

This article was downloaded by: [Purdue University]

On: 4 September 2008

Access details: Access Details: [subscription number 776111571]

Publisher Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Health Communication

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title-content=t775653649>

Health Information Processing From Television: The Role of Health Orientation

Mohan J. Dutta ^a

^a Department of Communication, Purdue University,

Online Publication Date: 10 April 2007

To cite this Article Dutta, Mohan J.(2007)'Health Information Processing From Television: The Role of Health Orientation',Health Communication,21:1,1 — 9

To link to this Article: DOI: 10.1080/10410230701283256

URL: <http://dx.doi.org/10.1080/10410230701283256>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Health Information Processing From Television: The Role of Health Orientation

Mohan J. Dutta

*Department of Communication
Purdue University*

The quintessential presence of television in modern American life has led to decades of research on the unhealthy effects of television. However, recent years have witnessed a surge in scholarship seeking to interrogate the positive health effects of television, particularly in the realm of incorporating health content into entertainment-based television programs. One of the important critical questions in the realm of the positive health effects of television focuses on the amount of health information learning contributed by health information content on television. This article takes a motivation-based approach to health information learning from television, arguing that health orientation influences the amount of health information learned by individuals from television. On the basis of 2 separate studies, the article demonstrates that individuals who learn health information from a variety of television programs are more health oriented than individuals who do not learn health information from these television programs.

Television is ubiquitous in modern American life, occupying much of Americans' leisure time (Gerbner, Gross, Morgan, Signorielli, & Shanahan, 2002). The new millennium household watches approximately 7 hr of television each day (Gerbner et al., 2002). Extant scholarship on the role of television in society has predominantly emphasized the negative effects of television. The negative effects research has been extrapolated to the realm of health, with a large number of studies investigating the role of television in the context of violence, drug use, sexual abuse, and alcohol consumption (Gerbner et al., 2002). Applying cultivation and social cognitive theories, communication scholars have argued that television cultivates a distorted view of the world among heavy viewers of television and teaches unhealthy behaviors by modeling them in program content.

Cultivation theorists propose that heavy viewership of television leads to estimations of frequencies of certain groups and behaviors that match the frequencies portrayed in the programs (Gerbner et al., 2002). Television programs such as soap operas and sitcoms cultivate in the viewer a perspective of the world that does not match reality but instead reflects the nature of the television world (Gerbner et al., 2002; Gerbner, Gross, Signorielli, Morgan,

& Jackson-Beeck, 1979). In other words, the world of the television viewer, according to cultivation theory, is closely aligned with the world created in the television program, not the real world (Gerbner et al., 2002; Gerbner et al., 1979). Support for cultivation-based conclusions is observed in audience estimates of aggression, divorce, crime, illegitimate children, unsafe sex, pregnancy rates, abortions, difficult relationships, and adultery (Gerbner et al., 2002; Gerbner et al., 1979).

Social cognitive theory complements cultivation theory in building the argument that behavior on television becomes the script for the enactment of behavior among audience members (Bandura, 2002). At the heart of the social cognitive effects of mass media lies the argument that people learn behaviors "either designedly or unintentionally from models in one's immediate environment" (Bandura, 2002, p. 126). Viewers learn behaviors by watching television characters engage in them. Most studies of vicarious learning from television through modeling have been conducted in the realm of aggression and sexual behavior (Bandura, 1973, 2002). Therefore, both the cultivation-effects line of research and the social cognitive approach attest to the important negative health effects of television.

However, recent years have witnessed a dramatic increase in health consciousness within the United States accompanied by an explosive growth in health-oriented

Correspondence should be addressed to Mohan J. Dutta, Department of Communication, Purdue University, 100 N. University Street, N. Lafayette, IN 47907. E-mail: Mdutta-bergman@cla.purdue.edu

television program content. Learning from the lessons of educational entertainment programming offered on television in other parts of the world, American scholars have started exploring the possibility of using entertainment programming within the United States to communicate healthy themes. This growing interest in catapulting the powers of television to send out healthy message led to the dedication of an entire issue of *Communication Theory* to the topic of entertainment education (Slater & Rouner, 2002). In the face of the growing interest in using television as a conduit for communicating health-related information, it is significant to explore the health effects of television. This article proposes to study the role of television in learning health information and, by doing so, seeks to build a theoretical framework for health information processing and suggest media planning applications for the use of television programs as media vehicles for health campaigns. Specifically, I studied the role of health motivation in facilitating the learning of health information from television programs.

