further research is necessary in order to discern which of these may hold true.

Interest groups are the least representative aspect of our democracy. Although many types of groups may be represented by lobbying firms in Washington, only a select few have extensive funds to expend in elections. In a post-*Citizens United* environment, interest

groups have gained significant power to influence elections, and especially air negative advertisements without the negative repercussion of backlash that is normally associated with negative ads. Without the backlash effect, interest groups can air attacks against a candidate without harming their preferred candidate. Although it has been demonstrated that interest groups wield influence in Washington, this represents a huge leap in their power to now influence who gets elected, and is troubling for our democracy.

# Chapter 5

## Conclusion

The three separate analyses combined illustrate the role television advertising plays in U.S. House elections. The results highlight how advertising's influence is significantly less than conventional wisdom might dictate. Across all three analyses advertising's impact is relatively small and may only influence electoral results that are extremely close. In particular, my results demonstrate how the previous focus on advertising tone does not appear to be the most relevant characteristic of advertising that influences vote choice. Additionally, the sponsor of the ad also appears to yield little effect on an individual's vote choice. Taken together these results demonstrate how factors other than tone and sponsorship need to be tested to fully assess when and how advertising persuades.

In Chapter 2, I demonstrate the relationship between advertising tone and electoral success in competitive U.S. House elections from 2000-2012. My results highlight that candidates match each other's strategies, and as a result air approximately the same number of positive, negative, and contrast ads in each week of the campaign. Since both candidates air the same ads, it follows that advertising yields little effect on a candidate's vote share. In fact, the only statistically significant effect arises from a backlash penalty against Republican candidates for airing negative advertisements.

In low information elections, voters have a limited amount of information about



the candidates. Advertising does serve as an important source of information to voters, especially less politically interested voters. However, in these and other low information elections, advertising continues to lag behind presidential or senate elections. As a result, advertising may not have as wide a reach as it does in high profile, top of the ballot elections.

The Chapter 2 results remain correlational, and so Chapter 3 builds on that analysis and uses an experiment in order to test the causal relationship between advertising tone and vote choice. The survey experiment improves on previous designs in two key ways, the first by exposing all respondents to two advertisements, one from each candidate. This more closely approximates the advertising environment where individuals will be exposed to both candidates at some point during a campaign. Additionally, the advertising stimuli were past congressional ads, in order to represent realistic stimuli for the respondents. Combining these two aspects provides the experiment a closer approximation of how voters might respond to advertising during a campaign.

The survey experiment was conducted three times in order to demonstrate consistency across two different samples and two different sets of ads. The results demonstrate consistent results, highlighting how positive, negative, and contrast ads yield no differential impact on vote choice. This supports the results presented in Chapter 2 that advertising tone does not cause a substantial change in electoral outcomes. Upon further investigation, negative ads do cause a backlash penalty against the sponsor of the ad. However, none of the ads consistently caused any intended effect against their opponent. While negative advertisements may have a small persuasive effect, it is only through a backlash penalty. This has serious implications for how we view advertising effects and how advertising should be employed during a campaign.

Taken together, Chapters 2 and 3 demonstrate the limited benefits of advertising in U.S. House elections. Given the results, they highlight how negative ads in these low information elections may be particularly harmful and candidates may benefit by engaging

in more positive advertising. Since many individuals deride the use of negative advertising, the evidence presented here suggests that in low information elections, it would be advised to not engage in negative advertising. Additionally, the best reason to advertise is simply to counteract an opponent's advertising, which only serves to further the arms race of advertising with higher and higher levels of spending.

These results demonstrate how advertising tone may not be important in determining which television ads are most persuasive. However, it may be that a different characteristic of an ad is more influential in determining vote choice. Due to these results I then examined if advertising sponsorship may influence an individual's propensity to vote for a particular candidate. Chapter 4 tests whether a negative ad by a candidate is more or less persuasive compared to a negative ad sponsored by an interest group. These results highlight how advertising sponsorship does not influence the persuasiveness of an ad. Candidate, political party, and interest group ads were equally persuasive in the survey experiment.

Increasingly interest groups are advertising in elections and spending millions of dollars to persuade voters for or against a candidate. This represents a new phenomena that has quickly developed since the 2010 *Citizens United* ruling. These results provide initial evidence how voters do not notice the difference between an interest group and candidate-sponsored advertisement. This provides troubling evidence that interest groups may wield power in influencing electoral outcomes, especially as groups have been spending as much as candidates in certain hyper-competitive districts.

Importantly, these results provide two clear results. First, advertising tone is not the relevant advertising characteristic that drives persuasion. As a result more studies are necessary to determine what other factors drive ads to persuade voters. It may be that the particular policy issues discussed, use of a narrator, particular images, or other characteristic causes persuasion more than advertising tone. Secondly, if advertising does yield an effect, than interest groups ads are equally persuasive compared to candidates' ads. This means

that interest groups can influence elections to the same extent as the candidates themselves. This result raises serious questions about the role of interest groups in our democracy and how involved they should be in determining who wins and loses elections.

Future research is necessary to fully examine these and other issues to better understand the relationship between advertising and electoral results. In particular, the next steps would be to examine the relationship between policy issues mentioned in advertisements and their persuasiveness with voters. Another important avenue for research will be targeted and micro-targeted advertising. While we know that advertisements are increasingly targeted towards their audience, no work has demonstrated that those audiences respond more to the targeted ads compared to a non-target audience. Finally, it is highly disconcerting that powerful interest groups may be influencing our elections equally or more than the candidates, and further work is necessary to examine how much influence interest groups are wielding in our elections.

These results have serious public policy implications, if television advertising does persuade then interest group advertising is just as effective as candidate advertising, which is a troubling issue for our democracy. Since voters do not notice when they see an interest group ad compared to a candidate ad, it becomes essential to legislate or regulate these advertisements. Policymakers should take action in order to limit the amount of influence of interest groups in elections. A simple solution may be to force a larger and more obvious disclaimer in each advertisement about the sponsor of the ad. Today most sponsors are listed in small print and quickly voiced at the end of an advertisement. Alternatively, if the disclaimer needed to be larger and more prominent than that may help reduce some of the effects of interest group advertising, but it will definitely not solve the entire problem. To completely limit the power of interest groups, then at least part of *Citizens United* needs to be overturned, such that groups can no longer advocate for or against candidates, as under the pre-2010 regulations. Interest groups are the least representative part of our democracy

and they should not wield this level of control in our elections.

Alternatively, if advertising does not persuade as two of my analyses suggest, then we may be less concerned with interest group influence. Despite, advertising's limited ability to persuade voters, these results do not support banning television advertising. While the primary purpose of advertising may be to persuade, lots of evidence exists of its benefit in increasing voter knowledge and turnout. However, these results do provide evidence against the use of negative advertising. My results suggest that if candidates did not engage in negative advertising, the result of the election would not change, but feelings towards the candidates would be significantly higher. This suggests that without negative advertising we would have higher levels of faith and trust in our elected leaders. Since today's politics are defined by extreme polarization of the two parties, politics would benefit from more civility and less decisiveness.

These results also illustrate how the primary purpose of television advertising is to cancel out your opponent's advertising. In the end, if advertising does not persuade, then this may be due to both candidates in competitive elections advertising identically. As a result, any competitive candidate should be airing as many advertisements as their opponents. But, in order to actually win the election, then their campaign needs to engage in other activities that may actually determine the result, such as get-out-the-vote efforts. While television advertising may represent the largest campaign expenditure, it may not be the most influential in determining who ultimately wins the election.

# **Appendix A**

## **Chapter 2 Appendix: Aggregate Analysis**

Table A1 is a table of means for the variables used in the analysis. It then goes on to include the primary OLS regression tables included in the paper. Table A2 presents the overall advertising effects including all control variables, with Table A3 examining total advertising effects over different time frames of aggregation. Table A4 presents the main analysis including the effects for all control variables. Table A5 replicates the main table from the text, including the effects for all control variables.

**Table A1:** Table of Means

	N	Mean	S.D.	Median	Min	Max
Dem Vote Share	165	49.90	3.12	50.20	45.00	55.00
Incumbent	165	0.01	0.87	0.00	-1.00	1.00
Dem Incumbent	165	0.38	0.49	0.00	0.00	1.00
Rep Incumbent	165	0.37	0.48	0.00	0.00	1.00
Dem Expenses (logged)	165	14.41	0.52	14.49	12.71	15.47
Rep Expenses (logged)	164	14.30	0.71	14.29	11.60	17.06
Freshman	165	0.24	0.43	0.00	0.00	1.00
Dem Winner	165	0.52	0.50	1.00	0.00	1.00
Challenger Experience	165	0.53	0.50	1.00	0.00	1.00
Contrast (D)	165	15.98	19.24	10.90	0.00	92.50
Positive (D)	165	11.61	15.87	4.80	0.00	72.50
Negative (D)	165	8.53	14.88	0.00	0.00	95.70
Contrast (R)	165	10.21	13.93	2.20	0.00	72.40
Positive (R)	165	9.90	15.23	0.60	0.00	86.40
Negative (R)	165	12.82	22.84	0.00	0.00	145.20
Non-Cand Ads (D)	165	33.37	34.09	27.30	0.00	140.90
Non-Cand Ads (R)	165	31.63	34.14	27.00	0.00	177.80
Total Ads	165	69.05	45.35	64.30	0.00	226.30
Total Ads (D)	165	36.12	26.34	34.70	0.00	168.20
Total Ads (R)	165	32.93	29.32	28.70	0.00	171.10
Dem Pres Vote Share	165	51.12	7.04	51.50	31.01	71.40

Ads are in 10s.

**Table A2:** Total Advertising Effect on Democratic Vote Share in Competitive Elections

	Model 1	Model 2	Model 3
Intercept	49.93*** (0.44)	49.76*** (0.67)	37.44*** (6.97)
<i>Democrat Candidate's Ads</i>			
Total Ads	0.02* (0.01)	0.02* (0.01)	0.00 (0.01)
<i>Republican Candidate's Ads</i>			
Total Ads	-0.02* (0.01)	-0.02* (0.01)	-0.00 (0.01)
Non-Cand Ads (D)			0.00 (0.01)
Non-Cand Ads (R)			-0.00 (0.01)
Incumbent			1.31*** (0.27)
Freshman			-0.18 (0.43)
Challenger Experience			0.18 (0.39)
Dem Expenses			1.40** (0.46)
Rep Expenses			-1.25** (0.41)
Dem Pres Vote Share			0.19*** (0.03)
Year Fixed Effects	No	Yes	Yes
R <sup>2</sup>	0.05	0.06	0.42
Adj. R <sup>2</sup>	0.03	0.01	0.36
Num. obs.	165	165	164

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Table includes all advertisements aired in final two weeks of the campaign. Ads are in 10s. Last 2 columns errors are clustered on congressional district and media market. Expenses are in natural logs.

**Table A3:** Total Advertising Effect on Democratic Vote Share in Competitive Elections

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	37.06*** (7.06)	37.15*** (6.96)	37.44*** (6.97)	40.59*** (7.19)	40.57*** (7.07)	39.49*** (7.24)
<i>Democrat Candidate's Ads</i>						
Total Ads	0.00 (0.00)	0.00 (0.01)	0.00 (0.01)	0.01 (0.02)	0.02 (0.04)	0.01 (0.05)
<i>Republican Candidate's Ads</i>						
Total Ads	-0.00 (0.00)	0.00 (0.01)	-0.00 (0.01)	0.01 (0.01)	0.02 (0.04)	0.04 (0.05)
Non-Cand Ads (D)	-0.00 (0.00)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.01 (0.03)	0.01 (0.04)
Non-Cand Ads (R)	0.00 (0.00)	0.00 (0.01)	-0.00 (0.01)	0.01 (0.01)	0.01 (0.04)	0.01 (0.05)
Incumbent	1.27*** (0.27)	1.32*** (0.27)	1.31*** (0.27)	1.29*** (0.27)	1.28*** (0.27)	1.26*** (0.27)
Freshman	-0.19 (0.42)	-0.19 (0.42)	-0.18 (0.43)	-0.30 (0.43)	-0.30 (0.43)	-0.30 (0.43)
Challenger Experience	0.24 (0.40)	0.19 (0.39)	0.18 (0.39)	0.31 (0.39)	0.32 (0.38)	0.35 (0.38)
Dem Expenses	1.32** (0.49)	1.46** (0.46)	1.40** (0.46)	1.34** (0.45)	1.35** (0.45)	1.45** (0.45)
Rep Expenses	-1.16** (0.41)	-1.28** (0.41)	-1.25** (0.41)	-1.44*** (0.41)	-1.45*** (0.40)	-1.44*** (0.41)
Dem Pres Vote Share	0.20*** (0.03)	0.19*** (0.03)	0.19*** (0.03)	0.19*** (0.03)	0.19*** (0.03)	0.19*** (0.03)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.40	0.42	0.42	0.43	0.43	0.41
Adj. R <sup>2</sup>	0.34	0.36	0.36	0.37	0.37	0.35
Num. obs.	169	164	164	162	162	160

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Ads are in 10s. Errors are clustered on district and media market. Expenses are in natural logs.



