

FRAMING ETHANOL: A CONTENT ANALYSIS COMPARING  
NATIONAL AND REGIONAL MEDIA COVERAGE OF ETHANOL

A THESIS

SUBMITTED TO THE GRADUATE SCHOOL  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE

OF MASTER OF ARTS

BY

COURTNEY E. SMITH

DR. DUSTIN SUPA

BALL STATE UNIVERSITY

MUNCIE, INDIANA

NOVEMBER 2008

## CONTENTS

LIST OF TABLES .....	vii
Chapter	
1. INTRODUCTION .....	1
2. LITERATURE REVIEW.....	6
First Level Agenda Setting	
Second Level Agenda Setting	
Framing	
Salience	
3. METHOD.....	28
Sampling Procedure	
Coding Categories	
Coder Training	
Variables Measured	
4. RESULTS .....	37
5. DISCUSSION .....	44
Implications for Public Relations	
Future Directions	

Conclusion

Appendix

CODEBOOK ..... 55

REFERENCES ..... 65

## TABLES

1. TABLE 1 .....	37
Results of the number of articles collected from each source	
2. TABLE 2 .....	38
Results of the overall tone in all articles in all newspapers	
3. TABLE 3 .....	39
Results of the type of sources used in all articles in all newspapers	
4. TABLE 4 .....	40
Results of the overall theme of all articles in each newspaper	
5. TABLE 5 .....	41
Results of the newspaper section each article in all newspapers were placed in	
6. TABLE 6 .....	41
Results of the newspaper page number each article in all newspapers were placed on	
7. TABLE 7 .....	42
Results of if the term ethanol appeared in article headlines in all newspapers	
8. TABLE 8 .....	42
Results of the type of journalist used in all articles found in all newspapers	

## CHAPTER 1

### INTRODUCTION

Ethanol, a renewable and alternative fuel made from plant materials, can be found blended with nearly half of U.S. gasoline products such as E-85 (85 percent ethanol and 15 percent petroleum-based gasoline), E-20 (20 percent ethanol and 80 percent petroleum-based gasoline), E-15 (15 percent ethanol and 85 percent petroleum-based gasoline) and E-10 (10 percent ethanol and 90 percent petroleum-based gasoline) (United States Department of Energy 2002). These blends are used primarily as transportation fuels and to power automobiles, including Flex-Fuel vehicles that operate on any grade of ethanol and petroleum blend. In 2007, 6.5 million light-duty Flex-Fuel vehicles were in use in the United States and in 2008, the number of U.S. fueling stations offering E-85 surpassed 1,400 and continues to increase (Alternative Fuels and Advanced Vehicles Data Center 2008).

With the ongoing production of ethanol in 112 refineries, nearly seven billion gallons of grain alcohol were manufactured in 2007 and consumed in the United States, making America the world's largest ethanol producer. The Advanced Energy Initiative, signed by President George W. Bush, includes the U.S. Department of Energy's comprehensive plan to increase energy efficiency as well as the use of renewable fuels in the transportation sector. More than \$1 billion in bio-fuels research and development is

being dedicated by the U.S. Department of Energy, and in 2005, Congress enacted a renewable fuels standard mandating refiners to double the amount of ethanol blended into the nation's gasoline supply by 2012. As a result of these and various federal and state incentives encouraging the use and production of ethanol and E-85 station development, corn-based ethanol production could increase to 15 billion gallons by 2015 (United States Department of Energy 2002).

As ethanol production escalates, debates concerning the positive and negative aspects of ethanol also escalate. Increasing energy security, fueling the economy and reducing greenhouse emissions are among some benefits of ethanol listed by supporters (United States Department of Energy 2002).

Opposing ethanol viewpoints claim ethanol pollutes as much or even more than gasoline, ethanol cannot be produced from corn in large enough quantities to make a real difference as an alternative fuel without disrupting food and feed supplies and more energy goes into producing ethanol than it delivers as a fuel (United States Department of Energy 2002).

“Indeed, ethanol has proved one of the few issues in Washington for which it's nearly impossible to find a sparring partner” (McCaffrey 2008, 49). Powerful political figures such as Sen. John McCain, who in 2000 gave up on Iowa in his presidential bid because of his opposition to ethanol subsidies, stated the fuel “. . . should be carefully examined.” Sen. Hillary Rodham Clinton, who voted against an ethanol mandate, is calling for \$1 billion in ethanol research (McCaffrey 2008, 50).

Now, the grain alcohol that for centuries served as moonshine is fueling automobiles and lively political and environmental debates alike. Although media

coverage of ethanol increases with the escalating use and production of ethanol, there has been little academic attention directed to empirically studying how the media portrays ethanol as a single issue. As a pilot study about ethanol, this research compares national and regional newspaper coverage of ethanol. Burgess (1990) called for “. . . expanded attention to the mass media within geography.” Comparing the coverage of ethanol is important because for some issues there may be differences between the national and local media agenda and patterns in media coverage and public salience for that issue geographically. To find differences between media coverage of ethanol among varied localities, articles about ethanol published in four national newspapers including *The Wall Street Journal*, *New York Times*, *Washington Post* and *Los Angeles Times* and four newspapers located in the top four ethanol producing states in the United States were analyzed. Newspaper article content was compared in order to determine if there are differences in framing, types of sources used, tone within news stories and story themes.

Hamilton claims that content found in local newspapers reveals an attempt to serve reader interests, and for topics likely to be of interest to the paper’s target readers “. . . the greater the real-world incidence of these topics in the community, the larger the number of stories about the topic in the paper” (Overholser and Jamieson 2005, 364). This research will reveal if Hamilton’s notion is accurate by comparing articles about ethanol in nationally recognized newspapers and newspapers with the most subscriptions located in the top four ethanol producing states in the Midwest.

If environmental groups view the press as an ally (Breen 1993) and coverage of ethanol varies regionally, then media allies could also vary from region to region. This research is needed in order for professionals in the agricultural industry to better

understand current ethanol coverage and to improve issues management. By determining if, where and how ethanol is being reported in the news, this research will also aid public relations professionals who are increasingly impacting news production (Cottle 2003, 27). Media relations between public relations practitioners and journalists could be enhanced by addressing the extent to which newspaper framing of the issue is more positive or negative and if media coverage of ethanol varies among newspapers published in different areas of the U.S.

This research is also important because according to Reisner and Walter (1994), sustained negative news about agriculture in the general press could erode public support for farmers and farming, which is important to note because approximately 40% of the nation's ethanol facilities are owned by farmers and other local investors (American Coalition for Ethanol 2008). American news media have long been important sources of environmental knowledge (Smith 1998) and both newspaper and television news help set the agenda for environmental debate (Trumbo 1995). Newspaper content is the focus of this study because, according to Howard and Mathews (2000, 7), newspapers are an important information source for the public and a medium most frequently used in media relations. Newspapers were also selected because according to Overholser and Jamieson (2005, 160), when television and newspapers are compared, half the time differences in agenda-setting effects are not detected. For the other half of time, newspapers have greater influence about twice as often as television. Newspapers are also a mass medium that retains spatial variation (Bendix and Liebler 1999).

Given the increasing significance of ethanol, exploring these matters could provide insight concerning the media's overall approach to the issue regionally and add



to the body of research concerning first level agenda setting, second level agenda setting, framing and salience theories. The literature review in the following section will address the body of literature concerning first level agenda setting, second level agenda setting, framing and salience theories.

## CHAPTER 2

### LITERATURE REVIEW

The goal of this literature review is to present an overview of first and second level agenda setting, framing and salience theories and research. First level agenda setting, second level agenda setting, framing and salience concepts will help the researcher in determining if there is a difference in story themes, type of sources used and overall tones in newspaper articles printed in nationally recognized newspapers and newspapers located in the top four ethanol producing states in America.

#### *First Level Agenda Setting*

Lippmann in 1922 made a notable differentiation between the reality outside and the pictures in people's heads. He argued that the news media are the primary source of the pictures and comprise a "pseudo" environment that is determined by the mass media (Tan and Weaver 2007, 730). Cohen (1963) declared that the mass media cannot influence what the public thinks, but can influence what the public thinks about. In 1972, McCombs and Shaw empirically tested Cohen's theory by finding a correlation between the issue salience in mass media and the perceived issue salience in the public among 100 undecided voters in the 1968 presidential campaign. McCombs and Shaw (1972) call the transfer of issue salience from the media to the public "issue agenda setting," or "first-level agenda setting," and claim that mass media have an agenda-setting function. Agenda-setting research is a quantitative and empirical means to link the

reality outside to the pictures inside of people's heads described by Lippmann. More than 150 empirical public agenda-setting studies have been administered since McCombs and Shaw conducted the first of its type in 1972 (Soroka 2002, 266).

Salience, according to Dearing and Rogers (1996, 8), is “. . . the degree to which an issue on the agenda is perceived as relatively important.” Salience in the media agenda tells readers “. . . what issues to think about.” By examining agenda setting, researchers attempt to answer why information about one issue is covered over another (Dearing and Rogers 1996, 2) and explore the correlation between the emphasis placed on certain issues by the mass media and the importance given to the issue by the public (McCombs and Shaw 1972). Although the primary function of the news media is to provide information (Schramm 1971, Halberstam 1979), Jeffres (1997) states that the media defines for readers what is important for public discourse through agenda setting.

Agenda setting at the first level encompasses the selection of issues by the news media and the impact on the public agenda (McCombs, Shaw and Weaver 1997, 4). As stated by Cohen (1963), what to think about as opposed to what to think. The media agenda may include local, regional and national issues where as the public agenda includes issues the public finds personally important (intrapersonal salience). McCombs and Shaw (1972) found a correlation between the media agenda and public agenda and the researchers assume based on their findings that the media agenda proceeds and causes the public agenda.

Dearing and Rogers (1996) reviewed 112 empirical studies of the agenda-setting process and 60 percent of those studies confirmed the media and public agenda relationship. As a theory, agenda setting links the “relative” emphasis given to an issue

by the press with the personal salience given to that same issue by the public (Hester and Gibson 2007). The media reports the news, and the reports influence perceptions of issue importance (Cook et al. 1983).

Agenda setting also refers to the process by which problems become salient as political issues that gain the attention of policy makers (Cook et. al. 1983). Policy issues such as school finance reform, child abuse, and collective bargaining, comparable worth, social security, crime, civil rights and public health matters have achieved their status from the early use of agenda setting (Kovacic 1997, 105). Zhu and Blood claim research has illustrated that agenda setting can have “. . . far-reaching consequences” (Kovacic 1997, 92). The authors state that public concerns about certain issues, triggered by news coverage, can affect the policy-making process. The media agenda plays a critical role in the “. . . emergence and subsequent political force of social movement” (Kovacic 1997, 92).

Since the public uses the mass media for political information, the media agenda helps determine to some extent what information the public uses when making political decisions. A direct outcome of agenda setting, as proposed by Iyengar and Kinder (1987), is the perceived salience of certain issues directly influencing the public’s evaluation of political actors. Political candidates can influence and achieve voter issue salience more effectively when focusing on the same topics as the media (Hayes 2008). Priming is the term used to label the impact that agenda setting can have on the way the public evaluates public officials by influencing the areas or issues the public use to form opinions (Kim, Scheufele and Shanahan 2002).

A study focusing on one media program, an 18-minute segment titled “Home Health Hustle,” was conducted in order to determine if the media report impacted the general public, policy makers, interest group leaders and public policy. By conducting interviews and comparing interview answers to answers given by a control group that did not watch the news segment, researchers found that the media influences views about issue importance among the public and policy makers. The researchers suggest that a change in policy was the result of journalists and government staff members working together (Cook et al. 1983).

At the first level of agenda setting, effects can result from the amount of exposure to a message (Weaver et al. 1975a, b; McClure and Patterson 1976; Roberts and Bachen 1981). Frequency plays an important role in the agenda-setting process and the media can set the agenda by either how much attention they give to an issue or how much the media neglects that issue (Megwa 1987). By emphasizing or frequently mentioning particular issues, the media increases the salience of the issues among the public (Kim, Scheufele and Shanahan 2002). But, the public must be exposed to media messages before they can be influenced by those messages (Wanta and Hu 1994). The more media attention given to an issue the more the public is primed with that information, which leads to citizens incorporating what they know about that information in their decision making process (Brug, Semetko and Valkenburg 2006).

