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A Descriptive Study of Television News Coverage of Tobacco in the United States: Frequency of Topics, Frames, Exemplars, and Efficacy

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Abstract

There is a positive correlation between recall of tobacco-related television news and perceived risks of smoking and thoughts about quitting. The authors used Cision US, Inc., to create a sampling frame ($N=61,027$) of local and national television news coverage of tobacco from October 1, 2008, to September 30, 2009, and to draw a nationally representative sample ($N=730$) for content analysis. The authors conducted a descriptive study to determine the frequency and proportion of stories containing specified tobacco topics, frames, sources, and action messages, and the valence of the coverage. Valence was generally neutral; 68% of stories took a balanced stance, with 26% having a tenor supportive of tobacco control and 6% opposing tobacco control. The most frequently covered topics included smoking bans ($n=195$) and cessation ($n=156$). The least covered topics included hookah ($n=1$) and menthol ($n=0$). The majority of coverage lacked quoting any source ($n=345$); government officials ($n=144$) were the most quoted sources. Coverage lacked action messages or resources; 29 stories (<4%) included a message about cessation or advocacy, and 8 stories (1%) contained a resource such as a quitline. Television news can be leveraged by health communication professionals to increase awareness of underrepresented topics in tobacco control.

Previous research has shown a positive correlation between recall of tobacco-related television news and perceived health risks of smoking and thoughts about quitting (Dunlop,

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Supplemental Material

Supplemental data for this article (Appendix A: Tobacco Media Analysis Sample Stratification and Allocation for Local Television News Coverage; Appendix B: Tobacco Media Analysis Final Coding Scheme) can be accessed on the publisher's website at <http://dx.doi.org/10.1080/10810730.2015.1018651>.

Cotter, Perez, & Chapman, 2012). News media exposure to tobacco-related content from print and broadcast channels has played a role in tobacco cessation (Pierce & Gilpin, 2001) and in increasing perceived harm from smoking among adolescents (Clegg Smith, Wakefield et al., 2008). It is also associated with prevalence of smoking among U.S. men (Reid, Killoran, McNeill, & Chambers, 1992), and adult attitudes toward tobacco control policies (Blake, Viswanath, Blendon, & Vallone, 2010a, 2010b).

Prior research has examined how the media cover tobacco topics (Caburnay et al., 2003; Clegg Smith, Terry-McElrath, Wakefield, & Durrant, 2005; Clegg Smith, Wakefield, & Edsall, 2006; Clegg Smith, Siebel et al., 2008; Clegg Smith, Wakefield et al., 2008; Clegg Smith & Wakefield, 2006; Durrant, Wakefield, McLeod, Clegg Smith & Chapman, 2003; Long, Slater, & Lysengen, 2006; National Cancer Institute, 2008; Nelson et al., 2007; Niederdeppe, Farrelly, & Wenter, 2007; Stillman, Cronin, Evans, & Ulasevich, 2001). In one example, Long and colleagues (2006) aimed to better understand how the media covered tobacco control issues from 2002 to 2003 by conducting a content analysis of national magazines, national and local television newscasts, and newspapers. Related to television coverage, they found that only 21 of 550 television newscasts included stories where tobacco was central to the story. The majority of tobacco stories in their analysis was related to government, followed by health and litigation/settlement (Long et al., 2006). More recently, Nelson and colleagues (2007) used the Centers for Disease Control and Prevention's national news media surveillance system to characterize the coverage of tobacco topics in U.S. news media, including national broadcast and cable television network news. Their analysis of national television news coverage of tobacco revealed that television news was more likely to feature cessation/ addiction or health effects/statistics themes and less likely to contain secondhand smoke or policy/regulation themes (Nelson et al., 2007; Nelson et al., 2013).

With a few exceptions, tobacco content analysis studies have not included television news coverage among the media channels sampled, and those that do include television tend to favor examining national network coverage (Nelson et al., 2007; Nelson et al., 2013) versus local television news coverage. Despite declining viewership for local television news in recent years, local television remains a top news source for Americans, with almost three out of four U.S. adults (71%) watching local television news, compared with 65% viewing network newscasts and 38% cable news, according to a Pew analysis of Nielsen data from February 2013 (Pew Research Center, 2013a). Our study addresses this gap in tobacco-related content analysis studies by creating a sampling frame of both local and national television news coverage of tobacco, and undertaking a descriptive content analysis of a nationally representative sample of that coverage, to describe the content and valence of television news coverage of tobacco control issues in the United States. By including local television news coverage in the analysis, we attempt to identify underrepresented topics that may be levers for media advocacy at local and state levels, where much tobacco control policy is debated and enacted.

