

**Zeitschrift:** Studies in Communication Sciences : journal of the Swiss Association of Communication and Media Research

**Herausgeber:** Swiss Association of Communication and Media Research; Università della Svizzera italiana, Faculty of Communication Sciences

**Band:** 5 (2005)

**Heft:** 2

**Artikel:** Deceptive health promotion : barriers to health literacy

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**DOI:** <https://doi.org/10.5169/seals-790928>

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## DECEPTIVE HEALTH PROMOTION: BARRIERS TO HEALTH LITERACY

This 2 (disclosure/non disclosure) x 2 (prime/no prime) pre-test/post-test investigation of ethically suspect health promotion strategies reveals that priming is key to remove barriers in health literacy. Participants (N=212) in this study were better able to critically evaluate ethically suspect sponsor relationships revealed on an online health promotion Web site after being primed about controversial celebrity endorsements. Not only were primed participants significantly more likely to question credibility, but they were more likely to question believability of online health information in general. The primed participants in this study were significantly less likely to indicate an interest to return to this Web site or refer their friends to it.

*Keywords:* health literacy, health promotion, deception, health campaigns, ethics, priming.

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<sup>1</sup> We would like to thank Peter Schulz, Kent Nakamoto, and the anonymous reviewers for their helpful comments about this manuscript.

Health communication has changed in significant ways during the past decade. Expanded communication channels, increased salience for dozens of health issues on the public agenda, online prescription drug sales, web-based medical information resources and advice, and direct-to-consumer prescription drug advertising have created an overwhelming and cluttered environment for health information. Uncertainty regarding accuracy, effects, and ethical standards of health information has medical professionals and citizens alike concerned (Eng & Gustafson 1999; Robinson et al. 1998).

Clearly, health information on the Internet contributes substantially to the cluttered health information environment. Research surveys estimate that more than 117 million individuals in the United States alone have used the Internet to access health-related information ("Number of 'cyberchondriacs'" 2005). Thus, media literacy or the ability to access, analyze, evaluate, and produce messages for print and electronic media (Christ & Potter 1998) is increasingly important to health literacy (Conference Report 2000). At the very least, persons who recognize the financial interests behind the production and distribution of health messages may be empowered to critically evaluate the information they receive, recognize the impact of personal health care decision-making on public health issues (Zarcadoolas, Pleasant & Greer 2005) and take action against practices that undermine public health (Bergsma 2004). This study assesses one element of media literacy related to health literacy: the impact of sponsor disclosure or non-disclosure on viewer's perception of online health information.

Health-related public relations and marketing firms capitalize on the blurred lines between news, entertainment, and advertising, and the public's media illiteracy through the use of what McCollough (2003) labeled "stealth tactics." Companies sell new medical products and treatments in the guise of public awareness campaigns. Increased awareness translates to new or expanded markets for their products. This disease-mongering (Payer 1992) takes several forms, including defining ordinary processes or ailments as medical problems, reframing mild functional disorders as serious disease, defining personal or social problems as medical conditions, and presenting risks as disease (Moynihan, Heath & Henry 2002). Discussion in the news media of medical conditions or problems directs attention to the latest treatments, not surprisingly ones produced and sold by the company funding the campaign.

One particularly controversial strategy is the use of celebrity spokespersons to generate news coverage of a medical condition or treatment. A celebrity appears in a "health segment" of a television news program, offers interviews for newspapers and magazines, and shares his/her personal story on a website, all with the stated interest of broadening public awareness and letting fellow sufferers know that they too can find relief through modern medicine. The celebrity often does not reveal that he/she is being paid for endorsing or promoting a specific product.

The use of celebrity endorsement is nothing new. By definition, celebrities make news, especially when they claim to bring valuable information to the public. As Chapman and Leask (2001: 333) note, "Organized health promotion and advocacy campaigns have long understood that by engaging a celebrity with a health issue or capitalizing on the interest generated by news of celebrity illnesses, coverage of the issue *de jour* can be increased to levels that would otherwise require stratospheric campaign budgets." The corporate sponsor gains the credibility and broad reach of news at much less expense than reaching the same audience through advertising. The news story also creates an opportunity to publicize and "pull" consumers to a supporting campaign website, sometimes without even mentioning the corporate sponsor or product (Goodman 2002; Moynihan 2002a, 2002b; McCollough 2003).