**Table A4:** OLS Regression of Democratic Vote Share by Ad Tone in Competitive Districts

	Model 1	Model 2	Model 3
Intercept	50.08*** (0.44)	49.97*** (0.68)	39.83*** (6.77)
<i>Democrat Candidate's Ads</i>			
Contrast	-0.01 (0.01)	-0.01 (0.01)	-0.00 (0.01)
Positive	0.05** (0.02)	0.05*** (0.01)	0.02 (0.01)
Negative	0.01 (0.02)	0.01 (0.02)	-0.00 (0.01)
<i>Republican Candidate's Ads</i>			
Contrast	-0.02 (0.02)	-0.02 (0.02)	-0.01 (0.01)
Positive	-0.05** (0.02)	-0.05*** (0.01)	-0.02 (0.01)
Negative	0.00 (0.01)	0.00 (0.01)	0.02 (0.01)
Non-Cand Ads (D)			0.00 (0.01)
Non-Cand Ads (R)			-0.00 (0.01)
Incumbent			1.21*** (0.27)
Freshman			-0.36 (0.42)
Challenger Experience			0.17 (0.38)
Dem Expenses			1.29** (0.46)
Rep Expenses			-1.29** (0.39)
Dem Pres Vote Share			0.19*** (0.03)
Year Fixed Effects	No	Yes	Yes
R <sup>2</sup>	0.12	0.13	0.45
Adj. R <sup>2</sup>	0.09	0.07	0.38
Num. obs.	165	165	164

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Table includes all advertisements aired in final two weeks of the campaign. Ads are in 10s. Last 2 columns errors are clustered on congressional district and media market. Expenses are in natural logs.

**Table A5:** OLS Regression of Democratic Vote Share by Cumulative Days to Election in Competitive Elections

	8 Weeks	3 Weeks	2 Weeks	1 Week	2 Days	1 Day
Intercept	40.15*** (6.54)	40.13*** (6.72)	39.83*** (6.77)	41.31*** (6.71)	41.00*** (6.69)	39.74*** (6.93)
<i>Democrat Candidate's Ads</i>						
Contrast	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.02)	-0.01 (0.05)	-0.03 (0.07)
Positive	0.02*** (0.01)	0.01 (0.01)	0.02 (0.01)	0.04 (0.02)	0.09 (0.05)	0.09 (0.07)
Negative	-0.01* (0.00)	-0.01 (0.01)	-0.00 (0.01)	-0.00 (0.02)	-0.01 (0.05)	-0.03 (0.06)
<i>Republican Candidate's Ads</i>						
Contrast	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.02 (0.02)	-0.08 (0.06)	-0.10 (0.08)
Positive	-0.01** (0.01)	-0.02* (0.01)	-0.02 (0.01)	-0.03 (0.02)	-0.07 (0.05)	-0.07 (0.07)
Negative	0.01** (0.00)	0.02 (0.01)	0.02 (0.01)	0.04* (0.02)	0.09* (0.04)	0.13* (0.05)
Non-Cand Ads (D)	-0.00 (0.00)	0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)	-0.00 (0.03)	-0.01 (0.04)
Non-Cand Ads (R)	0.01 (0.00)	0.00 (0.01)	-0.00 (0.01)	0.01 (0.01)	0.02 (0.03)	0.03 (0.05)
Incumbent	1.06*** (0.26)	1.21*** (0.27)	1.21*** (0.27)	1.23*** (0.25)	1.22*** (0.25)	1.20*** (0.25)
Freshman	-0.35 (0.38)	-0.30 (0.42)	-0.36 (0.42)	-0.46 (0.40)	-0.44 (0.40)	-0.43 (0.40)
Challenger Experience	0.22 (0.39)	0.25 (0.38)	0.17 (0.38)	0.27 (0.37)	0.33 (0.37)	0.38 (0.37)
Dem Expenses	1.12* (0.45)	1.34** (0.44)	1.29** (0.46)	1.23** (0.43)	1.25** (0.43)	1.36** (0.44)
Rep Expenses	-1.15** (0.36)	-1.34*** (0.38)	-1.29** (0.39)	-1.39*** (0.39)	-1.37*** (0.39)	-1.39*** (0.40)
Dem Pres Vote Share	0.20*** (0.03)	0.19*** (0.03)	0.19*** (0.03)	0.20*** (0.03)	0.20*** (0.03)	0.20*** (0.03)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.48	0.45	0.45	0.47	0.47	0.45
Adj. R <sup>2</sup>	0.41	0.38	0.38	0.40	0.40	0.38
Num. obs.	169	164	164	162	162	160

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ 

Ads are in 10s. Errors are clustered on district and media market. Expenses are in natural logs.

I replicate the main analysis here but include all congressional districts where a candidate aired at least a single advertisement, approximately 705 districts. These only represent the single-media market districts, just like the main analyses presented in the paper. Table A6 presents a table of means. Tables A7-A8 replicates Tables A2-A3 examining the total advertising effects. Then Tables A9-A11 presents the same analysis from Appendix A but including the uncompetitive districts.

**Table A6:** Table of Means, All Single Media-Market Districts

	N	Mean	S.D.	Median	Min	Max
Dem Vote Share	705	48.92	13.11	47.29	15.20	87.59
Incumbent	729	-0.07	0.90	0.00	-1.00	1.00
Dem Incumbent	729	0.37	0.48	0.00	0.00	1.00
Rep Incumbent	729	0.44	0.50	0.00	0.00	1.00
Dem Expenses (logged)	701	13.29	1.79	13.80	0.00	15.81
Rep Expenses (logged)	714	13.48	1.74	13.90	0.00	17.06
Freshman	729	0.18	0.39	0.00	0.00	1.00
Dem Winner	729	0.45	0.50	0.00	0.00	1.00
Challenger Experience	729	0.34	0.47	0.00	0.00	1.00
Contrast (D)	729	7.02	14.63	0.00	0.00	112.00
Positive (D)	729	9.47	14.88	0.50	0.00	89.50
Negative (D)	729	4.11	10.89	0.00	0.00	95.70
Contrast (R)	729	4.94	11.09	0.00	0.00	77.20
Positive (R)	729	8.51	12.66	1.30	0.00	89.50
Negative (R)	729	5.84	15.34	0.00	0.00	145.20
Non-Cand Ads (D)	729	11.14	24.04	0.00	0.00	140.90
Non-Cand Ads (R)	729	10.36	23.11	0.00	0.00	177.80
Total Ads	729	39.89	40.36	27.00	0.00	226.30
Total Ads (D)	729	20.60	24.11	11.80	0.00	168.20
Total Ads (R)	729	19.29	23.20	11.30	0.00	171.10
Dem Pres Vote Share	729	50.01	10.63	49.13	23.47	90.00

Ads are in 10s.

**Table A7:** Total Advertising Effect on Democratic Vote Share

	Model 1	Model 2	Model 3
Intercept	48.42*** (0.65)	48.16*** (1.21)	22.80*** (3.99)
<i>Democrat Candidate's Ads</i>			
Total Ads	0.20*** (0.02)	0.21*** (0.02)	0.03** (0.01)
<i>Republican Candidate's Ads</i>			
Total Ads	-0.19*** (0.02)	-0.20*** (0.02)	-0.02 (0.01)
Non-Cand Ads (D)			0.03** (0.01)
Non-Cand Ads (R)			-0.03** (0.01)
Incumbent			4.97*** (0.34)
Freshman			-0.32 (0.48)
Challenger Experience			-0.26 (0.43)
Dem Expenses			1.46*** (0.24)
Rep Expenses			-1.57*** (0.23)
Dem Pres Vote Share			0.58*** (0.03)
Year Fixed Effects	No	Yes	Yes
R <sup>2</sup>	0.14	0.15	0.85
Adj. R <sup>2</sup>	0.14	0.14	0.85
Num. obs.	705	705	684

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Table includes all advertisements aired in final two weeks of the campaign. Ads are in 10s. Last 2 columns errors are clustered on congressional district and media market. Expenses are in natural logs.

**Table A8:** Total Advertising Effect on Democratic Vote Share by Weeks Aggregated

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	22.39*** (3.90)	22.46*** (3.98)	22.80*** (3.99)	23.32*** (4.06)	21.54*** (4.57)	21.49*** (4.56)
<i>Democrat Candidate's Ads</i>						
Total Ads	0.01* (0.00)	0.02* (0.01)	0.03** (0.01)	0.05* (0.02)	0.08 (0.06)	0.08 (0.07)
<i>Republican Candidate's Ads</i>						
Total Ads	-0.01 (0.00)	-0.02 (0.01)	-0.02 (0.01)	-0.04 (0.02)	-0.04 (0.05)	-0.06 (0.07)
Non-Cand Ads (D)	0.02*** (0.01)	0.03** (0.01)	0.03** (0.01)	0.05* (0.02)	0.09 (0.05)	0.10 (0.06)
Non-Cand Ads (R)	-0.02*** (0.00)	-0.03** (0.01)	-0.03** (0.01)	-0.04* (0.02)	-0.09 (0.05)	-0.10 (0.07)
Incumbent	5.21*** (0.34)	5.03*** (0.35)	4.97*** (0.34)	5.09*** (0.34)	5.07*** (0.36)	5.09*** (0.36)
Freshman	-0.31 (0.46)	-0.33 (0.48)	-0.32 (0.48)	-0.36 (0.49)	-0.46 (0.49)	-0.46 (0.49)
Challenger Experience	-0.11 (0.42)	-0.20 (0.44)	-0.26 (0.43)	-0.29 (0.44)	-0.34 (0.44)	-0.32 (0.44)
Dem Expenses	1.52*** (0.24)	1.48*** (0.24)	1.46*** (0.24)	1.44*** (0.24)	1.67*** (0.32)	1.66*** (0.32)
Rep Expenses	-1.58*** (0.23)	-1.56*** (0.23)	-1.57*** (0.23)	-1.57*** (0.24)	-1.63*** (0.25)	-1.62*** (0.25)
Dem Pres Vote Share	0.58*** (0.03)	0.58*** (0.03)	0.58*** (0.03)	0.58*** (0.03)	0.57*** (0.03)	0.57*** (0.03)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.86	0.85	0.85	0.85	0.84	0.84
Adj. R <sup>2</sup>	0.85	0.85	0.85	0.84	0.84	0.84
Num. obs.	720	688	684	670	656	649

\*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$

Ads are in 10s. Errors are clustered on district and media market. Expenses are in natural logs.

**Table A9:** Binary OLS Regression of Democratic Vote Share by Ad Tone for All Ad Data

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	48.90*** (0.55)	45.96*** (0.55)	48.90*** (0.53)	48.91*** (0.54)	51.80*** (0.56)	48.90*** (0.53)
<i>Democrat Candidate's Ads</i>						
Contrast	0.00 (0.00)					
Positive		0.03*** (0.00)				
Negative			0.00 (0.00)			
<i>Republican Candidate's Ads</i>						
Contrast				0.00 (0.00)		
Positive					-0.03*** (0.00)	
Negative						0.00 (0.00)
R <sup>2</sup>	0.00	0.12	0.00	0.00	0.11	0.00
Adj. R <sup>2</sup>	-0.00	0.12	-0.00	-0.00	0.11	-0.00
Num. obs.	705	705	705	705	705	705

\*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$

Ads are in 10s.

**Table A10:** OLS Regression of Democratic Vote Share by Ad Tone, All Ad Data

	Model 1	Model 2	Model 3
Intercept	48.79*** (0.66)	48.54*** (1.21)	23.20*** (3.98)
<i>Democrat Candidate's Ads</i>			
Contrast	0.08* (0.04)	0.08*** (0.02)	0.03 (0.02)
Positive	0.30*** (0.03)	0.30*** (0.03)	0.05*** (0.01)
Negative	0.00 (0.04)	0.01 (0.04)	-0.02 (0.02)
<i>Republican Candidate's Ads</i>			
Contrast	-0.09* (0.04)	-0.09*** (0.03)	-0.02 (0.02)
Positive	-0.32*** (0.03)	-0.33*** (0.04)	-0.06*** (0.02)
Negative	-0.03 (0.03)	-0.03 (0.02)	0.02 (0.02)
Non-Cand Ads (D)			0.03* (0.01)
Non-Cand Ads (R)			-0.03* (0.01)
Incumbent			4.83*** (0.35)
Freshman			-0.37 (0.47)
Challenger Experience			-0.27 (0.43)
Dem Expenses			1.45*** (0.24)
Rep Expenses			-1.54*** (0.22)
Dem Pres Vote Share			0.57*** (0.03)
Year Fixed Effects	No	Yes	Yes
R <sup>2</sup>	0.22	0.23	0.85
Adj. R <sup>2</sup>	0.22	0.22	0.85
Num. obs.	705	705	684

\*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$

Table includes all advertisements aired in final two weeks of the campaign. Ads are in 10s. Last 2 columns errors are clustered on congressional district and media market. Expenses are in natural logs.