By conducting a panel study with Dutch adults and a content analysis of the news, Brug, Semetko and Valkenburg (2006) found priming effects occur when an issue is highly salient and a politician is highly visible. Priming, as stated earlier, is the term used to label the impact that agenda setting can have on the way the public evaluates public

officials by influencing the areas or issues the public use to form opinions (Kim, Scheufele and Shanahan 2002). The researchers evaluated a Summit meeting of European Union leaders in order to investigate media priming effects. They assessed how news coverage of the meeting altered public evaluations of domestic and international policy makers. Results of the study confirmed that media priming effects occurred for the politicians who were visible in the news in connection with the Summit meetings and media priming effects were not greatly influenced by political “attentiveness” or by political knowledge. When exploring the correlation between priming and the popularity of the politicians, two politicians became more popular despite the bad press they received because of media priming effects. Results of this study helped the researchers determine that priming is “. . . an important means by which the media affect evaluations of political leaders or parties.”

Agenda setting is referred to as an accessibility-based model and also relies on a memory-based model of information processing (Kim, Scheufele and Shanahan 2002). Accessibility is “. . . essentially a function of ‘how much’ or how recently’ a person has been exposed to certain issues” and at any given time, some pieces of information are more accessible in a person’s mind than others (Kim, Scheufele and Shanahan 2002). Audience attributes including the amount of media exposure, interpersonal discussion and need for orientation, have been empirically examined by Weaver and McCombs (1978) and Winter and Eyal (1981).

By examining three audience attributes of the agenda-setting process including media credibility, media reliance and media exposure, Wanta and Hu (1994) found through effects coefficients that “. . . only exposure plays a major role in determining the

intensity of agenda-setting effects.” Various media agenda concerning different issues in the mass media have been measured by basic counts of the number of articles (Funkhouser 1973, MacKuen 1979), airtime and column inches (Williams and Semlak 1978; Roberts and Bachen 1981). The frequency with which a topic is mentioned by the media is a powerful influence and over time, important issues among the public are those emphasized in news reports (McCombs 2004, 2). Overholser and Jamieson (2005, 160) state that due to limited space on the pages of newspapers and limited time available on television, agenda-setting effects center on usually less than five issues at any moment.

Overholser and Jamieson (2005, 160) define agendas by a set of objects. More frequently in agenda-setting research these objects are public issues, public figures, institutions and a number of other items that are “. . . the focus of attention.” Since agenda-setting research in the context of political elections began in with McCombs and Shaw (1972), many applications of agenda setting have been made to a number of topics such as advertising, organizational management, criminal justice, semiotic, peace activism and sports medicine (Kovacic 1997, 105).

Although at a given point in time or over a period of time the media focuses attention or places similar salience on the same objects, the media does not always say the same thing about these objects (Dearing and Rogers 1996, 90). This is because objects have attributes. Attributes refer to the characteristics, traits and qualities that can be used to describe these objects. The media determines which attributes to include in news stories. For each object on the media agenda, there is an agenda of attributes. McCombs (2005) states agenda setting consequently helps form opinions, prime opinions about public figures through the emphasis on issues and shapes opinions through the

emphasis on particular attributes. The first level of agenda setting includes the agendas of objects, and the second level of agenda setting refers to the agendas of attributes.

### Second Level Agenda Setting

Whereas first level agenda setting includes the salience of issues, second level agenda setting is concerned with the salience of issue attributes. Through these two levels of agenda setting, the media tells the public not only what to think about, but how to think about it (McCombs, Shaw and Weaver 1997, 3). At the first level of agenda setting, the media can increase the salience of an issue among the public by emphasizing or frequently mentioning an issue. At the second level of agenda setting, the media can increase the salience of an issue among the public by emphasizing particular issue attributes (Kim, Scheufele and Shanahan 2002). There has been a shift of emphasis to the second level of agenda setting, which is an extension of agenda setting, where topic attributes and the agenda of attributes also influence public opinion (McCombs, Shaw and Weaver 1997; McCombs 2005; Ghanem 1997).

According to Sheaffer (2007), second-level agenda setting involves affective attributes attached to an issue, such as political candidates, events and objects. Tone is an affective attribute. In a content analysis study, Haigh, Bruce and Craig (2008) compared the coverage of mad cow disease in Midwest newspapers and coastal newspapers. The researchers found Midwest newspapers and coastal newspapers varied significantly in their tone of coverage. Compared to newspapers located in the Midwest, coastal newspapers were significantly more negative in their tone of coverage. Analyzing the tone of news stories (positive, negative or neutral) is important because the tone can influence “. . . what kind of prime-related ideas come to mind as the result of media



exposure to certain issues” (McCombs, Shaw and Weaver 1997, 63). Sheafer (2007) conducted surveys and content analyzed news stories about the economy in order to support the hypothesis that the evaluative tone of media coverage plays an important role in the agenda-setting and priming process. The researcher found when the media increased the number of stories about the economy, the more survey answers named the economy as the country’s most important problem.

The researcher also found “. . . the higher the saliency of media coverage of the economy and the more negative the media presentation of the economy, the greater the increase in the proportion of survey respondents naming the issue as the country’s most important problem.” Lastly, Sheafer supported the hypothesis stating affective attributes, such as tone, influence the public’s political opinions. Data showed when economic stories were presented more positive in the media, evaluations of the incumbent political party were more positive.

Other studies have found a high degree of correlation between prominent issue attributes in the media and the agenda of attributes among audience members. Using a combination of local newspaper content analysis and survey data, Kim, Scheufele and Shanahan (2002) tested their hypothesis claiming issue attributes salient in the media will be associated with the agenda of issue attributes among the audience. The issue they examined dealt with a conflict between local residents who opposed a commercial development of a local area. The researchers determined the media increased the salience of issue attributes by prominently covering those issues. Kim, Scheufele and Shanahan concluded “. . . that the media, by emphasizing certain attributes of an issue, tell us ‘how to think about’ this issue as well as ‘what to think about.’ ”

By content analyzing media and survey data on Spanish elections in 1995, McCombs et al. (1997) found that candidate attributes frequently mentioned in the media were also salient in voters' descriptions of candidate images. King (1997) found similar results when content analyzing three major newspapers and survey data to determine the correlation between how voters described the images of three mayoral candidates and the qualifications of an ideal mayor.

Weaver, Graber, McCombs and Eyal (1981); Winter and Eyal (1981); and Zucker (1978) claim the agenda-setting role of the media reveal “. . . strong effects for unobtrusive issues and no effects at all on obtrusive issues” (Bryant and Zillmann 1994, 7) as do Lee (2004) and Demers, Craff, Choi and Pessin (1989). According to Zucker (1978), an issue is obtrusive if the public has had a direct experience with it. An issue is unobtrusive if the public has had no direct contact with it. The rapid increase in the price of gasoline is an obtrusive issue because daily experience places this topic in conversations and on the national agenda, whereas ethanol can be an unobtrusive issue because the public's knowledge of ethanol could depend on the news media.

According to Zucker (1978), media agenda-setting effects are stronger for unobtrusive issues because audiences have to rely on the media for information about these issues. Research conducted by Hester and Gibson (2007) supports this theory. They content analyzed news coverage of gay marriage in multiple national print and broadcast news outlets. They found that gay-related issues are unobtrusive and subject to strong agenda-setting effects.

Soroka (2002) content analyzed Canadian newspapers, public opinion polls and legislative content from 1985 to 1995 to determine the media's influence on three issues

– inflation, the environment and debt/deficit. Using an expanded model of the agenda-setting process demonstrating the correlations between the media agenda, public agenda and policy agenda for these three issues, the researcher found the agenda-setting dynamics varied in both magnitude and direction. These findings led the researcher to conclude that different issues display different agenda-setting dynamics. Sometimes the public agenda would influence the media agenda, other times the policy agenda would influence the media agenda. Soroka also found variance in the magnitude of effects for the media agenda, public agenda and policy agenda.

The researcher linked the variance of the effects to issue attributes. For instance, media effects on the public are less for the issue of inflation than for the environment and debt/deficit issues. Inflation, according to Soroka, is an obtrusive issue that the public experiences directly, reinforcing Zucker's (1978) obtrusiveness hypothesis. Results of Soroka's study also indicate the importance of taking issue attributes into account in predicting or accounting for agenda-setting effects.

MacKuen (1979) found that for obtrusive economic issues the public was more likely to be influenced by the "real world" than by the media. Previously conducted studies have also reported that newspapers have a stronger agenda-setting effect than television (Benton and Frazier 1976; Eyal 1979; McCombs 1977; Patterson and McClure 1976; Weaver 1977). Davison, Boylan and Yu (1976, 182) state that it seems probable that agenda setting is "... especially likely among people who do not already have strong convictions about what is important," therefore, the mass media is able to influence weakly held attitudes and help form new attitudes.

Ader (1995) found for the issue of pollution throughout the years of 1970 through 1990, the agenda-setting hypothesis was supported. Curtin and Rhodenbaugh (2001) state there is a significant media agenda-setting effect for environmental issues, an issue found to be unobtrusive by Eyal, Winter and DeGeorge (1981) who conducted a study using factor analysis to distinguish obtrusive issues from unobtrusive issues. Looking at how the media reports about the environment is important because media coverage of the environment has increased as well as public concern for environmental issues (Ader 1995).

The frequency in which a topic is mentioned by the media, as well as, if an issue is unobtrusive or obtrusive, influences the effectiveness of the agenda-setting process. Does a media outlet's geographical location influence the effectiveness of the agenda-setting process? By examining the relationship between different media agendas and public agendas in the agenda-setting process, Atwater, Salwen and Anderson (1985) found the local and regional media agenda for environmental news were exactly the same and respondents could accurately assess the media's emphasis on environmental issues when they were asked to do so.

Hester and Gibson (2007) found the agenda-setting effect of local and national media can differ for individual issues. The researchers, through content analysis, studied the agenda-setting effect of national and local media on public salience in a news market where the issue of same-sex marriage was both local and national. They found local events and issues can alter media coverage patterns, and results of the study “. . . strongly support the notion that agenda-setting effects are very different at the local level when an issue is both local and national (Hester and Gibson 2007, 314).

Based on previous research, the media agenda-setting effect for ethanol, an environmental issue that could be either an unobtrusive or obtrusive issue depending on where an individual resides and receives their news, could be significant. Because the public not only learns facts from the news media, but also learns about the significance of a topic in the news from the emphasis placed on it by the news media (Bryant and Zillmann 1994, 3), this research attempts to determine if facts presented by the news media and the significance of a topic placed on it by the news media varies regionally.

### Framing

To better understand effects on public attitudes and opinions, emerging second level agenda setting research takes a more detailed look at mass media messages (McCombs 2004, 19) and object attributes. First and second levels of agenda setting can be distinguished through framing (McCombs, Shaw and Weaver 1997, 6). The idea of framing first appeared in Goffman's (1974) seminal work and in general, framing involves the organization and packaging of information (Simon and Xenos 2000). From a cognitive standpoint, frames help people to “. . . locate, perceive, identify and label” (Simon and Xenos 2000, 366). Semetko and others et al. (1991), although writing particularly about electoral political processes, claim “. . . framing and social construction offer the potentially most productive next step in understanding agenda setting.” Weaver, McCombs and Shaw (1998) view frames as natural “extensions” of agenda setting.

Through frame analysis, how the agenda is constructed rather than what is on the agenda is examined (Kosicki 1993, 115). Frames, according to Entman (1993), call attention to some aspects of reality while obscuring other elements, which might lead to media audiences having different reactions. Journalists present stories and give stories

meaning through framing (Haigh, Bruce and Craig 2008). According to Haigh, Bruce and Craig (2008), the central idea or story line providing meaning to a sequence of events is a frame and how an issue is framed in the media affects how the public thinks about that issue (McCombs, Shaw and Weaver 1997, 7). How an issue is framed or how an issue is described offers important interpretive cues to the audience (Price and Tewksbury 1997).

In a framing study, Edy and Meirick (2007) conducted public surveys and content analyzed transcripts from national broadcast network news after September 11 concerning both war and crime in order to determine how the frequency of different frames in the media corresponded to the frequency of their adoption in the public. The researchers found audiences combined war and crime media frames rather than focusing on the frames most frequently used by the media. Edy and Meirick also found audiences used a combination of the types of media frames in broadcasts to better understand events related to those frames. How issues were framed had an impact on if the public supported the war in Afghanistan or not.