While the news organization, corporate sponsor, and the celebrity spokesperson all benefit from this exchange, the public fails to get full, unbiased information. Moreover, news coverage offers producers a mechanism to bypass Food and Drug Administration regulation of direct-to-consumer advertising in the U.S. (Goodman 2002). If a journalist conducting an interview fails to point out alternative treatments or potential risks, the reader or viewer actually receives *less* information than mandated in advertising. In order to learn more, a viewer or reader is directed to a website which promotes only the product or treatment of the sponsoring pharmaceutical or biotechnology company. In the end, news becomes advertising.

Thus, one important element of health literacy is the ability of consumers to recognize the financial interests lurking behind the websites that are the primary source of information in these campaigns. Some websites are especially difficult to analyze. For example, Spotlight Health, an organization that featured several celebrity-endorsed health awareness campaigns, came under fire from journalists and communication scholars in 2002 for being little more than an online public relations front for several

pharmaceutical and biotechnology companies. The controversy surrounding Spotlight Health stemmed from the fact that the organization presented itself as an “independent source of health news and information” (Walker 2002) while not clearly disclosing its corporate clients with vested interests in providing solutions to the health issues highlighted on the website (Bloom 2002; Petersen 2002a), prompting a range of media outlets to scrutinize their interview and disclosure practices (Petersen 2002b).

The purpose of this study is to assess the impact of sponsor disclosure on viewers’ perception of the information provided on an “educational” health website. Specifically, three research questions guided this study:

- RQ1: Does priming (prime/no prime) lead to differences in participant evaluations of Spotlight Health’s credibility?
- RQ2: Does time of sponsor disclosure (disclosure/nondisclosure) result in different evaluations of Spotlight Health’s credibility?
- RQ3: Does the effect of being primed result in evaluation difference among the different disclosure groups?

In order to test these questions, this study used an actual Spotlight Health campaign featuring Ann and Carnie Wilson of the rock band, Heart. Both promoted Lap-Band surgery to treat obesity. In an appearance on CBS’s *Early Show*, Ann Wilson provided her endorsement, although her connection to the maker of the Lap-Band, Inamed, was not revealed. Upon visiting the Spotlight Health website, sponsorship information was difficult to discover and not linked directly to the campaign information.

## 1. Method

The burgeoning online health communication raises questions about consumers’ literacy with regard to detecting ethically suspect relationships between celebrity endorsements, pharmaceutical and biotechnology companies, and incomplete or persuasive health education. This study was designed to test whether participants have the functional health literacy skills to detect a practice that has been criticized as little more than a public relations front (Walker 2002). A 2 (disclosure/nondisclosure) x 2 (prime/no prime) research study created four research conditions in order to test main and interaction effects of Web sponsor disclosure and media priming on participants’ evaluations of Spotlight Health. Measures of ethical responsibility served as the dependent variables, which where com-

pared between the independent controls for sponsor disclosure and media priming. To be clear, we operationalize “priming” consistent with Iyengar and Kinder’s (1986: 136) definition that priming “calls attention to some aspects...while ignoring other.” In this case, the prime condition draws particular attention to, and asks the participant to consider the importance of, the sponsor information for Spotlight Health. We fully expect that the participants in the primed condition will view the stimulus through the prism of our selective prime.

## 2. Disclosure and Priming Stimuli

Participants were randomly assigned to one of the four research conditions (disclosure with prime, disclosure without prime, nondisclosure with prime, nondisclosure without prime). The disclosure/nondisclosure control was accomplished through a manipulation of the stimulus. Portions of Spotlight Health’s Web site ([www.spotlighthealth.com](http://www.spotlighthealth.com)) served as the exposure stimulus. In order to control participants’ exposure to information about site sponsor, two manipulated Web searches were recorded using the MultiPro 2000 PC-to-TV web converter software. MultiPro 2000 enables researchers to project Web searches onto TV monitors and record the searches. One Web search stimulus was created to reveal Spotlight Health’s sponsors as the first content of the search (disclosure condition). The second search did not disclose the sponsors until the last two minutes of the 20-minute stimulus after all other stimulus content was presented (nondisclosure condition). Thus, the disclosure condition revealed sponsorship before participants received other information from the site while the nondisclosure condition did not reveal sponsor until the close of the Web search. The control on sponsor disclosure enabled researchers to test differences in participants’ evaluations of the various Web site content throughout otherwise identical versions of the 20-minute stimulus. Through the use of the Perception Analyzer hand-held dial response system, evaluations of Web site ethics were recorded for each second of the stimulus. Participants in both conditions were asked to evaluate [spotlighthealth.com](http://spotlighthealth.com)’s content using a traditional feeling thermometer scale. Respondents were instructed that any score they registered below 50 would be considered a negative evaluation, with a 0 indicating an extremely unfavorable evaluation. Likewise, any score above 50 would be considered positive and 100 was extremely favorable evaluation. A score of 50 would be considered neutral.