TELEVISION AND LEARNING

How do viewers learn from television? That television contributes to viewer learning has remained a central area of investigation in mass communication (Eveland, 2002). In particular, scholars of mass communication have sought to investigate the role of news programs in facilitating audience learning (Eveland, 2001, 2002). The variables that have been traditionally investigated in the realm of learning from news are exposure, attention, and motivation (Eveland, 2001).

Exposure

Many studies have emphasized exposure as a central independent variable in learning from the news (Atkin, Galloway, & Nayman, 1976; Bennett, Flickinger, Baker, Rhine, & Bennett, 1996; Drew & Weaver, 1990; McLeod & McDonald, 1985; Robinson & Levy, 1996). Researchers have demonstrated that exposure indeed predicts knowledge, although the effect sizes are typically small (Atkin et al., 1976; Bennett et al., 1996; Drew & Weaver, 1990; Eveland, 2001, 2002; McLeod & McDonald, 1985; Robinson & Levy, 1996). In addition to the small size of the effects in the exposure-based research, such research is also limited by its simplicity and does not tell one much about the process of learning that audience members go through (Eveland, 2001).

Attention

In their critique of the simple exposure-based paradigm, media researchers have introduced the concept of attention to explain audience learning from news (Chaffee & Scheluder, 1986; McLeod & McDonald, 1985). Attention

is a cognitive variable that captures the extent to which the audience member is focusing on the information presented to him or her and allocating his or her cognitive effort to process the information (Dutta-Bergman, 2004), and it predicts learning beyond simple exposure (Chaffee & Scheluder, 1986; Craik & Tulving, 1975; McLeod & McDonald, 1985). The role of attention was particularly critical in the domain of learning from television news, because, unlike newspapers, television as a medium creates the opportunity for inattentive processing (Chaffee & Scheluder, 1986; Eveland, 2002; Kosicki & McLeod, 1990).

Similar concepts, such as *elaboration* and *reflective integration* have been used in the literature to explain how audiences learn from the media (Eveland, 2002). *Elaboration* refers to the process of assimilating incoming information with existing knowledge; through it, the person “attaches connotative and associative meanings” (Perse, 1990, p. 19). Perse (1990) argued that “during elaboration the information is linked mnemonically to similar information, placed in an organizational structure, and responses are rehearsed” (p. 19). Therefore, when the receiver of the message chooses to elaborate on it, he or she learns from the message, and the content gets incorporated into his or her cognitive schema. Kosicki and McLeod (1990) posited that “reflective integration represents the postexposure salience of information such that it occupies the mind and is the subject of interpersonal discussion” (p. 75). Similar to the concept of elaboration discussed by Perse, the audience member has to actively act on the message and incorporate it into his or her cognitive structure in order to act on it; the only difference is that reflective integration results in interpersonal discussion about the topic. Essential to the attention-based information-processing framework is that, for learning to occur, the receiver of the information must decide to invest his or her cognitive effort in processing the information. This choice of cognitively processing the information is a product of individual motivation (Eveland, 2001, 2002); in other words, information processing mediates the relationship between motivation and learning (Eveland, 2001, 2002).

Motivation

Elaboration likelihood model. Message elaboration is central to the extent to which individuals learn from the media. The elaboration likelihood model (ELM), developed by Petty and Cacioppo (1981, 1986), proposes two different information-processing mechanisms. One of these routes, known as the *peripheral route* in ELM, is more superficial than the other route, the *central processing route* (Petty & Cacioppo, 1980, 1986; Petty, Cacioppo, & Schumann, 1983). Peripheral route processing does not evoke argument scrutiny, leading to persuasion because of positive or negative associations or because of simple inferential cues present in the information environment (Petty et al., 1983). Examples of peripheral cues include non-message-based elements, such as source attractiveness (Petty et al.,

1983), music, length of message, or number of arguments. The central route involves deeper and more effort-intensive processing (Petty & Cacioppo, 1980, 1986; Petty et al., 1983). Message processing through the central route occurs after the diligent consideration of relevant argument-based information (Petty et al., 1983). Therefore, when processing information through the central route, the consumer pays attention to the arguments present in the message, preferring stronger arguments to weaker ones (Petty & Cacioppo, 1986).