How an issue is framed in the media “. . . partially determines whether they are perceived to be legitimate social problems (Mastin et al. 2007, 789). Mastin and others (2007) content analyzed newspaper coverage of elder abuse to determine how the media frames the issue. Empirically studying the types of frames used in newspaper articles helped the researchers in determining what elder-abuse perceptions the media are most likely imparting to the public and policymakers. They found as a group, the eight newspapers used in the study portrayed elder abuse as an individual problem with

individual solutions. Results compelled the researchers to encourage advocates and the media to work together to ensure more balanced elder abuse coverage.

In communication, issues can be constructed using positive and negative frames that can manipulate and deceive audiences, as in advertising or in the political arena (Chong and Druckman 2007, 120). Frames can also be neutral in order to provide audiences the information needed to form common beliefs (Chong and Druckman 2007, 120). Bendix and Liebler (1999) examined how newspapers framed coverage of an environmental issue – the conflict over protecting northern spotted owls and old-growth forests in the Pacific Northwest. Through content analyzing news coverage in ten newspapers over a five-year period, the researchers found the newspaper media significantly tended to use positive frames aligned with those who favored logging over those who favored protecting the owls.

Framing “. . . deals with the idea that the news media may also be presenting a worldview construed in a particular way that does not necessarily mesh with reality” (McCombs, Shaw and Weaver 1997). Entman (1993) compared how the U.S. media framed coverage of an event in 1991 when a South Korean airliner was shot down by a Soviet jet, to an event in 1988 when an Iranian passenger aircraft was shot down by a U.S. navy ship. As noted by Entman, the Soviet action was deemed in the U.S. media as a “moral outrage,” whereas, the U.S. action was deemed a “technical problem.”

Gitlin, who Entman in a frame analysis referenced as the first source for defining framing, describes framing as:

Media frames, largely unspoken and unacknowledged,

organize the world both for journalists who report it and, in some important degree, for us who rely on their reports. Media frames are persistent patterns of cognition, interpretation, and presentation, of selection, emphasis, and exclusion, by which symbol-handlers routinely organize discourse, whether verbal or visual.(Gitlin 1980, 6)

Framing is how the news media presents and packages information and can make one item more salient than another because frames are used to “. . . highlight or privilege certain items over others” (Kendall 2005, 7). When writing, journalists select, emphasize and exclude material, therefore making the process of framing an “active” endeavor (Kendall 2005, 9). Framing can be referred to as an applicability-based model (Kim, Scheufele and Shanahan 2002).

Politicians use media frames employed by other politicians, the media and citizens (Riker 1996; Edwards and Wood 1999). The media use frames employed by other media outlets, politicians, social activists and citizens. Citizens use frames employed by other citizens (Gamson 1992; Druckman and Nelson 2003; Walsh 2003). Analyzing how an issue is framed in the mass media is important because frames affect attitudes and behaviors of media audiences (Chong and Druckman 2007, 109). How politicians, media outlets and interest groups frame an issue that affects attitudes and opinions is referred to as framing effects. Empirical studies have confirmed the most likely effects of mass communication would be on matters of information and the agenda-setting hypothesis connects the findings of those studies with the possibility of opinion effects (McQuail and Windahl 1993, 104).

Framing effects can occur when changes, often small, in the presentation of an issue or event produce changes of opinion (Chong and Druckman 2007). How a question



is framed can influence how the question is answered. For example, respondents in a study were asked if they would favor or oppose allowing a hate group to hold a political rally. When the phrase “Given the importance of free speech” was included in the questions, 85 percent of the respondents answered in favor of the question. When the phrase “Given the risk of violence” was included in the questions, only 45 percent of the respondents answered in favor of the question (Sniderman 1993). How ideas and issues are phrased can also influence opinion. Rasinski (1989) found that 20 percent of Americans feel that not enough funds are being spent on “welfare,” whereas 65 percent of Americans feel not enough funds are being spent to “assist the poor.” National and regional newspapers could vary on how ethanol is framed in articles and based on framing research effects, could be creating conflicting public opinions.

To assist in the development of frames for analyzing issues, media frames can be broken into four major dimensions. Those dimensions include the topic of a news item and what is included in the frame, size and placement of each article, details of what is included in the frame and cognitive attributes, and affective attributes such as the overall tone of the article (McCombs, Shaw and Weaver 1997, 10). Analyzing this type of story framing is important when comparing national and regional newspaper coverage of ethanol because it demonstrates whether the media covers this political, economical and environmental issue as a broad societal issue or as a regional issue.

### Saliency

The agenda-setting hypothesis suggests that the media agenda influences the public agenda. Media agenda refers to issues that receive news coverage. The media agenda is often measured by how frequently and prominently an issue is covered in the

news, weighting factors such as column inches for stories that are printed, or the article position in a newspaper (Gormley 1975; Williams and Semlak 1978).

Overholser and Jamieson (2005, 164) state that although public relations practitioners, elected officials, administrators and others influence what is placed on the media agenda, the press itself is the final decision maker as to what is placed the media agenda. Wanta and Hu (1994) also found that community affiliation also has a direct effect on media agenda-setting. The researchers examined five news media and conducted a cross-sectional study used as an index of issue concerns. They compared those concerns with coverage in a regional newspaper, local newspaper, national network newscast, a local newscast and national news magazine. Wanta and Hu (1994) found the largest correlation was produced by the national network newscast (.92), followed closely by the local newscast (.91), the regional newspaper (.88) and the local newspaper (.60). The news magazine produced the weakest agenda-setting affect correlation (.58). Proximity to an issue also increases the coverage of routine news events (Martin 1988).

The public agenda refers to issues that are on the minds of the public (Kovacic 1997, 90). Through issue salience, the media agenda influences the public agenda. In communication research, scholars usually examine how the mass media influences the public agenda and they find that the news media can influence the salience of issues on the public agenda (Tan and Weaver 2007). Salience, according to Dearing and Rogers (1996, 8), is “. . . the degree to which an issue on the agenda is perceived as relatively important.” Salience on the media agenda tells readers “. . . what issues to think about.” Agenda-setting research suggests that “. . . the relative salience of an issue on the media

agenda determines how the public agenda is formed, which in turn influences which issues policymakers consider” (Dearing and Rogers 1996, 8).

Tan and Weaver (2007) found a positive relationship between the media agenda and the public agenda by examining the longitudinal evolution of correspondences among the issue agendas of the mass media, Congress and the public from 1946 to 2004. The researchers collected data for one year from the *New York Times* coverage, Gallup’s Most Important Problem series and Congressional hearings in order to examine the entire agenda of public opinion, media coverage and policy making. Tan and Weaver (2007) found a positive relationship between the media agenda and the policy agenda and a relationship between the public agenda and the policy agenda.

Dearing and Rogers (1996, 8) claim that the “heart” of the agenda-setting process is when the salience of an issue changes on the media agenda, the public agenda, or the policy agenda and scholars of agenda setting need to measure how and why the salience of an issue changes. For example, Ader (1995) through a content analysis of the *New York Times* found that the media agenda and the public agenda for the issue of pollution were related, with a change in the media agenda leading to a change in the public agenda. Tan and Weaver (2007) state that average duration of a salient issue on the public agenda is 18 months, ranging from 1.5 months to 47.4 months.

Although journalism, in theory, is to be objective, journalists make subjective choices such as what events or environmental topics will be covered, which observations will be noted by the author, what facts will be printed or deleted, where the article will be placed and what will be included in the lead (Lee and Solomon 1990, 16). The press,

although influenced by others who are attempting to place their cause on the media agenda, is ultimately the decision maker as to what is placed on the media agenda.

Journalists also decide what sources to include or omit. Sources are “powerful” and a source’s relation to the media and to other sources “. . . partly determines whose agenda receives prominence” (McQuail and Windahl 1993, 107). Media and source relationships are constantly shifting and currently in the national setting, sources are the “dominant” partners in the relationship, while locally roles are reversed (Cottle 2003, 60).

Several problems in the analyses of environmental reporting were found by Bendix and Liebler (1999). While the researchers note that literature stresses the importance of environmental reporting, the adequacy of environmental reporting is questioned. They identify the lack of environmental news coverage (Askari 1995; Graham and Dzuiban 1996); the tendency to “. . . concentrate coverage on discrete, dramatic crisis rather than ongoing phenomena” (Schoenfeld, Meir and Griffin 1979; Bendix and Liebler 1991; Bowman 1996); and misstatement or oversimplification of issues (Sleeper 1979; Carmody 1995) as those problems. Lee and Solomon (1990), Hatfield (1991) and Ray and Guzzo (1993) allege that coverage of environmental issues is sometimes biased. Critiques of environmental reporting focus on the quantity, timing and content of environmental reporting and studies of content suggest that article frames are “. . . determined by the selection and arrangement of story elements, including source usage” (Bendix and Liebler 1999).

Official sources such as presidential aides, public officeholders and administrators are more often sources of information (Lee and Solomon 1990, 17; Overholser and Jamieson 2005, 164). When 2,850 articles in the *New York Times* and *Washington Post*

were sampled, 78 percent of those articles were primarily based on the words of public officials (Lee and Solomon 1990, 17). Overholser and Jamieson (2005, 165) refer to a study conducted by Sigal (1973) that found over a twenty-year period, almost half of the front-page stories in the *New York Times* and *Washington Post* were based on press releases, press conferences or other organized public relations efforts. Another source, scientists, is found to have a limited role in the press, much less weight than those of political actors (Haigh, Bruce and Craig 2008).

Local stories often contain a greater variety of news sources than stories outside a metro area (Berkowitz and Beach 1993). Researcher's state in their home communities, journalists can develop a "... diverse pool of sources." When journalists leave their home communities they are more dependent on "obvious" and "high-visibility sources (Bendix and Liebler 1999). Source type and variety is affected by the distance between a journalist's residence and the community being reported on or about (Martin 1988). Martin concluded that distance could be a cause of "bias" because of the importance of sources on framing.

Ethanol is a complex economic, political, scientific and environmental issue among other things. Breen (1993) notes that a survey given to the Foundation for American Communications found that environmental activist groups are the second most widely used source by environmental reporters. Curtin and Rhodenbaugh (2001) surveyed sources of environmental data and found that 51 percent listed government offices, press releases and reports as their first source of information, while 25 percent listed environmental activists and groups.

With increased competition in journalism and the decline of news-gathering resources, the influence of public relations on news production and media has increased. It could be concluded that “. . . traditional hierarchies of media-source relations are being altered significantly in the new PR-saturated media environment” (Cottle 2003, 27). As a source though, Curtin and Rhodenbaugh (2001) determined that public relations practitioners promote an environmental backlash agenda and their materials “. . . lack news value.”

Comparing the coverage of ethanol in nationally recognized newspapers and newspapers located in the Midwest can serve as a catalyst in researching the cognitive effects of mass media on audiences in different regions of the U.S. For instance, the concept of need for orientation suggests agenda-setting effects may be different for people for whom an issue is local, versus those for whom it is not local (Hester and Gibson 2007). Palmgreen and Clarke (1977) found a stronger agenda-setting effect for national issues than for local issues.

Based on the previous literature review, this study examines the following:

R1

Is there a difference in the overall tone of ethanol coverage between national newspapers and regional newspapers?

R2

Is there a difference between the types of sources in ethanol stories printed in national newspapers and regional newspapers?

R3

Is there a difference in the overall themes when comparing ethanol stories published in national and regional newspapers?

The following section outlines the methodology used in this research including the sampling procedure, coding categories, coder training and variables that will be measured in order to answer the three research questions. To determine if there is a difference in overall article tones, source credibility and overall story themes in newspaper articles printed in nationally recognized newspapers and Midwest newspapers located in the top four ethanol producing states in America, a content analysis was conducted.

## CHAPTER 3

### METHOD

#### Sampling Procedure

The purpose of this study was to compare national and regional coverage of ethanol in newspapers in terms of article source, size, placement in terms of section and page number, headline and author attributes, the number and types of sources included in each story, overall article tone and theme. The methodology used in this study is content analysis, because in addition to determining the pattern, trends and underlying meanings of communications (Hsia 1988, 320), content analysis is a fieldwork methodology providing evidence of the external validity of agenda setting (Bryant and Zillmann 1994, 6).

