Tobacco-Prevention Messages Online: Social Marketing via the Web

Carolyn A. Lin
Department of Communication Sciences
University of Connecticut

Gwen A. Hullman
Department of Speech Communication
University of Nevada at Reno

Antitobacco groups have joined millions of other commercial or noncommercial entities in developing a presence on the Web. These groups primarily represent the following different sponsorship categories: grassroots, medical, government, and corporate. To obtain a better understanding of the strengths and weaknesses in the message design of antitobacco Web sites, this project analyzed 100 antitobacco Web sites ranging across these four sponsorship categories. The results show that the tobacco industry sites posted just enough antismoking information to appease the antismoking publics. Medical organizations designed their Web sites as specialty sites and offered mostly scientific information. While the government sites resembled a clearinghouse for antitobacco related information, the grassroots sites represented the true advocacy outlets. In general, the industry sites provided the weakest persuasive messages and medical sites fared only slightly better. Government and grassroots sites rated most highly in presenting their antitobacco campaign messages on the Web.

The World Wide Web has become an alternative information campaign outlet for antitobacco groups and others who provide information against tobacco use. These information sources typically are sponsored by government, grassroots, corporate, and medical interests. Federal government agencies such as the Food and Drug Administration have provided antismoking information on their Web sites, as have...
local government health agencies. Over 50 grassroots organizations such as Kick-
butt, The American Lung Association, and the American Cancer Society have cre-
ated their antitobacco presence on the Web. The top five tobacco manufacturers in
the United States—Philip Morris, RJ Reynolds, Brown & Williamson Tobacco
Corporation, Lorillard Tobacco, and Liggett Group—as well as medical concerns
including the American Medical Association, are also represented online.

Although there is an abundance of health information online provided by
for-profit and nonprofit organizations, the research literature on online health cam-
aign content remains sparse. Public health website content analyses typically fo-
cus on specific health organizations (e.g., Witherspoon, 2001), health programs
(e.g., Rice, Peterson, & Christine, 2001), health program designs (e.g., Buller et
al., 2001) or health program evaluations (e.g., Schneider, Frechtling, Edgar, Craw-
ley, & Goldstein, 2001).

To obtain a better understanding of the strengths and weaknesses in the content
design of antitobacco Web sites, this project examined antitobacco Web sites
posted by antitobacco groups as well as tobacco companies. The study aimed to re-
veal patterns that may exist in design elements, persuasive strategies, and informa-
tion content in association with the type of site employed by different organization
types. Any differences between industry-sponsored pages and nonindustry spon-
sored antitobacco Web sites will also be compared.

ANTITOBACCO INFORMATIONAL CAMPAIGNS ONLINE

According to Fox and Rainie (2002), approximately 62% of the 73 million U.S.
adults using the Internet have searched health-related information online, and at
least 6 million Internet users sought medical advice on a typical day. The gender
breakdown indicates that online health seekers represent 72% of the female
Internet users and 51% of the male Internet users. These users are typically col-
lege-educated, older, married with children, and have higher incomes.

Because the high-risk groups for tobacco use are not included in this popula-
tion, some argue that the Internet campaigns are not worth the effort (Restino &
Ratzen, 1997). Nonetheless, online campaign enthusiasts argue that the Internet
is a way to relay timely, accurate, unbiased health information to the public. Ad-
vocates for online social marketing campaigns, such as New York Access to
Health, have worked with social marketing agencies to overcome limitations
with the Internet.

According to Flay (1987), there are three ways in which the mass media have
been used to discourage the use of tobacco; these include: (a) to inform the pub-
lic of the health consequences of cigarette smoking, (b) to promote specific
smoking cessation actions like calling a telephone help line for assistance, and
(c) to provide smoking cessation clinic information to those smokers who desire to stop smoking.

As a social marketing campaign outlet, the Internet is capable of providing two-way communication between the information source and the receiver. This interactive nature of an online-based social marketing campaign also sets it apart from an antitobacco campaign in the traditional media by allowing creative interactive activities for educational purposes. For instance, on the Campaign for Tobacco-Free Kids sites, a visitor will be led to a page describing the dangers of smoking by clicking on a letter in the alphabet; the letter B contains information about bladder cancer, bronchitis, and burns, accompanied by photographs. The American Cancer Society’s site asks visitors to complete a secret mission by correctly answering questions regarding the health risks associated with smoking (Melendez, 1990).