Upon entering the research lab, participants were asked to complete necessary research agreement forms and then asked to complete a two page pre-test with questions designed to establish additional independent controls on uses and gratifications of participants' online communication. The priming control was accomplished through distribution of the pre-test instrument. Half the pre-tests, distributed to participants randomly, contained a prime in the form of a critical newspaper article originally appearing on O'Dwyers.com, a public relations industry Web site. For half the participants, page three of the pre-test contained the newspaper prime with instructions to read the article before the Web viewing. Participants were not informed that only half were asked to read the newspaper prime. The article primed participants to be cautious of ethically suspect strategies by organizations like *spotlighthealth.com*. The brief article revealed the controversy surrounding online health-based Web resources and celebrity endorsements. Thus, half the participants in the study were primed by the article to have a more critical eye for potentially unethical practices.

### 3. Participants

Participants in this study included 212 undergraduates in a general research participation pool of a large public university in the U.S. Researchers were not directly responsible for providing any participation rewards to the students so no desirability effect was likely. Participants were first randomly assigned to a disclosure/nondisclosure condition and then randomly assigned to the prime/no prime condition.

### 4. Variables

In addition to the independent controls established for disclosure and priming, web uses and gratifications were measured on the pre-test. Web uses and gratification were assessed using 10-point Likert scale (1=strongly disagree, 10=strongly agree) of 42 statements developed by Papacharissi and Rubin (2000). This scale has successfully discriminated five types of online motives (interpersonal utility, pass time, information seeking, convenience, and entertainment). These motives were assessed among participants to determine whether online motives predicted participants' evaluations of dependent variable measures. Familiarity and likelihood to use the Web for health information was also measured as part of the pre-test.

A credibility construct including eleven separate bi-polar semantic differential adjective pairs (accurate-inaccurate, objective-biased, honest-dishonest, believable-unbelievable, ethical-unethical, complete-incomplete, responsible-irresponsible, credible/non-credible, professional-unprofessional, public-interested/self-interested, and informative-uninformative) was created to serve as the major dependent variable construct in this study. Reliability assessment for the scale was strong (Cronbach's alpha = .86). Additional variables assessing online health search and surveillance strategies, perceptions of online competence, general evaluations of online information, and comparison of media sources for credible information were contained on the post-test.