Content analysis, according to Cutlip, Center and Broom (2000), is a systematic procedure for objectively determining what is being reported in the media. Kendall (1996) defines content analysis as a research technique primarily used to evaluate communications by examining what may be observed in or during communication. Through this form of methodology, the effects of communication, semantics and use of syntactics can be determined because analysis is objective, systematic and partially quantitative (Hsia 1988, 319). By studying the content in newspaper articles about ethanol, a better understanding of the agenda-setting process can be gained (Dearing and Rogers 1996, 35).



As stated in the literature review chapter, media frames can be broken into four major dimensions to assist in the development of frames for analyzing issues. The first dimension includes the topic of a news item, which in this study is ethanol. The second dimension is size and placement of each article. Word counts, newspaper sections and the page number each article was placed on were analyzed in this study. The third dimension involves details of what is included in the frame and cognitive attributes. Types of sources included in each article were analyzed in this study. The fourth dimension includes affective attributes such as the overall tone of the article (McCombs, Shaw and Weaver 1997, 10). In this study, each article was labeled as positive, negative or neutral.

News abstracts for stories printed in eight newspapers were collected from a LexisNexis Academic database at [www.lexis.com](http://www.lexis.com). Guided news searches for the search term “ethanol” produced 358 articles. This study focused primarily on news content, therefore articles omitted from the research included 26 editorials, 3 opinion pieces and 14 letters to the editor or response letters. Also omitted from the analysis were corrections, articles that appeared twice in the same media source, articles posted online only or in magazines and not newspapers. The LexisNexis guided news search for the term “ethanol” also rendered articles printed in various versions of the *Omaha World-Herald*, such as the Midlands and Sunrise editions. In this study, only articles printed in the city edition of the *Omaha World-Herald* were analyzed. One column that the LexisNexis search rendered from the *Wall Street Journal* was a transcript and one abstract rendered from the search did not have the term “ethanol” in the article. Therefore, a total of 266 news stories met the criteria for inclusion in the ethanol research sample. An editorial, according to Lee and Solomon (1990, 36), often times conflicts

with news stories appearing the same day in the same newspaper and sometimes editors can be more conservative than beat reporters. This is particularly true of the *Wall Street Journal*. Articles from the *Associated Press*, *Bloomberg* news and other media news service wires were included. If an *Associated Press*, *Bloomberg* news story or article provided by a news service wire was modified, it was coded as such. If the story was printed verbatim in different newspapers, the article canceled itself out. Bendix and Liebler (1991), state that the common use of wire-service copy in a newspaper could reduce the importance of a newspaper's geographical location because papers, regardless of location, are using the same source of text. Decisions at the local level are still being made on story length and content and can be revised to highlight local "angles." Bendix and Liebler (1991) claim, "Those wire stories that do run without revision reflect the editorial decision by a paper's staff to leave them as is."

The unit of analysis in this research is the newspaper article. Harvest, the process of gathering mature crops from fields, typically begins in the autumn season. Harvest season was one factor for determining the time frame for collecting articles. A second factor was the renewal of the farm bill in 2007. Farm bills are renewed about every five years and in September 2007, many of the provisions included in the 2002 farm bill were expiring. The United States House of Representatives and Senate worked to complete committee and floor actions on their versions of the bill and extensions on provisions in the 2002 bill were made to last through May 23, 2008 (Johnson 2008, 1). Taking the harvest season and government actions on the 2007 farm bill into consideration, articles printed from Oct. 1, 2007 through Nov. 30, 2007 were gathered for analysis. Articles were collected from four newspapers with national influence including *The Wall Street*

*Journal*, *New York Times*, *Los Angeles Times* and the *Washington Post*. Both the *New York Times* and *Washington Post* are “papers of record” that “. . . exert tremendous impact on America Political life” (Lee and Solomon 1990, 19). Overholser and Jamieson (2005, 164) refer to the *New York Times* and *Washington Post* as “. . . elite organizations” and recognize the *New York Times* as an agenda-setter for both the print and electronic media that frequently initiates placing new topics on the news agenda.

New York, the location where both *The Wall Street Journal* and *New York Times* are published, in terms of per capita energy consumption is among the lowest in the nation due in part to its widely used mass transportation systems. The New York Harbor area between New York and New Jersey has more than 40 million barrels of refined product storage capacity, making it the largest petroleum product hub in the United States. New York City and the surrounding metropolitan areas require reformulated gasoline blended with ethanol, and the New York Harbor area is the primary Northeast distribution hub for ethanol supplies. Another large ethanol storage facility serving the Northeast is located in Albany, New York (U.S. Government Energy Information Administration 2008). As of September 2007, the state ranked 16<sup>th</sup> in ethanol production capacity with 164 million gallons.

California, home state of the *Los Angeles Times*, ranks third in the nation in refining capacity and its refineries are among the most sophisticated in the world. The state is one of the top producers of crude oil in the nation, with output accounting for more than one-tenth of total U.S. production. Most California motorists are required to use a special motor gasoline blend called California Clean Burning Gasoline (CA CBG) and by 2004, California completed a transition from methyl tertiary butyl-ether (MTBE)

to ethanol as a gasoline oxygenate additive, making California the largest ethanol fuel market in the United States. There are four ethanol production plants in central and southern California, but most of California's ethanol supply is transported by rail from corn-based producers in the Midwest while some supply is also imported from abroad (U.S. Government Energy Information Administration 2008). As of September 2007, California ranked 13 in the nation in terms of ethanol production capacity with 218 million gallons.

In Washington D.C., where the Washington Post is located, district-wide use of reformulated motor gasoline blended with ethanol is required for use. The District relies on petroleum products supplied by pipeline (U.S. Government Energy Information Administration 2008).

The four regional papers selected from the Midwest are from the four largest ethanol producing states including Iowa, Nebraska, Illinois and Minnesota. Midwest papers selected are the *Des Moines Register*, *Omaha World-Herald*, *Chicago Tribune* and *Pioneer Press*. As of September 2007, Iowa was the number one ethanol producer in the United States, with 3,467.5 million gallons per year. Nebraska ranked second for ethanol production capacity at 1,745.5 million gallons per year. Illinois is third, with 1,172 million gallons per year and Minnesota ranks fourth with 1,102.1 million gallons per year. Although the *Chicago Tribune* is viewed by some to be a national newspaper, it is included as a regional newspaper in this study because it is located in the third highest ethanol producing state in the U.S. and is the newspapers with the most subscriptions in Illinois.

### Coding Categories

Each abstract was numbered and then coded according to the article source including *The Wall Street Journal*, *New York Times*, *Los Angeles Times*, *Washington Post*, *Des Moines Register*, *Omaha World-Herald*, *Chicago Tribune* and *Pioneer Press*. Then article word counts were tallied and newspaper sections including section A, B, C, D and E and so forth that the article appeared in was coded along with the page number. If the term “ethanol” appeared in the headline, the article was then coded with a number one, two if the term “ethanol” did not appear in the headline.

Author attributes include if the article was written by a single journalist, two journalists, provided by a news service, provided by a news service and modified or other. The overall article tone in terms of positive, negative or neutral was also coded. Tone refers to a frame of mind. If an article was mostly pro-ethanol, the article was coded as positive. The term positive refers to a pro-ethanol frame of mind in that something of which an affirmation and assurance was made. The term positive also relates to the influence of good and to approve of ethanol. If an article discussed mostly negative features of ethanol, the article was coded as negative. The term negative refers to an anti-ethanol frame of mind in which is marked as lacking positive qualities such as disagreeable, hostile, withdrawal, rejection, disapproval and opposing constructive treatment or development. The term negative relates to the side of the argument against ethanol that upholds the contradictory aspect of a debate. If the article is neither pro-ethanol nor anti-ethanol, the article was coded as neutral. The term neutral refers to an impartial frame of mind concerning ethanol of which is marked as not being engaged on

either side, not aligned with an ideological group, neither one nor the other and taking a position of disengagement.

The number of sources, one through thirteen, was also coded. After coding the number of sources included in every article, each source was coded according to type, such as a farmer, scientist, government official, and a representative from the ethanol industry, an environmental source, academic, average person, lobbyist, economist, petroleum /oil, auto, financial or other. A source refers any person interviewed in the story and does not include Web sites or institutions unless it is a specific person from that site or institution. A source name must be included in the article and quotation marks or the term “said” are key words defining a source.

Lastly, the overall theme, meaning a subject or topic of discourse, of the newspaper article was coded as economic, environmental, energy, agricultural, government policy or other. Economic refers to a subject relating financially or monetarily to the production of ethanol, distribution and consumption of ethanol and services relating to ethanol. Environmental refers to a subject relating to or concerned with ethanol affecting the circumstances, objects or conditions by which one is surrounded. Energy refers to ethanol relating to or being used in the capacity of making something active, move or operate. Agricultural refers to ethanol relating to or being used in the science of cultivating the soil, producing crops, raising livestock and operations of a farm. Government policy refers to ethanol relating to authoritative direction, concepts or control, the office, authority or function of a political unit.

### Coder Training

Wimmer and Dominich (2003) state the concept of reliability is crucial in a content analysis. To assure reliability, coding norms were established during a supervised training session conducted using a representative sample (7 percent) of newspaper articles (19 articles). During training, two coders had a 100 percent agreement in the coding categories for article source, word count, newspaper section, pager number, if the term ethanol appeared in the article headline, type of author, number of sources, source type and article themes. For the tone coding category, the two coders agreed upon 14 of the 19 articles (74 percent), therefore, establishing a high degree of standardization resulting in high inter-coder reliability. Inter-coder reliability refers to levels of agreement among independent coders who code the same content using the same coding instrument.

### Variables Measured

A newspaper location is the independent variable used in this analysis (national versus regional). Papers were divided into two groups. One group, nationally recognized newspapers, included *The Wall Street Journal*, *New York Times*, *Los Angeles Times* and the *Washington Post*. The second group of newspapers located in the Midwest region of the U.S. included the *Des Moines Register*, *Omaha World-Herald*, *Chicago Tribune* and *Pioneer Press*.

Dependent variables measured were article word counts, the newspaper section the article appeared in, the page number the article appeared on, if the term “ethanol” was included in the article headline, author attributes, overall tone of each story (positive, negative or neutral), the number of sources included in each story, the type of sources used in each story (farmer, scientist, government official, representative from the ethanol

industry, environmental source, academic source, average person, lobbyist, economist, petroleum/oil, auto, finance or other). Another dependent variable is the overall theme of each article (economic, environmental, energy, agricultural, government policy or other).

The overall tone of each article was assessed as positive, negative or neutral by determining if information or views expressed in the article are mostly pro-ethanol (positive), anti-ethanol (negative) or if the views expressed are impartial (neutral). The overall theme of each article was assessed by determining if the article focuses mostly on economic issues. A mostly economically themed article contained numerical information, for example, about the financial impact a new refinery in the community has had or the investments associated with producing ethanol. A mostly environmental themed article focused on nature and the impacts of ethanol and ethanol production on nature. For example, an article exploring the amount of pollutants caused by ethanol was coded as environmental. A story was coded as agricultural if it focused on how much grain it takes to produce ethanol. If an article, for example, focused on state mandates encouraging the use of ethanol, the story was coded as government policy.

An analysis of variance (ANOVA) was conducted to determine the impact of newspaper location (national/regional) on the dependent variables consisting of theme (economic, environmental, agricultural or government policy), overall tone of each article (positive, negative or neutral), type of sources (farmer, scientist, government official, representative from the ethanol industry, environmental source, academic, average person, lobbyist, economist, petroleum/oil, auto, financial or other) and other salient attributes such as the length, placement and headline components. Findings were run through Statistical Package for the Social Sciences (SPSS), version 16.



## CHAPTER 4

### RESULTS

Through content analysis, this study compared national and regional coverage of ethanol in newspapers in terms of article source, size, placement in terms of section and page number, headline and author attributes, the number and types of sources included in each story, overall article tone and theme. A total of 266 articles in eight newspapers were analyzed in this study. As illustrated in Table 1, the *Des Moines Register* published more articles within the time frame than other newspapers included in this study.

Regional newspapers account for 60.9 percent of the total articles fund.

#### Table 1

A total of 266 news stories met the criteria for inclusion in the ethanol research sample. Articles were coded according to the article source.