Elaboration theorists argue that the extent to which an individual will elaborate on a message depends on the degree to which he or she is motivated to process the message and on his or her abilities to process the message (Petty & Cacioppo, 1980, 1986; Petty et al., 1983). The receiver has to be both able and motivated to process a message in order to go through the central route and thoroughly scrutinize the arguments presented in the message (Petty & Cacioppo, 1980, 1986; Petty et al., 1983). When motivation and/or ability are low, the receiver will make his or her decisions on the basis of heuristic and/or affective cues (Petty & Cacioppo, 1980, 1986; Petty et al., 1983). Therefore, audience motivation is one of the critical components of message processing. Learning occurs only when the message has been processed centrally and, therefore, only in those circumstances when the individual is motivated to process the message (Berry, 1983; Craik & Tulving, 1975).

Selective processing theories. Yet another theoretical framework that applies the motivation-based approach is the *selective processing framework*. Selective processing theories are founded on the conceptualization of underlying motivations that drive the behavioral and cognitive choices of viewers of television (Finn, 1997). Given the multitude of stimuli present in the environment, individuals selectively orient their attention to specific stimuli while ruling out and ignoring a mélange of other stimuli that are of no interest to him or her (Dutta-Bergman, 2004). Furthermore, although some of these stimuli are further processed, others are filtered out of the message processing system. The specific stimuli that will be attended to and further processed depend on the individual's underlying motivations (Petty & Cacioppo, 1986). Underlying selective processing theory is the concept that the processing of different media content is a product of active choice; the audience member actively participates in selecting only those stimuli that fulfill his or her motivational needs (Dutta-Bergman, 2004).

One area of media content that has drawn extensive attention from media theorists is violent television programming (Atkin, 1973, 1985). Selective-exposure research on violent television programs indicates that individual aggressiveness is associated with the viewership and recall of violent television programming (Robinson & Bachman, 1972). Selective processing effects documenting the link between a particular predisposition and the processing of media content that

matches the disposition have also been observed in the areas of prosocial behavior and political and moral values (Atkin, 1985). Pointing out the match between disposition and content choice, Atkin (1985) suggested the role of reinforcement theory in media choice (see Atkin, 1973, for an excellent review). Reinforcement theory argues that individuals prefer messages that are supportive of their predispositions (Atkin, 1973, 1985). Therefore, media content reinforces one's individual disposition and is chosen on the basis of its congruence with existing beliefs, attitudes, and behaviors. Selective processing theories, applied to the domain of health content, would suggest that health-oriented individuals would be most likely to be exposed to, attend to, comprehend, and act on health content present in television programming.

Uses and gratifications. Locating audience motivations at the heart of the picture, uses and gratifications theorists take an active audience approach, arguing that the motivations of individual users drive the consumption of mass media, with media types being used to satisfy individual needs of the audience (Blumler, 1979; Perse, 1990). The uses and gratifications approach embodies a functional perspective to media use, identifying the specific functions and consequences that arise out of audience needs (Katz, Blumler, & Gurevitch, 1974). In their early theoretical conceptualizations of the uses and gratifications approach, Katz et al. (1974) highlighted

- (1) the social and psychological origins of (2) needs, which generate (3) expectations of (4) the mass media or other sources, which lead to (5) differential patterns of media exposure (or engagement in other activities), resulting in (6) need gratifications, and (7) other consequences, perhaps mostly unintended ones. (p. 20)

In essence, uses and gratifications theory argues that motives are central to the selection of specific media for audience gratification and that these motives vary within the population.

In scholarship that ties the uses and gratifications paradigm with the media effects research, investigators have examined the role of media use motives in shaping individuals' political knowledge (Perse, 1990). Motivational differences have been noted in the process of audience learning. In the realm of learning from political news, media scholars have demonstrated that a person's *surveillance motivation*, the motivation to gain information about one's environment, is most critical. In other words, learning is most likely to occur among those individuals who view news with a surveillance motivation as opposed to any other motivation, such as diversion (McLeod & McDonald, 1985; Neuman, 1976; Perse, 1990). Similar to both involvement and selective-exposure theories, the extant research on uses and gratifications points out that there exist motivational differences within populations and that such motivational differences have differential effects on learning.

