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MEDICAL MARIJUANA AND MASS MEDIA EFFECTS:  
AGENDA-SETTING AND FRAMING IN THE DEBATE OVER LEGALIZATION

by

Jodi Temyer

A Thesis

Submitted in Partial Fulfillment of the

Requirements for the Degree of

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## ABSTRACT

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Recent years have seen an increase in states that have legalized or proposed legislation for the use of medical marijuana. This paper used agenda-setting and framing theories to examine how the print media, in the form of daily newspapers, might influence the general population's opinion on legalizing medical marijuana. Using Lexis-Nexis, daily newspapers from 12 states (four with legalized medical marijuana, four that had pending legislation in 2010, and four without legalized medical marijuana or pending legislation as of 2010) were identified and searched for the term "marijuana" between Jan. 1, 2008, and Dec. 31, 2010. Content analysis was employed on 677 newspaper articles. The author found that article tone did not greatly vary between states with medical marijuana and states without; articles from states with pending legislation displayed very even coverage of articles considered to have negative or positive tones; and articles from states with legalization ran the most front page marijuana articles, but states with pending legislation ran approximately four times as many front page articles as states with no legalization.

## TABLE OF CONTENTS

Section	Page
Introduction	4
Review of Literature	7
History of Drug Perception in the Media	7
Theories	11
Review of Related Work	16
Approaches to Data Collection	20
Hypotheses and Definitions	22
Method	23
Results	26
Discussion	34
Conclusion	35
References	37
Appendices	
A. States with Legalized Medical Marijuana Prior to 2010 and the Year Passed	41
B. Number of Articles per Newspaper by Year	42
C. Codebook Used for Content Analysis	43

## MEDICAL MARIJUANA AND MASS MEDIA EFFECTS: AGENDA-SETTING AND FRAMING IN THE DEBATE OVER LEGALIZATION

Marijuana has played a varied role in American culture, particularly through the last century. Once a legal drug in the first decades of the 1900s, it was outlawed in 1937 as its use became more popular and simultaneously controversial. While proponents for legalizing marijuana for recreational or medicinal purposes have never fully disappeared, a resurgence of attempts to legalize the drug have reappeared in the past two decades. At the time this thesis was written in June 2011, 16 states and Washington, DC, had enacted laws to legalize medical marijuana since 1996 (“16 legal medical marijuana states and DC,” 2011), while, as of May 2011, another 10 states had pending legislation to legalize medical marijuana (“10 states with pending legislation,” 2011).

To some extent, the media have influenced American perceptions of drug use, and possibly helped the anti-marijuana campaign that made the drug illegal in 1937. The Bureau of Narcotics and its commissioner, Harry Anslinger, have been documented as using the press to transmit fear of marijuana. Articles were provided to publications to tell a tale of murder and insanity brought on by marijuana use (Schaller, 1970). Authors have attributed the criminalization of marijuana at the federal level to corrupt journalism, stating that “yellow journalism won over medical science” (Guither, 2010). At the time, marijuana was not a public concern since it was limited to a small demographic and geographical section of the country, but “this new menace that the media was showcasing” quickly became a concern for Americans (Sloman, 1979, p. 81).

Medical marijuana stirs personal and political debate, which is what makes it such an undeniably controversial topic that garners nationwide media attention. While it is

illegal at the federal level, state after state has started a debate within its borders about the merits of medical marijuana. It has become a hot topic politically, often seen alongside issues such as gay marriage and gun control. Mass media are undoubtedly the largest conveyor of messages to the population on a daily basis. As unbiased as mainstream outlets try to be, the media can set an agenda for what they report and frame how they report it.

Agenda-setting is the notion that the media can influence what people think about by giving certain topics more direct coverage on a more consistent basis. Researchers have argued that agenda-setting gives the media the capability to tell readers what to think by selecting which stories receive coverage and what the important issues are within those stories (McCombs & Shaw, 1972; Wanta, Golan, & Lee, 2004). Media agenda-setting is also believed to influence a population's behavior and attitude based on the quantity of news coverage on a particular topic, the intensity of the coverage, and the prominence of the coverage (Althaus & Coe, 2007; Stryker, 2003).

The media can use framing to organize and categorize the ideas they want to relay to the audience, focusing on the importance of certain ideas and values. The media have only a limited amount of space or time to relay the stories they consider to be important. An audience will stay focused on the media if they agree on the importance of the messages. To keep audience attention, the media must frame messages that conform to the values of the audience (Hoffman & Slater, 2007). By understanding the way the media have framed an issue, the public perception of the issue can be understood (Shih, Wijaya, & Brossard, 2008).

Currently, the country is divided three ways in terms of medical marijuana: states that have legalized it, states that currently have pending legislation, and states that have not considered legalizing it. As stated earlier, 16 states plus DC, or 32% of America (plus DC) have legalized medical marijuana. If the additional 10 states with pending legislation move to legalize, that means that 52% of America (plus DC) will have access to legalized medical marijuana. This study covered information through the end of 2010. In 2010, there were 13 states that had already legalized medical marijuana, and 19 states and Washington, DC, had pending legislation or ballot measures sometime throughout 2010 (“2010 states with legislation,” 2011).

Future research on medical marijuana and the media will have interesting implications for agenda-setting and framing research. Medical marijuana transcends the categories that are usually studied in media research—political, medical, social, economic—because it is discussed by the media in all of these arenas. Often individuals turn to media for a “cognitive shortcut” to help them understand a controversial, complex issue (Shih et al., 2008, p. 143). For some states, legalizing medical marijuana is an issue happening right now; for others, it is an issue that can still be watched from a distance. However, it is still an issue that can be portrayed at a federal, state, and local level, which makes it all the more interesting and difficult to study.

This paper used agenda-setting and framing theories to examine how the print media, in the form of daily newspapers, might influence the general population’s opinion on legalizing medical marijuana. Using content analysis, stories about marijuana from a selection of daily newspapers representing the three categories of states were coded for

positive and negative words and phrases, as well as for their length and placement within the paper.

## **Review of Literature**

### **History of Drug Perception in the Media**

Before addressing how the mass media might alter public perception of medical marijuana today, it is important to look at the effects that media had in changing the public perception of marijuana and other drugs in the past century. Media coverage of illegal drugs has been a widely researched issue.

Beginning in 1914, the government imposed taxes as a way to gain monetary value from then-legal drugs and to control who was in possession of these drugs. It wasn't until the Bureau of Narcotics was formed that a widespread anti-marijuana campaign started (Korzeniewski & Salmon, 2006). Research has suggested that the head of the Bureau of Narcotics in the 1920s and 1930s, Harry J. Anslinger, was the first person to capitalize on using the media to infiltrate views on marijuana. Before becoming the head of the bureau, Anslinger was considered an "exceptionally talented journalist," leading researchers to believe that his understanding of the media gave him a powerful advantage in using it to shape public perception (Korzeniewski & Salmon, 2006, p. 8). Anslinger noted that the federal government could not constitutionally control what was grown on a state-by-state basis, so the purpose of his campaign was to convince individual states to outlaw marijuana and start to call for federal anti-marijuana legislation. He started this campaign by reprinting and circulating newspaper articles from New Orleans that claimed African Americans were targeting white youth to push marijuana, which he said would most likely result in a crime epidemic (Korzeniewski &

Salmon, 2006). This was the starting point of a nationwide campaign, in which Anslinger wrote articles for magazines and newspapers to tell stories about marijuana-induced acts of murder and rape (Siff, 2009).