The tobacco industry has also taken advantage of the interactive properties of the Internet. As Internet advertising is not yet regulated by the Food and Drug Administration (Lord, 1997), the tobacco company Web sites have also included content that sponsors interactive contests and games directed at youth to attract young visitors. As a result, these youth-oriented online interactive activities “inadvertently” present cigarette smoking as a cool thing to do (Kaufmann, 1997).

Because the use of the Internet medium is not bound by time or distance, it enables an individual or organization to establish a 24-hour-a-day presence on the Web (Berthon, Pitt, & Watson, 1996). Compared to traditional media marketing outlets, the initial online social marketing presence and ongoing maintenance is relatively economical to establish. In addition, access opportunities can be equal for all potential players, and the share of marketing voice can be uniform across competition (Berthon et al., 1996).

Similar to the e-commerce establishment, social marketing presence on the Web provides an alternative venue to reach additional consumers with a maximal amount of complementary content, where content “space” is of no concern. As such, the distinction between advertising and editorial information can be blurred and a skimming-over effect may also be reduced, as it is more difficult for consumers to block out advertising content (Forrest & Mizerski, 1996). Social marketing agencies have adopted this unique online marketing avenue to advertise their advertorials on the Web; they have also made their campaign information available at the users’ convenience, circumventing the commercial media’s rigid publishing or broadcasting schedules (Restino & Ratzen, 1997).

This observation was echoed by Rees (1998), who maintained that public health brochures are giving way to information technology that can help reach the right public with the right health information at the right time. Moreover, Rados (1996) contends that the Internet is a valuable advertising tool due to its ability to reach target markets that are otherwise unreachable.

To discover the potential distinctions in the antitobacco information provided by different organization types, the following research question will be tested.
RQ1: What are the differences in information content elements used in Web sites displayed by the four different types of organizations?

**EFFECTIVE CAMPAIGN MESSAGE STRATEGY**

According to Wallack (1990), there are five critical factors associated with a successful information campaign. The first of these is monopolization; that is, campaigns are more likely to succeed if there are few competing counter messages. Second, a campaign that calls for a change in behavior congruent with existing attitudes—or canalization—is more likely to succeed. Third, an existing message that is reinforced by similar messages and delivered through other media channels—or supplementation—can also enhance campaign effects. Fourth, creating new opinions has a better chance to succeed than converting existing opinions. For example, antismoking campaigns targeting youth often focus on smoking prevention instead of smoking cessation (Baumann et al., 1988). The last factor that can aid an information campaign involves making the messages personally relevant.

Perloff (1993) contends that three message content variables—evidence, vividness, and fear—can enhance persuasion. With regard to evidence, because the internal evidence factors consist of the evidence credibility, quality, and novelty, the external factors pertain to the credibility of message endorser, message delivery, and participant familiarity with the evidence. Petty and Cacioppo (1981) found that although high-involvement receivers relied more on verbal information, low-involvement receivers depended more on other information, such as pictures, to process the information. Li (1998), however, found both low-involvement and high-involvement receivers were drawn to the words in ads.

The concept of message vividness, according to Perloff (1993), can persuade the audience only when case studies—for example, a personal story about developing lung cancer—are presented. Others confirmed that vivid words or visuals can more effectively capture and retain receiver attention (Childers & Houston, 1984; Ralston & Thameling, 1988). Still, some question the assumption that palid information is necessarily less persuasive than vivid information (Frey & Eagly, 1993; Taylor & Thompson, 1982). Messaris (1997) suggests that visual images could be persuasive via three different ways—iconicity (summing up the idea represented), indexicality (documenting the images of an event), and syntactic indeterminacy (presenting an implicit relationship between people and events).