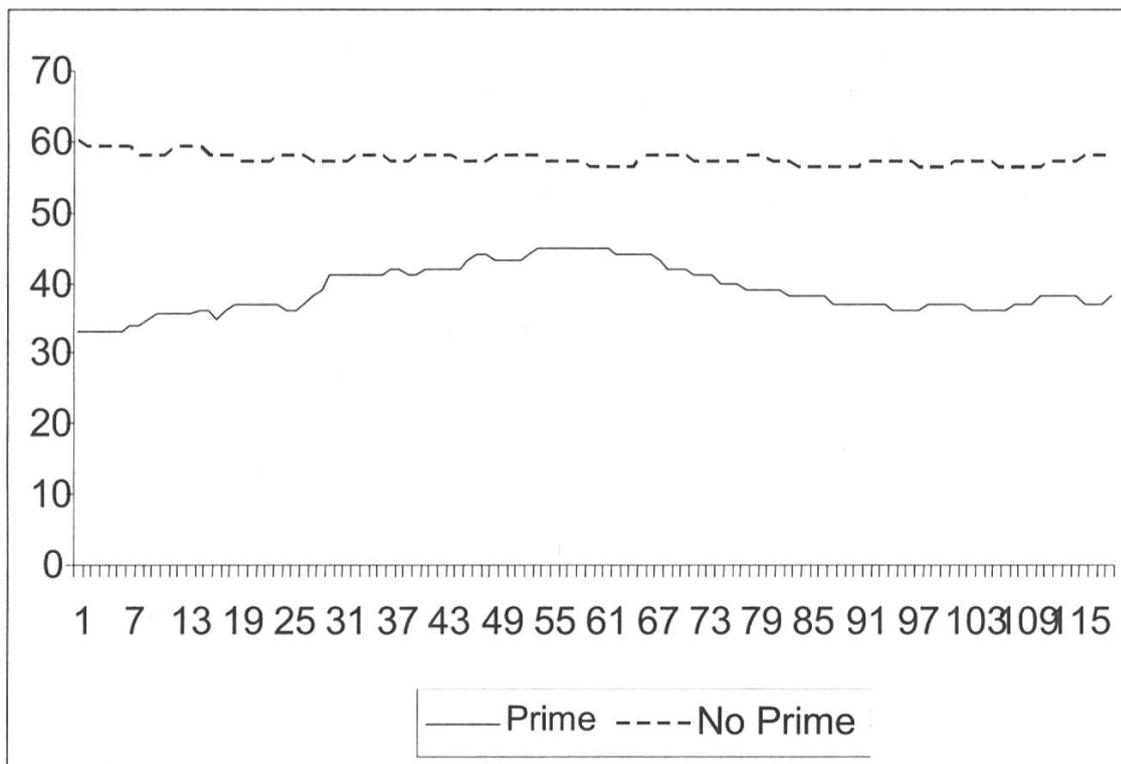
## 5. Results

A factorial analysis of variance was designed to measure main and interaction effects for the research questions which all questioned differences of disclosure and prime conditions on dependent variable measures of Web site credibility. Results of the ANOVA reveal a significant and substantial main effect for priming [ $F(1, 208) = 240.64, p = .000$ ]. An estimated 54% of the variation in credibility scores is attributed to the priming condition. However, no main effect for disclosure [ $F(1, 208) = 2.09, p = .150$ ] and no interaction effects between prime and disclosure [ $F(1, 208) = 0.72, p = .788$ ] were found. Evaluations of Spotlight Health's credibility as assessed through the semantic differential credibility construct indicate that sponsor disclosure prior to or following site content exposure neither influenced nor interacted with participants' evaluations of the site's credibility. In fact, independent sample t-tests between prime and no prime groups resulted in statistically significant differences for all eleven bi-polar adjective pairs. Thus, primed participants were significantly more likely to evaluate [spotlighthealth.com](http://spotlighthealth.com) critically on each variable within the credibility construct scale.

In order to explore how the prime and no-prime condition influenced evaluations of sponsor disclosure, the second-by-second evaluations from the Perception Analyzer were graphed for the sponsor portions of the stimulus (see Figure 1). The graph of credibility evaluations shows clear distinction between the prime and no prime conditions. Participants who were not primed to be more aware of controversial practices by Spotlight Health provided a higher evaluation of the sponsors at all points throughout the 2-minute sponsor segment. Participants primed to

consider controversial practices were more able to detect the potential credibility gap posed by the sponsorship and averaged negative evaluations throughout the entire 2-minute segment. Evaluation of spotlighthealth.com's sponsorship averaged 38 points in the prime condition and nearly 60 points in the no prime condition. Figure 1 shows clearly significant difference in the way these two groups responded to the ethically suspect relationship between pharmaceutical company sponsorship and celebrity endorsement. In this case, participants who were asked to read a media report about ethically suspect practices in health promotion were clearly more able to recognize and critically evaluate potentially problematic health information.

Evaluations of the site between the prime and no prime conditions also translated negatively with regard to post-test measures of whether participants would visit the site again, refer a friend, or perceived general



*Figure 1: Prime and No Prime Credibility Comparisons for Spotlighthealth's Sponsor Disclosure.*

Primed participants include those who were asked to read a media report which raised questions about the ethical practices of paid celebrity endorsements of particular medical drugs or medical procedures. The average evaluation for primed participants was 38 points, which is an unfavorable evaluation. The average evaluation for primed participants was 58.5 points, which is considered favorable.

online health information as believable. Chi-square tests show that the primed group was significantly more likely to indicate they would not return to *spotlighthealth.com* [ $\chi^2(4) = 266.9, p = .000$ ], would not recommend the site [ $\chi^2(3) = 154.4, p = .000$ ], and perceived online health information in general as less believable [ $\chi^2(4) = 301.2, p = .000$ ].