Anslinger used the media to amplify the country's current fear of minorities by promoting "hysterical media coverage" associating marijuana use with Chinese, Mexicans, and African Americans and the crimes that they committed, including rape and violence (Siff, 2009). In 1926, an article surfaced in the *New York Times* that described the results of an investigation on the effects of marijuana on enlisted service men in Panama. The investigation concluded that the effects of marijuana appeared to be "greatly exaggerated" compared to what the media were reporting, and there was no medical evidence that it caused insanity (Korzeniewski & Salmon, 2006, p. 6). In an attempt to overcome this and other documents stating marijuana had no determined detrimental side effects, Anslinger published a call for an organized campaign against marijuana in the *New York Times*, eventually resulting in The 1937 Marijuana Tax Act, signed by President Franklin D. Roosevelt (Korzeniewski & Salmon, 2006). Following this, anti-marijuana legislation began to pick up across the country, which resulted in the drug becoming illegal. It has been noted that Anslinger's campaign was possibly the "least known and most successful in the history of U.S. public health" (Korzeniewski & Salmon, 2006, p. 20).

During 1933 and 1934, research on the history of the marijuana phenomenon noted that it received a great deal of "sensationalistic press" (Sloman, 1979, p.44). In his book, *Reefer Madness*, Sloman used newspaper examples to show how Anslinger's media campaign spread across the country. In California, the *Los Angeles Examiner* read,

“Murder Weed Found Up and Down Coast--Deadly Marihuana Dope Plant Ready for Harvest That Means Enslavement of California Children” (Sloman, 1979, p. 44). Days later, a headline in the *San Francisco Examiner* said, “Dope Officials Helpless to Curb Marihuana Use” (Sloman, 1979, p. 44).

Korzeniewski and Salmon (2006) pointed out in their article how Anslinger used the values and fears of the country at the time to frame his articles on marijuana. He managed to frame marijuana as a threat to society by playing up fears of promiscuous women and savage minorities. The framing tactic used by Anslinger is similar to what Denham (2008) describes as “moral panics.” Moral panics can frame a story as representing a deviant group by preying on the generally-held values of the audience; general consensus among society should be that the threat is real, although the implied reaction to it may be disproportionate. Just as quickly as the moral panic was constructed it tends to disappear (Denham, 2008).

Looking back to the original anti-marijuana media campaign launched by Anslinger, the power held with agenda-setting and framing has, at one point, been strong enough to persuade the general population. Korzeniewski and Salmon (2006) stated:

That this campaign thrived in spite of medical evidence to the contrary is testament to the media skills of Anslinger and the Bureau of Narcotics. Regardless of where one stands on the issue of marijuana legalization/illegalization, the anti-marijuana campaigns of the 1930s remain important reminders of the power of public relations and media communications to influence public perceptions and public policy. (p. 21)

Peyote became a media topic in the 1950s, particularly how the country viewed its use among Native American culture. However, the media rarely printed contrasting viewpoints or interviews with the users, which rendered the stories to be one-sided (Siff, 2009). Once scientists created a man-made laboratory version of the drug, coverage

became more sensationalistic, because the media could now provide stories on laboratory experiences instead of those of a street-drug user (Siff, 2009).

In the 1960s, there was a media-induced drug movement concerning LSD. The media, particularly magazines, were blamed for starting an LSD craze by publishing vivid descriptions of LSD trips. The discoverer of LSD stated that the mass media had introduced and expedited the spread of LSD into the black market (Siff, 2009). One article stated that a possible explanation for why *Time* magazine published nine articles on LSD in 1966 alone, was because the magazine's publisher, Henry Luce, and his wife were hooked on LSD and believed it had great value (Schudson & Haas, 2009).

One of the more recent instances of media effects on drug perception was that of heroin in the 1990s. Music, fashion, and film pushed heroin use to the forefront of the media, with Calvin Klein capitalizing on the "heroin chic" image, the death of rock star Kurt Cobain, and popular films such as *Pulp Fiction* (Denham, 2008). Denham (2008) conducted a content analysis of a 16-year period of articles appearing in the *Los Angeles Times*, *New York Times*, and *Washington Post* to measure the presence of pop-culture references in heroin news reports. He found that by using dramatic exemplars, media could assist in causing moral panics in the population, even if evidence of an actual crisis was lacking.

His research found that prominent news organizations chose to set a certain tone about heroin use:

...it is worth noting here that in 1996, the Partnership for Drug-Free America announced a campaign to combat the use of heroin among adolescents and young adults; the US Congress conducted hearings in September 1996 toward potential heroin legislation; and Republican Presidential candidate Robert Dole lashed out at Hollywood in September 1996 for glamorizing heroin in films...., also railing

against the Clinton administration for its alleged failures in drug control. (Denham, 2008, p. 951)

There is plenty of literature available about the role the media and agenda setting or framing has played in politics and war; however, little research is available on how the media might shape the legalization of an illegal drug. Since legalizing medical marijuana is an ongoing controversy in the United States, research in this area is timely and could prove beneficial for the next several years, as more states propose legislation.

### **Theories**

The belief that media were capable of shaping their consumers' attitudes and social behavior may have begun with the effectiveness of the propaganda campaigns of World War I, as well as an increase in public relations in the early 1900s (Wartella & Middelstadt, 1991). Research based on reports of media influence on their audience from around the end of World War I to the 1960s questioned the capability of the media to change attitudes. However, Wartella and Middelstadt (1991) stated that the 1970s were focused on how media researchers could prove the "obvious power of the mass media" (p. 209), which resulted in several lines of research: (a) studies of media effects on an audience's social knowledge; (b) research on public information campaigns designed to change behavior; and (c) varied models that described how persuasive messages might change attitude or behavior. In 1984, researchers suggested that the majority of previous studies had only focused on political issues in agenda-setting and had only recently started to intently focus on framing (Culbertson & Stempel III, 1984).

Popular theories in mass media research on possible audience influence include agenda-setting and framing. These two theories are often discussed within the same study, but most researchers agree that these two theories have different implications.

Kim, Scheufele, and Shanahan (2002) provided very comprehensive definitions of the terms in a paper about agenda-setting implications of a local issue.

Framing, on the one hand, assumes that media coverage has an effect on audiences not through the issues or aspects of an issue that are being covered. Rather, framing assumes that it is “terminological or semantic differences” in how an issue is described rather than the salience of an issue itself that evoke audience responses...Agenda setting and priming, on the other hand, are based on the assumption that the most salient issues in a person’s mind will influence his or her decision making. That is, different issues or sub-dimensions of issues—if made salient by media coverage—will influence audience views. (p.10)

**Agenda-setting.** Agenda-setting has typically been considered to start with the gatekeepers of media, since issues that fail to make it into the news may not be deemed important issues by the audience (Wanta et al., 2004). According to Wanta et al. (2004) the original agenda-setting hypothesis suggested only moderate influence based on how people learned of the important issues each day. Now researchers hypothesize that the media can tell people what to think about; the public learns the importance of an issue based on increasing coverage in the media. More specifically, “the media force attention to certain issues and influence the salience or importance of the topic” (Feeley & Vincent III, 2007, p. 126), and in addition to drawing attention to the issue at hand, agenda-setting might increase cognitive accessibility of the issue (Kim et al., 2002).