**Table A11:** OLS Regression of Democratic Vote Share by Cumulative Days to Election, All Advertising Data

	8 Weeks	3 Weeks	2 Weeks	1 Week	2 Days	1 Day
Intercept	22.79*** (3.87)	22.89*** (3.96)	23.20*** (3.98)	23.19*** (4.05)	21.48*** (4.59)	21.38*** (4.58)
<i>Democrat Candidate's Ads</i>						
Contrast	0.01 (0.01)	0.02 (0.01)	0.03 (0.02)	0.04 (0.03)	0.05 (0.07)	0.04 (0.09)
Positive	0.02** (0.01)	0.03** (0.01)	0.05*** (0.01)	0.09** (0.03)	0.13 (0.07)	0.15 (0.10)
Negative	-0.01 (0.01)	-0.02 (0.01)	-0.02 (0.02)	-0.03 (0.03)	-0.07 (0.08)	-0.09 (0.11)
<i>Republican Candidate's Ads</i>						
Contrast	-0.01 (0.01)	-0.01 (0.01)	-0.02 (0.02)	-0.05 (0.03)	-0.09 (0.08)	-0.12 (0.10)
Positive	-0.03*** (0.01)	-0.05*** (0.01)	-0.06*** (0.02)	-0.09** (0.03)	-0.15 (0.08)	-0.19 (0.11)
Negative	0.01* (0.01)	0.01 (0.01)	0.02 (0.02)	0.03 (0.03)	0.09 (0.07)	0.11 (0.09)
Non-Cand Ads (D)	0.01* (0.01)	0.02* (0.01)	0.03* (0.01)	0.04* (0.02)	0.08 (0.05)	0.08 (0.06)
Non-Cand Ads (R)	-0.01* (0.01)	-0.03** (0.01)	-0.03* (0.01)	-0.04 (0.02)	-0.09 (0.05)	-0.09 (0.07)
Incumbent	5.08*** (0.34)	4.85*** (0.35)	4.83*** (0.35)	4.91*** (0.35)	4.97*** (0.36)	4.98*** (0.36)
Freshman	-0.41 (0.45)	-0.38 (0.47)	-0.37 (0.47)	-0.44 (0.47)	-0.51 (0.48)	-0.50 (0.48)
Challenger Experience	-0.11 (0.42)	-0.19 (0.43)	-0.27 (0.43)	-0.31 (0.43)	-0.35 (0.43)	-0.32 (0.44)
Dem Expenses	1.51*** (0.24)	1.47*** (0.24)	1.45*** (0.24)	1.43*** (0.24)	1.66*** (0.32)	1.64*** (0.32)
Rep Expenses	-1.57*** (0.23)	-1.54*** (0.22)	-1.54*** (0.22)	-1.53*** (0.23)	-1.60*** (0.25)	-1.59*** (0.25)
Dem Pres Vote Share	0.57*** (0.03)	0.57*** (0.03)	0.57*** (0.03)	0.58*** (0.03)	0.57*** (0.03)	0.57*** (0.03)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.86	0.86	0.85	0.85	0.85	0.84
Adj. R <sup>2</sup>	0.86	0.85	0.85	0.85	0.84	0.84
Num. obs.	720	688	684	670	656	649

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Ads are in 10s. Errors are clustered on district and media market. Expenses are in natural logs.



I included three different variations on the main analysis here. First, Table A12 estimates a non-linear ad effect by taking the natural log of the number of ads. This result highlights the diminishing returns to advertising, which reflects similar findings in campaign expenditures. Table A13 estimates a non-linear effect using the squared number of each type of ad. Finally Table A14 uses the proportion of each type of ad, instead of the number of ads. Contrast ads are the excluded category.

**Table A12:** OLS Regression of Natural Log of Number of Ads, Competitive Districts

	Model 1	Model 2	Model 3
Intercept	50.06*** (0.56)	49.93*** (0.83)	38.30*** (6.92)
<i>Democrat Candidate's Ads</i>			
Log Contrast	-0.00 (0.17)	0.00 (0.16)	0.10 (0.15)
Log Positive	0.46** (0.16)	0.44** (0.15)	0.14 (0.15)
Log Negative	0.21 (0.16)	0.22 (0.15)	0.19 (0.13)
<i>Republican Candidate's Ads</i>			
Log Contrast	-0.18 (0.17)	-0.17 (0.16)	-0.20 (0.14)
Log Positive	-0.52** (0.16)	-0.52** (0.16)	-0.32* (0.14)
Log Negative	-0.11 (0.16)	-0.12 (0.14)	-0.02 (0.14)
Non-Cand Ads (D)			0.01 (0.01)
Non-Cand Ads (R)			-0.00 (0.01)
Incumbent			1.20*** (0.28)
Freshman			-0.27 (0.42)
Challenger Experience			0.19 (0.39)
Dem Expenses			1.15* (0.44)
Rep Expenses			-1.06** (0.39)
Dem Pres Vote Share			0.20*** (0.03)
Year FE	No	Yes	Yes
R <sup>2</sup>	0.13	0.14	0.45
Adj. R <sup>2</sup>	0.09	0.07	0.37
Num. obs.	165	165	164

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Table includes all advertisements aired in final two weeks of the campaign. Ads are in natural logs. Last 2 columns errors are clustered on congressional district and media market. Expenses are in natural logs

**Table A13:** OLS Regression of Ad Tone, with Squared Ad Totals, Competitive Elections

	Model 1	Model 2	Model 3
Intercept	50.17*** (0.51)	50.14*** (0.81)	40.84*** (6.81)
<i>Democrat Candidate's Ads</i>			
Sq. Contrast	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Sq. Positive	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)
Sq. Negative	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Contrast	0.00 (0.03)	0.00 (0.03)	0.02 (0.03)
Positive	0.06 (0.04)	0.06 (0.04)	-0.01 (0.03)
Negative	0.05 (0.04)	0.05 (0.03)	0.03 (0.03)
<i>Republican Candidate's Ads</i>			
Sq. Contrast	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Sq. Positive	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Sq. Negative	0.00 (0.00)	0.00* (0.00)	0.00* (0.00)
Contrast	-0.04 (0.04)	-0.05 (0.04)	-0.04 (0.03)
Positive	-0.10** (0.04)	-0.09** (0.03)	-0.07* (0.03)
Negative	-0.03 (0.02)	-0.03 (0.02)	-0.02 (0.02)
Non-Cand Ads (D)			0.00 (0.01)
Non-Cand Ads (R)			0.00 (0.01)
Incumbent			1.11*** (0.27)
Freshman			-0.45 (0.40)
Challenger Experience			0.26 (0.38)
Dem Expenses			1.02* (0.45)
Rep Expenses			-1.15** (0.40)
Dem Pres Vote Share			0.22*** (0.03)
Year FE	No	Yes	Yes
R <sup>2</sup>	0.15	0.16	0.48
Adj. R <sup>2</sup>	0.09	0.06	0.39
Num. obs.	165	165	164

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Table includes all advertisements aired in final two weeks of the campaign. Ads are in 10s. Last 2 columns errors are clustered on district and media market. Expenses are in natural logs.

**Table A14:** OLS Regression of Proportion of Ads, Competitive Elections

	Model 1	Model 2	Model 3
Intercept	49.55*** (0.49)	49.38*** (0.73)	38.89*** (6.66)
<i>Democrat Candidate's Ads</i>			
Prop. Positive	21.56** (7.00)	21.32** (7.58)	6.44 (6.64)
Prop. Negative	3.13 (8.10)	1.94 (8.17)	-2.52 (6.63)
<i>Republican Candidate's Ads</i>			
Prop. Positive	-16.26* (7.40)	-14.98* (7.54)	-8.63 (5.72)
Prop. Negative	1.42 (6.50)	1.89 (6.11)	8.48 (5.24)
Non-Cand Ads (D)			0.00 (0.01)
Non-Cand Ads (R)			-0.00 (0.01)
Incumbent			1.21*** (0.28)
Freshman			-0.30 (0.43)
Challenger Experience			0.17 (0.40)
Dem Expenses			1.42** (0.45)
Rep Expenses			-1.36*** (0.39)
Dem Pres Vote Share			0.19*** (0.03)
Year FE	No	Yes	Yes
R <sup>2</sup>	0.08	0.10	0.44
Adj. R <sup>2</sup>	0.06	0.04	0.37
Num. obs.	165	165	164

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Table includes all advertisements aired in final two weeks of the campaign. Ads are in proportions, contrast ads are excluded category. When a candidate aired zero ads, the proportion was set as zero. Last 2 columns errors are clustered on congressional district and media market. Expenses are in natural logs.

I then include here a range of other model specifications. Table A15 replicates the main analysis in Table 2, examining advertising effect with different time frames of aggregation, except using a logit regression. The dependent variable in these regressions is if the winner of the election was the Democratic candidate. Table A16 replicates the primary analysis using OLS regression, but includes multi-media market congressional districts. The effect is not directly interpretable since not all voters were exposed to the same set of advertisements. Table A17 replicates the main analysis but weights the advertisements by their cost; this over-weights large metropolitan areas such as Los Angeles. Table A18 takes the natural log of these weighted ad totals and estimates the non-linear effect. Finally table A19 uses the weighted advertisement totals for multi-media market districts.

**Table A15:** Logit Regression of Democratic Winner by Ad Tone in Competitive Elections

	8 Weeks	3 Weeks	2 Weeks	1 Week	2 Days	1 Day
Intercept	-17.58*	-17.73*	-17.03*	-14.16	-14.55	-15.44*
	(7.22)	(7.53)	(7.66)	(7.32)	(7.48)	(7.71)
<i>Democrat Candidate's Ads</i>						
Contrast	-0.00	-0.00	-0.01	0.00	-0.01	-0.02
	(0.01)	(0.01)	(0.01)	(0.03)	(0.07)	(0.09)
Positive	0.02**	0.02	0.03	0.07	0.14	0.15
	(0.01)	(0.01)	(0.02)	(0.04)	(0.09)	(0.11)
Negative	-0.01	-0.01	0.00	-0.01	-0.06	-0.08
	(0.01)	(0.01)	(0.02)	(0.03)	(0.07)	(0.09)
<i>Republican Candidate's Ads</i>						
Contrast	-0.01	-0.00	-0.01	-0.03	-0.09	-0.09
	(0.01)	(0.01)	(0.02)	(0.03)	(0.07)	(0.09)
Positive	-0.01	-0.02	-0.03*	-0.05	-0.11	-0.13
	(0.01)	(0.01)	(0.02)	(0.03)	(0.07)	(0.10)
Negative	0.01*	0.02	0.02	0.05*	0.13**	0.19**
	(0.01)	(0.01)	(0.01)	(0.02)	(0.04)	(0.06)
Non-Cand Ads (D)	-0.00	-0.00	-0.00	-0.01	-0.02	-0.03
	(0.00)	(0.01)	(0.01)	(0.01)	(0.04)	(0.05)
Non-Cand Ads (R)	0.00	0.01	0.01	0.02	0.06	0.08
	(0.00)	(0.01)	(0.01)	(0.01)	(0.04)	(0.06)
Incumbent	1.04**	1.08***	1.12***	1.31***	1.26***	1.21***
	(0.34)	(0.31)	(0.31)	(0.36)	(0.35)	(0.34)
Freshman	0.11	0.03	0.00	-0.03	0.04	0.02
	(0.48)	(0.48)	(0.50)	(0.48)	(0.49)	(0.48)
Challenger Experience	0.49	0.60	0.55	0.58	0.73	0.77
	(0.42)	(0.40)	(0.41)	(0.42)	(0.43)	(0.43)
Dem Expenses	1.38*	1.55*	1.41*	1.24*	1.37*	1.48*
	(0.60)	(0.61)	(0.64)	(0.63)	(0.65)	(0.65)
Rep Expenses	-0.75	-0.83	-0.78	-0.95	-1.01*	-1.05*
	(0.42)	(0.46)	(0.49)	(0.50)	(0.51)	(0.51)
Dem Pres Vote Share	0.15***	0.13***	0.14***	0.18***	0.17***	0.17***
	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Log Likelihood	-76.08	-77.43	-75.66	-70.15	-69.89	-70.56
Num. obs.	169	164	164	162	162	160

\*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$

Ads are in 10s. Errors are clustered on district and media market. Expenses are in natural logs.

**Table A16:** OLS Regression of Advertising Tone, Multi-Media Market Districts, Competitive Elections

	Model 1	Model 2	Model 3
Intercept	50.61*** (0.32)	50.45*** (0.54)	42.60*** (5.60)
<i>Democrat Candidate's Ads</i>			
Contrast	-0.00 (0.01)	-0.00 (0.01)	0.00 (0.01)
Positive	0.02* (0.01)	0.02** (0.01)	0.01 (0.01)
Negative	-0.00 (0.01)	0.00 (0.01)	-0.01 (0.01)
<i>Republican Candidate's Ads</i>			
Contrast	-0.03** (0.01)	-0.03*** (0.01)	-0.01 (0.01)
Positive	-0.05*** (0.01)	-0.06*** (0.01)	-0.03** (0.01)
Negative	-0.01 (0.01)	-0.01 (0.01)	0.01 (0.01)
Non-Cand Ads (D)			0.00 (0.00)
Non-Cand Ads (R)			-0.00 (0.00)
Incumbent			1.25*** (0.23)
Freshman			0.10 (0.33)
Challenger Experience			0.33 (0.30)
Dem Expenses			1.11** (0.34)
Rep Expenses			-1.26*** (0.32)
Dem Pres Vote Share			0.18*** (0.02)
Year Fixed Effects	No	Yes	Yes
R <sup>2</sup>	0.10	0.12	0.40
Adj. R <sup>2</sup>	0.08	0.08	0.35
Num. obs.	266	266	263

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Table includes all advertisements aired in final two weeks of the campaign. Ads are in 10s. Last 2 columns errors are clustered on congressional district. Expenses are in natural logs.