Method

Objectives

In this study, we aimed to create a nationally representative sample of local and national television news coverage of tobacco during the 12-month period from October 1, 2008, to September 30, 2009; and to conduct an exploratory analysis using frequencies and proportions to describe the content of tobacco-related television news coverage by topic, message frame, exemplars (sources quoted), and efficacy (action messages and resources), and to characterize the valence of the news stories.

Sampling Frame

To build two sampling frames (one for local stories and one for national stories) from which to draw a sample, we procured from Cision US, Inc., an exhaustive list of basic information on all television news clips (from both local and national newscasts) mentioning the words *tobacco*, *cigarette(s)*, *smoking*, and/or *smoke-free* during the period from October 1, 2008, to September 30, 2009. Protobacco and antitobacco advertising were excluded from the sample in order to focus solely on the content of the newscasts themselves. In order to eliminate irrelevant stories, the search term *smoking* was included only when it was within 75 words of the terms *FDA*, *hookah*, *restrictions*, *indoor*, *restaurants*, *bans*, or *bars*. Data were compiled using a mix of closed-captioned feeds, hand-logged monitoring notes, and visual recognition. The initial sampling frame ($N=61,027$) consisted of 60,863 news clips on the local frame and 164 news clips on the national frame.

Basic information for each of the two frames included station/affiliate in which the clip aired, date of the airing, and time of the airing. For the local frame, designated market area was also provided. Each clip on the frame had a unique date, time, and channel combination, but it is nevertheless likely that there were repeated occurrences of the same story on each frame, since the same television story may be repeated multiple times throughout the day. There was no attempt to unduplicate these multiple occurrences given that they reflect potential increased exposure of the same story to the viewing audience. The sampling strategies for the national and local sampling frames differed somewhat given the differing market penetrations of national versus local newscasts. The two sampling strategies are subsequently described in detail.

Sampling Local Television News Stories

The basis for the stratification for sampling from the 60,863 local tobacco-related news stories was the 210 designated market areas, which cover the continental U.S. population, Hawaii, and parts of Alaska. A designated market area is a region where the population can receive the same (or similar) television and radio station offerings. To capture a good geographic distribution of coverage from large and small markets, six strata were created and the 210 designated market areas were assigned to one of the six strata so that roughly one sixth of the population was represented in each stratum, similar to methods used by Long and colleagues (2006). Using six strata permitted reasonable regional representation in all strata and reasonable homogeneity of market size within each stratum.

The six strata were further substratified by time of day, day of week, and time of year of the newscast. Within each of the six strata, two categories representing weekday (Monday through Friday) versus weekend (Saturday and Sunday) coverage were formed. Because there were few tobacco-related news clips on weekends, the clips from this category were not substratified any further. However, to obtain full representation of potentially different types of clips, the weekday clips were further substratified into three “seasons” (time-of-year categories) spanning 12 months (October 2008–January 2009, February 2009–May 2009, and June 2009–September 2009). These three seasons were crossed with two time periods during the day (4:30 am–3:59 pm and 4:00 pm–3:59 am), for a total of six time-of-day/time-of-year substrata within the weekday category. Thus, each of the six geographic strata based on designated market areas had one weekend and six weekday substrata (i.e., seven temporal substrata), for a total of 42 substrata across the six designated market area strata. For each of the six strata, 120 clips were allocated (proportionately to frame size) to the seven substrata within each of the six designated market area strata (see Appendix A, available as a supplemental online file). The stratification and substratification scheme was balanced with respect to market size, geographic representation and the temporal components of the tobacco-related stories.

Sampling National Television News Stories

The second frame contained 164 tobacco-related stories from national newscasts on ABC, CBS, NBC, FOX, and CNN. For this frame, no geographic stratification was necessary since the market penetration was nationwide. Furthermore, given that there were so few national stories on the frame, it was deemed that any further stratification (temporal or otherwise) would lead to sample sizes that were too sparse per stratum. Thus, a census of all 164 national tobacco-related stories was taken.