Message intensity has been referred to as the media’s “penetrating power” (Althaus & Coe, 2007, p. 5) because high-message intensity is more likely to reach the portion of the audience whose behavior might be persuaded but is normally tuned out from the news. Some research argues that once the message has reached enough people, it is possible that the message can change attitudes and behavior in the population (Stryker, 2003). However, others have found that persuasion does not often result from media alone, but rather the media can reinforce attitudes or beliefs based on the in

group/out group hypothesis, which “proposes that increasing the salience of an external conflict should promote internal cohesion in a population” (Althaus & Coe, 2007, p. 9).

Other research determined that a pre-existing internal issue, or an “obtrusive” issue, could strengthen agenda-setting within the community where the topic is important (Sohn, 1984). Sohn (1984) interviewed people in a community that had a dominant coal mining presence and found that respondents stated the same expectations of new coal mines as had been emphasized in the newspaper. In addition, the newspaper had set a positive agenda about the new coal mines, and the community still reflected this agenda, despite knowing first-hand of the negative effects of living in a coal mining town.

Agenda-setting has been thought to influence public attention in a variety of settings, based on local and national issues. Research has shown that news outlets from different communities might give different prominence to stories depending on the local concern for that topic (Hyun & Moon, 2008). Media exposure varies based on the individual depending on several factors including, but not limited to, 1) the reader’s access to technology and, therefore, exposure to more national and international media; 2) the reader’s desire to interact with media and to what level; 3) the reader’s personal involvement in the issue being covered; and 4) the media available to the reader on a local level. Obviously, technology allows those with access to it the capability to interact with daily news from all over the world. However, agenda-setting in local daily news is still considered to be a key component of decision-making and shaping public opinion in local communities (Kim et al., 2002). As Gold and Simmons (1965) pointed out in their research on news patterns in Iowa dailies, local papers heavily relied on news wires for stories from outside the region. While stories coming from a wire service are all sent out

in the same form, word for word, there is still considerable room for local newspapers to set an agenda by choosing which stories to print and how much of each story to edit out or include (Gold & Simmons, 1965).

Some researchers placed media agenda-setting into first- and second-level categories. According to Wanta et al. (2004), first-level agenda-setting influences *what* the media consumer thinks about, and second-level agenda-setting suggests that media coverage influences *how* the consumer thinks about it. Their second-level agenda-setting definition suggested that those attributes linked to newsmakers influenced the agenda of the audience, and therefore influenced a more thorough processing of media content (Wanta et al., 2004). The concept of second-level agenda-setting is closely linked to what many researchers refer to as “framing.”

**Framing.** Framing is a multi-faceted theory that has suggested that the media can affect how an audience thinks about a topic or issue based on the way it is represented in the media (Shih et al., 2008). Some researchers have alluded that framing and agenda-setting have the same premise because there is often a thin line in the definitions of agenda-setting and framing theories, particularly in research that involved several levels of agenda-setting or the concepts of attribute and priming agenda-setting. Framing theory is different from agenda-setting theory because it “implies that *the way* a given piece of information is described creates different outcomes among audiences” (Kim et al., 2002, p. 21). Writers and newsmakers can frame their arguments based on a set of values held by the audience and used when trying to understand an issue. Values framing can have a strong impact on decision making because frames are derived, at least in part, from social and personal priorities (Hoffman & Slater, 2007). Even media messages with relatively

simple frames, such as positive or negative connotations or support of healthy behavior, have been found to have persuasive effects on media consumers (Stryker, 2003). It has been suggested that the frames presented in a story will activate certain thoughts and feelings for the reader and are more likely to provide a predictable reaction about the topic (Shih et al., 2008).

Perhaps the most difficult part in framing research is developing frames that can encompass every aspect of the issue reported. Previous studies researched for this paper showed a breakdown of frames based on values, topic, and tone. Value frames are studied within categories that usually represent emotional, moral, and political principles the reader might hold. Framing research by topic can simplify complex issues if an exhaustive list of all possible dimensions that could be discussed in an article is produced (Dardis, Baumgartner, Boydston, De Boef, & Shen, 2008). Tone framing can evaluate news articles by the overall expression of the article, such as negative tone, neutral tone, or positive tone. In some studies, frames were analyzed on whether the tone the article used to represent the issue was pro, anti, or neutral. Outside opinion columns, the news is expected to deliver information in an unbiased, neutral tone. However, this is not always the case, so the evaluation of how a complex topic is represented based on tone frames can give important clues to how the readers will perceive the issue.

Not all researchers have felt that framing is a one-way path from media to its audience. Prior studies introduced the notion that the audience has just as much influence over the media, particularly when aspects of health care were reported. People tend to interpret media frames based on their personal experience and interests while the media try to focus on stories that the editors and reporters see as “personally relevant and

understandable to audiences, which can be written in a touching or entertaining way” (Culbertson & Stempel III, 1984, p. 54).

### **Review of Related Work**

At this point, no prior research on agenda-setting or framing on the topic of legalizing medical marijuana could be found. Other controversial topics such as war, politics, and health campaigns offered insight on how the media might influence attitudes toward legalizing medical marijuana on a population level.

Stryker (2003) hypothesized that news coverage of the consequences of marijuana use would be correlated with adolescents’ perceptions of harmfulness and personal disapproval; i.e., increased news coverage of the positive consequences of marijuana use would be associated with a lower perception of harmfulness and personal disapproval, and vice versa. Using articles from The Associated Press, Stryker analyzed several years of media coverage on marijuana-related topics compared to the rates of adolescent abstinence from marijuana, perceived harmfulness, and personal disapproval. For her content analysis, she determined that using The Associated Press accurately measured change in marijuana media coverage over time. She found that media coverage did account for some variation in abstinence rates, and stories that emphasized negative consequences caused increased abstinence more often than positive stories decreased abstinence. However, she stated that media messages about positive aspects reduced the perception of harmfulness, and, “Post-hoc, it would make sense that media coverage emphasizing positive aspects of marijuana use would create an aggregate perception of the social acceptability of the behavior, thereby reducing disapproval of its use” (Stryker, 2003, p. 322).

A campaign separate from journalism, such as a public health campaign, might have a difficult time affecting the framing priorities of the media unless it is of particular interest to the media or is newsworthy enough to receive the attention. This appeared to be the case when a content analysis was conducted to determine how the news covered marijuana-related stories before and during the National Youth Anti-Drug Media Campaign. Jacobsohn, Stryker, and Hornik (2004) retrieved every article primarily about marijuana between January 1994 and March 2003 using a Lexis-Nexis search. The analysis revealed that other sources generated stories about marijuana in the news; however, these stories were not consistent with the message of the campaign (Jacobsohn et al., 2004). The content analysis divided the stories into five categories: 1) All stories about marijuana; 2) Arrests for marijuana-related charges; 3) Non-police context (i.e., medical marijuana, legalization, adolescent experimentation); 4) Marijuana use by college-aged people or younger; and 5) Marijuana use by college-aged people or younger in a non-police context. The researchers found that marijuana-related news spiked in coverage throughout this time period, but they were related to other issues, such as California legalizing medical marijuana, rather than the campaign (Jacobsohn et al., 2004).