HEALTH ORIENTATION

In the previous section, I demonstrated that one of the critical elements that is a precursor to learning from the media is audience motivation. Audience motivation in the domain of health content has been the subject of extensive research in health communication (Dutta-Bergman, 2004). This research in health communication attests to the existence of motivational difference within populations with respect to health attitudes, beliefs, and behaviors (Dutta-Bergman, 2004). This motivational variance within populations is primarily studied under the rubric of health orientation, an individual-difference variable that taps into consumer involvement in issues of health. Health communication scholars have demonstrated that health orientation explains a considerably large amount of variance in health behavior (MacInnis, Moorman, & Jaworski, 1991; Moorman & Matulich, 1993; Park & Mittal, 1985).

The motivation to be healthy defines the extent to which an individual is willing to take care of his or her health. Motivation leads to an individual's interest in a particular issue or topic, subsequently leading to active engagement in cognitions and behaviors related to the specific issue or topic (Dutta-Bergman, 2004). A high level of motivation increases the attention paid by the individual to relevant information and his or her comprehension of such material. Motivation in health, therefore, suggests an active consumer participation in issues of personal health and an active search for relevant health information (Celsi & Olson, 1988; Dutta-Bergman, 2004; Moorman & Matulich, 1993; Park & Mittal, 1985). On the basis of past research, four indicators of health orientation are explored in this article: (a) health consciousness, (b) health information orientation, (c) health-oriented beliefs, and (d) healthy activities (Dutta-Bergman, 2004).

HYPOTHESES

The literature review presented in this article documents the fact that television programming can serve as a source of learning. It has also been demonstrated that individuals differ in the extent to which they are motivated to process certain messages. When audience motivation is high—that is, when the individual is highly motivated in regard to the specific issue—the message will be processed via the central route and will contribute to audience learning from media content. Involvement in a specific issue will contribute to the in-depth processing of the particular issue (Petty & Cacioppo, 1986). If one extrapolates the motivation-driven framework to the realm of learning health information from television, one might argue that the individuals who will learn health information from television content are those who are highly involved in issues of health. In other words, in-depth processing of health information presented

in television programs is more likely to occur among the highly motivated health-oriented individuals compared with their non-health-oriented counterparts. Hence, the following hypotheses are proposed:

- H1a: Individuals who learn something about disease and its prevention from television news or magazine shows are more likely to be health oriented than individuals who do not learn something about disease and its prevention from television news or magazine shows.
- H1b: Individuals who learn something about disease and its prevention from television talk shows are more likely to be health oriented than individuals who do not learn something about disease and its prevention from television talk shows.
- H1c: Individuals who learn something about disease and its prevention from television soap operas are more likely to be health oriented than individuals who do not learn something about disease and its prevention from television soap operas.
- H1d: Individuals who learn something about disease and its prevention from television prime time programs are more likely to be health oriented than individuals who do not learn something about disease and its prevention from television prime time programs.
- H1e: Individuals who learn something about disease and its prevention from television documentaries are more likely to be health oriented than individuals who do not learn something about disease and its prevention from television documentaries.
- H1f: Individuals who learn something about disease and its prevention from television medical or health shows are more likely to be health oriented than individuals who do not learn something about disease and its prevention from television medical or health shows.

To test these hypotheses, I conducted two studies. Study 1 reports the findings from a survey that documents the link between self-reported health orientation and self-reported measures of learning from television. Study 2 builds on Study 1 and was an experiment to examine the linkage between health orientation and actual measures of learning.

STUDY 1

Data

Study 1 was based on the HealthStyles data (for additional details, see Dutta-Bergman, 2004). In 1999, 2636 respondents provided usable data. The sample was composed of 48.2% men and 51.8% women. The mean age of the sample was 44.87 ($SD = 16.71$).

Measures

Television sources. To measure the sources of television information, the following guideline was provided: "Thinking of the past year, from which kinds of TV programs did you learn something about diseases or how to prevent them (like AIDS, cancer, diabetes, flu, asthma, injuries, etc.)?" Categories included news or magazine shows, talk shows, soap operas, prime time movies, documentaries or special shows, and medical and health shows. Responses were given in a dichotomous yes–no format.