Roger (1975) considers the fear factor to be a very persuasive device when it meets the following three criteria. The first criterion involves magnitude of noxiousness or the severity of consequences when the problematic behavior is not modified (e.g., lung cancer). Probability of occurrence—the second criterion—refers to the situation in which modifications of behaviors or attitudes did not
occur. The third criterion relates to efficacy of recommended response, or the effectiveness of protective responses (e.g., the effect of smoking cessation on reducing the probability of cancer development). Past research has generally supported the proposition that stronger fear messages tend to generate greater persuasion (Dillard, 1994; Mongeau, 1998; Witte & Allen, 2000).

Many informational campaigns utilize one-sided messages to influence the audience. These types of messages are particularly persuasive among those who are already in agreement with the messages, by reinforcing their existing beliefs (Perloff, 1993). By contrast, refutational two-sided messages are found to be more persuasive than one-sided messages, especially among those who initially disagree with the messages (Allen, 1998; O’Keefe, 1999).

Both one-sided and two-sided messages can be enhanced by the source’s use of powerful language, although powerful speech seems more persuasive when presented in audiovisual instead of written form (Sparks, Areni, & Cox, 1998). Glantz and Goldman (1998) found that the “bluntness” language used in antismoking campaigns worked well in convincing adults and children alike about the tobacco industry’s manipulations to hook new smokers and boost profits, as well as the dangers of second-hand smoke. Powerless speaking styles, including the use of hedgers, modifiers, intensifiers, and polite forms (i.e., please, very, I think, pretty sure), can impede the persuasion effect (Erickson, Lind, Johnson, & O’Barr, 1978). Additional research suggested that the gender of the message source matters (e.g., Newcombe & Arnkoff, 1979). For instance, although women were found to be more persuasive if they used powerless language forms with men and powerful language forms with women, men’s use of powerful versus powerless language forms were equally persuasive (Carli, 1990).

Although fear is a strong emotional appeal that can affect a receiver’s cognition and affect, there is a broader range of human emotions that can be tapped as the basis for developing effective persuasion devices. For instance, humorous appeals are a popular persuasion device for antismoking campaigns (e.g., the TV ad that features a pair of cowboys incapable of completing a duel in a smoke-filled saloon due to incessant coughing). Humorous ads directed at youth that exaggerated short-term cosmetic effects of smoking, however, had a limited impact due to their potentially unrealistic portrayals (Glantz & Goldman, 1998). Weinberger and Gulas (1992) found the persuasion effect of humor to be inconclusive, based on most one-shot laboratory study findings.

By contrast, Lammers, Leibowitz, Seymour, and Hennesy (1983) reported that humor did help generate more favorable responses toward the advocated message after a certain time interval, based on repeated measures. Humor has also been said to indirectly facilitate persuasion by attracting receiver attention and thawing receiver defenses (Weinberger & Gulas, 1992), as well as enhancing communicator trustworthiness (Grunner, 1967), attractiveness, and competence (Wanzer, Booth-Butterfield, & Booth-Butterfield, 1996). Weinberger, Spotts, Campbell, and Parson (1995)
summed up the persuasive effect of humor as a peripheral cue that may influence a low-involvement decision more than a high-involvement decision.

Fowles’ (1982) typology of 15 emotional advertising appeals—including an individual’s needs for sex, affiliation, nurture, guidance, aggression, achievement, dominance, prominence, attention, autonomy, escape, safety, aesthetic sensations, curiosity satisfaction, and physiological needs—provides a rather comprehensive look at human needs and motivations. These advertising appeals can be easily identified in both tobacco advertisements and antitobacco campaigns. For example, the need to escape is heavily utilized by the tobacco industry. The Marlboro cowboy remains separated from modern life, relaxing on his horse far away (Fowles, 1982). By contrast, “a cigarette ad with a couple at the end of a polo field is trying to hit both the need for affiliation and the need for prominence. Depending on the attitude of the male, dominance could also be an ingredient” (Fowles, 1982, p. 289).

Hong and Cody (2002) likewise reported that protobacco sites project a glamorous alternative lifestyle with smoking by using attractive male and female endorsers. Others have also reported that protobacco sites used attractive incentives such as cartoons, moving images, music, and/or promotional sportswear (e.g., Malone & Bero, 2000) to attract minors. Web sites targeting teenage girls were also found to manipulate adolescents’ feelings of insecurity and the glamour associated with smoking (Carpenter & Ribisl, 2000). In spite of the ability of these attractive images to convey compelling emotions, Fowles (1982) concluded that there is no evidence that ads can get people to do things contrary to their self-interest.