TABLE 1		
RESULTS OF THE NUMBER OF ARTICLES COLLECTED FROM EACH SOURCE		
Wall Street Journal	22	8.3%
New York Times	36	13.5%
Los Angeles Times	16	6%
Washington Post	30	11.3%
Des Moines Register	78	29.3%
Omaha World-Herald	27	10.2%
Chicago Tribune	33	12.4%
St. Paul Pioneer Press	24	9%
	266	100%

Research question one asked if there was a difference in the overall story tone of ethanol coverage between national newspapers and regional newspapers. Data analyzed did not find a significant correlation between the overall tone of articles and a newspaper's geography. As illustrated on Table 2, results show that 16.2 percent of the articles analyzed in terms of tone were positive, 20.7 percent were negative and 63.1 percent were neutral. A chi-square analysis showed no significance.

Table 2

Each article was coded as positive, negative or neutral in terms of overall tone.

TABLE 2		
RESULTS OF THE OVERALL TONE IN ALL ARTICLES IN ALL NEWSPAPERS		
Positive	43	16.2%
Negative	55	20.7%
Neutral	168	63.1%
	266	100%

Research question two asked if there was a difference between the type of sources in ethanol stories printed in national newspapers and regional newspapers. Data analyzed did not find a significant correlation between the type of sources used in articles and a newspaper's geography. As illustrated on Table 3, government officials were the most frequent type of source used in all newspapers. A chi-square analysis showed no significance between regional and national newspapers in terms of source.

*Table 3*

Each source in every article was coded in terms of type.

TABLE 3		
RESULTS OF THE TYPE OF SOURCES USED		
IN ALL ARTICLES IN ALL NEWSPAPERS		
Farmer	41	4.8%
Scientist	16	1.9%
Government official	290	33.6%
Representative from the ethanol industry	108	12.5%
Environmental source	14	1.6%
Academic	60	7%
Average person	47	5.5%
Lobbyist	17	2%
Economic	28	3.2%
Petroleum/oil	17	2%
Auto	19	2.2%
Financial	87	10%
Other	118	13.7%
	862	100%

Research question three asked if there is a difference in the overall theme when comparing ethanol stories published in national and regional newspapers. Data analyzed did not find a significant correlation between story themes and a newspaper's geography. As illustrated on Table 4, results show economic and government policy were the most frequently used themes. A chi-square analysis showed no significance.

*Table 4*

Each article was read and coded according to the overall theme.

TABLE 4						
RESULTS OF THE OVERALL THEME OF ALL ARTICLES IN EACH NEWSPAPER						
	Economic	Environmental	Energy	Agricultural	Gov. Policy	Other
Wall Street Journal	9	3	3	1	6	0
New York Times	9	6	3	2	12	4
Los Angeles Times	4	2	3	1	6	0
Washington Post	5	6	2	4	12	1
Des Moines Register	20	6	7	4	32	7
Omaha World-Herald	8	2	2	4	10	1
Chicago Tribune	20	2	1	2	4	4
St. Paul Pioneer Press	12	2	1	2	2	5
	87	30	22	20	84	22

Data analyzed found no correlation between story length and a newspaper's geography. More articles, as illustrated in Table 5, were found in sections A and C. Data analyzed found a significant correlation between article section placement and a newspaper's geography. National newspapers are more likely to contain ethanol news in Section A, while regional newspapers are most likely to contain ethanol news in Section D. Section D is typically the business section. More articles, 41.73 percent, appeared on page one of any given section, as illustrated in Table 6.

Table 5

The newspaper section that an article appeared in was coded.

TABLE 5		
RESULTS OF THE NEWSPAPER SECTION EACH ARTICLE IN ALL NEWSPAPERS WERE PLACED IN		
Section A	70	26.32%
Section B	30	11.28%
Section C	71	26.69%
Section D	64	24.06%
Section E	6	2.26%
Section F	6	2.26%
Section G	2	.75%
Section H	2	.75%
Section ET	6	2.26%
Other	9	3.37%
	266	100%

Table 6

The page number an article appeared on was coded and tallied.

TABLE 6		
RESULTS OF THE NEWSPAPER PAGE NUMBER EACH ARTICLE IN ALL NEWSPAPERS WERE PLACED ON		
Page 1	111	41.73%
Page 2	42	15.79%
Page 3	26	9.77%
Page 4	22	8.27%
Page 5	10	3.76%
Page 6	11	4.14%
Page 7	6	2.26%
Page 8	10	3.76%
Page 9	1	.4%
Page 10	6	2.26%
Page 11	2	.75%
Page 12	2	.75%
Page 13	3	1.10%
Other	14	5.26%
	266	100%

Of the articles analyzed, the term ethanol did not appear in headlines 84.21 percent of the time, as illustrated in Table 7. No correlation between a newspaper's geography and if the term "ethanol" was placed in the headline was found. Single journalists were the most frequent type of author used in articles analyzed at 71.8 percent of the time, as illustrated in Table 8. While nearly all the articles analyzed were authored by a single journalist, there is no between-group significance and all of the newspapers included in the analysis are most likely to use single authored articles.

Table 7

Out of the 266 news stories that met the criteria for inclusion in the ethanol research, 42 of those articles contained the term "ethanol" in the headline.

TABLE 7		
RESULTS OF IF THE TERM ETHANOL APPEARED IN ARTICLE HEADLINES IN ALL NEWSPAPERS		
Term ethanol appeared in headline	42	15.79 %
Term ethanol did not appear in headline	224	84.21%
	266	100%

Table 8

Every article was coded according to the type of author.

TABLE 8		
RESULTS OF THE TYPE OF JOURNALIST USED IN ALL ARTICLES FOUND IN ALL NEWSPAPERS		
Single journalist	191	71.80%
Two journalists	22	8.27%
News service	16	6.02%
News service modified	10	3.76%
Other	27	10.15%
	266	100%

The purpose of this study was to compare national and regional coverage of ethanol in newspapers in terms of article source, size, placement in terms of section and page number, headline and author attributes, the number and types of sources included in each story, overall article tone and theme. Research question one asked if there is a difference in the overall tone of ethanol coverage between national newspapers and regional newspapers. Data analyzed did not find a significant correlation between the overall tone of articles and a newspaper's geography.

Research question two asked if there is a difference between the type of sources used in ethanol stories printed in national newspapers and regional newspapers. Data analyzed did not find a significant correlation in the type of sources used in articles printed in national newspapers and regional newspapers.

Research question three asked if there is a difference in the overall themes when comparing ethanol stories published in national and regional newspapers. Data analyzed did not find a significant correlation between story themes and a newspaper's geography. Differences in other affective attributes attached to the issue of ethanol were found, which is discussed in chapter five, as well as how this study benefits public relations professionals and future research directions.

## CHAPTER 5

### DISCUSSION

This research serves as a pilot-study concerning how the media portrays ethanol, and more specifically, if nationally recognized newspapers portray ethanol differently than regional newspapers located in the top four ethanol producing states in the U.S. Empirically analyzing newspaper articles through content analysis to determine if there was a difference in story tone, types of sources and overall story themes of articles found no correlation between a newspaper's location and article tones, sources used and themes within articles.

Findings in this study support the idea that a newspaper's framing of ethanol, regardless of location, does not favor a positive or negative tone. To be labeled negative or positive, an article had to be dominantly either pro-ethanol or anti-ethanol. Of the articles analyzed, 63.1 percent were found neutral. This could be a result of competing frames about ethanol issues canceling out one another in the article. Because opinions are formed by the public who selectively accept or reject competing frames containing information about candidates, policies and issues, public opinion about ethanol could be neutral.

As stated in the Literature Review, politicians use media frames employed by other politicians, the media and citizens (Riker 1996; Edwards and Wood 1999), the



media use frames employed by other media outlets, politicians, social activists and citizens (Chong and Druckman 2007) This study found that neither regional nor national newspapers framed ethanol more negatively or positively, in fact, the majority (63.1 percent) of analyzed stories were found to be neutral in terms of tone. This finding could be a result of the media and their sources (including politicians and average citizens) repeating media frames used by their counterparts.

In this study, 33 percent of the sources used were government officials, much like other mass-communications studies that have found reporters more often rely “disproportionately” on government officials as sources (Overholser and Jamieson 2005, 165). Government policy, as a theme, accounted for 31.5 percent of the total. For government aids and officials, these two findings can attest to the strong relationship between the media and lawmakers regardless of geography, and government aids and officials can employ both the national and regional newspapers in order to promote their ethanol policies, influence public opinion and gain support for their political agenda. Data analyzed showed neither regional nor national newspapers frame ethanol as positive or negative. This could be a result of political elites manipulating popular preferences to serve their own interests. Berkowitz and Beach (1993) claim local stories often contain a greater variety of news stories than stories outside a metro area. Results from this research found no significance between the number of and types of sources used in national and regional newspapers

Similar to other studies confirming that events “close to home” receive more news media attention and coverage decreases with distance (Molotch and Lester 1974; Adams 1986), results from this study concerning ethanol show that regional newspapers account

for 60.9 percent of the total articles found. Because more stories about ethanol appeared in regional newspapers located in the top ethanol producing states in the U.S. than in national newspapers, results of this study are similar to Hamilton's findings that content found in local newspapers reveals an attempt to serve reader interests and for topics likely to be of interest to the paper's target readers ". . . the greater the real-world incidence of these topics in the community, the larger the number of stories about the topic in the paper" (Overholser and Jamieson 2005, 364). Consumers and concerned citizens in the Midwest relying on local newspapers to learn about ethanol could form a different impression of the importance of the issue based solely on the high volume of ethanol articles.

A majority of individuals do not experience matters related to ethanol in their everyday lives – the issue is unobtrusive, so ethanol should be more open to media influence and more susceptible to media effects. The issue of ethanol could be an unobtrusive issue nationally and obtrusive issue regionally. Media effects could be more significant on the national level than the regional level where the issue of ethanol could be less unobtrusive. The possibility that media will seize on an ethanol issue and increase public concern still exists.

The issue of ethanol can be viewed as a sub-agenda within primary agendas such as government policy, the economy, environment, energy and agriculture. These agendas are five types of article themes assessed in this ethanol study. How the newspaper media frames ethanol is reflective upon how the media frames these larger agendas.

### Implications for Public Relations

Public relations practitioners need to familiarize themselves with what newspaper editors write about and print in order to get results. By first understanding the needs of editors and patterns in news content, public relations practitioners become much closer to getting media coverage. Deconstructing ethanol news content in national and regional newspapers provides public relations professionals with the necessary tools for creating more effective media campaigns.

National newspapers including the *New York Times* and *Washington Post* obtain more than half their daily material from press releases, press conferences and other routine channels of information and only a small proportion of daily news is provided by the news organizations themselves (Bryant and Zillmann 1994, 11). Public relations staff members of government agencies, corporations and interest groups can initiate positive ethanol coverage because much of the daily news reports are prepared from materials they provide.

But, public relations practitioners working on behalf of the establishments they represent do not control the news agenda (Bryant and Zillmann 1994, 11). They do have impact though because daily news comes from the events and trends of the day and those who can provide access to those events and insight into those trends can have an impact on the news agenda. Frequency plays an important role in the agenda setting process. The impact on the news agenda can be strengthened by successfully passing stories through gatekeepers who filter out and retract news articles while selecting which stories will be published. McCombs points out that the news is not a reflection of the day; rather it is a

set of stories constructed by journalists about the events of the day (Bryant and Zillmann 1994, 9).

Public relations practitioners can effectively promote ethanol, an issue competing with other issues to be placed on the public and media agenda, by layering ethanol messages, conducting press conferences, scheduling public events promoting ethanol, producing mass mailings and publications and using technology to create Web pages and electronic mailings. By running a layered campaign, ethanol becomes more than just a story for the day, but an event warranting the attention of gatekeepers and journalists.

Data from this research shows the *Des Moines Register* located in Iowa includes ethanol news stories more often than the other media analyzed. To increase the volume of ethanol news stories in the national and regional news media, public relations staff can work to improve media relations and converse with editorial boards to determine if and how ethanol news coverage can improve.

Analyzing newspaper articles about ethanol reveals that journalists more often use government officials as a source and nearly 32% of all stories are about government policy. Knowing the types of stories and sources journalists use provides public relations staff important insight as to what should be included in press materials. Public relations practitioners can develop relationships with government officials and use them as sources in press materials and incorporate them in press events in order to provide journalists and editors information they are more likely to print and events they are more likely to cover.