In their study on how news intensity affected public support for war, Althaus and Coe (2007) stated that it is doubtful for attitudes to change when news intensity is low, but as intensity increases, the news is more likely to reach people who are willing to be persuaded. The authors also found that support for war tends to increase when coverage is on the front page of the paper and decreases as coverage leaves the front page (Althaus & Coe, 2007), which is an effect of agenda-setting. The authors suggested that increased

intensity of news coverage of war could do three things: change levels of support for the war by updating information, stabilize support for the war by reinforcing existing beliefs, and increase support for the war, regardless of the evaluative tone. The authors found that both agenda-setting and framing were effective in increasing support for the war because support increased when news about the war was located on the front page, and support levels rose when the evaluative tone used became increasingly positive.

Research on topics that are perceived differently by individuals based on personal and political beliefs as well as affected by varying state laws and federal regulations, similar to the legalization of medical marijuana, include immigration issues, gay marriage, capital punishment, and organ donation. A study of agenda-setting in both national and local media on immigration focused on the coverage gap between high and low issue-relevant states compared with increases and decreases in national media attention to illegal immigration (Hyun & Moon, 2008). The authors found that high issue-relevant states increased media coverage on immigration as the national media did, while low issue-relevant states did not increase coverage. According to the authors, the issue of illegal immigration had not produced much public concern until both local and national media started to give it attention, which is the basic theory of agenda-setting.

Pan, Meng, and Zhou (2007) examined framing of gay marriage in two national newspapers, one considered to use a more liberal tone and one with a more conservative tone. The authors hypothesized that the liberal newspaper would frame gay marriage news in a positive tone, and the conservative newspaper would use a negative tone. Their hypothesis was proved statistically significant.

Over 3,600 articles from the *New York Times* about capital punishment were analyzed by 67 topics, grouped into seven issue frames, and coded by references for, against, or neutral to the death penalty (Dardis et al., 2008). The authors looked for any change in framing patterns of the death penalty since 1960. The study, which spanned 43 years of newspaper coverage, found that the tone changed considerably over time; one of the 67 topics was the most common theme with over 1,300 articles; and eventually an entirely new issue frame was developed.

Feeley and Vincent III (2007) researched organ donation representation in the media and found that prior studies suggested that the media might be the main source of information about organ donation for the general public. They proposed research questions to determine if organ donation was portrayed positively by the media, what subject matter was covered by newspapers, and if the content of articles varied by what region of the country in which the newspaper was published. Content analysis revealed that a majority of the articles were positive, and similar trends in content were found for both negative and positive tone. Twice as many articles were coded neutral compared to negative articles.

### **Approaches to Data Collection**

Denham (2008) used content analysis to determine if a resurgence of heroin in popular culture increased media reports about heroin, and perhaps caused a moral panic. Using the Nexis Academic Universe database, he gathered articles from the *New York Times*, the *Los Angeles Times*, and the *Washington Post*. To be included in the analysis, articles had to be published between January 1, 1988, and December 31, 2003, and had to focus specifically on heroin as a drug of abuse. He chose these dates because the time

frame included years when federal agencies gathered data on heroin use, years when “heroin chic” became popular, and years when the government waged “war” on illicit drug use.

As part of their study on how media agenda-setting possibly affected voter knowledge during a campaign, McCombs and Shaw (1972) analyzed content from television, newspapers, and news magazines. Only the method used for newspaper analysis is relevant to this study. Articles were analyzed from September 12 to October 6, 1968, and were included in the analysis if it appeared as the lead on the front page or any page under a three-column headline and at least one-third of the story was about political news coverage.

When Althaus and Coe (2007) studied how framing news coverage of war affected public support, they analyzed the intensity and tone from a database of historical *New York Times* coverage. Spanning the time periods of six major wars, weekly counts of the total number of front-page stories about the wars and front-page stories about the part of the world where the war was taking place were collected. The authors said that the *New York Times* was an accurate representation of other national news outlets because “the news values of American journalism are highly professionalized and uniform across media” (p. 13).

Stryker (2003) measured media coverage of stories that mentioned positive or negative consequences of marijuana use. She analyzed media coverage from 1977 to 1999 by using The Associated Press in the Lexis-Nexis database. Stryker stated that AP is the only news source in Lexis-Nexis that has full text dating back to 1977, and because

AP is used so broadly in the U.S., it would be a valid representation of the overall national news.

When examining marijuana-related news coverage, Jacobsohn et al. (2004) analyzed newspaper coverage from January 1994 to March 2003. The authors started with open search terms in Lexis-Nexis about overall marijuana use, and then revised the terms to limit irrelevant stories. They coded the stories based on several different categories, such as police-related stories, youth-related stories, and general stories.

Dimitrova and Lee (2009) used content analysis to study the framing of Saddam Hussein's execution in the *New York Times*, *The Washington Post*, and the *Los Angeles Times*. In this analysis, 132 articles were found over a 14-day period using Lexis Nexis. Articles were then manually filtered to remove summarized news stories, stories with interviews, duplicate articles, and articles with fewer than 100 words.

Other studies collected several hundred newspaper articles for content analysis, such as Feeley and Vincent III's (2007) study on the framing of organ donation (715 articles) and Dardis et al.'s (2008) study on media framing of capital punishment (3,692 articles).

### **Hypotheses and Definitions**

This study analyzed the agenda-setting and framing practices that journalists across the country chose to convey messages about marijuana over a three-year period. Analysis of agenda-setting focused on article length, placement, and frequency; framing analysis focused on topic and tone. The study covered daily newspapers from several states across the country. This is further discussed in the methods section.

H1: In states where medical marijuana has already been legalized, article tone will more often range from positive to neutral. States that have not legalized marijuana will use a more neutral to negative tone.

H2: In states with pending legislation to legalize medical marijuana, article tone will run the entire scale of positive, neutral, and negative.

H3: In states with pending legislation, stories about marijuana will be placed more prominently in the paper.

The theoretical and operational definitions of terms used throughout this study are as follows:

- “Media,” “print media,” and “newspaper” all refer to daily newspapers in the U.S. In most instances, the name of the actual newspaper being referenced was provided, unless the information referred to a broader representation of print media in the country.
- “Medical marijuana” was used when discussing marijuana, or cannabis, specifically used for medical purposes.
- “Marijuana” will be used when discussing recreational, criminal, or any use of the drug that is not for medical purposes.
- “Pending legislation” or “pending ballot measures” referred to states with some form of a House or Senate Bill being considered for legalizing medical marijuana or states who will be voting on legalizing marijuana in the near future.
- “Negative tone” referred to newspaper articles that framed marijuana (medical or not) in a bad way, e.g., negative side effects, crime, etc.

- “Positive tone” referred to newspaper articles that framed marijuana (medical or not) in a good or beneficial way, e.g., health or economic benefits.
- “Neutral tone” referred to newspaper articles that framed marijuana (medical or not) in a balanced way or in a way that did not give the reader negative or positive clues.

### **Method**

The method used by researchers to determine effects of agenda-setting and framing in the media was content analysis, sometimes combined with surveys. This study employed only content analysis.

Using [procon.org](http://procon.org), states with legalized medical marijuana and states with pending legislation or ballot measures to legalize medical marijuana in 2010 (see Appendix A) were identified. Out of this list, four states with legalized medical marijuana, four without, and four with pending legislation in 2010 were chosen. States were chosen in an attempt to represent as many regions of the country as possible.