Content Analysis

Of the 884 total clips sampled from the local and national frames, 154 were manually excluded because tobacco was not the major focus of the story. The final sample included 730 clips. Developing the coding scheme was an iterative process. Grounded theory guided an inductive process wherein the principal investigator and two master’s level coders first began with a qualitative review of 15% of the clips in order to identify the type of content covered in the stories and to compare interpretations and refine the coding framework. This process identified initial topics and quoted sources to be included in the final coding scheme. The draft coding scheme then underwent pilot testing to determine whether it was capturing all of the pertinent data represented in the news clips, and to assess agreement between coders. For the pilot test, we used NVivo 8.0 to double-code 10% of the sample (57 clips from the local sample and 16 clips from the national sample). Codes for each clip were reviewed, and for the initial pilot test, the proportion of agreement for the two coders was 85%. (The proportion of agreement is not a chance-corrected measure of agreement, following on the project’s qualitative framework, which favors group consensus over statistical tests to ensure reliability. Moreover, NVivo 8, a qualitative analysis tool, does not provide reliable kappa statistics for interrater reliability.) After the pilot test, staff met to identify the constructs for which there was a low percentage of agreement between the coders, and adjustments were made to add codes and clarify definitions and processes. For

the content analysis of the full sample, we used NVivo 8 to code the clips according to the final coding scheme (see Appendix B, available as a supplemental online file) and to calculate the frequencies and proportion of television news stories covering specific tobacco-related topics, message frames, sources, and action messages, and the valence of the coverage.

Measures

Tobacco-Related Topics—Codiers were instructed to code all tobacco-related topics that applied. Topics included: FDA regulatory authority, Family Smoking Prevention and Tobacco Control Act, smoking statistics, e-cigarettes, hookah, cessation/quitting, indoor air laws/bans, outdoor smoking bans, general tobacco-related laws and regulations (excluding bans and taxes), cost of cigarettes, federal cigarette tax, state/local cigarette tax, advertising bans, menthol, cigarette packaging (graphic warning labels), cigarette packaging (light, low-tar, natural organic, mild descriptors), celebrity smoking-related illness, smokeless tobacco (chew, snuff, snus), second-hand smoke, third-hand smoke, tobacco-related illness (lung cancer, heart attack, emphysema, high blood pressure, stroke, asthma, sudden infant death syndrome, other), non-tobacco-related illness, mandated changes to tobacco products (fire-proof/fire-safe cigarettes, reduced nicotine levels), other.

Primary Message Frame—Codiers were instructed to code only one primary message frame for each clip. Frames included: tobacco-related disparities (disproportionate smoking or tobacco-related illness by race/ethnicity, geographic location, or socioeconomic status), economic effect, ban on smoking, individual liberty/government interference, personal behavior change, protection of children and minors, protection of the public's health, disease prevention, smoking prevention, other.

Exemplars (Sources Quoted)—Codiers were instructed to code all sources quoted in each clip. Sources included: government scientist/researcher, non-government scientist/researcher (academic, cancer center, biotech, pharmaceutical), government official, patient, physician, nonprofit or advocacy group, tobacco industry, business owner, smoker, nonsmoker, "man on the street," celebrity, other, none.

Efficacy (Action Messages or Resources Included)—Codiers were instructed that action messages or resources must be explicit in the clip to be coded as "yes," such as including a URL, 1-800 number, or telling people to call Congress or sign a petition. Action messages included: quit smoking, call Congress, call quitline, talk to a doctor, use nicotine replacement therapy, other. Action resources included: quitline number, website URL, local or national telephone support number, order information (for pamphlets or booklets), other.

Valence—Codiers were instructed that the overall tone or attitude toward the topic being covered should be considered neutral if a balance of supportive and opposing words were used and both sides of the story were covered without preference or opinion. Stories were coded as supportive of tobacco control if terms such as *support*, *win*, *good*, *in favor*, or *positive* were used in the coverage. Stories were coded as opposing of tobacco control if terms such as *oppose*, *negative*, *bad*, *angry*, or *worry* were used in the coverage.

Results

Topics

Indoor air laws/smoking bans were the tobacco topics that received the most coverage ($n=195$, 27%) in local and national U.S. television news broadcasts in the 12-month period between October 2008 to September 2009. Cessation was also a popular topic, with 156 stories (21%) dedicated to quitting. Approximately 8% of the coverage ($n=55$) focused on Food and Drug Administration regulatory authority over tobacco (the Family Smoking Prevention and Tobacco Control Act was signed into law in June 2009). Topics such as graphic warning labels ($n=24$) and electronic cigarettes ($n=24$) received approximately 3% of the coverage, while hookah received almost no coverage ($n=1$) and menthol was not mentioned at all ($n=0$). See Table 1 for a complete delineation of tobacco topics and the proportion of coverage each received.