When public relations professionals are successful and ethanol stories are printed, the articles need to be prominent. This research into how newspaper media frames ethanol, including where the article placed and what is included in headlines, provides

public relations practitioners' additional insight as to how newspapers cover ethanol. Public relations practitioners can work to elevate ethanol news stories in salience by making the stories more noticeable, meaningful and memorable to the audiences viewing the information. Public relations practitioners can package ethanol news releases with photographs, charts and graphs in order to provide editors with additional materials that can warrant the attention of readers. Of the articles analyzed, nearly 85 percent of the time article headlines did not include the word ethanol. When providing news content, public relations staff can include the word ethanol in the headline. If editors do not modify the provided news materials or change the provided headline containing the word ethanol, the issue of ethanol becomes more noticeable and salient.

Data analyzed in this research found a significant correlation between article section placement and a newspaper's geography. National newspapers are more likely to contain ethanol news in Section A, while regional newspapers are most likely to contain ethanol news in Section D. Regionally, public relations practitioners need to improve where ethanol articles are placed and work to have articles printed in Section A. Although article placement is not controlled by public relations personnel, strong relationships between newspaper and public relations staff can be influential when determining newspaper layout. Public relations practitioners can provide localized and well-written materials that help tell a story in order to improve article placement.

Findings in this study support the idea that a newspaper's framing of ethanol, regardless of location, does not favor a positive or negative tone. For public relations professionals involved in the ethanol industry, discovering that the media does not portray ethanol more negative or positive is encouraging, while at the same time,

provides an opportunity for these professionals to provide the media with positive news about ethanol in order to gain support for their efforts. Ethanol advocates can use the media's balanced coverage as an opportunity to re-introduce themselves to media representatives and provide them with materials that will allow them to inform the general public and policymakers about the broad range of positive ethanol issues. At the same time, ethanol opponents can also use the media to inform the public and policymakers of negative ethanol issues.

Public opinion research has found if citizens have opinions about an issue at all, the opinions are low-quality (Zaller 1992). According to Chong and Druckman (2007), high-quality opinions that are stable, consistent, informed and connected to values are rare in the mass public. Regardless of geographical location, public relations professionals involved in the ethanol industry can use both the national and regional newspaper media to promote their agenda and create high-quality opinions about ethanol. Chong and Druckman (2007) claim that when an issue is new to the media agenda, the public is uncertain of the pros and cons connected to that issue. The opportunity for public relations professionals involved in the ethanol industry to sway the public and policy-makers is presenting itself, and the newspaper media is offering a fair playing field in order for them to do so.

#### *Future Directions*

Through content analysis, this study compared national and regional coverage of ethanol in newspapers in terms of article source, size, placement in terms of section and page number, headline and author attributes, the number and types of sources included in each story, overall article tone and theme. Future research should explore inter-media

effects and help determine if the national media coverage of ethanol sets the agenda for regional media coverage of ethanol. Inter-media agenda setting refers to the influence of the news media on each other (McCombs 2005). Both the *New York Times* and *Washington Post* are newspaper sources used in this study and are considered “. . . elite members of the press” that could be influencing other news media and the coverage of ethanol.

According to Sheafer (2007), in most agenda-setting studies the dependent variable is the public’s evaluation of issue importance. Future studies might focus on determining how important the issue of ethanol is to the public and the cognitive effects and framing effects of the mass media’s coverage of ethanol on audiences in different regions of the U.S. Future research should help determine if national media coverage of ethanol sets the national public agenda, which would be a significant predictor of public salience for the issue of ethanol. An agenda-setting study could aid in determining if the issue of ethanol is both a regional and national issue and could also help determine if the issue of ethanol is an obtrusive or unobtrusive subject.

Determining if the issue of ethanol is an obtrusive or unobtrusive issue could provide insight as to the level to which the public depends on the mass media for that issue. Palmgreen and Clarke (1977) concluded that local issues are less obtrusive and for obtrusive issues, people are less likely to depend on the mass media. Agenda-setting effects on political figures and government policy should also be explored for the subject of ethanol. In the future researchers might explore whether national or regional media affects the relationship between political agendas.

Based on the concept of need for orientation, future research could delve into the idea that agenda-setting effects may be different for people for whom an issue is local compared to those for whom the issue is not local (Hester and Gibson 2007). Future directions include comparing salience levels of people living in the Midwest to national salience levels for the issue of ethanol. Hester and Gibson (2007) in a study comparing the agenda-setting effects of national and local media on public salience found agenda-setting effects of local and national media can differ for individual issues and therefore, they state it is not always appropriate to combine local and national media together in agenda-setting research.

In the future, similar studies comparing national and regional coverage of ethanol in media outlets other than newspapers, such as digital, should be conducted and those findings could be compared to this study of ethanol coverage. Using diverse media in future research will help determine correlations in their emphasis of major issues. While this study compared national and regional coverage of ethanol in newspapers, similar studies focusing other new and emerging issues related to government policy, the environment, agriculture and energy should be conducted. Examples of such subjects are wind farms and bio-diesel. Because the same issue at different times can be framed differently (Chong and Druckman 2007), a future longitudinal study should content analyze other time frames and years.

The initial LexisNexis search for the term “ethanol” rendered 358 articles. Articles omitted from the research included 26 editorials, 3 opinion pieces and 14 letters to the editor or response letters, for a total of 43 articles. With the initial article search producing a high volume (12 percent) of editorials, opinion pieces and letters to the



editor, a future study should include an analysis of the framing of editorials, which could be a measure of the impact of agenda setting. To determine how much and if public relations staff members of government agencies, corporations and interest groups are impacting ethanol news content, a future study should determine if the materials provided by the public relations staff, such as news releases, are being printed in newspapers. If the materials are being printed, it should be determined if and how much those materials are being modified and re-written.

News coverage triggers public concerns about certain issues, those concerns can then affect the policy-making process (Kovacic 1997, 105). Analyzing various governmental policies concerning ethanol, both state and federal, in states included in this research could provide indications of the correlations between the media-agenda effects and public-agenda effects on the policy issues for each state. Correlations between the states and farm subsidies could also be examined in future research. Examining government policies that vary state-by-state and the correlations between the media agenda can strengthen media relations among journalists, the public and governmental aids.

### Conclusion

With the escalating use and production of ethanol, media coverage about the issue has increased. Yet there has been little academic attention directed to empirically studying how the media portrays ethanol as a single issue. As a pilot study, the purpose of this study was to compare national and regional newspaper coverage of ethanol. Understanding if there are differences between how the national and regional newspaper

media reports on ethanol can help ethanol advocates manage the issue more effectively in order to increase public, policy and media saliency.

Overall, data analyzed did not find significant correlations between national and regional newspapers and the tone, source types and themes of ethanol articles. Data did show differences in other affective attributes attached to the issue of ethanol. More articles were published in the newspaper located in the top ethanol producing state in the U.S., government sources are the most frequent type of source used in all the newspaper articles, and economic and government policy are the most frequently used article themes. National newspapers are more likely to contain ethanol news in Section A, while regional newspapers are most likely to contain ethanol news in Section D.

Because much of the daily news reports are prepared from materials provided by public relations staff members of government agencies, corporations and interest groups, deconstructing ethanol news content helps to strengthen issues management between public relations staff and clients. Media relations between public relations practitioners and journalists are also strengthened by understanding the needs of editors and patterns in ethanol news content.

## THESIS CODEBOOK

### Smith Thesis Codebook (2008)

This codebook is designed to help in the process of coding newspaper articles used in a content analysis comparing national and regional newspaper coverage of ethanol. Each variable is defined based on its use in this study. Coders are to refer to these definitions and only these definitions while coding newspaper articles. Other definitions of these words may be used outside of this study, but those definitions do not apply to this study. In addition, code the newspaper articles based on the following instructions. Although coders may have previous experience in research or coding, each study varies and therefore, code only according to the included instructions.

### Instructions

The purpose of this study is to compare national and regional coverage of ethanol in newspapers in terms of article source, size, placement in terms section and page number, headline and author attributes, the number and types of sources included in each story, overall article tone and theme.

Coders are responsible for reading newspaper articles and coding individual articles in compliance with the codebook. After reading an article, code it in numerical order on the corresponding code sheet. Specific instructions for coding each variable are provided.

In section one of this codebook a list of words and definitions are provided. These words are variables in this study and definitions included are the applications of the variables in this study. A coder's first duty is to familiarize themselves with the variables and their definitions. Do this by reading through the list a few times and asking questions if a definition is not clearly understood.

Section two of this codebook includes a sample code sheet.

### Basic Instructions

1. Learn the variables to be coded
2. Read each definition completely
3. Read each article completely
4. Reach each article a second time while noting the existence of the listed variables. As coders find variables, mark them with a dash on the code sheet assigned to that article (article 1, code sheet 1). Variables to be coded are in order as they appear on the LexisNexis article print out. Tone and theme variables are to be coded last.

## Section I

### *Variables*

- V1- Article source
- V2- Word count
- V3- Newspaper section
- V4- Page number
- V5- Headline attributes
- V6- Type of author
- V7- Number of sources
- V8- Type of sources
- V9- Tone
- V10- Theme

### *Definitions*

1. **Single journalist:** one name listed as the author or staff writer.
2. **Two journalists:** two names are listed as the author or staff writer.
3. **News service:** a news service such as Bloomberg, Associated Press or other news wire services are listed under the byline or as the author of the article.
4. **News service modified:** a single name or multiple names of journalists are listed along with other news services under the byline or as the authors of the article.
5. **Source:** any person interviewed in a story. Refers only to humans.
6. **Farmer:** relates to any person who is married to or works primarily in the agricultural industry or supplies agricultural goods to the community.
7. **Scientist:** relates to any person who works primarily in the science industry including biologists.
8. **Government official:** relates to anyone who is an elected official, who works for an elected official, who is working to become an elected official and anyone who works for an administration operating under the government.
9. **Representative from the ethanol industry:** refers to any individual who primarily works for, represents or supplies goods and services to the ethanol industry and refiners.
10. **Environmental:** refers to any individual who primarily works for or represents an environmental organization.
11. **Academic:** refers to an individual who primarily works in academia at any level.
12. **Average person:** refers to any man, woman or child who does not primarily work in the farming, science, government, ethanol, environment or academic system, as a lobbyist, economist, for the petroleum/oil industry, auto industry. As a source, an average person's occupation is not a factor.
13. **Lobbyist:** refers to any person who works as a lobbyist. The article must list the person as a lobbyist.
14. **Economist:** refers to any person referred to as an economist.
15. **Petroleum/Oil:** refers to any person who works with or for any oil or petroleum company.
16. **Financial:** refers to any person who works in or for financial institutions, in banking, as fund managers, investments firms, brokerage and venture capitalists

17. **Auto:** refers to individuals working in or for the auto industry.
18. **Tone:** frame of mind.
19. **Positive:** refers to a pro-ethanol frame of mind in that something of which an affirmation and assurance can be made; relates to the influence of good; to approve.
20. **Negative:** refers to an anti-ethanol frame of mind of which is marked as lacking positive qualities such as disagreeable, hostile and withdrawal; opposing constructive treatment or development; relates to the side that upholds the contradictory side of a debate; to reject or disapprove.
21. **Neutral:** refers to an impartial frame of mind concerning ethanol of which is marked as not being engaged on either side; not aligned with an ideological grouping; neither one nor the other; a position of disengagement.
22. **Theme:** a subject or topic of discourse.
23. **Economic Theme:** refers to a subject relating to the production, distribution and consumption of goods and services.
24. **Environmental Theme:** refers to a subject relating to or concerned with ethanol affecting the circumstances, objects or conditions by which one is surrounded.
25. **Energy Theme:** ethanol relating to or being used in the capacity of making something active, move or operate.
26. **Agricultural Theme:** refers to ethanol relating to or being used in the science of cultivating the soil, producing crops, raising livestock and operations of a farm.
27. **Government Policy Theme:** refers to ethanol relating to authoritative direction, concepts or control, the office, authority or function of a political unit.

Section II

- I. Article source: the newspaper source the article was published in.
  - 1- The Wall Street Journal
  - 2- New York Times
  - 3- Los Angeles Times
  - 4- Washington Post
  - 5- Des Moines Register
  - 6- Omaha World-Herald
  - 7- Chicago Tribune
  - 8- St. Paul Pioneer Press
  
- II. Word count: the exact number of words included in the article. The exact article word count will be provided by the LexisNexis database and handwritten on the blank space.  
  