One newspaper per state was chosen for analysis. The newspaper had to be a seven-day per week, daily publication as well as be available in full text in Lexis-Nexis. As often as possible, each state’s newspaper was chosen based on large circulation. However, if the larger circulation papers were not available in Lexis-Nexis, then several available papers within each state were searched and the one with the most results was used. Each paper was individually searched by the term “marijuana” from Jan. 1, 2008, to Dec. 31, 2010. These dates were chosen because prior to 2010, all states with legalized medical marijuana passed legislation before 2008, with the exception of Michigan. The

first state to legalize medical marijuana, California, was in 1996, so by 2008, any overwhelming amount of news based on “shock” value should be eliminated. States with newspapers that have a more national reach (i.e., *Los Angeles Times*, *New York Times*, *Washington Post*) were not included. The size of these newspapers might overwhelm and bias future studies of how framing and agenda setting affects its direct readership. However, a future study of just these newspapers could also be informative.

The following newspapers were selected for analysis:

- *The Albuquerque Journal*, New Mexico, legalized
- *Grand Rapid Press*, Michigan, legalized
- *The Oregonian*, Oregon, legalized
- *The Providence Journal-Bulletin*, Rhode Island, legalized
- *Chattanooga Times Free Press*, Tennessee, pending in 2010
- *Chicago Sun Times*, Illinois, pending in 2010
- *Pittsburgh Post-Gazette*, Pennsylvania, pending in 2010
- *The Star Ledger*, New Jersey, pending in 2010
- *The Bismarck Tribune*, North Dakota, not legalized
- *The Charleston Gazette*, West Virginia, not legalized
- *The Houston Chronicle*, Texas, not legalized
- *The Salt Lake Tribune*, Utah, not legalized

Articles were manually sorted, and all editorials, TV/book/movie reviews, and advice columns were removed. The total number of articles counted for analysis was 677. A breakdown of articles per newspaper and year can be found in Appendix B.

For H1, the content of newspapers from the four states that have legalized medical marijuana and four states that have not were analyzed for tone. Interval data measurement was used with a scale ranging from one to five. One represented the most negative stories, three was neutral, or balanced stories containing positive and negative commentary, and five represented the most positive stories. The unit of analysis was an entire article.

To test H2, newspapers from the four states with pending legislation or ballot measures were analyzed based on the same scale used in H1. The unit of analysis was an entire article. The number of negative, neutral, and positive articles were compared.

To test H3, all of the articles analyzed for H1 and H2 were coded for article placement/prominence. The unit of analysis was an entire article. Articles were coded by general location within the paper and length.

The codebook can be found at Appendix C.

A total of three coders, which included the author, were trained for content analysis. A random selection of 46 articles, or approximately 7% of all articles, was pulled to test coder reliability. These articles were then added to the overall analysis. Coders were trained to identify topic and tone and were not briefed on which states had legalized, had not legalized, or had pending legislation for medical marijuana so as not to encourage any bias. Coder reliability was calculated using Holsti's formula. Separate reliability tests were done for topic and tone. The rest of the categories in the codebook did not require reliability testing since coders were only copying information from the article (e.g., day of the week, word count). Coders agreed on topic for 41 articles, or

approximately .89 (89%) reliability. For tone, coders agreed on 42 articles, or approximately .91 (91%) reliability.

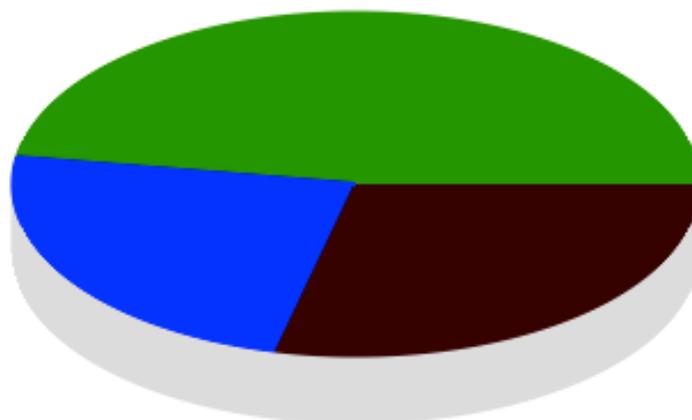
## **Results**

Out of the 677 articles analyzed, *The Oregonian* had 60 articles over all three years (8.9% of total articles), *The Grand Rapids Press* had 149 articles (22%), *The Providence Journal* had 85 articles (12.6%), the *Albuquerque Journal* had 27 articles (4%), the *Salt Lake Tribune* had 19 articles (2.8%), *The Charleston Gazette* had 30 articles (4.4%), *The Houston Chronicle* had 47 articles (6.9%), *The Bismarck Tribune* had 66 articles (9.7%), the *Newark Star Ledger* had 97 articles (14.3%), the *Pittsburgh Post-Gazette* had 42 articles (6.2%), the *Chicago Sun Times* had 24 articles (3.5%), and the *Chattanooga Times* had 31 articles (4.6%). Table 1 shows the number of articles and overall percentage of articles by newspaper. Overall, the states with legalized medical marijuana had 321 articles (47.5%), states without legalization had 162 articles (23.8%), and states with pending legislation in 2010 had 194 articles, or 28.6% (See Figure 1).

*Table 1*  
*Number of Articles Used per Paper*

Newspaper	Frequency	Percent
The Oregonian	60	8.9
The Grand Rapids Press	149	22.0
The Providence Journal	85	12.6
Albuquerque Journal	27	4.0
Salt Lake Tribune	19	2.8
The Charleston Gazette	30	4.4
The Houston Chronicle	47	6.9
The Bismarck Tribune	66	9.7
Newark Star Ledger	97	14.3
Pittsburgh Post-Gazette	42	6.2
Chicago Sun Times	24	3.5
Chattanooga Times	31	4.6
Total	677	100.0

Legalized: 47.5%=Green  
Not Legalized: 23.8%=Blue  
Pending in 2010: 28.6% Black



*Figure 1.* Percent of articles by legislation

The number of articles about marijuana was almost double in states with legalized marijuana versus states without legalization, and the number of articles in states with pending legislation was very close to states with no legalization. One would assume that the states with pending legislation would put the topic in the forefront of the media, no matter what tone. However, it is also important to note that the total number of articles might not be relevant because that number is influenced by the total number of pages in each particular publication. It is possible that the percentage of articles might be more significant if they were being compared to the number of total articles in the individual publication.

All newspapers increased in number of articles about marijuana over each year of analysis (Figure 2). Combined, there were 89 articles in 2008 (13.1%), 190 articles in

2009 (28.1%), and 398 articles in 2010 (58.8%). Based on information gathered for this study, one can only speculate if the increase in news is coincidental or circumstantial. Several topics might have led to the increase in news about marijuana, e.g., President Obama stating that medical marijuana busts would not be a priority at the federal level, the increased number of states with pending legislation in 2010, and states trying to clarify existing medical marijuana laws.