Health orientation. The four indicators of health orientation were (a) health consciousness, (b) health information orientation, (c) health beliefs, and (d) healthy activities (see Dutta-Bergman, 2004, for details). Health consciousness was measured by five items, such as "Living life in [the] best possible health is very important to me" and "Eating right, exercising, and taking preventive measures will keep me healthy for life," which were borrowed from previous research. Eight items, such as "I make a point to read and watch stories about health," and "I really enjoy learning about health issues," were borrowed from past research to measure health information orientation. Responses were measured on a scale that ranged from 1 to 5, with 1 representing *strongly disagree* and 5 representing *strongly agree*. To measure health beliefs, the respondents were provided the following instruction: "Please rate each of the following health behaviors on a scale of 1 through 5 depending on how important you think that behavior is for your overall health." They responded to items such as "eating a diet that is low in fat" and "drinking plenty of water every day." Finally, healthy activities were measured by eight items, such as "eating a diet that is low in fat"; "eating lots of fruits, vegetables and grains"; and "maintaining a healthy body weight."

Results

The hypotheses compared individuals who reported learning from particular types of television content with individuals who did not learn from that particular type of television content. To test the hypotheses, *t* tests were conducted. Bonferroni correction was used to adjust the alpha level by the number of tests, because four tests were conducted for each hypothesis ($n=4$). The adjusted alpha for each of the hypotheses was $.05/4 = .0125$. H1a stated that individuals who learn something about disease and its prevention from television news or magazine shows are more likely to be health oriented than individuals who do not learn something about disease and its prevention from television news or magazine shows (see Table 1). It was observed that respondents who reported learning something about disease and its prevention from television news were significantly more health conscious and health information oriented than the respondents who did not learn something about disease

TABLE 1
Health Orientation Differences Between Learners and Nonlearners
From TV News/Magazines, Talk Shows, and Soap Operas

Variable	Learners		Nonlearners		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
<i>TV news/magazine</i>						
Health consciousness	3.97	0.64	3.87	0.71	3.38	.001
Health inf. orientation	3.73	0.72	3.53	0.75	6.11	.00
Health beliefs	4.16	0.67	4.06	0.73	3.06	.002
Healthy activities	3.98	2.43	3.46	2.49	4.67	.00
<i>TV talk shows</i>						
Health consciousness	4.02	0.62	3.93	0.67	3.00	.003
Health inf. orientation	3.84	0.64	3.63	0.75	6.49	.00
Health beliefs	4.24	0.67	4.10	0.68	4.22	.00
Healthy activities	4.05	2.46	3.79	2.45	2.38	.02
<i>TV soap operas</i>						
Health consciousness	4.04	0.67	3.94	0.65	2.51	.01
Health inf. orientation	3.91	0.69	3.65	0.73	5.87	.00
Health beliefs	4.16	0.70	4.13	0.68	0.67	.51
Healthy activities	3.61	2.43	3.89	2.46	1.80	.07

and its prevention from television news shows. Also, the learners held stronger health beliefs and were more likely to engage in healthy activities compared with nonlearners.

Supporting H1b, the *t* test revealed that participants who learned something about disease and its prevention from television talk shows were indeed more health conscious and health information oriented than their counterparts; they also held stronger health beliefs. According to H1c, individuals who learn something about disease and its prevention from television soap operas are more likely to be health oriented than individuals who do not learn something about disease and its prevention from television soap operas. The hypothesis was partially supported, with significant differences being observed between learners and nonlearners from soap operas in the domain of health consciousness attitude and health information orientation and no significant differences with respect to health beliefs and healthy activities.

H1d was not supported by the data (see Table 2). No significant differences were observed between learners and nonlearners from TV prime time shows in the realm of health consciousness attitude, health information orientation, health beliefs, and healthy activities. H1e stated that participants who learn health information from television documentaries will be more health oriented compared with participants who do not learn health information from television documentaries. The *t* tests provided support for the hypothesis, with learners being significantly more health conscious and health information oriented compared with nonlearners; they also held stronger health beliefs and were more likely to engage in healthy activities compared with participants who reported not learning something about disease and its prevention from television. Finally, H1f was partially supported, with individuals who reported learning something about disease and its prevention from medical

TABLE 2
Health Orientation Differences between Learners and Nonlearners
From TV Prime Time, Documentary, and Medical Shows

Variable	Learners		Nonlearners		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
<i>TV prime time shows</i>						
Health consciousness	3.92	0.64	3.96	0.66	1.35	.18
Health inf. orientation	3.71	0.71	3.67	0.73	1.21	.23
Health beliefs	4.09	0.74	4.15	0.66	2.09	.03
Healthy activities	3.84	2.39	3.86	2.48	0.15	.88
<i>TV documentary</i>						
Health consciousness	4.01	0.63	3.89	0.68	4.55	.00
Health inf. orientation	3.81	0.69	3.58	0.74	8.16	.00
Health beliefs	4.20	0.61	4.08	0.73	4.25	.00
Healthy activities	4.06	2.42	3.69	2.47	3.94	.00
<i>Medical shows</i>						
Health consciousness	3.97	0.67	3.94	0.65	1.38	.017
Health inf. orientation	3.89	0.68	3.58	0.73	10.45	.00
Health beliefs	4.17	0.68	4.12	0.68	1.64	.10
Healthy activities	3.95	2.44	3.81	2.46	1.38	.17

and health shows being more health information oriented compared with their counterparts (see Table 6).