\_\_\_\_\_
  
- III. Newspaper section: the section of newspaper the article was published in. The exact section the article was published in will be provided by the LexisNexis database.
  - 1- Section A
  - 2- Section B
  - 3- Section C
  - 4- Section D
  - 5- Section E
  - 6- Section F
  - 7- Section G
  - 8- Section H
  - 9- Section ET
  - 10- Other
  
- IV. Page number: the page number of the newspaper the article was placed on. The exact page number the article was placed on will be provided by the LexisNexis database.
  - 1- Page one
  - 2- Page two
  - 3- Page three
  - 4- Page four

- 5- Page five
- 6- Page six
- 7- Page seven
- 8- Page eight
- 9- Page nine
- 10- Page ten
- 11- Page 11
- 12- Page 12
- 13- Page 13
- 14- Page 14
- 15- Page 15
- 16- Page 16
- 17- Page 17
- 18- Page 18
- 19- Page 19
- 20- Page 20

- V. Is the word “ethanol” in the headline? When viewing the main headline of the article determine if the word “ethanol” is included.
- 1- Yes
  - 2- No

- VI. Type of author: the individual who wrote the article. Author names are seen on the byline section of the LexisNexis search.
- 1- Single journalist
  - 2- Two journalists
  - 3- News service
  - 4- News service modified
  - 5- Other

- VII. Number of sources: the total number of sources in an article.
- 1- One
  - 2- Two
  - 3- Three
  - 4- Four
  - 5- Five
  - 6- Six
  - 7- Seven
  - 8- Eight
  - 9- Nine
  - 10- Ten
  - 11- Eleven
  - 12- Twelve

- VIII. Source one: the type of source interviewed in the story.

- 1- Farmer
- 2- Scientist
- 3- Government official
- 4- Representative from the ethanol industry
- 5- Environmental source
- 6- Academic
- 7- Average person
- 8- Lobbyist
- 9- Economist
- 10- Petroleum/Oil
- 11- Auto
- 12- Financial
- 13- Other

IX. Source two: the type of source interviewed in the story.

- 1- Farmer
- 2- Scientist
- 3- Government official
- 4- Representative from the ethanol industry
- 5- Environmental source
- 6- Academic
- 7- Average person
- 8- Lobbyist
- 9- Economist
- 10- Petroleum/Oil
- 11- Auto
- 12- Financial
- 13- Other

X. Source three: the type of source interviewed in the story.

- 1- Farmer
- 2- Scientist
- 3- Government official
- 4- Representative from the ethanol industry
- 5- Environmental source
- 6- Academic
- 7- Average person
- 8- Lobbyist
- 9- Economist
- 10- Petroleum/Oil
- 11- Auto
- 12- Financial
- 13- Other

XI. Source four: the type of source interviewed in the story.



- 1- Farmer
- 2- Scientist
- 3- Government official
- 4- Representative from the ethanol industry
- 5- Environmental source
- 6- Academic
- 7- Average person
- 8- Lobbyist
- 9- Economist
- 10- Petroleum/Oil
- 11- Auto
- 12- Financial
- 13- Other

XII. Source five: the type of source interviewed in the story.

- 1- Farmer
- 2- Scientist
- 3- Government official
- 4- Representative from the ethanol industry
- 5- Environmental source
- 6- Academic
- 7- Average person
- 8- Lobbyist
- 9- Economist
- 10- Petroleum/Oil
- 11- Auto
- 12- Financial
- 13- Other

XIII. Source six: the type of source interviewed in the story.

- 1- Farmer
- 2- Scientist
- 3- Government official
- 4- Representative from the ethanol industry
- 5- Environmental source
- 6- Academic
- 7- Average person
- 8- Lobbyist
- 9- Economist
- 10- Petroleum/Oil
- 11- Auto
- 12- Financial
- 13- Other

XIV. Source seven: the type of source interviewed in the story.

- 1- Farmer
- 2- Scientist
- 3- Government official
- 4- Representative from the ethanol industry
- 5- Environmental source
- 6- Academic
- 7- Average person
- 8- Lobbyist
- 9- Economist
- 10- Petroleum/Oil
- 11- Auto
- 12- Financial
- 13- Other

XV. Source eight: the type of source interviewed in the story.

- 1- Farmer
- 2- Scientist
- 3- Government official
- 4- Representative from the ethanol industry
- 5- Environmental source
- 6- Academic
- 7- Average person
- 8- Lobbyist
- 9- Economist
- 10- Petroleum/Oil
- 11- Auto
- 12- Financial
- 13- Other

XVI. Source nine: the type of source interviewed in the story.

- 1- Farmer
- 2- Scientist
- 3- Government official
- 4- Representative from the ethanol industry
- 5- Environmental source
- 6- Academic
- 7- Average person
- 8- Lobbyist
- 9- Economist
- 10- Petroleum/Oil
- 11- Auto
- 12- Financial
- 13- Other

XVII. Source ten: the type of source interviewed in the story.

- 1- Farmer
- 2- Scientist
- 3- Government official
- 4- Representative from the ethanol industry
- 5- Environmental source
- 6- Academic
- 7- Average person
- 8- Lobbyist
- 9- Economist
- 10- Petroleum/Oil
- 11- Auto
- 12- Financial
- 13- Other

XVIII. Source eleven: the type of source interviewed in the story.

- 1- Farmer
- 2- Scientist
- 3- Government official
- 4- Representative from the ethanol industry
- 5- Environmental source
- 6- Academic
- 7- Average person
- 8- Lobbyist
- 9- Economist
- 10- Petroleum/Oil
- 11- Auto
- 12- Financial
- 13- Other

XIX. Source twelve: the type of source interviewed in the story.

- 1- Farmer
- 2- Scientist
- 3- Government official
- 4- Representative from the ethanol industry
- 5- Environmental source
- 6- Academic
- 7- Average person
- 8- Lobbyist
- 9- Economist
- 10- Petroleum/Oil
- 11- Auto
- 12- Financial
- 13- Other

XX. Tone: the apparent tone of the entire article.

- 1 Positive
- 2 Negative
- 3 Neutral

XXI. Article theme: the apparent overall theme of the article.

- 1- Economic
- 2- Environmental
- 3- Energy
- 4- Agricultural
- 5- Government Policy
- 6- Other

## REFERENCES

- Adams, W. 1986. Whose Lives Count? TV Coverage of Natural Disasters. *Journal and Communication* 36: 113-22.
- Ader, Christine. 1995. A Longitudinal Study of Agenda Setting for the Issue of Environmental Pollution. *Journalism and Mass Communication Quarterly* 72 (summer), no. 2: 300-311.
- Alternative Fuels and Advanced Vehicles Data Center. 2008. On-line. Available from Internet, <http://www.afdc.energy.gov/afdc/>, accessed 1 October 2008.
- American Coalition for Ethanol. 2008. On-line. Available from Internet, <http://www.ethanol.org/index.php?id=79&parentid=26>, accessed 6 October 2008.
- Askari, E. 1995. *Readers Thirst for More about Their Environment*. *American Editor* 771:14-16.
- Atwater, Tony, Michael Salwen, and Ronald Anderson. 1985. Media Agenda-Setting With Environmental Issues. *Journalism Quarterly* 62 (summer): 393-397.
- Bendix, Jacob, and Carol M. Liebler. 1999. Place, Distance, and Environmental News: Geographic Variation in Newspaper Coverage of the Spotted Owl Conflict. *Annals of the Association of American Geographers* 89, no. 4: 658-676.
- \_\_\_\_\_. 1991. Environmental Degradation in Brazilian Amazonia: Perspectives in U.S. News Media. *The Professional Geographer* 43: 474-85.
- Benton, M., and P.J. Frazier. 1976. The agenda setting function of the mass media at three Levels of "information holding." *Communication Research* 3: 261-74.
- Berelson, B. 1954. Content Analysis. In *The Handbook of Social Psychology, Theory and Method*, ed. G. Lindzey, 488-505. London: Addison-Wesley Publishing.
- Berkowitz, D., and D. Beach. 1993. Newspaper sources and news context: The role of Routine news, conflict and proximity. *Journalism Quarterly*, no. 70: 4-12.
- Bowman, C. 1996. Needed: A Recommitment. *Nieman Reports* 50: 5-8.

- Breen, Bill. 1993. Dueling quotes and other flawed conventions in environmental journalism. *Garbage* 6: 40-44.
- Brug, Wouter, Holli Semetko, and Patti Valkenburg. 2006. Media Priming in a Multi-Party Context: A Controlled Naturalistic Study in Political Communication. *Political Behavior* 29: 115-141.
- Bryant, Jennings, and Dolf Zillmann, eds. 1994. *Media Effects: Advances in Theory and Research*. New Jersey: Lawrence Erlbaum Associates.
- Burgess, J. 1990. The Production and Consumption of Environmental Meanings in the Mass Media: A Research Agenda for the 1990s. *Transactions of the Institute of British Geographers N.S.* 15: 139-61.
- Carmody, K. 1995. It's a Jungle Out There. *Columbia Journalism Review* 34: 40-45.
- Cho, Sooyoung. 2006. Network News Coverage of Breast Cancer, 1974 to 2003. *Journalism and Mass Communication Quarterly* 83 (spring), no 1: 116-130.
- Chong, Dennis, and J. N. Druckman. 2007. Framing Theory. *Annual Review of Political Science* 10: 103-26.
- Cohen, B.C. 1963. *The Press and Foreign Policy*. Princeton University Press.
- Cook, Fay, Tom Tyler, Edward Goets, Margaret Gordon, David Protes, Donna Leff and Harvey Molotch, eds. 1983. Media and Agenda Setting: Effects on the Public, Interest Group Leaders, Policy Makers, and Policy. *Public Opinion Quarterly* 47: 16-35.
- Cottle, Simon, ed. 2003. *News, Public Relations and Power*. London: Sage Publications.
- Curtin, Patricia, and Eric Rhodenbaugh. 2001. Building the news media agenda on the Environment: A comparison of public relations and journalistic sources. *Public Relations Review* 27: 179-198.
- Cutlip, Scott M., Allen H. Center, Glen M. Broom. 2000. *Effective Public Relations*. New Jersey: Prentice Hall.
- Davison, W. Phillips, James Boylan, and Frederick T.C. Yu. 1976. *Mass Media systems and Effects*. New York: Praeger Publishers.
- Dearing, James W., and Everett M. Rogers. 1996. *Agenda-Setting*. Thousand Oaks. SAGE Publications.

- Demers, D.P., D. Craff, Y. Choi, and B.M. Pessin. 1989. Issue obtrusiveness and the agenda-setting effects of national network news. *Communication Research* 16: 793-812.
- Druckman, J.N., and K.R. Nelson. 2003. Framing and deliberation. *American Journalism of Political Science* 47: 728-44.
- Edwards III, G.C., and B.D. Wood. 1999. The President, Congress and the media. *American Political Science Review* 93: 327-44.
- Edy, Jill A., and Patrick C. Meirick. 2007. Wanted, Dead or Alive: Media Frames, Frame Adoption, and Support for the War in Afghanistan. *Journal of Communication* 57: 119-141.
- Entman, R. 1993. Framing: Toward clarification of a fractured paradigm. *Journal and Communication* 43: 51-58.
- Eyal, C.H. 1979. *The roles of newspapers and television in agenda-setting*. Paper Presented at the annual meetings of the American Associations of Public Opinion Research (May). Buck Hill Falls, Pa.
- Eyal, C.H., J.P. Winter, and W.F. DeGeorge. 1981. The Concept of Time Frame in Agenda Setting. In *Mass Communication Yearbook*, no. 2 ed. G.C. Wilhoit, 225-245. Beverly Hills, CA: Sage.
- Funkhouser, G.R. 1973. Trends in media coverage of the issues of the 60's. *Journalism Quarterly* 50: 533-38.
- Gamson, W.A. 1992. *Talking Politics*. New York: Cambridge University Press.
- Ghanem, S. 1997. Filling in the tapestry: The second level of agenda setting. In *Communication and Democracy*, ed. M. McCombs, D.L. Shaw and D. Weaver 3-14. Mahwah, NJ: Erlbaum.
- Gitlin, Todd. 1980. *The Whole World is Watching: Mass Media in the Making and Unmaking Of the New Left*. Berkeley: University of California Press.
- Goffman, E. 1974. *Frame analysis*. New York: Harper and Row.
- Gormley, W.T., Jr. 1975. Newspaper agendas and political elites. *Journalism Quarterly* 52: 30-38.
- Graham, J.D., and P.R. Dziuban. 1996. Why Important Stories are Underreported. *Nieman Reports* 50: 27-28.