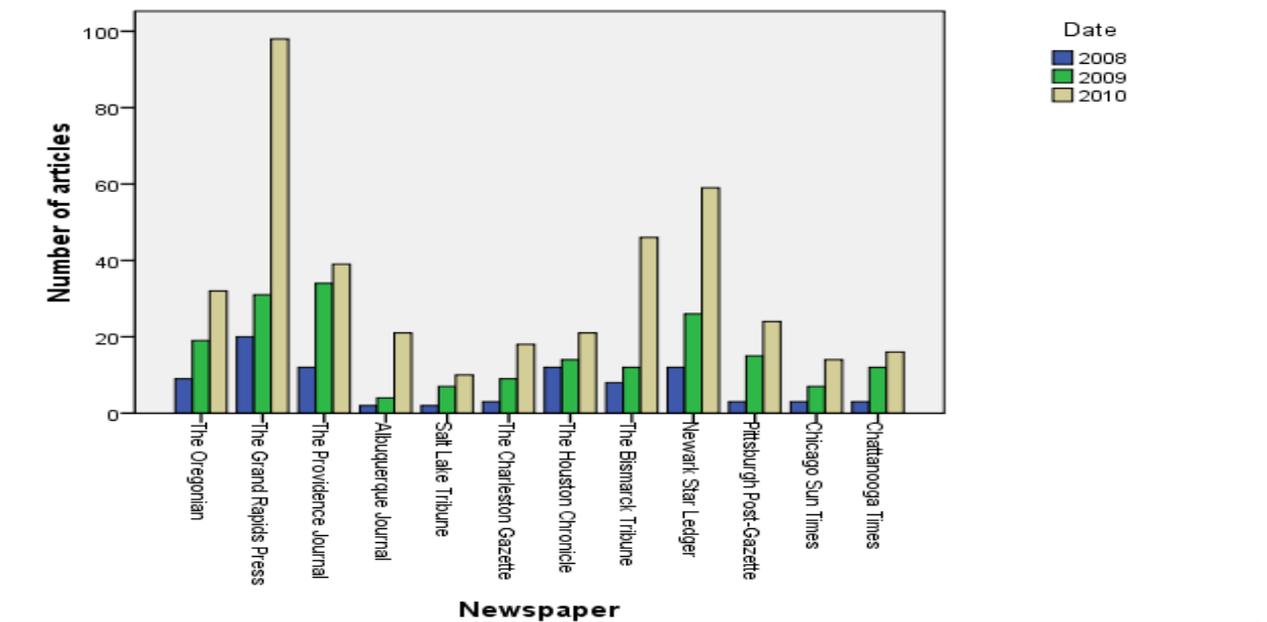


Figure 2. Number of Newspaper Articles by Year

States with legal medical marijuana had 15 articles coded “very negative” (4.7%), 79 articles coded “somewhat negative” (25%), 167 articles coded “neutral” (52%), 48 articles coded “somewhat positive” (15%), and 12 articles coded “very positive” (3.7%). States without legalized medical marijuana had 17 articles coded “very negative” (10%), 40 articles coded “somewhat negative” (25%), 64 articles coded “neutral” (40%), 32 articles coded “somewhat positive” (20%), and 7 articles coded “very positive” (6%). All percentages were rounded to the nearest tenth. This information is presented below in Figure 3.

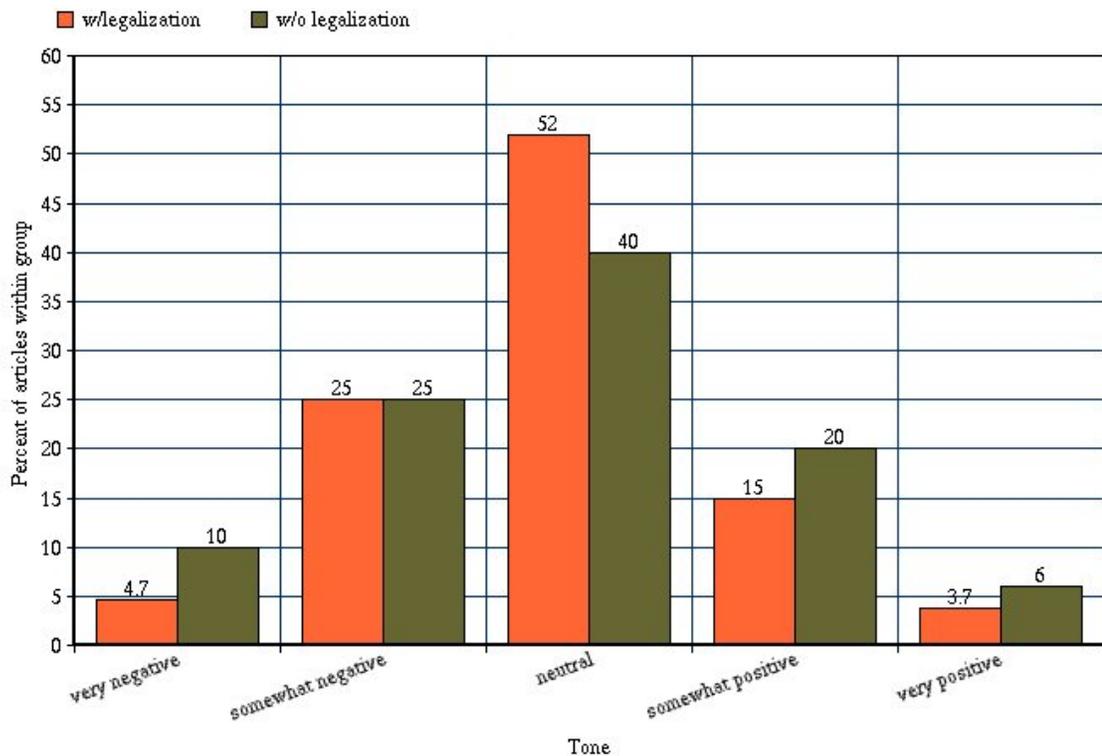


Figure 3. Article Tone in State With and Without Legislation

H1 hypothesized that states with legalized medical marijuana would have more articles in the neutral to very positive frames, and states without legalization would have more articles in the very negative to neutral frames. Newspaper articles from states with legalized medical marijuana had 70.7% of 321 articles coded as neutral, somewhat positive, and very positive, and 81.7% of 321 articles were coded neutral, somewhat negative, and very negative. The states without legalized medical marijuana had 66% of 162 articles coded neutral, somewhat positive, and very positive, and 75% of 162 articles were coded neutral, somewhat negative, and very negative. H1 did not prove to be correct.

In states with pending legislation in 2010, 13 articles were coded “very negative” (6.7%), 41 articles were coded “somewhat negative” (21%), 94 articles were coded “neutral” (48%), 38 articles were coded “somewhat positive” (20%), and 8 articles were coded “very positive” (4%). All percentages were rounded to the nearest tenth. See Figure 4 below.