STUDY 2

To test the hypothesis and further examine the causal direction articulated in this article, a pilot study and an experiment were conducted.

Data

A pilot study was first conducted to examine the difference in knowledge between high health-orientation and low health-orientation respondents on the topic “the relationship between exercising and mood.” Self-reported measures of health orientation were used to divide the sample into high and low health-oriented groups (explained later). For the pilot study, 81 participants were recruited in exchange for extra credits from undergraduate journalism courses at a large midwestern university. Knowledge about the relationship between exercising and mood was measured by five items: (a) “You can stick to an exercise program by doing an exercise you like,” (b) “You can stick to an exercise program by not overdoing it,” (c) “You can stick to an exercise program by doing it with a friend,” (d) “You can stick to an exercise program by varying the routine,” and (e) “You can stick to an exercise program by making it fun.” The items were aggregated to form the exercise knowledge scale. The results of the analysis of variance demonstrated no significant difference between the high health-orientation ($M = 1.44$, $SD = 0.84$) and low health-orientation ($M = 1.15$, $SD = 0.95$) segments, $F(1, 79) = 2.1$, ns , $\eta^2 = .02$.

After the pilot study, 99 students were recruited from introductory communication courses as a large midwestern university in exchange for extra credits. The students first completed a battery of questions asking them about their attitudes, interests, and opinions, including health orientation. After completion of the questionnaire, they were shown a 10-min television news program. The health story was a 117-sec segment on “Starting an exercise program.” After viewing the television program, the respondents were asked several questions related to the different topics on the program, including questions related to the health story (the effect of exercising on mood).

Measures

Health information orientation was measured by seven items: (a) “I make a point to read and watch stories about health,” (b) “I really enjoy learning about health issues”; (c) “To be and stay healthy it’s critical to be informed about health issues”; (d) “The amount of health information available today makes it easier for me to take care of my health”; (e) “I need to know about health issues so I can keep myself and my family healthy”; (f) “Before making a decision about my health, I find out everything I can about this issue”; and (g) “It’s important to me to be informed about health issues.” When subjected to a principal component factor analysis with varimax rotation, a single factor with an eigenvalue of 5.47 was produced. The aggregated scale had a high reliability (.95). Based on the median health orientation score (4.29), the sample was split into high and low health information oriented segments.

Learning was measured by five items measured on a dichotomous correct—incorrect scale. The five learning items based on the content of the television health segment were (a) “You can stick to an exercise program by doing an exercise you like,” (b) “You can stick to an exercise program by not overdoing it,” (c) “You can stick to an exercise program by doing it with a friend,” (d) “You can stick to an exercise program by varying the routine,” and (e) “You can stick to an exercise program by making it fun.” The learning items were summed to create an overall learning scale.

Results

To test the hypothesis, an analysis of variance was conducted, with health information orientation as the independent variable and health information learning as the dependent variable. The results supported the hypothesis, with health information orientation positively predicting learning health information. Health-oriented individuals ($M = 3.79$, $SD = 1.02$) were more likely to learn health information from the television health news segment compared with the individuals who were less health information oriented ($M = 1.61$, $SD = 1.20$), $F(1, 93) = 91.25$, $p < .001$, $\eta^2 = .50$.

GENERAL DISCUSSION

Extant research documents that motivation is a central component of audience learning. Building on the motivation-based framework, this research applied the concept of health orientation to study its effect on audience learning from television. Health orientation was measured by health consciousness, health information orientation, health beliefs, and healthy activities. It was hypothesized that individuals who report learning from a plethora of television programs will be more health oriented than individuals who do not report learning from the television programs. Hypothesis 1a was proposed in the context of the consumption of news and magazine programs, articulating that individuals who learn something about disease and its prevention from television news or magazine shows are more likely to be health oriented than individuals who do not learn something about disease and its prevention from television news or magazine shows. The hypothesis was supported by the data, with learners being more health conscious, more health information oriented, more likely to hold strong health beliefs, and more likely to engage in healthy activities compared with nonlearners.