To explore whether or not the persuasive strategies used might have differed across site type, a research question follows.

RQ2: What are the differences in persuasive strategy elements used in Web sites displayed by the four different types of organizations?

**EFFECTIVE WEB PAGE DESIGN**

Effective Web page design enhances the readability and utility of the site. For instance, adding animation and a border background can create visual interest, but using large photos and complicated graphics can be distracting (Sheumel & Keller, 1998). Chamberlin (2000) found that a site with graphics was considered more attractive than a site without graphics.

Eighmey (1997) suggested that a good commercial Web site should contain information that is enjoyable to search, strategically presented (in terms of communication objectives), and easy to navigate. Ducoffe (1997) maintained that if consumers value the information given to them in the online ad, then the advertisement has more value to them.
Ghose and Dou (1998) studied Internet presence sites and found that the more interactive the site, the more likely it was considered to be a top site. They also found that the customer support aspect of interactivity had a significant impact on the site being considered a top site. Wu (1999) also found perceived interactivity, including responsiveness and navigability, to be positively associated with users’ attitudes toward a Web site.

While studying federal government Web sites, Gellman (1997) found that basic features such as organizational charts, employee directories with phone numbers, and e-mail addresses—as well as maps and directions to field offices—were useful. He added that federal agencies should provide as much information as possible online, avoid asking readers to request information, and provide a feedback mechanism to collect user response.

Pealer and Dorman (1997) developed four categories—content, authorship, page aesthetics, and purpose—for evaluating health-related Web pages. They recommended that although page content should be current, readable, and fully referenced, authorship can lend credibility, aesthetics can facilitate enjoyable visits, and the header containing the title and purpose of the page can help guide the visit.

To discover whether or not the utilization of design techniques differed across organization type, the following research question will be tested.

RQ3: What are the differences in individual Web page design elements used in Web sites displayed by the four different types of organizations?

The summary impressions gathered from the campaign, persuasion, and Web site design literature seem to suggest that an effective social marketing Web site may include the following elements. First, provide content topics that can be perceived as valuable to the target user (e.g., cessation techniques). This is because online use patterns tend to be utility oriented (e.g., Lin, 1999), and users typically click away from a site immediately if the site content visited does not trigger instant interest or curiosity. Second, implant a persuasion strategy within the site content that utilizes customized message appeals (e.g., one-sided appeals) to meet the target user’s cognitive and affective needs (e.g., knowledge, affiliation). Third, embed the content within creatively written copy, aesthetically pleasing layout, and interactively oriented (e.g., user feedback) and navigation-friendly (e.g., drop-down menus instead of successively embedded menus) clicks. To explicate these summary criteria, the following research questions are posed.

RQ4: What are the differences in the overall information content strategy used in Web sites displayed by the four different types of organizations?

RQ5: What are the differences in the overall persuasive strategy used in Web sites displayed by the four different types of organizations?

RQ6: What are the differences in the overall design element strategies used in Web sites displayed by the four types of organizations?
METHOD

The study universe included all Web sites containing antitobacco information in government, grassroots, medical, and industry sites, as determined by an exhaustive search of organizations that had a presence on the Web. Altogether, 100 Web sites with antitobacco messages were analyzed.¹ These include 5 tobacco company sites² (which account for over 97% of the tobacco market share in the United States), 95 grassroots sites,³ 29 government sites⁴ and 7 medical sites.⁵

Definitions

A coding scheme was developed based on the antitobacco information campaign, persuasive communication, and Web site design research reviewed earlier. Three main conceptual categories were created—information content, persuasive strategy, and design elements—that were further operationalized to contain 106 variables for coding purposes.

Information content. Twenty-three criteria were used to evaluate information content, as each criterion was coded for their presence (1) or absence (0). These

¹Only five industry sites (accounting for over 97% of the market share in the tobacco industry) were included in this analysis (Dipasquale, 2002) because no other tobacco company sites contained such search words as “antismoking,” “antitobacco,” etc. in their Web pages.