**Table A17:** OLS Regression by Ad Tone, Weighted by Cost, Competitive Elections

	Model 1	Model 2	Model 3
Intercept	49.88*** (0.40)	49.61*** (0.73)	35.94*** (6.46)
<i>Democrat Candidate's Ads</i>			
Contrast	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)
Positive	0.00* (0.00)	0.00* (0.00)	0.00 (0.00)
Negative	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)
<i>Republican Candidate's Ads</i>			
Contrast	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Positive	-0.01** (0.00)	-0.01** (0.00)	-0.00* (0.00)
Negative	0.00 (0.00)	0.00 (0.00)	0.00** (0.00)
Non-Cand Ads (D)			-0.00 (0.00)
Non-Cand Ads (R)			0.00 (0.00)
Incumbent			1.36*** (0.27)
Freshman			-0.46 (0.43)
Challenger Experience			0.33 (0.37)
Dem Expenses			1.53*** (0.44)
Rep Expenses			-1.23** (0.37)
Dem Pres Vote Share			0.20*** (0.03)
Year Fixed Effects	No	Yes	Yes
R <sup>2</sup>	0.08	0.09	0.47
Adj. R <sup>2</sup>	0.05	0.02	0.40
Num. obs.	165	165	164

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Table includes all advertisements aired in final two weeks of the campaign. Ads are in 1000s. Last 2 columns errors are clustered on congressional district and media market. Expenses are in natural logs.



**Table A18:** OLS Regression by Logged Ad Tone, Weighted by Cost, Competitive Elections

	Model 1	Model 2	Model 3
Intercept	50.29*** (0.60)	50.18*** (0.92)	36.05*** (6.86)
<i>Democrat Candidate's Ads</i>			
Log Contrast	-0.03 (0.10)	-0.03 (0.10)	0.02 (0.09)
Log Positive	0.24* (0.10)	0.22* (0.10)	-0.02 (0.10)
Log Negative	0.14 (0.10)	0.14 (0.09)	0.11 (0.08)
<i>Republican Candidate's Ads</i>			
Log Contrast	-0.12 (0.10)	-0.12 (0.10)	-0.16 (0.09)
Log Positive	-0.34*** (0.10)	-0.34*** (0.10)	-0.23* (0.09)
Log Negative	-0.05 (0.10)	-0.05 (0.09)	-0.00 (0.09)
Non-Cand Ads (D)			-0.00 (0.00)
Non-Cand Ads (R)			0.00 (0.00)
Incumbent			1.29*** (0.28)
Freshman			-0.37 (0.43)
Challenger Experience			0.34 (0.38)
Dem Expenses			1.26** (0.43)
Rep Expenses			-0.95* (0.37)
Dem Pres Vote Share			0.20*** (0.03)
Year Fixed Effects	No	Yes	Yes
R <sup>2</sup>	0.12	0.13	0.46
Adj. R <sup>2</sup>	0.09	0.07	0.39
Num. obs.	165	165	164

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

Table includes all advertisements aired in final two weeks of the campaign. Ads are in natural logs. Last 2 columns errors are clustered on congressional district and media market. Expenses are in natural logs.

**Table A19:** OLS Regression by Advertising Tone, Multi-Media Market Districts, Weighted by Cost, Competitive Elections

	Model 1	Model 2	Model 3
Intercept	49.90*** (0.31)	49.82*** (0.62)	41.42*** (5.77)
<i>Democrat Candidate's Ads</i>			
Contrast	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Positive	0.00** (0.00)	0.00** (0.00)	0.00 (0.00)
Negative	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)
<i>Republican Candidate's Ads</i>			
Contrast	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Positive	-0.01*** (0.00)	-0.01*** (0.00)	-0.00** (0.00)
Negative	0.00 (0.00)	0.00 (0.00)	0.00* (0.00)
Non-Cand Ads (D)			-0.00 (0.00)
Non-Cand Ads (R)			0.00 (0.00)
Incumbent			1.31*** (0.23)
Freshman			-0.01 (0.35)
Challenger Experience			0.35 (0.29)
Dem Expenses			1.14** (0.36)
Rep Expenses			-1.21*** (0.32)
Dem Pres Vote Share			0.19*** (0.02)
Year Fixed Effects	No	Yes	Yes
R <sup>2</sup>	0.07	0.08	0.40
Adj. R <sup>2</sup>	0.05	0.04	0.36
Num. obs.	266	266	263

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$

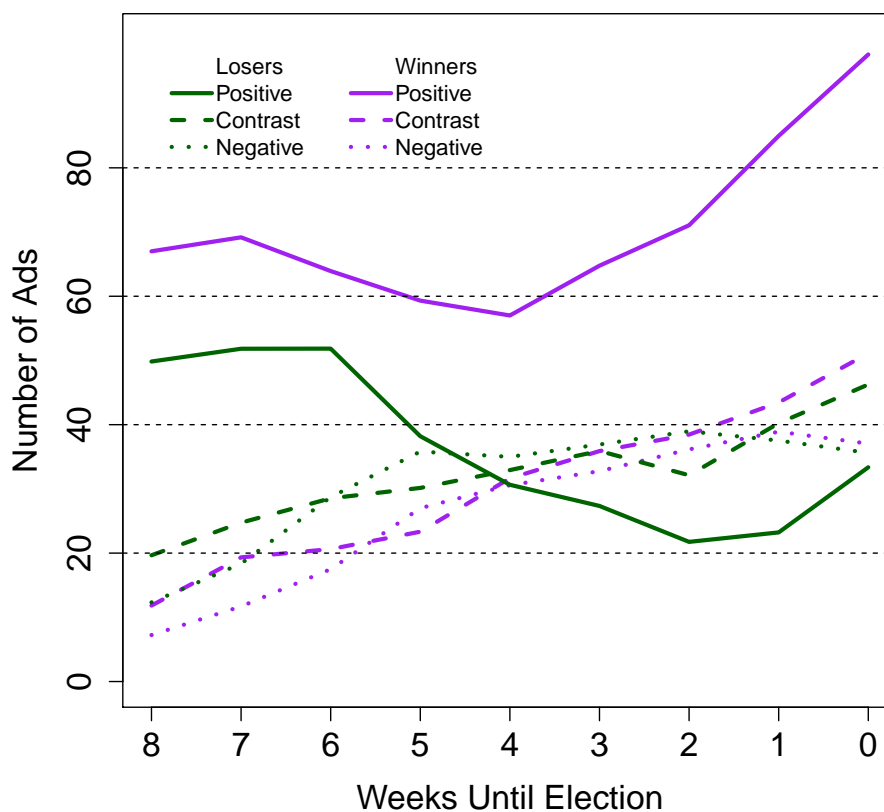
Table includes all advertisements aired in final two weeks of the campaign. Ads are in 1000s. Last 2 columns errors are clustered on congressional district and media market. Expenses are in natural logs.

I present here additional evidence and alternative specifications demonstrating how both candidates in a competitive House election advertise similarly. Table A20 replicates Table 2.5 in the main analysis but instead of number of ads, uses proportion of ads. The results do not change, that both candidates advertise similarly in competitive elections. Figure A.1 presents the choice of advertising tone for candidates in all House elections, including both competitive and uncompetitive races. Figure A.2 subsets this data to focus solely on uncompetitive races. Unlike in competitive races where both candidates advertise similarly, in uncompetitive races candidates advertise significantly different number of positive advertisements. Both candidates air approximately the same number of negative and contrast ads.

Instead of examining the winning and losing candidates, I replicate the analysis examining Democratic and Republican candidates. While some differences exist between Democrats and Republicans, these differences disappear when adding in control variables, as seen in the main analysis. Figure A.3 presents the choice of advertising tone by Democratic and Republican candidates in all elections, Figure A.4 focuses on competitive elections, and Figure A.5 only on uncompetitive elections. Across all analyses I define competitive as candidates within 10% of each other, all others are considered uncompetitive. Table A21 focuses on the relationship presented in Figure A.4 and replicates the Table 2.5 but by partisanship instead of winning and losing candidates. Table A22 then presents the proportion of advertisements by partisanship, replicating Table A20.

**Table A20:** Aggregate Proportion of Ads in Competitive Elections

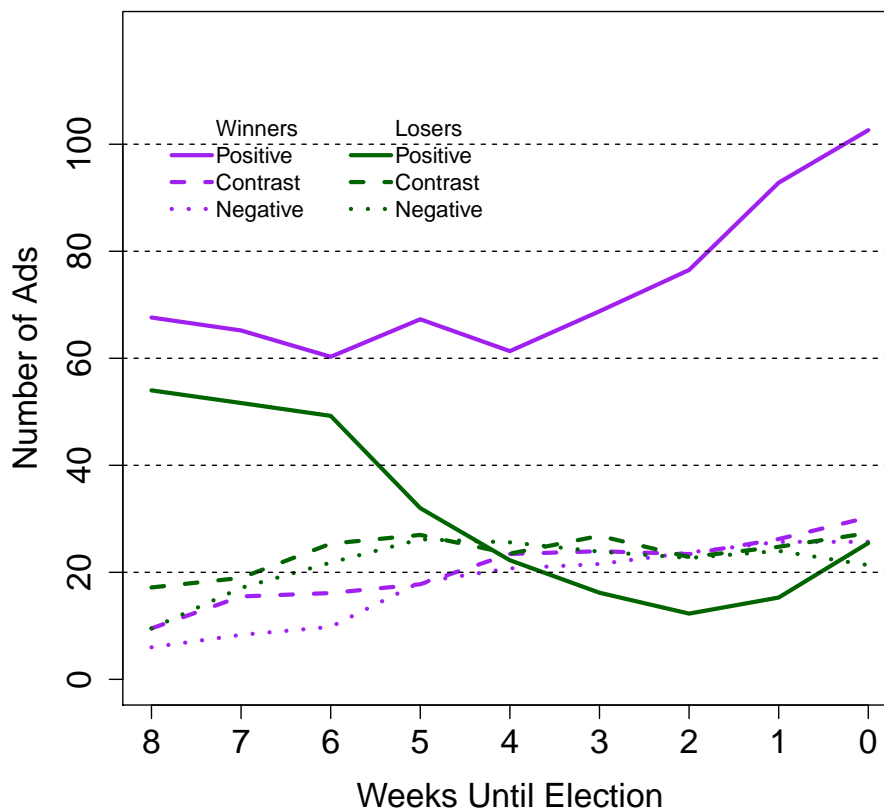
Weeks To Election	Positive Ads (%)			Negative Ads (%)		
	Winners	Losers	<i>p</i>	Winners	Losers	<i>p</i>
5	24.74	35.74	0.08	27.57	22.03	0.34
4	24.27	25.30	0.85	25.48	29.31	0.50
3	22.81	23.52	0.89	26.03	35.18	0.09
2	21.17	22.18	0.82	30.68	35.87	0.35
1	27.38	24.69	0.58	22.09	34.11	0.02



**Figure A.1:** Number of Ads Over the Campaign in All Elections

**Table A21:** Aggregate Number of Ads in Competitive Elections by Partisanship

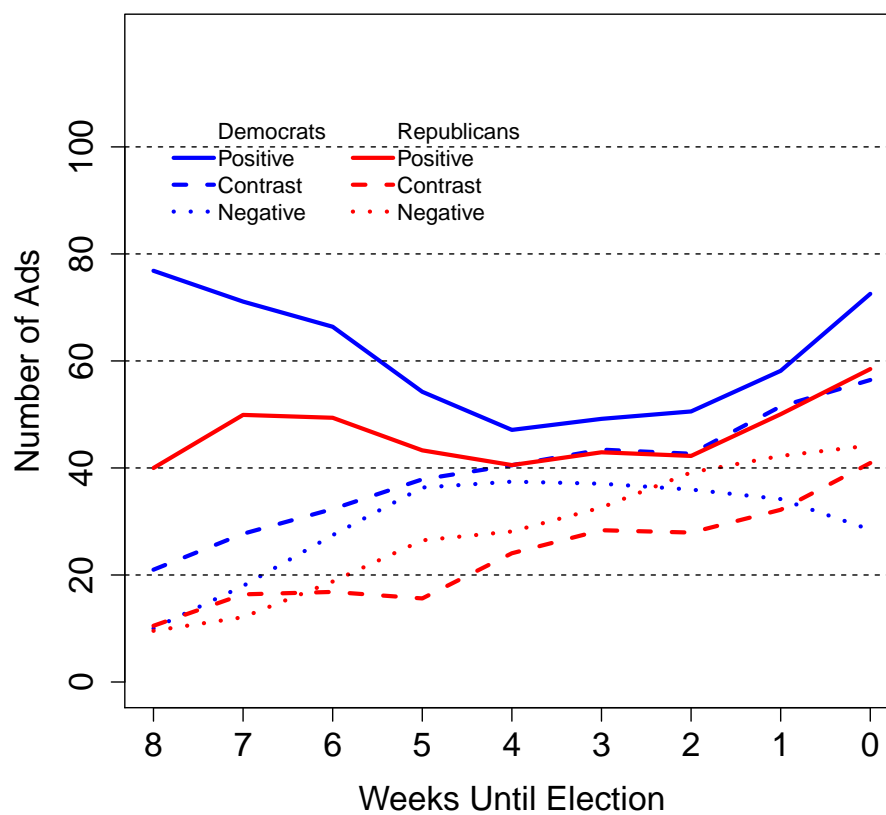
Weeks To Election	Positive Ads			Negative Ads			Contrast Ads		
	Dems	Reps	<i>p</i>	Dems	Reps	<i>p</i>	Dems	Reps	<i>p</i>
5	58.09	36.84	0.02	58.81	38.49	0.03	62.34	32.25	< 0.01
4	63.97	41.50	0.02	66.29	49.75	0.09	69.90	42.74	< 0.01
3	61.99	41.33	0.02	73.64	69.42	0.70	84.96	43.69	< 0.01
2	65.19	43.59	< 0.01	70.48	79.94	0.42	110.89	62.03	< 0.01
1	90.71	52.37	< 0.01	57.01	92.34	< 0.01	124.95	89.14	< 0.01