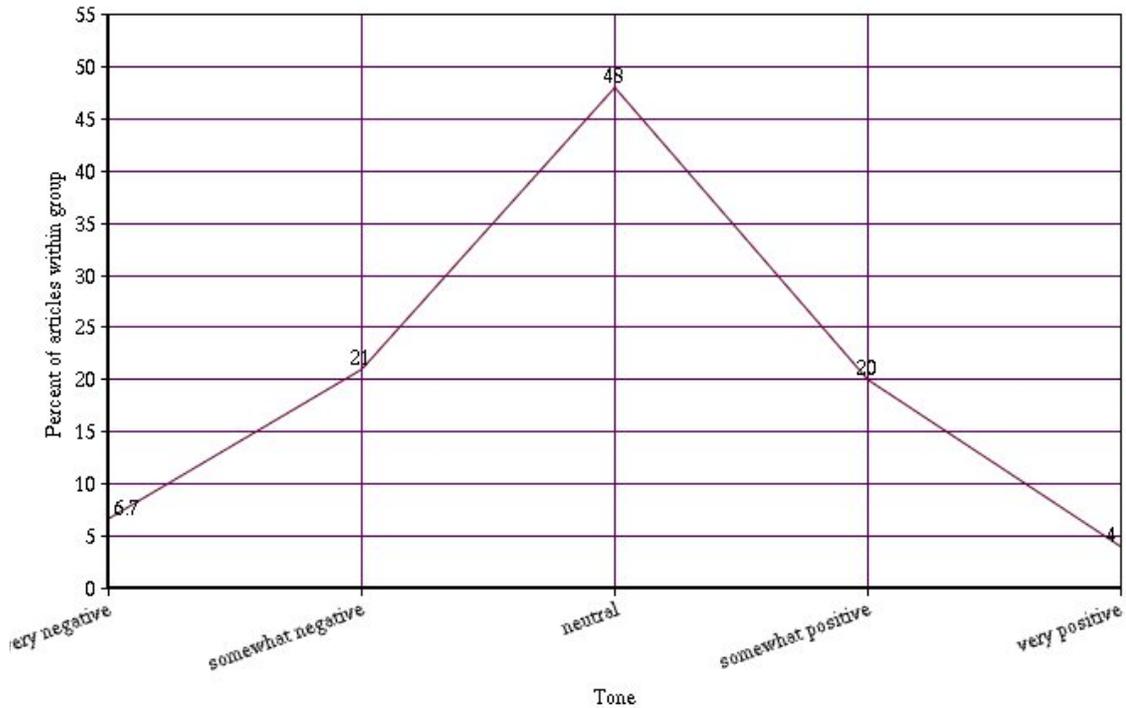
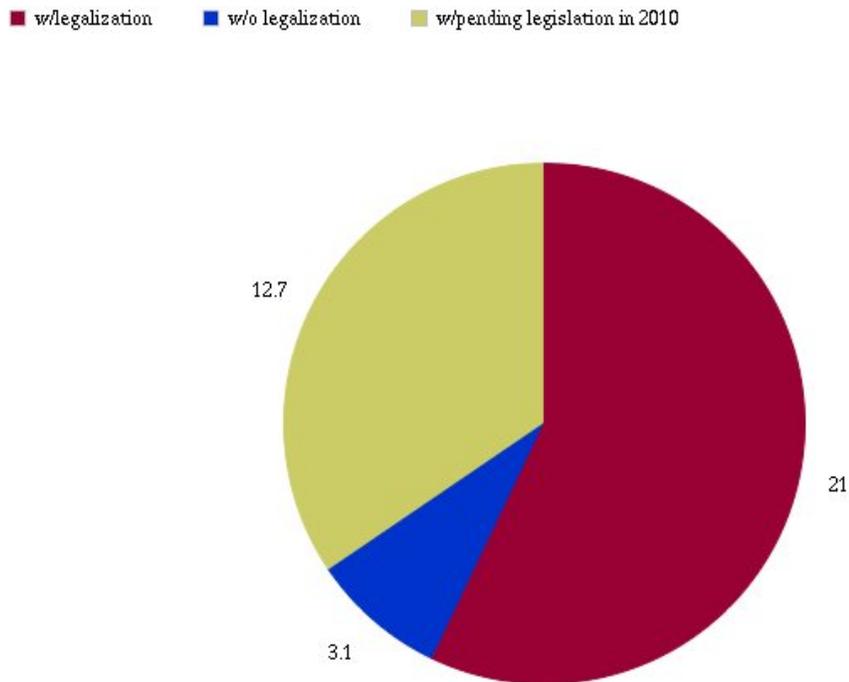


Figure 4. Article Tone in States With 2010 Pending Legislation by Percent

H2 hypothesized that states with pending legislation would frame articles equally in the very negative, somewhat negative, and neutral frames versus the neutral, somewhat positive, and very positive frames. The very negative, somewhat negative, and neutral frames contained 75.7% of the articles, and the neutral, somewhat positive, and very positive frames contained 72% of the articles. This hypothesis was proved to be true, as the difference in percentages (3.7%) was much less than in states with legalized medical marijuana (difference of 11%) and states without legalized medical marijuana (difference of 9%).

In using Lexis-Nexis to gather newspaper articles, it was difficult to consistently determine the article's placement in the newspaper unless it specifically said that it was

located on the front page. This was recorded and was still used to determine the outcome of H3. Word count will also be considered in this section since a larger word count would take up more space in the paper. States with legalized medical marijuana had a total of 66 articles about marijuana on the front page (21%); states without legalized medical marijuana had 5 articles on the front page (3.1%); and states with pending legislation had 25 articles (12.7%) on the front page (Figure 5).



*Figure 5.* Front Page Articles by Percent

H3 hypothesized that states with pending legislation would have the most articles prominently placed. This hypothesis was shown to be true in some circumstances. Although states with legalized medical marijuana had the highest percentage of front-page stories, states with pending legislation had four times as many front page articles than states without legalized medical marijuana. Word count did not differ greatly when stories with more than 500 words were considered. States with legalized medical marijuana had 40.8% of articles over 500 words; states without legalization had 48.7% of articles over 500 words; and states with pending legislation had 48.9% of articles over 500 words.

## **Discussion**

This study provided implications about the way the media handles stories about marijuana. This study encompassed a broad network of daily newspapers, and more information could be drawn from this research if it were to be cross-referenced with surveys among the newspapers' representative demographics.

Since the media are the primary gatekeeper of knowledge and isn't supposed to show bias, it is encouraging to see that major differences were not found in tone framing and agenda-setting for such a controversial topic. However, some differences can be seen when the newspapers and articles are studied a little bit closer. One example of this was on Feb. 8, 2009, when several papers ran variations of the same AP story about President Obama and the Drug Enforcement Agency preparing to change their stance on medical marijuana, which they later did when President Obama said that the federal agency would not prosecute those following state laws. Among newspapers used for this study, the same AP article was printed in *The Star-Ledger*, *The Bismarck Tribune*, the *Chattanooga*

*Times Free Press*, the *Charleston Gazette*, and *The Houston Chronicle*. The papers chose to print anywhere from 388 to 654 words from the original story. Based on what quotes were used in each article, they were either rated neutral, somewhat positive, or very positive. By simply removing two or three quotes that were cheerleaders for legalizing medical marijuana, the story became much more neutral.

Among many other instances, another example of this situation was around the end of May 2010, when several newspapers ran variations of an AP story on medical marijuana facing backlash in states with pot shops. The only papers that ran it were ones that did not already have legalized medical marijuana. While all of the stories were coded as very negative, the length was anywhere from 363 to 858 words. Although the numbers this study provided did not show a large variation in what the papers chose to print, it is obvious that there is still a distinction from paper to paper.

## **Conclusion**

Much more research is needed in this area, especially since medical marijuana is likely to become more prominent in the U.S. as more states choose to legalize. Future studies should consider surveys of people in these different states as well as content analysis of national newspapers. It would also be beneficial to analyze values frames, such as the pity frame. There is an abundance of news stories about cancer patients who can't legally buy it in their state but risk prosecution because smoking marijuana subdues their nausea and restores their appetite. There are stories about people who can legally get medical marijuana in their state, but no dispensary system has been put in place, so those seeking to smoke run the risk of being robbed or injured while buying marijuana from a street dealer. Then there are stories about people who not only have a debilitating illness

but are also getting fired for testing positive for pot during workplace drug screenings. The list of what would fall under the pity frame umbrella could go on and on. Another frame could be hilarity, such as a somewhat recent story about a man eating too many medical marijuana cookies before boarding an airplane then freaking out, attempting to fight a flight attendant, and getting arrested for interfering with the flight crew.