²The first message of the tobacco issues page on the RJ Reynolds Tobacco Company site (an industry example), reads “Even though our society has determined cigarettes are legal products for adults, the manufacture, regulation and marketing of cigarettes has long been the subject of great controversy.” The smoking cessation page starts with the following statement: “Many people believe that smoking is addictive, and as that term is commonly used today, it is. Many smokers find it difficult to quit, and some find it extremely difficult. However, we disagree with characterizing smoking as being addictive in the same sense as heroin, cocaine, or similar substances.” Children are directed not to contact the company (unless seeking antitobacco information) throughout the Web site.

³The Children Opposed to Smoking Tobacco (COST) Web site (a grassroots organization example) makes the following comment about the tobacco industry: “They don’t want us to know that nicotine is so addictive that people who have had cancer of the larynx which required tracheotomies have been known to put a lit cigarette up to their tracheotomy hole, so that they can get the nicotine into their system.” COST also uses case studies of people who try to quit, sometimes accompanied by pictures of these individuals. It also cites medical sources for much of the technical information it provides.

⁴The Center for Disease Control (www.cdc.gov), a typical government Web site, mainly provides a variety of research study reports. From the homepage, a visitor must type in “tobacco” to access the database for tobacco-related information. A search might prompt the following result: “Morbidity and Mortality Weekly Reports (MMWR),” from which to click on a specific tobacco-related report such as “Determination of nicotine, pH, and Moisture Content of Six U.S. Commercial Moist Snuff Products, Florida, January–February 1999 48(19): 398–401.”

⁵The American Medical Association’s homepage (a medical site example) is filled with headlines of news within the AMA, current medical legislation, and newly published research studies in AMA publications. The language is scientific and medical abbreviations are used throughout the site. Antitobacco messages are found only in the conclusions of scientific study reports as a recommendation for disease prevention or treatment.
criteria include: current legislation, cessation techniques, cessation clinic information, membership information, donation information, news releases, glossary of medical terms, organizational description, raffles/contests/premiums, health statistics, economic statistics, organization’s address, links to other sites, links to other antitobacco resources, downloadable materials, education materials, organizational charts, purposes of the site, intended site audience, authorship, information about author, references, and maps/directions. These criteria were summed to create the “overall information content” index, which was further divided into low-, medium-, and high-level overall information content.

**Persuasive strategy.** This concept measured the presence (1) or absence (0) of two aspects: message appeals and needs appeals.

Message appeals were indicated by the following elements: internal evidence (i.e., credibility of evidence, evidence quality), external evidence (i.e., speaker credibility, message delivery, unfamiliarity of evidence), vividness, fear (i.e., noxiousness, probability of occurrence, efficacy of recommended response), one-sided appeal, powerless language, humor, graphic/pictures, exaggerated short-term effects, youth focus, and tobacco company manipulation. The sum score for all elements formed an overall message appeal index, which had three levels: low-, medium-, and high-overall message appeal.

Need appeals were coded based on Fowles’s (1982) advertising needs appeals—including sex, affiliation, nurture, guidance, aggression, attention, autonomy, escape, safety, and curiosity. All scores were summed to generate an overall needs appeal index with three levels: low-, medium-, and high-overall needs appeal.

**Design elements.** Three design elements were measured. Two were assessed for their presence (1) or absence (0)—interactivity elements and other technical elements; presentation elements were gauged for whether they were crafted at an acceptable (1) or unacceptable (0) level.

Interactivity elements contained the following categories: user feedback, e-mail address, phone numbers, fax numbers, mailing address, problem diagnostics, software downloading, keyword search, drop-down menu, online order, games, job placement, order tracking, and site survey. The sum score for these categories reflected an overall interactivity index, which was segmented into low-, medium-, and high-overall interactivity.

Other technical elements (or built-in mechanical features) encompassed external links (to other Web sites), description for external links, internal links (to other internal pages), descriptions for internal links, audio-only effects, video-only effects, audiovisual effects, graphics, graphic download time, animation, last-updated date, and updated within last month. The sum score for these represented an overall technical elements index, which indicated low-, medium-, and high-level overall use of technical elements.
Presentation elements included two aspects: creative techniques and message techniques. Creative techniques were further assessed by copywriting techniques and layout techniques. Copywriting techniques measured whether the writing was (a) understandable, (b) concise, (c) clear, and (d) thorough. Layout techniques gauged the following layout criteria—organization, proportion, contrast, color, balance, unity, and direction. The sum score for copywriting and layout technique items then reflects an overall creative technique index that contains three levels: low-, medium-, and high-overall creative technique.