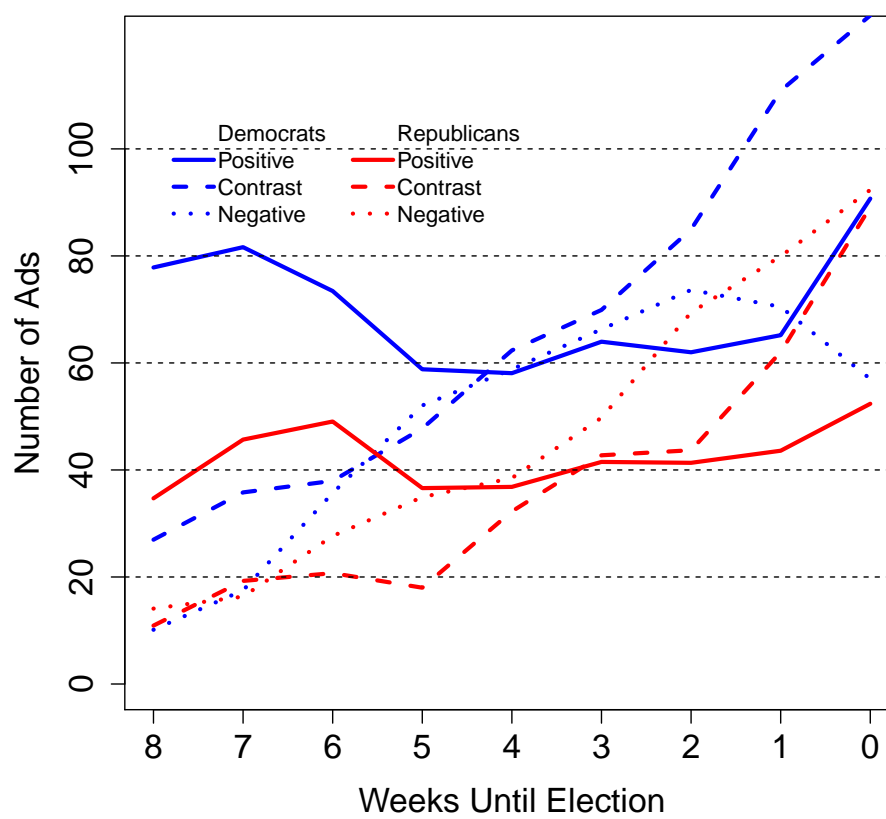
**Figure A.2:** Number of Ads Over the Campaign in Uncompetitive Elections

**Table A22:** Aggregate Proportion of Ads in Competitive Elections by Partisanship

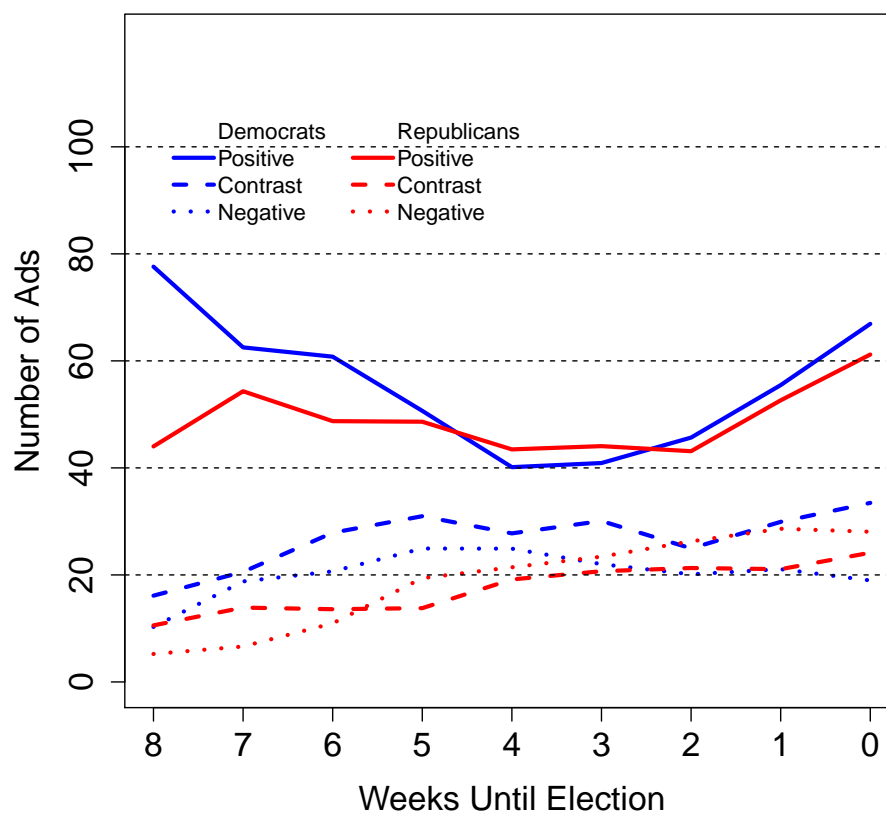
Weeks To Election	Positive Ads (%)			Negative Ads (%)		
	Dems	Reps	<i>p</i>	Dems	Reps	<i>p</i>
5	32.03	29.01	0.45	23.54	30.48	0.10
4	31.11	25.56	0.13	26.36	34.99	0.03
3	27.38	25.61	0.60	26.14	39.71	< 0.01
2	25.80	22.27	0.24	23.66	36.61	< 0.01
1	31.80	22.46	< 0.01	17.42	34.08	< 0.01



**Figure A.3:** Number of Ads Over the Campaign in All Elections by Partisanship



**Figure A.4:** Number of Ads Over the Campaign in Competitive Elections by Partisanship



**Figure A.5:** Number of Ads Over the Campaign in Uncompetitive Elections by Partisanship



# Appendix B

## Chapter 3 Appendix: Experimental Analysis

Appendix Table B1 provides the raw support for the Republican candidate across all the treatment groups, for all three samples. Table B2 presents the balance table of covariates for MTurk Sample 1, similar tables for the CCES and MTurk Sample 2 are B3 and B4 respectively. Table B5 provides a comparison of these covariates between the three sample populations.

**Table B1:** Republican Vote Share by Treatment Groups

Treatment Group	MTurk Sample 1	CCES Sample	MTurk Sample 2
Pos (Dem) vs. Neg (Rep)	41.6%	41.9%	24.6%
Neg (Dem) vs. Pos (Rep)	37.1%	55.5%	37.4%
Con (Dem) vs. Pos (Rep)	31.5%	45.8%	38.2%
Pos (Dem) vs. Con (Rep)	31.1%	51.3%	25.7%
Con (Dem) vs. Neg (Rep)	27.0%	43.8%	35.1%
Neg (Dem) vs. Con (Rep)	30.8%	47.5%	29.4%

**Table B2:** Balance Table of Covariates, MTurk Sample 1

	Treat. 1	Treat. 2	Treat. 3	Treat. 4	Treat. 5	Treat. 6
Democrat	45.2%	38.1%	46.6%	38.2%	43.1%	45.0%
Female	34.3%	39.3%	40.5%	39.4%	41.9%	33.9%
Age	33.2	32.5	32.6	33.2	31.0	32.7
Non-white	20.5%	25.6%	25.8%	24.2%	19.2%	22.2%
Married	39.2%	39.3%	42.7%	46.1%	44.3%	37.4%
College Diploma	49.4%	50.1%	44.4%	52.7%	44.9%	52.6%
Voted in 2012	66.9%	69.6%	69.1%	73.3%	74.3%	73.7%
Unemployed	10.2%	10.7%	10.7%	14.6%	8.4%	10.5%

**Table B3:** Balance Table of Covariates, CCES Sample

	Treat. 1	Treat. 2	Treat. 3	Treat. 4	Treat. 5	Treat. 6
Democrat	26%	34.8%	35.7%	31.1%	31.8%	29.8%
Female	52%	53.6%	51.8%	46.3%	48.4%	55.7%
Age	49.7	51.4	52.7	51.8	50.8	48.4
Non-white	30.7%	25.9%	16.1%	24.4%	19.8%	20.2%
Married	50%	45.5%	49.7%	50%	57.9%	59.7%
College Diploma	40.7%	36.6%	33.6%	39.6%	42.1%	43.6%
Voted in 2012	76.7%	76.8%	76.9%	81.7%	76.2%	77.4%

**Table B4:** Balance Table of Covariates, MTurk Sample 2

	Treat. 1	Treat. 2	Treat. 3	Treat. 4	Treat. 5	Treat. 6
Democrat	41.4%	42.7%	41.0%	45.2%	44.0%	40.0%
Female	47.0%	41.7%	46.3%	52.4%	43.5%	50.2%
Age	30.9	32.2	31.7	33.7	32.6	33.7
Non-white	25.3%	24.0%	26.3%	26.2%	23.4%	25.9%
Married	34.9%	42.2%	43.9%	46.1%	47.9%	49.3%
College Diploma	42.9%	50.5%	50.2%	44.2%	52.6%	40.5%
Voted in 2012	66.2%	66.2%	70.2%	66.5%	71.3%	72.7%

**Table B5:** Table of Covariate Comparison

	MTurk Sample 1	CCES Sample	MTurk Sample 2
Democrat	42.8%	31.4%	42.8%
Female	38.2%	51%	46.9%
Age	32.5	50.9	32.8
Non-white	23.0%	23%	24.3%
Married	41.5%	52%	45.2%
College Diploma	49.1%	39.3%	48.1%
Voted in 2012	71.1%	77.8%	69.8%
Unemployed	10.8%	7.3%	7.2%

Then I examine the representativeness of the two sets of advertisements, from Michigan's 7th Congressional District in 2008 and Virginia's 2nd Congressional District in 2012. Table B6 presents the CMAG titles for each of the advertisements used. Table B7 presents the cumulative percentiles of many of the common characteristics of advertisements for the Michigan set of ads that was used in the MTurk Sample 1 and the CCES surveys. Table B8 provides the same data for the Virginia set of ads that was used in the second MTurk sample. In both cases, the characteristics of these ads are often the same as a majority of the advertisements as compared to other ads aired in that election cycle. For example, in Table B7, examining all House ads ran in 2008, 86.8% do not mention the political party of the candidate sponsoring the advertisement. Similarly, of all the House ads in 2012, 80.6% do not mentioned the political party of the sponsoring candidate, the same as all six advertisements used in the experiment.

**Table B6:** Advertisements in the Experiments

Type	Partisanship	Creative Title
<i>2008 Michigan House Ads</i>		
Positive	Democrat	‘Turn Things Around’
Negative	Democrat	‘Walberg Lies’
Contrast	Democrat	‘These People’
Positive	Republican	‘Pretty Bad Things’
Negative	Republican	‘Children’s Future’
Contrast	Republican	‘Key to Economy’
<i>2012 Virginia House Ads</i>		
Positive	Democrat	‘Accountable’
Negative	Democrat	‘Rigell Doesn’t Share My Values’
Contrast	Democrat	‘Personal Attacks’
Positive	Republican	‘Defining Moment for Our Country’
Negative	Republican	‘Hirschbiel Anything But Jobs’
Contrast	Republican	‘Hirschbiel a Shame’

**Table B7:** Characteristics of 2008 Michigan House Advertisements

	Con. (Rep.)	Neg. (Rep.)	Pos. (Rep.)	Con. (Dem.)	Neg. (Dem.)	Pos. (Dem.)
Tone	Contrast 20.5%	Negative 35.0%	Positive 44.5%	Contrast 20.5%	Negative 35.0%	Positive 44.5%
Candidate Approval	Beginning 15.3%	Beginning 15.3%	End 70.8%	End 70.8%	End 70.8%	End 70.8%
Candidate Appears	Yes 31.9%	No 44.6%	Yes 31.9%	Yes 31.9%	No 44.6%	No 44.6%
Specifies Party	No 86.8%	No 86.8%	No 86.8%	No 86.8%	No 86.8%	No 86.8%
Cites Sources	Yes, Other 5.2%	Yes 6.7%	No 47.4%	Yes 11.7%	Yes 27.5%	No 47.4%
Subject	Policy 53.6%	Policy 53.6%	Policy 53.6%	Policy 53.6%	Personal and Policy 30.7%	Policy 53.6%
Mentions Economics	Yes 73.1%	Yes 73.1%	Yes 73.1%	Yes 73.1%	Yes 73.1%	Yes 73.1%
Mentions Taxes	Yes 42.8%	Yes 42.8%	Yes 42.8%	No 57.2%	Yes 42.8%	No 57.2%
Mentions Jobs	Yes 27.0%	Yes 27.0%	Yes 27.0%	Yes 27.0%	Yes 27.0%	Yes 27.0%

Percentages represent cumulative percent of all House ads ran in 2008.