- Haigh, Michel M., Michael Bruce and Elizabeth Craig. 2008. Mad Cow Coverage More Positive in Midwest Papers. *Newspaper Research Journal* 29 (winter), no.1: 50-62.
- Halberstam, D. 1979. *The powers that be*. New York: Knopf.
- Hatfield, M.O. 1991. *Old Growth and Media: A Lawmaker's Perspective*. In *Media and the Environment*, ed. C.L. LaMay and E.E. Dennis. Washington: Island Press.
- Hayes, Danny. 2008. Does the Messenger Matter? *Political Research Quarterly* 61, no. 1:134-146.
- Hester, Joe Bob, and Rhonda Gibson. 2007. The Agenda-Setting Function of National Versus Local Media: A Time-Series Analysis for the Issue of Same-Sex Marriage. *Mass Communication and Society* 10, no. 3: 299-317.
- Howard, Carole M., and Wilma K. Mathews. 2000. *On Deadline: Managing Media Relations*. Prospect Heights: Waveland Press, Inc. 7.
- Hsia, H.J. 1988. *Mass Communications Research Methods: A Step-by-Step Approach*. New Jersey: Lawrence Erlbaum Associates.
- Iyengar, S. 1991. *Is anyone responsible? How television frames political issues*. Chicago: University of Chicago Press.
- Iyengar, S., and D.R. Kinder. 1987. *News that matters: Television and American Opinion*. Chicago: University of Chicago Press.
- Jeffres, L.W. 1997. *Mass media effects*. Chicago: Waveland Press Inc.
- Johnson, Renee. 2008. *What is the "Farm Bill?"* Washington, D.C.: CRS Report for Congress. RS 22131: 1-6.
- Kendall, Diana. 2005. *Framing Class*. New York: Rowman and Littlefield Publishers, Inc.
- Kendall, Robert. 1996. *Public Relations Campaign Strategies*. New York: Harper Collins College Publishers.
- Kim, Sei-Hill, Dietram A. Scheufele, and James Shanahan. 2002. Think about it this way: attribute agenda-setting function of the press and the public's evaluation of a local issue. *Journalism and Mass Communication Quarterly* 79 (spring), no. 10: 7-25
- King, Pu-tsung. 1997. The Press, Candidate Images, and Voter Perceptions. In



- Communication and Democracy, ed. M. McCombs, D. Shaw and D. Weaver, 29-40. New Jersey: Lawrence Erlbaum Associates.
- Kosicki, Gerald M. 1993. Problems and opportunities in agenda-setting research. *Journal of Communication* 42, no. 2. 115.
- Kovacic, Branislav, ed. 1997. *Emerging Theories of Human Communication*. New York: State University of New York Press.
- Lee, G.H. 2004. Reconciling cognitive priming vs. obtrusive contingency hypotheses. *Gazette: International Journal for Communication Studies* 66: 151-167.
- Lee, Martin, and Norman Solomon. 1990. *Unreliable Sources: A Guide to Detecting Bias in the News Media*. New York: Carol Publishing Group.
- Lippmann, Walter. 1922. *Public Opinion*. New York: Macmillan.
- MacKuen, M.B. 1979. Social communication and the mass policy agenda. Ph.D. thesis, University Of Michigan.
- Martin, S.R. 1988. Proximity Does Not Assure Newsworthiness. *Journalism Quarterly* 60: 731-32.
- \_\_\_\_\_. 1988. Proximity of Event as Factor in Selection of News Sources. *Journalism Quarterly* 65: 986-89.
- Mastin, Teresa, Jounghwa Choi, Gia Barboza, and Lori Post, eds. 2007. Newspapers' Framing of Elder Abuse: It's Not a Family Affair. *Journalism and Mass Communication Quarterly* 84, no. 4: 777-794.
- McCaffrey, Paul, ed. 2008. The Reference Shelf. Vol. 80, no. 3, *U.S. National Debate Topic 2008-2009: Alternative Energy*. New York: The HW. Wilson Company.
- McClure, R.D., and T.E. Patterson. 1976. Setting the political agenda: print vs. network news. *Journalism Communication* 26, no. 2: 23-28.
- McCombs, Maxwell. 2005. A look at agenda-setting: Past, present and future. *Journalism Studies* 6, no. 4: 543-557.
- \_\_\_\_\_. 1977. Newspaper versus television: Mass communication effects across time. In *The Emergence of American Political Issues: The agenda-setting function of the press*, ed. D.L. Shaw and M.E. McCombs, 89-105. St. Paul, Minn.: West.
- \_\_\_\_\_. 2004. *Setting the Agenda*. Cambridge: Polity Press.

- McCombs, Maxwell, and Donald L. Shaw. 1972. The agenda-setting function of mass media. *Public Opinion Quarterly* 36: 176-187.
- McCombs, Maxwell, Donald L. Shaw and David Weaver. 1997. *Communication and Democracy*. New Jersey: Lawrence Erlbaum Associates.
- McCombs, Maxwell, Jaun Pablo Llamay, Eteban Lopez-Escobar, and Federico Rey, eds. 1997. Candidate Images In Spanish Elections: Second-Level Agenda-Setting Effects. *Journalism and Mass Communication Quarterly* 74 (winter), no. 4: 703-717.
- McQuail, Denis, and Sven Windahl. 1993. *Communication Models for the Study of Mass Communication*. New York: Longman Publishing.
- Megwa, E.R. 1987. News from somewhere: A study in source agenda-setting. Ph.D. thesis., University of Missouri-Columbia.
- Molotch, H., and M. Lester. 1974. News as Purposive Behavior: On the Strategic Use of Routine Events, Accidents and Scandals. *American Sociological Review* 39: 101-112.
- Nordlund, J. 1978. Media interaction. *Communication Research* 5: 150-75.
- Ostman, R., and J.L. Parker. 1987. A public's environmental information sources and evaluations of mass media. *The Journal of Environmental Education* 18: 9-17.
- Overholser, Geneva, and Kathleen Hall Jamieson. 2005. *The Press*. New York: Oxford University Press.
- Palmgreen, P., and P. Clarke. 1977. Agenda-setting with local and national issues. *Communication Research* 4: 435-452.
- Patterson, T., and McClure, R. 1976. *The unseeing eye: The myth of television power and National elections*. New York: Putnam.
- Price, V., and D. Tewksbury. 1997. News values and public opinion: A theoretical account of media priming and framing. In *Progress in the communication sciences*, ed. G. A. Barnett and F. J. Boster, 173-212. New York: Ablex.
- Rasinski, K.A. 1989. The effect of question wording on public support for government spending. *Public Opinion Quarterly* 3: 388-94.
- Ray, D.L., and L. Guzzo. 1993. *Environmental Overkill: Whatever Happened to Common Sense?* Washington: Regnery Gateway.

- Reisner, Ann, and Gerry Walter. 1994. Agricultural journalists' assessments of print coverage of agricultural news. *Rural Sociology* 59: 525-537.
- Riker, W.H. 1996. *The Strategy of Rhetoric: Campaigning for the American Constitution*. New Haven, CT: Yale University Press.
- Roberts, Donald R., and Christine M. Bachen. 1981. Mass Communication Effects. *Annual Review of Psychology* 32: 307-56.
- Schoenfeld, A.C, R.F. Meier and R.J.Griffin. 1979. Constructing a Social Problem: The Press and the Environment. *Social Problems* 27: 38-61.
- Schramm, W. 1971. The Nature of Communication Between humans. In *The Process and Effects of Mass Communication*, ed. Schramm, W. and D.F. Robert, 3-53. Champaign-Urbana, IL: University of Illinois Press.
- Semetko, Holli A, Jay G. Blumler, Michael Gurevitch and David H. Weaver. 1991. *The Formation of Campaign Agendas: A Comparative Analysis of Party and Media Roles in Recent American and British Elections*. Hillsdale, NJ: Lawrence Erlbaum.
- Sheafer, Tamir. 2007. How to Evaluate It: The Role of Story-Evaluative Tone in Agenda Setting and Priming. *Journal of Communication* 57: 21-39.
- Simon, Adam, and Michael Xenos. 2000. Media Framing and Effective Public Deliberation. *Political Communication* 17: 363-376.
- Sigal, Leon V. 1973. *Reporters and Officials: The Organization and Politics of Newsmaking*. Lexington, Mass.: D.C. Heath.
- Sleeper, D. 1979. *Do the Media Too Often Miss the Message?* Letter from Sleeper to the Conservation Foundation. Jan., 1-8.
- Smith, Conrad. 1998. Responsible journalism, environmental advocacy, and the great apple scare of 1989. *Journal of Environmental Education* 29: 31-38.
- Sniderman, P.M. 1993. The new look in public opinion research. In *Political Science: the State of Discipline*, ed. A.W. Finifter, 219-45. Washington, DC: Am. Polit. Sci. Assoc.
- Soroka, Stuart. 2002. Issue Attributes and Agenda-Setting by Media, the Public, and Policymakers in Canada. *International Journal of Public Opinion Research* 14, no. 3: 264-285.

- Tan, Yue, and David Weaver. 2007. Agenda-Setting Effects Among the Media, the public and Congress, 1946-2004. *Journalism and Mass Communication Quarterly* 84 (winter), no. 4: 729-744.
- Trumbo, C. 1995. Longitudinal Modeling of Public Issues: An Application of the Agenda-Setting Process to the Issue of Global Warming. *Journalism and Mass Communication Monographs* 152: 1-57.
- United States Department of Energy. 2002. On-line. Available from Internet, <http://www.energy.gov/>, accessed 1 October 2008.
- United States Government Energy Information Administration. 2002. On-line. Available from Internet, <http://www.eia.doe.gov/>, accessed 1 October 2008.
- Walsh, K.C. 2003. *Talking About Politics: Informal Groups and Social Identity in American Life*. Chicago: University of Chicago Press.
- Wanta, Wayne, and Yu-Wei Hu. 1994. The Effects of Credibility, Reliance and Exposure on Media Agenda-Setting: A Path Analysis Model. *Journalism Quarterly* 71 (spring), no. 1: 90-98.
- Weaver, David. 1977. Political issues and voter need for orientation. In *The Agenda Setting Function of the Press*, ed. D.L. Shaw and M.E. McCombs, 107-19. St. Paul, Minn: West.
- Weaver, D.H., D.A. Graber, M.E. McCombs and C.H. Eyal. 1981. *Media agenda-setting in a Presidential election: Issues, images, and interests*. New York: Praeger.
- Weaver, D.H., T.S. Auh, Stehla T. and C. Wilhoit. 1975a. A path analysis of individual agenda-Setting during the 1974 Indiana senatorial campaign. Presented at Ann. Meet. Assoc. Education Journal, Ottawa, Canada.
- Weaver, D.H., and M.E. McCombs. 1978. Voters need for orientation and choice of Candidate: mass media and electoral decision making. Roanoke, VA: American Association for Public Opinion Research.
- Weaver, D.H., M.E. McCombs and C. Spellman. 1975b. Watergate and the media: a case study of agenda-setting. *American Politics Quarterly* 3: 458-72.
- Weaver, D.H., M.E. McCombs and D.L. Shaw. 1998. *Agenda-Setting Research: Recent Developments in Place and Focus*. St. Louis, MO: World Association for Public Opinion Research.
- Williams, W. Jr., and W. Semlak. 1978. Campaign 76: Agenda-setting during the New

Hampshire Primary. *Journalism Broadcast* 22: 531-40.

\_\_\_\_\_. 1978. Structural effects of TV coverage on political agendas. *Journalism and Communication* 28: 114-19.

Wimmer, Roger D., and Joseph R. Dominick. 2003. *Mass Media Research: An Introduction*. Belmont, California: Thomson Wadsworth.

Winter, J.P., and C.H. Eyal. 1981. Agenda-setting for the civil rights issue. *Public Opinion Quarterly* 45: 376-383.

Zucker, H.G. 1978. *The variable nature of news media influence*. Publications of the Communication Yearbook, ed. B.D. Ruben, no. 2, 225-240. New Brunswick, NJ: Transaction Books.