Message techniques were judged by whether they appeared to be logical, informative, factual, useful, educational, attractive, desirable, arousing, and likable. These criteria were summed to create an overall message technique index, containing low-, medium-, and high-level use of overall message technique.

**Intercoder Reliability**

All Web sites were coded by two graduate students; both were trained together and then each coded 10% of the sample separately to generate the initial set of reliability coefficients. After both coders received a second round of training to resolve the coding disputes, they each individually coded another 10% of the sample. The final intercoder reliability was computed with the coding results of both subsamples. The computation formula used was Scott’s pi; the resulting reliability ranged from 87% to 100%. All together, one message appeal measure, five need appeal items, and one layout techniques element (i.e., proportion) were dropped from analyses due to low reliability.

**RESULTS**

Because a larger number of chi-squares were executed, a discussion of Type I and Type II errors related to the test results is provided in the footnote. No chi-square value was computed for any comparison of Web site elements that contained three or more empty categories for the organization type variable. All chi-square tests were corrected for continuity.

---

6With regard to Type I error, the level for all statistical tests was set at the .05 level. As each individual chi-square test was executed to determine the “goodness-of-fit” outcomes instead of the relationships among a large number of variables, there was no real concern with any potential inflation of the overall Type I error rate here. Regarding the issue of controlling Type II errors, this study sample reflected an exhaustive list of antitobacco Web sites at the time of data collection. As such, it represented a rather large sample in relation to the sampling universe or a normal distribution. Although a larger N could help produce a larger chi-square value and decrease the power of the test, the range of the effect sizes for all the statistically significant chi-square values in this study is between .58 and 2.58. Comparing this effect size range to a two-tailed test (for two independent samples) with an N of 95 (assuming a power efficiency of .95), this effect size range would reflect a statistical power level (1 – b) greater than .97.
Two information content items—legislation \((p < .02)\) and news releases \((p < .038)\)—demonstrated statistically significant chi-square values. No chi-square value was computed for donation information due to the presence of too many empty cells. This suggests that the information content elements used in the Web sites displayed by the four different types of organizations were mostly similar in addressing RQ1.

The analysis of variance (ANOVA) result also turned up statistically insignificant \((F = 1.86, p < .14)\) and paired contrasts were also insignificant. Summarizing the results from RQ4, then, there were no significant differences in the overall information content strategies presented by the different organization types.

With regard to persuasive strategy differences, queried in RQ2, four message appeals were employed with significantly different frequencies across organization—credibility of speaker \((p < .001)\), message delivery \((p < .001)\), unfamiliarity of evidence \((p < .001)\), one-sided appeal \((p < .001)\), and powerless language \((p < .001)\). Similarly, two need appeals—guidance \((p < .05)\) and autonomy \((p < .001)\)—were statistically differentiated in their frequencies across organization type; no chi-square value was computed for the sex or escape appeal due to the presence of too many empty cells.

RQ5 asks whether the overall persuasive strategy across organization type differs. Based on the ANOVA results, the use of overall message appeal was significantly differentiated \((p < .001)\) across organization type. The opposite was true for the use of needs appeal. However, the post hoc comparisons discovered only one pair of sites—industry and grassroots \((p < .01)\)—that were statistically different in their overall persuasive strategy via the use of message appeals.

Per RQ3, the differences in individual design elements used by the four organization types, including interactivity, other technical elements, and presentation elements (including creative techniques and message techniques) were found to be as follows:

Uses of four interactivity elements—fax numbers \((p < .022)\), drop-down menus \((p < .001)\), games \((p < .003)\), and interactive job placement \((p < .004)\)—were significantly differentiated across organization type. No chi-square value was computed for the problem diagnostics or order tracking elements due to the presence of too many empty cells.