**Table B8:** Characteristics of 2012 Virginia House Advertisements

	Con. (Rep.)	Neg. (Rep.)	Pos. (Rep.)	Con. (Dem.)	Neg. (Dem.)	Pos. (Dem.)
Tone	Contrast 22.2%	Negative 43.2%	Positive 34.6%	Contrast 22.2%	Negative 43.2%	Positive 34.6%
Candidate Approval	Middle 5.8%	Beginning 21.7%	End 72.3%	End 72.3%	Beginning 21.7%	End 72.3%
Candidate Appears	Yes 38.4%	No 61.6%	Yes 38.4%	No 61.6%	No 61.6%	Yes 38.4%
Specifies Party	No 80.6%	No 80.6%	No 80.6%	No 80.6%	No 80.6%	No 80.6%
Cites Sources	Yes 33.5%	Yes 33.5%	No 66.5%	No 66.5%	Yes 33.5%	No 66.5%
Subject	Policy 63.9%	Policy 63.9%	Policy 63.9%	Policy 63.9%	Policy 63.9%	Policy 63.9%
Mentions Economics (generic)	No 94.8%	Yes 5.2%	Yes 5.2%	No 94.8%	Yes 5.2%	No 94.8%
Mentions Medicare	Yes 29.0%	No 71.0%	No 71.0%	Yes 29.0%	No 71.0%	No 71.0%
Mentions Budget	No 81.0%	Yes 19.0%	Yes 19.0%	No 81.0%	No 81.0%	Yes 19.0%

Percentages represent cumulative percent of all House ads ran in 2012.

I provide here other analyses that includes the pairwise t-tests to compare the effectiveness of the contrast ad compared to the positive or negative ads aired by candidates. Table B9 assesses the issue of backlash against the Democratic sponsor for airing a contrast ad. In support of previous research that finds reduced backlash for contrast ads, across all three samples, I find no evidence of backlash. Table B10 replicates this analysis if the sponsor of the contrast ad was a Republican, and only one of the three samples finds evidence of backlash. Table B11 examines if a contrast or negative ad is more effective, while Table B12 presents the results comparing a contrast ad to a positive ad. I find inconsistent results where half of the time the contrast ad is more effective than the negative ad, but in other cases, the result disappears. Similarly, the results for whether a contrast ad is more effective than a positive ad yields mixed results. Tables B13 through B16 replicate these results using the thermometer ratings instead of the candidate's vote share, with similar findings. Table B17 provides the correlation between vote choice and both Republican and Democratic candidate thermometer ratings.

**Table B9:** Democratic Candidate Thermometer Rating by Advertising Tone

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Rating	p-value	Rating	p-value	Rating	p-value
Positive (R) vs Contrast (D)	54.4	0.53	59.4	0.19	50.0	0.55
Negative (R) vs Contrast (D)	52.7		54.8		51.5	

**Table B10:** Republican Candidate Thermometer by Advertising Tone

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Rating	p-value	Rating	p-value	Rating	p-value
Positive (D) vs Contrast (R)	42.0	0.13	47.2	0.84	45.1	<0.01
Negative (D) vs Contrast (R)	37.7		47.9		38.9	

**Table B11:** T-tests for Change in Support by Advertising Tone

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Republican Vote	p-value	Republican Vote	p-value	Republican Vote	p-value
Contrast (R) vs Positive (D)	31.1%	0.25	51.3%	0.08	25.7%	0.80
Negative (R) vs Positive (D)	37.1%		41.9%		24.6%	
Contrast (D) vs Positive (R)	31.5%	0.05	45.8%	0.07	38.2%	0.86
Negative (D) vs Positive (R)	41.6%		55.5%		37.4%	

**Table B12:** T-tests for Change in Support by Advertising Tone

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Republican Vote	p-value	Republican Vote	p-value	Republican Vote	p-value
Contrast (R) vs Negative (D)	30.8%	0.04	47.5%	0.16	29.4%	0.09
Positive (R) vs Negative (D)	41.6%		55.5%		37.4%	
Contrast (D) vs Negative (R)	26.9%	0.05	43.8%	0.74	35.1%	0.02
Positive (D) vs Negative (R)	37.1%		41.9%		24.6%	

**Table B13:** Thermometer Ratings by Advertising Tone

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Rating	p-value	Rating	p-value	Rating	p-value
Democratic Candidate Thermometer - Ad Target						
Contrast (R) vs Positive (D)	56.9	0.36	53.8	< 0.001	59.7	0.61
Negative (R) vs Positive (D)	59.3		64.3%		60.8	
Republican Candidate Thermometer - Ad Sponsor/Backlash						
Contrast (R) vs Positive (D)	42.0	0.80	47.2	0.04	45.1	< 0.001
Negative (R) vs Positive (D)	42.8		53.7		36.3	

**Table B14:** Thermometer Ratings by Advertising Tone

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Rating	p-value	Rating	p-value	Rating	p-value
Republican Candidate Thermometer - Ad Target						
Contrast (D) vs Positive (R)	47.7	0.12	55.6	0.91	48.0	0.02
Negative (D) vs Positive (R)	43.3		55.2		41.9	
Democrat Candidate Thermometer - Ad Sponsor/Backlash						
Contrast (D) vs Positive (R)	54.4	< 0.01	59.4	< 0.01	50.0	0.53
Negative (D) vs Positive (R)	42.5		40.7		51.5	

**Table B15:** Thermometer Ratings by Advertising Tone

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Rating	p-value	Rating	p-value	Rating	p-value
Democratic Candidate Thermometer - Ad Target						
Contrast (R) vs Negative (D)	46.1	0.19	41.2	0.91	53.3	0.45
Positive (R) vs Negative (D)	42.5		40.7		51.5	
Republican Candidate Thermometer - Ad Sponsor/Backlash						
Contrast (R) vs Negative (D)	37.7	0.05	47.9	0.05	38.9	0.25
Positive (R) vs Negative (D)	43.3		55.2		41.9	

**Table B16:** Thermometer Ratings by Advertising Tone

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Rating	p-value	Rating	p-value	Rating	p-value
Republican Candidate Thermometer - Ad Target						
Contrast (D) vs Negative (R)	40.6	0.49	52.3	0.67	41.0	0.05
Positive (D) vs Negative (R)	42.8		53.7		36.3	
Democrat Candidate Thermometer - Ad Sponsor/Backlash						
Contrast (D) vs Negative (R)	52.7	0.02	54.8	< 0.01	51.5	< 0.001
Positive (D) vs Negative (R)	59.3		64.3		60.8	



**Table B17:** Correlations Between Vote Choice and Thermometer Ratings

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Value	Correlation	Value	Correlation	Value	Correlation
Vote Choice	33.1%		47.8%		31.8%	
		0.64*		0.48*		0.51*
Republican Thermometer	42.4		52.1		41.9	
Vote Choice	33.1%		47.8%		31.8%	
		-0.43*		-0.49*		-0.47*
Democratic Thermometer	52.0		53.1		54.5	
Republican Thermometer	42.4		52.1		41.9	
		-0.25*		-0.29*		-0.24*
Democratic Thermometer	52.0		53.1		54.5	

\*  $p < 0.01$  Correlation statistically significantly different from zero.

I present here the results separated by partisanship to test if Democrats responded differently to Republicans. Democrats and Republicans are defined by the three point party scale. Table B18 presents the N of each treatment group by partisanship. Table B19 presents the overall vote choice by partisanship and treatment group, replicating Table B1. Tables B20 and B21 replicate the main table in the paper by partisanship. The only statistically significant relationship is for Republicans who responded more harshly to a negative ad by a Democrat in two of the three samples. Tables B22-B25 test for both backlash and intended effect for Democrats and Republicans. These results are in line with the original results. Taken together, there is limited evidence that Democrats responded differently than Republicans.

**Table B18:** Treatment Group Size by Partisanship

Treatment Group	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Democrats	Republicans	Democrats	Republicans	Democrats	Republicans
Pos (Dem) vs. Neg (Rep)	64	30	52	47	87	31
Neg (Dem) vs. Pos (Rep)	75	21	54	37	82	39
Con (Dem) vs. Pos (Rep)	83	30	63	37	84	34
Pos (Dem) vs. Con (Rep)	63	28	60	51	93	39
Con (Dem) vs. Neg (Rep)	72	25	62	42	92	38
Neg (Dem) vs. Con (Rep)	77	23	48	30	82	34

**Table B19:** Republican Vote Share by Treatment Groups and Partisanship

Treatment Group	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Democrats	Republicans	Democrats	Republicans	Democrats	Republicans
Pos (Dem) vs. Neg (Rep)	14.8%	86.7%	10.7%	75.7%	5.7%	71.0%
Neg (Dem) vs. Pos (Rep)	24.0%	85.7%	11.5%	97.9%	14.6%	89.7%
Con (Dem) vs. Pos (Rep)	12.0%	86.7%	15.9%	94.6%	13.1%	85.3%
Pos (Dem) vs. Con (Rep)	7.9%	67.9%	8.5%	90.2%	7.6%	63.2%
Con (Dem) vs. Neg (Rep)	5.6%	88.0%	11.3%	90.2%	8.7%	91.9%
Neg (Dem) vs. Con (Rep)	7.8%	95.7%	12.5%	90.0%	4.9%	91.2%

**Table B20:** T-tests for Change in Vote Choice by Advertising Tone, Democrats Only

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Republican Vote	p-value	Republican Vote	p-value	Republican Vote	p-value
<b>Positive (R)</b> vs Contrast (D)	12.0%	0.15	15.9%	0.46	13.1%	0.35
<b>Negative (R)</b> vs Contrast (D)	5.6%		11.3%		8.7%	
<b>Positive (D)</b> vs Contrast (R)	7.9%	0.98	8.5%	0.51	7.6%	0.46
<b>Negative (D)</b> vs Contrast (R)	7.8%		12.5%		4.9%	

**Table B21:** T-tests for Change in Vote Choice by Advertising Tone, Republicans Only

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Republican Vote	p-value	Republican Vote	p-value	Republican Vote	p-value
<b>Positive (R)</b> vs Contrast (D)	86.7%	0.88	94.6%	0.47	85.3%	0.39
<b>Negative (R)</b> vs Contrast (D)	88.0%		90.2%		91.9%	
<b>Positive (D)</b> vs Contrast (R)	67.9%	< 0.01	90.2%	0.98	63.2%	< 0.01
<b>Negative (D)</b> vs Contrast (R)	95.7%		90.0%		91.2%	

**Table B22:** Testing Backlash: T-tests on Candidate Thermometer Rating by Advertising Tone, Democrats Only

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Rating	p-value	Rating	p-value	Rating	p-value
<i>Republican Candidate Thermometer</i>						
<b>Positive (R)</b> vs Contrast (D)	38.6	0.24	49.0	0.21	41.8	0.05
<b>Negative (R)</b> vs Contrast (D)	33.9		42.1		34.5	
<i>Democratic Candidate Thermometer</i>						
<b>Positive (D)</b> vs Contrast (R)	67.1	< 0.01	67.5	0.02	64.7	0.09
<b>Negative (D)</b> vs Contrast (R)	54.3		54.3		59.7	

**Table B23:** Effect on Target: T-tests on Candidate Thermometer Rating by Advertising Tone, Democrats Only

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Rating	p-value	Rating	p-value	Rating	p-value
<i>Republican Candidate Thermometer</i>						
<b>Positive (D)</b> vs Contrast (R)	34.6	0.27	36.6	0.27	43.8	< 0.01
<b>Negative (D)</b> vs Contrast (R)	30.3		42.9		33.3	
<i>Democratic Candidate Thermometer</i>						
<b>Positive (R)</b> vs Contrast (D)	61.8	0.56	65.1	0.73	57.1	0.08
<b>Negative (R)</b> vs Contrast (D)	59.5		63.4		63.1	