Similar effects were also observed with respect to other types of television programs; individuals who reported learning health information from television talk shows were significantly more health conscious and health information oriented and held stronger health beliefs compared with nonlearners. Respondents who reported learning new health information from soap operas on television were more health conscious and health information oriented than their counterparts. Although no significant differences were observed between learners and nonlearners in the realm of prime time television, individuals who reported learning from documentaries were significantly more health conscious, were more health information oriented, held stronger health beliefs, and were more likely to engage in healthy activities. Finally, learners from medical or health shows were significantly more health information oriented compared with nonlearners, with no significant differences in the other dimensions. Overall, the results of the study demonstrate support for the role of health orientation in learning from television programs. Health-oriented individuals are typically motivated in regard to issues of health and subsequently learn more health information from television programming. Motivation in a particular content domain is central to audience learning of content-specific information from the media.

This article makes several important contributions to current scholarship both in the realm of health communication and in the broader domain of media effects. First, although extant research in political communication has investigated the role of motivation in learning from television news, the findings have not been systematically extrapolated to the realm of health communication. Based

on the rich literature on political information processing, this article reflects an initial effort to conceptualize the role of health motivation in learning from the television. It contributes to current scholarship on health communication by demonstrating that motivation is central to learning from television programs and by implying the existence of individual differences in the ways in which individuals learn health information from media programs.

Second, existing research on motivation has typically investigated general motivation in the realm of surveillance orientation that taps into overall orientation of the consumer toward processing information in his or her environment; this article builds on the existing research to focus on specific content-driven motivation. In other words, it conceptualizes the existence of a plethora of content-driven motivations that drive the information processing and subsequent processing of different kinds of media content. For instance, whereas a health-oriented individual is motivated to process health information in the media, a sports-oriented individual is driven toward processing sports information, and a politically active individual is driven to process political media information. Content orientation in one particular domain may not necessarily lead to content motivation in other domains, and hence future scholarship needs to investigate the variance within audience motivation instead of simply focusing on the more diffuse surveillance variable. In harmony with a growing body of research on content-driven media consumption, this article calls for increased attention to the nature of the content in driving media choice and subsequent information processing and learning.

Third, much of the research on learning has been conducted primarily in the realm of information processing and learning from news. Although news is perhaps most conducive to information delivery and learning, it is important to extend the scope of the media effects literature by studying the effects on learning from other types of media materials, such as sitcoms, dramas, and children's programming. This is important because not everyone reads, watches, and listens to news; the actual media environment reflects far greater diversity above and beyond news programs; and incorporation of information content within other types of programming opens up the space for creating other avenues for learning. The research reported in this article demonstrates that across the different types of television programs (news, talk shows, sitcoms, health shows), health-oriented individuals were more likely to learn health information from the television programs compared with their less health-oriented counterparts. Future research ought to look at the contribution of other types of programming beyond news to political knowledge, sports knowledge, and so on.

The findings of this article hold important media planning implications for the developers of edutainment programs. Although the use of television as a medium for reaching the health-active audience segment is a reasonable

choice, the nontargeted approach to using television might actually prove detrimental in its inability to reach and be processed by the less health-oriented segment of the population. A nontargeted approach to using television might actually contribute to the creation of an unhealthy society by increasing the gaps between the “health rich” and the “health poor.” Perhaps what is needed is the selection of those types of television programs that are more likely to be consumed by the less health-oriented group of consumers. Furthermore, television content needs to be presented in innovative ways in order to be processed by the health-unmotivated group, be remembered by them, and, finally, be acted on. Examples of such innovative techniques might involve creative executions of visual and sound elements, incorporation of pertinent appeals and storylines, incorporation of health themes within television programming encouraging processing via modeling, and so on. Above and beyond everything, it might simply be, as suggested by the findings of this article, that, irrespective of the type of television programming, health-oriented individuals will always learn more health information compared with their less health-oriented counterparts. Therefore, campaigns delivering health information might need to be accompanied by efforts of structural readjustment and redistributive justice that underlie the health disparities in the world. Future research on the factors underlying health orientation might provide insightful guidelines for campaign development.