By contrast, only three other technical elements—audio-visual effects \((p < .01)\), use of animation \((p < .01)\), and use of last updated date \((p < .04)\)—were statistically differentiated in their use frequency across organization type. No chi-square value was computed for the audio-only effects or video-only effects due to the presence of too many empty cells.

In terms of creative (or copywriting/layout) techniques—the first aspect of design elements used across site types—only the criteria of thoroughness \((p < .04)\) and contrast \((p < .001)\) were statistically differentiated in their uses. Comparative results for the second aspect of design elements, message technique, showed that only the likeable criterion was statistically distinguished across organization type \((p < .001)\).
Finally, RQ6 addresses whether or not the overall Web page design strategy across organization type will differ. Results from the one-way ANOVA tests showed that the use of overall technical elements ($p < .05$) and overall message strategy were statistically significant ($p < .05$) across site type; the same was not true for the use of overall interactivity and overall creative techniques. Post hoc contrasts between organization types found no significant differences for either overall technical elements or overall message techniques.

**DISCUSSION**

If we compare the content of the Web sites studied here to what would be considered good or effective Web site design criteria for general marketing purposes, the sample Web sites did cover most of these suggested criteria to varying degrees. For instance, Ducoffe (1997) emphasized the perceived value of the information as the key to the success of a Web campaign. The potentially valuable content on these sample sites—including information on current legislation, cessation techniques, clinic information, news releases, health statistics, references, economic statistics, and links to other valuable sites, as well as downloadable materials and educational materials—was present across all site types. In fact, the only significant discrepancies were found in just two categories, with the industry and grassroots sites providing more content for current legislation than the government and medical sites and the industry sites offering more press releases than the grassroots, medical, and government sites. It should also be noted that the industry sites provided no downloadable materials or educational materials to extend their educational outreach effort, and medical sites offered no clinic information, to avoid the appearance of favoritism.

The sample Web sites also seemed to observe Pealer and Dorman’s (1997) contention that items such as page authorship and purpose statements contained in the header could help enhance both the credibility and effectiveness of health-related Web sites. In particular, items such as author information, author credentials, summary of content, purpose of page, and intended audience were mostly available across all site types. Although the industry and medical sites did not provide author’s credentials (perhaps to prevent personal liability), the medical sites neglected any summary of contents to make for easy reading. Other basic features considered useful for government Web sites (Gellman, 1997)—such as organizational charts, description of organization, contact information, and maps/directions—were mostly present on all site types. The medical sites, however, avoided giving contact information; in addition, neither the medical nor industry sites gave maps or directions to facilitate a public response or field visit.

As for the persuasive strategy used in the sample sites, the industry sites appeared to have utilized a significantly lower proportion of the message appeal cate-
categories—credibility of the speaker, message delivery, unfamiliarity of evidence and one-sided appeal—than the other three site types. By comparison, the use of powerless language was significantly higher in the industry sites than in the grassroots sites, while the government and medical sites did not use any powerless language at all. This reflects a pattern for the industry sites in presenting indirect and less credible evidence via ambiguous language that could water down their persuasive intents (Erickson et al., 1978; Perloff, 1993).

Centering on the fear appeal, the three related effective message appeals—noxiousness, probability of occurrence, and efficacy (Dillard, 1994; Mongeau, 1998; Rogers, 1975; Witte & Allen, 2000)—did appear at a similar level across site type, with the efficacy element being the least utilized (ranging from 10% to 34%), compared to the other two elements (ranging from 40% to 57%). By contrast, the use of humor was sparse, ranging from 0% for the industry sites to 14% for the industry site. The fact is that the effectiveness of such appeals remains unclear (Weinberger & Gulas, 1992) and may be most relevant as a peripheral cue for the low-involvement audience (Weinberger, Spotts, Campbell, & Parson, 1995).

Similarly, as the effectiveness of vivid graphic pictures (Frey & Eagly, 1993; Taylor & Thompson, 1982), exaggerated short-term effects (Glantz & Goldman, 1998) and focus on youth (Flay, 1987) was somewhat uncertain, these persuasive devices were also sparingly utilized across site type. As Glantz and Goldman (1998) consider the use of bluntness language to expose the tobacco industry's marketing manipulation as an effective means of persuasion, all site types did include tobacco manipulation elements (ranging from 20% to 54%) in their message strategy.