**Table B24:** Testing Backlash: T-tests on Candidate Thermometer Rating by Advertising Tone, Republicans Only

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Rating	p-value	Rating	p-value	Rating	p-value
<i>Republican Candidate Thermometer</i>						
<b>Positive (R)</b> vs Contrast (D)	73.6	0.79	64.8	0.76	63.6	0.85
<b>Negative (R)</b> vs Contrast (D)	72.1		66.3		64.4	
<i>Democratic Candidate Thermometer</i>						
<b>Positive (D)</b> vs Contrast (R)	55.3	< 0.01	41.2	0.37	55.9	0.24
<b>Negative (D)</b> vs Contrast (R)	34.5		35.1		49.6	

**Table B25:** Effect on Target: T-tests on Candidate Thermometer Rating by Advertising Tone, Republicans Only

Treatment	MTurk Sample 1		CCES Sample		MTurk Sample 2	
	Rating	p-value	Rating	p-value	Rating	p-value
<i>Republican Candidate Thermometer</i>						
<b>Positive (D)</b> vs Contrast (R)	59.5	0.28	59.5	0.99	58.6	0.46
<b>Negative (D)</b> vs Contrast (R)	66.7		59.6		62.9	
<i>Democratic Candidate Thermometer</i>						
<b>Positive (R)</b> vs Contrast (D)	37.4	0.64	53.0	0.44	47.2	0.08
<b>Negative (R)</b> vs Contrast (D)	40.5		46.5		38.4	

# Appendix C

## Chapter 4 Appendix: Interest Group Advertising

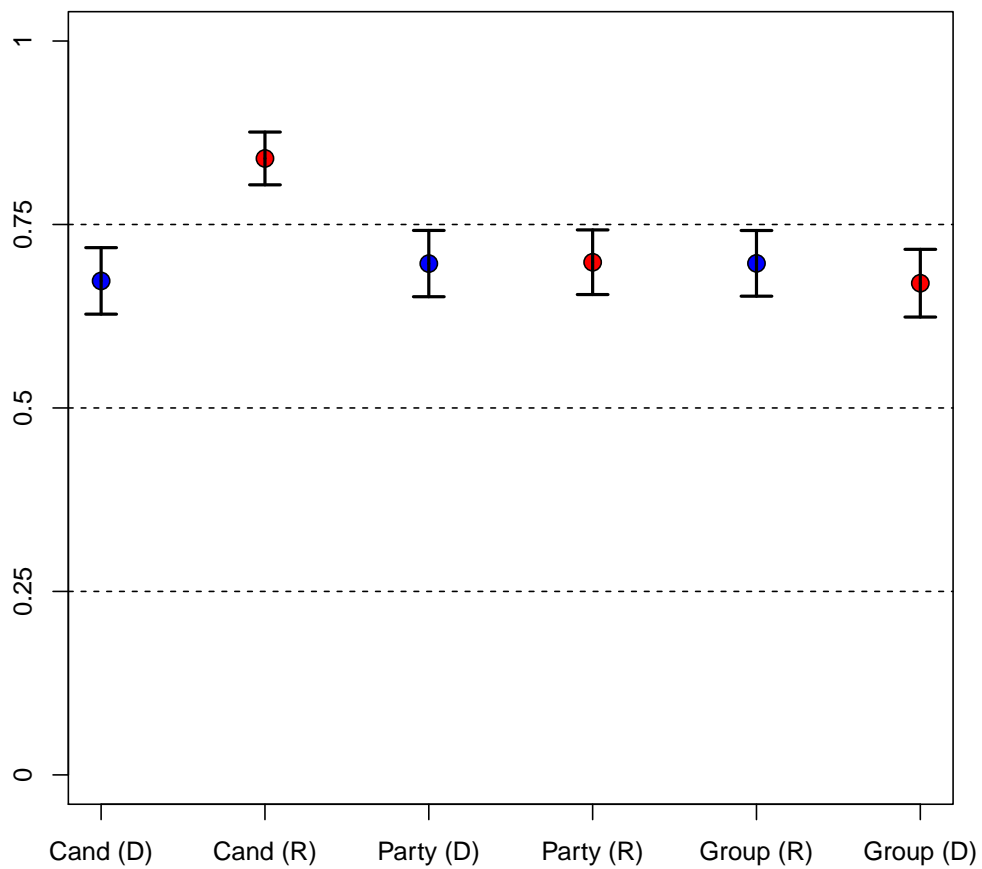
Table C1 presents the raw Republican vote share for each of the six primary treatment groups in the experiment. Table C2 is a balance table of covariates across all six treatment groups. The groups are fairly well balanced across a wide range of attributes including gender, age, race, and education. Table C3 presents the specific advertisements used in the experiment, including their titles. Table C4 presents a table of characteristics of the six advertisements used in the experiment. These represent typical advertisements as shown in the cumulative percentage of ads from 2010 that also contained those characteristics. Finally, Figure C.1 presents the percent of respondents who correctly identified whether the sponsor of the advertisement was a candidate or non-candidate, in a binary question, including 95% confidence intervals.

**Table C1:** Republican Vote Share by Treatment Groups

Treatment Group	Sample
Candidate (Dem) vs. Interest Group (Rep)	35.2%
Interest Group (Dem) vs. Candidate (Rep)	38.8%
Party (Dem) vs. Candidate (Rep)	32.5%
Candidate (Dem) vs. Party (Rep)	36.0%
Party (Dem) vs. Interest Group (Rep)	28.7%
Interest Group (Dem) vs. Party (Rep)	31.7%

**Table C2:** Balance Table of Covariates

	Treat. 1	Treat. 2	Treat. 3	Treat. 4	Treat. 5	Treat. 6
Democrat	45.5%	43.8%	39.1%	46.2%	42.4%	48.0%
Female	48.5%	48.3%	52.1%	48.2%	47.3%	54.0%
Age	34.3	34.7	34.7	32.5	34.7	33.3
Non-white	25.3%	22.7%	25.1%	21.3%	18.2%	24.5%
Married	55.6%	49.3%	54.4%	43.7%	54.2%	52.0%
College Diploma	57.1%	46.8%	50.2%	60.9%	57.6%	56.9%
Voted in 2012	72.2%	67.0%	74.4%	73.1%	74.9%	69.3%
Unemployed	4.5%	7.9%	4.7%	5.6%	4.9%	4.0%



**Figure C.1:** Percent of Respondents Correctly Identifying the Sponsor: Binary Choice, Six Types

**Table C3: Advertisements in the Experiments**

Type	Partisanship	Creative Title
<i>2010 Ohio House Ads</i>		
Candidate	Democrat	'Here'
Party	Democrat	'Multi Milliionaire'
Interest Group	Democrat	'Every Year'
Candidate	Republican	'What Ohio Needs'
Party	Republican	'Real Boss'
Interest Group	Republican	'Making It Worse'

**Table C4: Characteristics of 2010 Ohio House Advertisements**

	Cand. (Rep.)	Party (Rep.)	Int. Group (Rep.)	Cand. (Dem.)	Party (Dem.)	Int. Group (Dem.)
Tone	Negative 48.3%	Negative 48.3%	Negative 48.3%	Negative 48.3%	Negative 48.3%	Negative 48.3%
Cand. Approval	Yes, end of spot 49.5%	N/A 29.9%	N/A 29.9%	Yes, end of spot 49.5%	N/A 29.9%	N/A 29.9%
Favored	No 45.8%	No 45.8%	No 45.8%	Yes 54.2%	No 45.8%	No 45.8%
Cand. Appears Opposed	Yes 63.2%	Yes 63.2%	Yes 63.2%	Yes 63.2%	Yes 63.2%	Yes 63.2%
Cand. Appears Specifies Party	No 80.7%	No 80.7%	No 80.7%	No 80.7%	Yes, Pro Party 8.2%	No 80.7%
Cites Sources	No 34.1%	Yes 65.9%	Yes 65.9%	No 34.1%	Yes 65.9%	Yes 65.9%
Subject	Policy 58.5%	Personal and Policy 31.4%	Personal and Policy 31.4%	Policy 58.5%	Personal and Policy 31.4%	Policy 58.5%

Percentages represent cumulative percent of all House ads ran in 2010.

# Bibliography

*Ad Spending Tops \$1 Billion*. 2014. Wesleyan Media Project.

Ansolabehere, Stephen and Shanto Iyengar. 1995. *Going Negative: How Attack Ads Shrink and Polarize the Electorate*. New York: The Free Press.

Berinsky, Adam J, Gregory A Huber and Gabriel S Lenz. 2012. "Evaluating Online Labor Markets for Experimental Research: Amazon.com's Mechanical Turk." *Political Analysis* 20(2):351–368.

Brader, Ted. 2006. *Campaigning for Hearts and Minds: How Emotional Appeals in Political Ads Work*. Chicago: University of Chicago Press.

Brader, Ted, Nicholas A. Valentino and Elizabeth Suhay. 2008. "What Triggers Public Opposition to Immigration? Anxiety, Group Cues, and Immigration Threat." *American Journal of Political Science* 52(4):959–978.

Brooks, Deborah Jordan and John G Geer. 2007. "Beyond Negativity: The Effects of Incivility on the Electorate." *American Journal of Political Science* 51(1):1–16.

Campbell, Angus, Philip E Converse, Warren E Miller and Donald E. Stokes. 1960. *The American Voter*. Chicago: University of Chicago Press.

Carraro, Luciana, Bertram Gawronski and Luigi Castelli. 2010. "Losing on all fronts: The effects of negative versus positive person-based campaigns on implicit and explicit evaluations of political candidates." *British Journal of Social Psychology* 49(3):453–470.

Chang, Chingching. 2001. "The Impacts of Emotion Elicited By Print Political Advertising on Candidate Evaluation." *Media Psychology* 3(2):91–118.

Chang, Chingching. 2003. "Party Bias in Political-Advertising Processing: Results from an Experiment Involving the 1998 Taipei Mayoral Election." *Journal of Advertising* 32(2):55–67.

Chong, Dennis and James N Druckman. 2007. "A Theory of Framing and Opinion Formation in Competitive Elite Environments." *Journal of Communication* 57(1):99–118.

Chong, Dennis and James N Druckman. 2010. "Dynamic Public Opinion: Communication Effects over Time." *American Political Science Review* 104(4):663–680.



- Cobb, Michael D and James H Kuklinski. 1997. "Changing Minds: Political Arguments and Political Persuasion." *American Journal of Political Science* 41(1):88–121.
- Delli Carpini, Michael X and Scott Keeter. 1996. *What Americans Know About Politics and Why It Matters*. New Haven: Yale University Press.
- Djupe, Paul A and David A M Peterson. 2002. "The Impact of Negative Campaigning: Evidence from the 1998 Senatorial Primaries." *Political Research Quarterly* 55(4):845–860.
- Dowling, Conor M and Amber Wichowsky. 2013. "Does it Matter Who's Behind the Curtain? Anonymity in Political Advertising and the Effects of Campaign Finance Disclosure." *American Politics Research* pp. 1–35.
- Dowling, Conor M and Amber Wichowsky. 2015. "Attacks without Consequence? Candidates, Parties, Groups, and the Changing Face of Negative Advertising." *American Journal of Political Science* 59(1):19–36.
- Druckman, James N. 2004. "Political Preference Formation: Competition, Deliberation, and the (Ir)relevance of Framing Effects." *American Political Science Review* 98(4):671–686.
- Druckman, James N, Erik Peterson and Rune Slothuus. 2013. "How Elite Partisan Polarization Affects Public Opinion Formation." *American Political Science Review* 107(1):57–79.
- Druckman, James N, Lawrence R Jacobs and Eric Ostermeier. 2004. "Candidate Strategies to Prime Issues and Image." *Journal of Politics* 66(4):1180–1202.
- Facchini, Giovanni, Anna Maria Mayda and Prachi Mishra. 2011. "Do interest groups affect US immigration policy?" *Journal of International Economics* 85(1):114–128.
- Fowler, Erika Franklin. 2016. "Special Report on Outside Group Activity, 2000-2016." Wesleyan Media Project.
- Fowler, Erika Franklin and Travis N Ridout. 2010. "Advertising Trends in 2010." *The Forum* 8(4).
- Fowler, Erika Franklin and Travis N Ridout. 2012. "Negative, Angry, and Ubiquitous: Political Advertising in 2012." *The Forum* 10(4):51–61.
- Fowler, Erika Franklin, Travis N Ridout and Michael M Franz. 2016. "Political Advertising in 2016: The Presidential Election as Outlier?" *The Forum* 14(4):445–469.
- Franz, Michael M and Travis N Ridout. 2007. "Does Political Advertising Persuade?" *Political Behavior* 29(4):465–491.
- Franz, Michael M and Travis N Ridout. 2010. "Political Advertising and Persuasion in the 2004 and 2008 Presidential Elections." *American Politics Research* 38(2):303–329.