As stated in the introduction, if the states with pending legislation for medical marijuana choose to legalize, then 52% (plus DC) of the states would legally allow medical marijuana. This one topic could impact more than half of the U.S. population and could potentially increase. Compared to other very controversial topics, medical marijuana has spread across this country like a weed (pun intended). For example, gay marriage, as of April 2011, is only legal in five states and Washington, DC (“Should gay marriage be legal?” 2011).

I think the main reason that almost 50 percent of all articles collected for this study were from states that already legalized medical marijuana is because as each state legalizes, an entirely new topic crops up, which is ultimately covered by the media. For example, some states spent a lot of time debating how to dispense medical marijuana to patients. Some articles discussed a desire to safely distribute marijuana while others expressed concern over the possibility of a pot shop popping up on every corner. In some states, the media gave significant coverage to attempts at strictly limiting the list of illnesses that medical marijuana could be prescribed for.

While no definitive information about the relationship between the media and medical marijuana was gained from this analysis, I hope that this will serve as a starting point for deeper studies on the subject.

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## Appendix A

### States with legalized medical marijuana prior to 2010 and the year passed

(<http://medicalmarijuana.procon.org>)

- Alaska (1998)
- California (1996)
- Colorado (2000)
- Hawaii (2000)
- Maine (1999)
- Michigan (2008)
- Montana (2004)
- Nevada (2000)
- New Mexico (2007)
- Oregon (1998)
- Rhode Island (2006)
- Vermont (2004)
- Washington (1998)

### States with pending legislation or ballot measures to legalized medical marijuana in 2010

- Alabama
- Arizona
- Delaware
- District of Columbia
- Illinois
- Iowa
- Kansas
- Maryland
- Massachusetts
- Mississippi
- Missouri
- New Jersey
- New York
- North Carolina
- Ohio
- Pennsylvania
- South Dakota
- Tennessee
- Wisconsin
- Virginia

## Appendix B

### Number of articles per newspaper by year

Newspaper	Year			Total
	2008	2009	2010	
The Oregonian	9	19	32	60
The Grand Rapids Press	20	31	98	149
The Providence Journal	12	34	39	85
Albuquerque Journal	2	4	21	27
Salt Lake Tribune	2	7	10	19
The Charleston Gazette	3	9	18	30
The Houston Chronicle	12	14	21	47
The Bismarck Tribune	8	12	46	66
Newark Star Ledger	12	26	59	97
Pittsburgh Post-Gazette	3	15	24	42
Chicago Sun Times	3	7	14	24
Chattanooga Times	3	12	16	31
Total	89	190	398	677

## Appendix C

### Codebook used for content analysis

**1. Coder ID:** Jodi=1; Laura=2; Jason=3

**2. Publication:** Each publication will be assigned a number of 1 to 12

1=The Oregonian; 2=The Grand Rapids Press; 3=The Providence Journal;  
4=Albuquerque Journal; 5=Salt Lake Tribune; 6=The Charleston Gazette; 7=The  
Houston Chronicle; 8=The Bismarck Tribune; 9=Newark Star Ledger; 10=Pittsburgh  
Post-Gazette; 11=Chicago Sun Times; 12=Chattanooga Times

**3. Date of Article:** Record the date of each article coded by two digits for month, date,  
and year. (e.g., April 10, 2008 would be recorded as 04/10/08.)

**4. Day of the week article appeared**

1=Monday; 2=Tuesday; 3=Wednesday; 4=Thursday; 5=Friday; 6=Saturday; 7=Sunday

**5. Location of Article in Newspaper:** Record section (Title of section and where it  
appears in the paper, i.e., A, B, C; Page number. Abbreviations for longer section titles  
are fine.)

**6. Author of Article/Byline:** Do not record the actual author's name. Use: 1=staff writer,  
or if no name is given but the name of the newspaper appears as the byline; 2=Associated  
Press (AP); 3=wire service or other (anything but AP or the newspaper being coded);  
4=unknown/no author given

**7. Article Length: When the story was part of a larger group of stories, see  
directions below.\***

1=0-100 words; 2=101-200 words; 3=201-300 words; 4=301-400 words; 5=401-500  
words; 6=501-600 words; 7=601-700 words; 8=701-800 words; 9=801-900 words;  
10=901-1,000 words; 11=1,001 words or more

\*In some instances, articles were part of a larger story made up of news briefs. For these  
articles, I have written the length of the story only about marijuana. RECORD ONLY  
THAT NUMBER and not the original, larger number.

**8. Is marijuana mentioned in the title?**

1=yes; 2=no; 3=no title

\*For stories with a main title and a subtitle, only record an answer for the MAIN (usually  
large and boldface) title.

**9. Paragraph in which marijuana, pot, cannabis, or any other word that is easily  
recognized as a synonym for marijuana, is first mentioned (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, etc)**

**10. Is the story local, national, or international?**

1=local; 2=national (any state other than the one the newspaper is from); 3=international

## **Portrayal**

### **11. Topics/categories marijuana newspaper articles most often fall in to: Choose the MAIN topic focus of the article about marijuana.**

1. Medical marijuana
2. Recreational/personal use of marijuana
3. Health benefits of using marijuana (pain relief from diseases, for terminally ill, chronically ill)
4. Negative health effects of using marijuana/Side effects
5. Medical dispensaries/grow shops/pot shops/city-sanctioned dispensary/cafe
6. Marijuana research/scientific study/institutes for marijuana research
7. Marijuana activists (of either side)/NORML (National Organization for Reform of Marijuana Laws)/LEAP (Law Enforcement Against Prohibition)/Marijuana Policy Project
8. Government agencies/Drug Enforcement Agency/Office of National Drug Control Policy/drug policy/drug task force
9. Marijuana taxation/economy
10. Legislative initiative/Ballot initiative/bills/laws/proposition
11. Decriminalization
12. Drug charges/illicit drug charges/marijuana arrests/incarceration/arrest rate/workplace drug testing/illegal grow operation
13. Violence
14. Drug abuse/gateway drug
15. Drug cartel/drug wars
16. Education
17. Politics/Campaigns
18. Court cases/hearings/rulings
19. Other (please list)

### **12. Tone**

1=very negative; 2=somewhat negative; 3=neutral; 4=somewhat positive; 5=very positive

By examining the content of the entire article, is the mention/discussion of marijuana portrayed positively, negatively, or neutrally (balanced)? Would reading the story leave the average reader with a positive, negative, or neutral impression? Use the extreme ends of the scale (very positive or very negative) for articles that exhibit a strong tone for either side with no or minimal attempt to balance the story. (An extreme tone might be conveyed with quotes or shocking statistics.)

Examples: An article about drug cartel activity would usually be considered a negative article about marijuana. An article about a mass murder because of drug activity or an article that uses strong quotes like, "With harsher punishment for people caught using marijuana, the senseless murders in Mexico would be stopped," might be considered a "very negative article." An article covering both the pros and cons of legalizing medical marijuana would be neutral. A story that discusses health benefits of using marijuana would be considered positive. Tossing in quotes like, "Only marijuana can help cancer

patients find any relief from chemotherapy,” might be considered very positive. **Go with your gut instinct, as if you were simply reacting to reading this in your daily newspaper.**