Of the two need appeals significantly and differently utilized across site type, the need for autonomy appeal appeared in 40% of the industry sites versus 0% for the medical sites, 3.4% for the government sites, and 5.1% for the grassroots sites. It is obvious that the industry sites intended to reinforce the belief that smoking is a personal choice to express one’s independence and self-determination (e.g., Marlboro’s cowboy; Fowler, 1982). By contrast, the other significantly differentiated need appeal—need for guidance—was most frequently used by grassroots sites, followed by the medical, industry, and government sites. The only other need appeals more often utilized (ranging from 15.3% to 71.4%)—including affiliation (absent in the medical sites), nurture, and safety—appear to target the audience’s needs for companionship, acceptance, and psychological security. The remaining need appeals—including sex, aggression, attention and curiosity—were rarely used, and the need appeal of escape was conspicuously absent.

Wu (1999) contended that the perceived interactivity of a Web site is correlated with a positive user attitude toward the site. As a rather exhaustive number of technical features were coded for the sample sites, the findings suggest that most sites
tended to use these features in a similar fashion with a few minor exceptions. For instance, grassroots organizations allowed more opportunities for the audience to communicate with them via fax, the government sites contained the most information updates, and the industry sites provided more technically sophisticated features such as drop-down menus, audio-visual effects (missing from the grassroots and medical sites), and animation (missing from the medical sites). All site types provided ample opportunities for the users to send feedback—an interactive element considered essential for a Web site’s success (Ghose & Du, 1998). Between 43% and 83% of sample sites did utilize graphics to make their sites look more appealing (Chamberlain, 2000). Likewise, animation features were also present among industry, grassroots, and government sites (ranging from 12% to 60%) to create visual interests (Sheumel & Keller, 1998). Although medical and government sites had better contrasting color schemes than the industry and grassroots sites, little variance existed in the technical writing techniques. The only exceptions involved the case of the likeable quality of the message (where the industry sites presented their messages as least likeable) and the thoroughness quality in the information presentation (where grassroots and government sites outscored the rest).

In sum, the industry sites posted just enough antismoking information perhaps to please the antismoking advocates and the remaining publics alike. Medical organizations seemed to design their Web sites primarily to provide scientific databases for medical information. By contrast, the government sites resembled a clearinghouse for antitobacco-related information. The grassroots sites then represented the true advocacy outlets. Although the grassroots and government organizations presented the strongest persuasive appeals and were better positioned to rally public support for the antismoking cause, the industry sites provided the weakest persuasive messages, and medical sites fared only slightly better in this respect.

CONCLUSION

The most critical challenge for launching an online social marketing campaign is: how can change agencies succeed in branding amidst a competitive multimedia environment? As demonstrated in these findings, most of the antitobacco sites appeared to have incorporated some rudimentary branding devices (e.g., logos, mascots) to help build their brand identity. Most of the sites also presented information content that could be perceived as valuable by the users to build brand equity in conjunction with employing a certain number of persuasive message appeals to help prompt user attention, interest, liking, conviction, and action (or adoption). In addition, many of these sites also provided attractive, easy and fun to use, and com-
municative (interactivity and feedback oriented) Web site designs to help build user loyalty.

Although all of these sites contained most of the good health-communication Web site content elements to varying degrees, it is difficult to say if any of them was indeed superior or inferior, as there could be multiple evaluative standards. To determine the criteria of superior Web site designs from a user or campaign effect evaluation perspective, a methodology other than the content analysis method used here is needed.

For antitobacco campaigns whose target is the youth of America, the Internet may be the most effective way to reach these young people. Research has also found that two thirds of Americans expected to find reliable information about health online, and just under one third of them would seek such information from an online source first (Horrigan & Rainie, 2002). As the tobacco industry continues to saturate the youth market with unprecedented levels of advertising and marketing campaigns, the need to enhance our understanding of effective online social marketing campaigns now is greater than ever.

ACKNOWLEDGMENTS

Carolyn A. Lin was at the Department of Communication, Cleveland State University, and Gwen A. Hullman was at the Department of Communication Sciences, Case Western Reserve University, when this work was begun.

REFERENCES