Message Frames

Tobacco-related disparities was the frame or lens through which the least amount of coverage occurred, with only five stories (<1%) discussing disproportionate tobacco use and tobacco-related illness by race/ethnicity, socioeconomic status, or geographic region. Smoking bans ($n=264$) and economic effect of tobacco regulations ($n=133$) were the frames most used in the coverage, while disease prevention ($n=62$), protection of the public's health ($n=60$) received about 8% of the coverage. Protection of children and minors ($n=39$) and smoking prevention ($n=38$) also were infrequently used frames, receiving about 5% of the coverage. See Table 2 for a complete delineation of possible message frames and the proportion of coverage each received.

Exemplars

Nearly half of the tobacco-related television news stories in our sample quoted no human source ($n=345$). Government officials were the most quoted exemplars ($n=144$), representing 20% of the coverage. Physicians were the next most used exemplar ($n=71$), being quoted in about 10% of the stories. Celebrities ($n=9$) and tobacco industry representatives ($n=5$) were the least quoted exemplars. See Table 3 for a complete delineation of exemplars and their proportion of coverage in which they were quoted in tobacco-related television news.

Efficacy

The majority (>95%) of television news coverage of tobacco issues included no action message ($n=693$) or action resource ($n=715$) for viewers (Table 4).

Valence

The valence of coverage was generally neutral; 68% of stories took a balanced stance. Twenty-six percent had a general tenor supportive of tobacco control and 6% opposed tobacco control.

Discussion

Because more people rely on television news than on newspapers for their information (Pew Research Center, 2013a) and because local television news has majority viewership over network and cable news (Pew Research Center, 2013b) and is a major source of health information for the public (Pribble et al., 2006), we have attempted to gain a broader understanding of how tobacco topics are covered in television news by creating a nationally representative sample of one year of both local and national television news coverage of tobacco in the United States. As far as we know, only one other study (Long et al., 2006) has attempted such a comprehensive assessment of tobacco-related news. Most content analyses of news coverage of health-related topics use limited samples of articles from top-circulating newspapers and wires (National Cancer Institute, 2008) or from the Centers for Disease Control and Prevention's surveillance system for tobacco news (Nelson et al., 2007; Nelson et al., 2013), and rarely include local coverage from print or broadcast news outlets.

Direct comparisons to other content analysis studies is difficult because other studies have taken different approaches to selecting and defining the categories of content for investigation, and have looked at tobacco-related content in the news during different time periods. We think that by using an inductive, qualitative approach to develop codes to characterize a plethora of different tobacco-related topics, news frames, exemplars/sources, efficacy/action messages, and valence, we have contributed a comprehensive assessment of coverage of tobacco-related topics in local and national television news in our one-year data collection period.

Consistent with journalism's need to cover new and emerging topics and themes, the tobacco topics and news frames represented in the coverage during this time period likely reflected activity at the state and local level where clean indoor air legislation was being considered, and where cessation services were being promoted, as the majority of coverage focused on indoor air and cessation and the majority of frames focused on bans and economic effect. While these topics will remain important for tobacco control, our study points to some missed opportunities and potential levers for media advocacy going forward. We found that less than 1% of television news coverage used a disparities frame, even though tobacco use is socially patterned, with the prevalence of smoking being highest among low socioeconomic status populations, and use of smokeless tobacco products being most pervasive in rural areas. Our data also point to <5% of tobacco coverage being framed as protecting children and minors. While Lima and Siegel (Lima & Siegel, 1999) have argued that general population frames would be more advantageous than youth issues in tobacco control, a study by Blendon and Young (1998) found that there is broad public support for government actions to protect children and minors.

While we anticipate that the topics covered have changed over time, our data identify opportunities for advocates and researchers to contribute content and information in the areas of smokeless tobacco, e-cigarettes, hookah, and menthol, where coverage was extremely limited despite their importance to tobacco control. Cigarette packaging and graphic warning labels also received limited coverage, though it is possible that after 2009,

coverage may have spiked when the new warning labels were introduced in November 2010, and ultimately rejected by the courts in March 2013.

Despite cues to action being a highly valued component of public health strategies (Rosenstock, 1966, 1974), we found that action messages and resources for viewers of tobacco-related television news also were extremely limited in television news coverage of tobacco control. Given the plethora of telephone and Internet resources that exist to promote quitting and other tobacco control strategies, it may be beneficial for advocates to promote these resources, though their inclusion would be at the discretion of reporters and editors covering the story.