- Freedman, Paul, Michael Franz and Kenneth Goldstein. 2004. "Campaign Advertising and Democratic Citizenship." *American Journal of Political Science* 48(4):723–741.
- Fridkin, Kim L and Patrick J Kenney. 2004. "Do Negative Messages Work?: The Impact of Negativity on Citizens' Evaluations of Candidates." *American Politics Research* 32(5):570–605.
- Fridkin, Kim L, Patrick J Kenney and Gina Serignese Woodall. 2009. "Bad for Men, Better for Women: The Impact of Stereotypes During Negative Campaigns." *Political Behavior* 31(1):53–77.
- Garramone, Gina M. 1985. "Effects of Negative Political Advertising: The Roles of Sponsor and Rebuttal." *Journal of Broadcasting & Electronic Media* 29(2):147–159.
- Geer, John G. 2006. *In Defense of Negativity: Attack Ads in Presidential Campaigns*. Chicago: University of Chicago Press.
- Geer, John and Richard R Lau. 2006. "Filling in the Blanks: A New Method for Estimating Campaign Effects." *British Journal of Political Science* 36(2):269.
- Gerber, Alan S, James G Gimpel, Donald P. Green and Daron R Shaw. 2011. "How Large and Long-lasting Are the Persuasive Effects of Televised Campaign Ads? Results from a Randomized Field Experiment." *American Political Science Review* 105(1):135–150.
- Gilens, Martin, Lynn Vavreck and Martin Cohen. 2007. "The Mass Media and the Public's Assessments of Presidential Candidates, 1952–2000." *Journal of Politics* 69(4):1160–1175.
- Gillion, Daniel Q. 2012. "Protest and Congressional Behavior: Assessing Racial and Ethnic Minority Protests in the District." *Journal of Politics* 74(4):950–962.
- Goldstein, Ken and Paul Freedman. 2002. "Campaign Advertising and Voter Turnout: New Evidence for a Stimulation Effect." *Journal of Politics* 64(3):721–740.
- Gordon, Brett R and Wesley R Hartmann. 2013. "Advertising Effects in Presidential Elections." *Marketing Science* 32(1):19–35.
- Groenendyk, Eric W and Nicholas A. Valentino. 2002. "Of Dark Clouds and Silver Linings: Effects of Exposure to Issue Versus Candidate Advertising on Persuasion, Information Retention, and Issue Salience." *Communication Research* 29(3):295–319.
- Groseclose, Tim and Charles Stewart III. 1998. "The Value of Committee Seats in the House, 1947–91." *American Journal of Political Science* 42(2):453–474.
- Haddock, Geoffrey and Mark P Zanna. 1997. "Impact of Negative Advertising on Evaluations of Political Candidates: The 1993 Canadian Federal Election." *Basic and Applied Social Psychology* 19(2):205–223.

- Haider-Markel, Donald P and Mark R Joslyn. 2001. "Gun Policy, Opinion, Tragedy, and Blame Attribution: The Conditional Influence of Issue Frames." *Journal of Politics* 63(2):520–543.
- Hall, Richard L and Molly E Reynolds. 2012. "Targeted Issue Advertising and Legislative Strategy: The Inside Ends of Outside Lobbying." *Journal of Politics* 74(3):888–902.
- Hill, Ronald Paul. 1989. "An Exploration of Voter Responses to Political Advertisements." *Journal of Advertising* 18(4):14–22.
- Hill, Seth J, James Lo, Lynn Vavreck and John Zaller. 2013. "How Quickly We Forget: The Duration of Persuasion Effects From Mass Communication." *Political Communication* 30(4):521–547.
- Houston, David A, Kelly Doan and David Roskos-Ewoldsen. 1999. "Negative Political Advertising and Choice Conflict." *Journal of Experimental Psychology* 5(1):3–16.
- Huber, Gregory A and Kevin Arceneaux. 2007. "Identifying the Persuasive Effects of Presidential Advertising." *American Journal of Political Science* 51(4):957–977.
- Jacobson, Gary C. 1975. "The Impact of Broadcast Campaigning on Electoral Outcomes." *Journal of Politics* 37(3):769–793.
- Jacobson, Gary C. 2009. *The Politics of Congressional Elections*. 7th ed. New York: Pearson Longman.
- Jacobson, Gary C. 2012. "The President's Effect on Partisan Attitudes." *Presidential Studies Quarterly* 42(4):683–718.
- Jerit, Jennifer. 2007. "Issue Framing and Engagement: Rhetorical Strategy in Public Policy Debates." *Political Behavior* 30(1):1–24.
- Johnston, Anne and Lynda Lee Kaid. 2002. "Image Ads and Issue Ads in U.S. Presidential Advertising: Using Videostyle to Explore Stylistic Differences in Televised Political Ads From 1952 to 2000." *Journal of Communication* pp. 281–300.
- Just, Marion, Ann Crigler and Lori Wallach. 1990. "Thirty Seconds or Thirty Minutes: What Viewers Learn from Spot Advertisements and Candidate Debates." *Journal of Communication* 40(3):120–133.
- Kahn, Kim Fridkin and John G Geer. 1994. "Creating Impressions: An Experimental Investigation of Political Advertising on Television." *Political Behavior* 16(1):93–116.
- Kahn, Kim Fridkin and Patrick J Kenney. 1999a. "Do Negative Campaigns Mobilize or Suppress Turnout? Clarifying the Relationship between Negativity and Participation." *American Political Science Review* 93(4):877–889.

- Kahn, Kim Fridkin and Patrick J Kenney. 1999b. *The Spectacle of U.S. Senate Campaigns*. Princeton: Princeton University Press.
- Kahneman, Daniel and Amos Tversky. 1979. "Prospect Theory: An Analysis of Decision under Risk." *Econometrica* 47(2):263–292.
- Kaid, Lynda Lee. 1997. "Effects of the Television Spots on Images of Dole and Clinton." *American Behavioral Scientist* 40(8):1085–1094.
- Kaid, Lynda Lee and Anne Johnston. 1991. "Negative versus Positive Television Advertising in U.S. Presidential Campaigns, 1960–1988." *Journal of Communication* 41(3):53–64.
- Kaid, Lynda Lee and Anne Johnston. 2001. *Videostyle in Presidential Campaigns: Style and Content of Televised Political Advertising*. Westport, Connecticut: Praeger.
- Kaid, Lynda Lee and John Boydston. 1987. "An Experimental Study of the Effectiveness of Negative Political Advertisements." *Communication Quarterly* 35(2):193–201.
- King, James D and Jason B McConnell. 2003. "The Effect of Negative Campaign Advertising on Vote Choice: The Mediating Influence of Gender." *Social Science Quarterly* 84(4):843–857.
- Krasno, Jonathan S and Donald P. Green. 2008. "Do Televised Presidential Ads Increase Voter Turnout? Evidence from a Natural Experiment." *Journal of Politics* 70(1):245–261.
- Krupnikov, Yanna. 2012. "Negative Advertising and Voter Choice: The Role of Ads in Candidate Selection." *Political Communication* 29(4):387–413.
- Lau, Richard R. 1982. "Negativity in Political Perception." *Political Behavior* 4(4):353–377.
- Lau, Richard R. 1985. "Two Explanations for Negativity Effects in Political Behavior." *American Journal of Political Science* 29(1):119–138.
- Lau, Richard R and Gerald M Pomper. 2004. *Negative Campaigning: An Analysis of U.S. Senate Elections*. New York: Rowman and Littlefield.
- Lau, Richard R, Lee Sigelman and Ivy Brown Rovner. 2007. "The Effects of Negative Political Campaigns: A Meta-Analytic Reassessment." *Journal of Politics* 69(4):1176–1209.
- Lemert, James B, Wayne Wanta and Tien-Tsung Lee. 1999. "Party Identification and Negative Advertising in a U.S. Senate Election." *Journal of Communication* 49(2):123–134.
- Lupia, Arthur. 1994. "Shortcuts Versus Encyclopedias: Information and Voting Behavior in California Insurance Reform Elections." *American Political Science Review* 88(1):63–76.
- Lupia, Arthur and Jesse O Menning. 2009. "When Can Politicians Scare Citizens Into Supporting Bad Policies?" *American Journal of Political Science* 53(1):90–106.

- Lupia, Arthur and Mathew D. McCubbins. 1998. *The Democratic Dilemma: Can Citizens Learn What They Need To Know?* New York: Cambridge University Press.
- McDermott, Monika. 1998. "Race and Gender Cues in Low-Information Elections." *Political Research Quarterly* 51(4):895–918.
- Meirick, Patrick. 2002. "Cognitive Responses to Negative and Comparative Political Advertising." *Journal of Advertising* 31(1):49–62.
- Mullinix, Kevin J, Thomas J Leeper, James N Druckman and Jeremy Freese. 2015. "The Generalizability of Survey Experiments." *Journal of Experimental Political Science* 2(2):109–138.
- Patterson, Thomas E and Robert D McClure. 1976. *The Unseeing Eye: The Myth of Television Power in National Politics*. New York: G. P. Putnam's Sons.
- Pfau, Michael, David Park, R Lance Holbert and Jaeho Cho. 2001. "The Effects of Party- and PAC-Sponsored Issue Advertising and the Potential of Inoculation to Combat its Impact on the Democratic Process." *American Behavioral Scientist* 44(12):2379–2397.
- Pfau, Michael and Michael Burgoon. 1989. "The Efficacy of Issue and Character Attack Message Strategies in Political Campaign Communication." *Communication Reports* 2(2):53–61.
- Pfau, Michael, R Lance Holbert, Erin Alison Szabo and Kelly Kaminski. 2002. "Issue-Advocacy Versus Candidate Advertising: Effects on Candidate Preferences and Democratic Process." *Journal of Communication* 52(2):301–315.
- Pinkleton, Bruce. 1997. "The Effects of Negative Comparative Political Advertising on Candidate Evaluations and Advertising Evaluations: An Exploration." *Journal of Advertising* 26(1):19–29.
- Pinkleton, Bruce E, Nam-Hyun Um and Erica Weintraub Austin. 2002. "An Exploration of the Effects of Negative Political Advertising on Political Decision Making." *Journal of Advertising* 31(1):13–25.
- Poole, Keith T and Howard Rosenthal. 1997. *Congress: A Political-Economy History of Roll Call Voting*. New York: Oxford University Press.
- Popkin, Samuel L. 1991. *The Reasoning Voter: Communication and Persuasion in Presidential Campaigns*. 2nd ed. New York: Cambridge University Press.
- Prior, Markus. 2014. "Visual Political Knowledge: A Different Road to Competence?" *Journal of Politics* 76(1):41–57.
- Rahn, Wendy M. 1993. "The Role of Partisan Stereotypes in Information Processing about Political Candidates." *American Journal of Political Science* 37(2):472–496.

- Richter, Brian Kelleher, Krislert Samphantharak and Jeffrey F Timmons. 2009. "Lobbying and Taxes." *American Journal of Political Science* 53(4):893–909.
- Ridout, Travis N and Michael M Franz. 2011. *The Persuasive Power of Campaign Advertising*. Philadelphia: Temple University Press.
- Roddy, Brian L and Gina M Garramone. 1988. "Appeals and Strategies of Negative Political Advertising." *Journal of Broadcasting & Electronic Media* 32(4):415–427.
- Roese, Neal J and Gerald N Sande. 1993. "Backlash Effects in Attack Politics." *Journal of Applied Social Psychology* 23(8):632–653.
- Schultz, Cindy and S Mark Pancer. 1997. "Character Attacks and Their Effects on Perceptions of Male and Female Political Candidates." *Political Psychology* 18(1):93–102.
- Shapiro, Michael A and Robert H Rieger. 1992. "Comparing Positive and Negative Political Advertising on Radio." *Journalism & Mass Communication Quarterly* 69(1):135–145.
- Shaw, Daron R. 1999. "The Effect of TV Ads and Candidate Appearances on Statewide Presidential Votes, 1988-96." *American Political Science Review* 93(2):345–361.
- Shen, Fuyuan and H Denis Wu. 2002. "Effects of Soft-Money Issue Advertisements on Candidate Evaluation and Voting Preference: An Exploration." *Mass Communication and Society* 5(4):395–410.
- Stevens, Daniel. 2009. "Elements of Negativity: Volume and Proportion in Exposure to Negative Advertising." *Political Behavior* 31(3):429–454.
- Stokes, Donald E. and Warren E Miller. 1962. "Party Government and the Saliency of Congress." *Public Opinion Quarterly* 26(4):531–546.
- The American National Election Studies Time Series Cumulative Data File*. 2010. Stanford University and the University of Michigan.
- Vavreck, Lynn. 2009. *The Message Matters: The Economy and Presidential Campaigns*. Princeton: Princeton University Press.
- Wattenberg, Martin P and Craig Leonard Briens. 1999. "Negative Campaign Advertising: Demobilize or Mobilizer?" *American Political Science Review* 93(4):891–899.
- Weber, Christopher, Johanna Dunaway and Tyler Johnson. 2012. "It's All in the Name: Source Cue Ambiguity and the Persuasive Appeal of Campaign Ads." *Political Behavior* 34(3):561–584.
- Yoon, Kak, Bruce E Pinkleton and Wonjun Ko. 2005. "Effects of Negative Political Advertising on Voting Intention: An Exploration of the Roles of Involvement and Source Credibility in the Development of Voter Cynicism." *Journal of Marketing Communications* 11(2):95–112.

Zaller, John R. 1992. *The Nature and Origins of Mass Opinion*. Cambridge: Cambridge University Press.