## 6. Discussion

Health information and promotional practices have come under fire in recent years for the potentially harmful effects of misinformation. At the root of much of the concern from health advocacy groups, media, and citizens alike are fears that the general public lacks the health literacy skills not only to process all the health information, but also to discern credible information from manipulation and persuasion. This research study was designed to test whether participants were able to discern ethically suspect celebrity and pharmaceutical health promotion relationships. With recent survey results from Harris Interactive showing that upwards of 117 million Americans routinely go online for health information ("Number of 'cyberchondraics'" 2005), the dangers of health illiteracy are ubiquitous. Clearly, results of this study indicate that participants who were not primed to be cautious were less likely to detect potential gaps in health promotion credibility. However, evaluations from participants informed about potentially suspect practices indicate, even after reading only one newspaper article, that participants detected credibility problems in the health promotion. Thus, while the "stealth" health-promotion tactics are complex (McCollough 2003), information can help inoculate citizens from their persuasive potential. Clearly, the primed participants in this study were able to critically evaluate, as scholars have argued is essential (Zarcadoolas, Pleasant & Greer 2005), the information they received about the potential financial conflicts of interest between the pharmaceutical sponsorship.

For those interested in social marketing and health education campaigns, it should be encouraging that this study shows that media attention to and public awareness of ethically suspect health promotion practices can have an immediate impact on consumer's ability to discern suspect promotional strategies or relationships. The main effect differences in evaluations of the Spotlight Health Web site are encouraging. However, it should also serve as a warning to health literacy educators that there was no interaction effect between prime and disclosure on evaluation of the

site's credibility. This is a potentially pernicious effect in that even advertising or promotional laws requiring disclosure may not be effective as a warning or filter to readers since there was no interaction effect for prime condition. However, results also show that those participants who were not primed to consider sources of information or procedures recommended were much more likely to respond favorably to the Web site.

There are some limitations that must be mentioned. In this case, the participants were more sophisticated online users than the average public based on their years and amount of online use. However, this participant group is not in the typical adult or elderly target audience for the vast majority of health promotion campaigns. Thus, while they may be more technologically literate in terms of online practices, it is assumed that their functional literacy with health promotional campaigns is not representative of the general population since they have far less experience as a typical target for health promotion. Despite the fact that the participants in this study are not entirely representative of target audiences for most health promotional campaigns, 92% reported going online to "look for information about a physical illness or condition." This is a higher percentage than the national average according to the Harris Interactive poll. Clearly, online health information is an important resource for the college-age participants used in this study as 26% indicated having an online health site bookmarked.

While obesity is certainly a national epidemic in the US, few participants (if any) would fit the medical profile for gastric lap-band. Thus, participants' literacy or understanding about this procedure and its complications are most likely less than those within the target profile for the campaign. For the participant profile used here, replication using health topics more salient to college-aged students should follow. For example, 43% of participants in this study reported going online for information about mental health issues such as depression or anxiety. Now that we know priming affects evaluations and ability to detect potential credibility gaps, specific studies on health promotion practices involving depression and anxiety would be interesting for college students.

Our choice of "ethically suspect" to describe Spotlight Health practices was based on the assumption that readers will have differences in opinion on health promotion practices. We understand that celebrity endorsements can increase the profile for a health issue. Certainly, the lap-band procedure which served as the stimulus example in this study has produced favorable health outcomes for hundreds of patients.

However, the ability of consumers to distinguish health promotion sites from objective news sites is made much more challenging when health promotions are designed to look like traditional media sources. As direct-to-consumer health promotion strategies increase, health literacy skills are essential if consumers want to avoid making costly personal and financial mistakes. While it appears that media are on the offensive to counter irresponsible health promotion, it is an impossible expectation to ask media to identify and communicate all the ethically suspect practices in the marketplace. Nevertheless, this study offers clear evidence that attempts to help make consumers more literate in their ability to process and evaluate health information can have positive effects on consumers' abilities to evaluate information.

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