Limitations

This study developed a sampling frame for local and national television news coverage of tobacco for the 12-month period from October 1, 2008, to September 30, 2009, and analyzed the content of the news coverage using transcripts of television news broadcasts from a nationally representative sample of 730 clips. While this study offers insight into how tobacco topics are covered on television news in the United States, other channels such as newspapers, magazines, and social media were not included as part of the sampling frame, thus limiting our understanding of the breadth of tobacco coverage in U.S. media. The time-frame for data collection also is limited, and does not include an assessment of more recent coverage. Furthermore, the descriptive statistics generated offer only a glimpse into the full picture of television news coverage of tobacco. Future research should parse out potential differences in local and national television coverage and differences by strata and geographic area, as well as evidence about whether exposure to this coverage may have influenced local tobacco control policy decisions or individual-level attitudes and behaviors.

Conclusions

Television news has the potential to influence behavior at the individual level and policy at the population level, and media advocacy is an established objective for many tobacco control programs (National Cancer Institute, 2008; Stillman et al., 2001). Our study has attempted to characterize television news coverage of tobacco topics in the United States to identify underrepresented topics that may be used as levers for media advocacy, in order to extend the breadth and depth of tobacco issues represented in the public information environment, ultimately to increase awareness of and support for important issues in tobacco control.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Proportion of tobacco topics covered in local and national television news stories in the United States, October 2008 to September 2009 (*N* =730)

	<i>n</i> (%)
Indoor air laws/bans	195 (26.70)
Cessation or quitting	156 (21.36)
State or local cigarette tax	136 (18.63)
Other tobacco-related topic	94 (12.88)
Federal cigarette tax	87 (12.00)
Price/monetary cost of cigarette smoking	87 (12.00)
Outdoor smoking bans	86 (11.78)
Smoking prevalence or smoking statistics	68 (9.32)
Mandated changes to tobacco products (e.g., “fire-proof” cigarettes, reduction in nicotine levels)	65 (8.90)
FDA regulatory authority (Family Smoking Prevention and Tobacco Control Act)	55 (7.53)
Second- or third-hand smoke	52 (7.12)
Tobacco-related illness	51 (6.99)
Advertising bans	43 (5.90)
Cigarette packaging (e.g., “light,” organic, natural descriptors)	30 (4.11)
General tobacco-related laws or regulations NOT including smoking bans or tobacco taxes	25 (3.42)
Graphic warning labels	24 (3.29)
Electronic cigarettes	24 (3.29)
Non-tobacco-related illness	13 (1.78)
Smokeless tobacco	9 (1.23)
Celebrity smoking-related illness	8 (1.10)
Hookah	1 (<1.00)
Menthol	0 (0.00)

Note. Discrete coding was not used to classify categories as mutually exclusive. Rows do not sum to 730 (100%) because of multiple topics in some stories.

Table 2

Proportion of primary tobacco-related message frames covered in local and national television news stories in the United States, October 2008 to September 2009 (*N* =730)

	<i>n</i> (%)
Ban on smoking	264 (36.16)
Economic effect of tobacco regulations	133 (18.22)
Disease prevention	62 (8.49)
Other	62 (8.49)
Protection of the public's health	60 (8.22)
Personal behavior change	44 (6.03)
Protection of children and minors	39 (5.34)
Smoking prevention	38 (5.21)
Individual liberty	20 (2.74)
Tobacco-related disparities	5 (<1.00)
No message frame	3 (<1.00)

Note. Discrete coding was used to classify primary message frames as mutually exclusive. Rows do not sum to 100% because of rounding.

Table 3

Proportion of sources quoted in local and national television news stories in the United States, October 2008 to September 2009 ($N=730$)

	<i>n</i> (%)
No source quoted	345 (47.26)
Government official	144 (19.72)
Physician	71 (9.73)
Nonprofit or advocacy group	49 (6.71)
Current smoker	48 (6.58)
Nongovernmental scientist	40 (5.48)
Business owner	39 (5.34)
“Man on the Street” interview (smoking status unknown)	35 (4.79)
Other	35 (4.79)
Nonsmoker	25 (3.42)
Government scientist	16 (2.19)
Celebrity	9 (1.23)
Tobacco industry	5 (<1.00)
Patient	3 (<1.00)

Note. Discrete coding was not used to classify categories as mutually exclusive. Rows do not sum to 730 (100%) because multiple sources were quoted in some stories.

Table 4

Proportion of local and national television news stories containing action messages or resources, October 2008 to September 2009 ($N=730$)

	Yes, n (%)	No, n (%)
Action message included	29 (3.97)	693 (95)
Action resource included	8 (1.10)	715 (98)

Note. Rows do not sum to 730 (100%) because of “unsure” codes for some clips.