One of the limitations of the study was its use of self-reported measures. Self-reported indicators of health consciousness, health beliefs, health information orientation, and healthy activities raise questions about validity. Also, the mailback panel used in the study suffers from problems of attrition and panel bias. Also, this study is limited by the fact that it focused only on the motivation variable and the subsequent learning outcome. Future scholarship should introduce information-processing variables into the picture to investigate the cognitive mediation model proposed by Eveland (2001, 2002), whereby cognitive processing of information mediates the relationship between audience motivation and learning from television content. Specific content-driven information-processing variables need to be added to the mix.

REFERENCES

- Atkin, C. (1973). Instrumental utilities and information seeking. In P. Clarke (Ed.), *New models for mass communication research* (pp. 205–242). Beverly Hills, CA: Sage.
- Atkin, C. (1985). Informational utility and selective exposure. In D. Zillman & J. Bryant (Eds.), *Selective exposure to communication* (pp. xxx–xxx). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Atkin, C. K., Galloway, J., & Nayman, O. B. (1976). News media exposure, political knowledge and campaign interest. *Journalism Quarterly*, *53*, 231–237.
- Bandura, A. (2002). Social cognitive theory of mass communication. In J. Bryant & D. Zillman (Eds.), *Media effects: Advances in theory and research* (pp. 121–154). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Bennett, S. E., Flickinger, R. S., Baker, J. R., Rhine, S. L., & Bennett, L. L. M. (1996). Citizens' knowledge of foreign affairs. *Harvard International Journal of Press/Politics*, *1*, 10–29.
- Berry, C. (1983). Learning from television news: A critique of the research. *Journal of Broadcasting*, *27*, 359–370.
- Blumler, J. G. (1979). The role of theory in uses and gratifications studies. *Communication Research*, *6*, 9–36.
- Celsi, R. L., & Olson, J. C. (1988). The role of involvement in attention and comprehension processes. *Journal of Consumer Research*, *15*, 210–224.
- Chaffee, S. H., & Scheluder, J. (1986). Measurement and effects of attention to media news. *Human Communication Research*, *13*, 76–107.
- Craik, F. I. M., & Tulving, E. (1975). Depth of processing and the retention of words in episodic memory. *Journal of Experimental Psychology*, *104*, 268–294.
- Drew, D., & Weaver, D. (1990). Media attention, media exposure, and media effects. *Journalism Quarterly*, *67*, 740–748.
- Dutta-Bergman, M. (2004). Primary sources of health information: Comparison in the domain of health attitudes, health cognitions, and health behaviors. *Health Communication*.
- Eveland, W. P. (2001). The cognitive mediation model of learning from the news: Evidence from nonelection, off-year election and presidential election contexts. *Communication Research*, *28*, 571–601.
- Eveland, W. P. (2002). News information processing as mediator of the relationship between motivation and political knowledge. *Journalism and Mass Communication Quarterly*, *79*, 26–40.
- Finn, S. (1997). Origins of media exposure: Linking personality traits to TV, radio, print, and film use. *Communication Research*, *24*, 507–529.
- Gerbner, G., Gross, L., Morgan, M., Signorielli, N., & Shanahan, J. (2002). Growing up with television: Cultivation processes. In J. Bryant & D. Zillman (Eds.), *Media effects: Advances in theory and research* (pp. 43–67). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Gerbner, G., Gross, L., Signorielli, N., Morgan, M., & Jackson-Beeck, M. (1979). The demonstration of power: Violence Profile No. 10. *Journal of Communication*, *29*, 177–196.
- Jayanti, R. K., & Burns, A. C. The antecedents of preventive health care behavior: An empirical study. *Journal of the Academy of Marketing Science*, *26*, 6–15.
- Kosicki, G. M., & McLeod, J. M. (1990). Learning from political news: Effects of media images and information processing strategies. In S. Kraus (Ed.), *Mass communication and political information processing* (pp. 69–83). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- MacInnis, D. J., Moorman, C., & Jaworski, B. (1991). Enhancing and measuring consumers' motivation, opportunity, and ability to process brand information from ads. *Journal of Marketing*, *55*, 32–53.
- McLeod, J. M., & Becker, L. B. (1981). The uses and gratifications approach. In D. Nimmo & K. Sanders (Eds.), *Handbook of political communication* (pp. 67–99). Beverly Hills, CA: Sage.
- McLeod, J. M., & McDonald, D. (1985). Beyond simple exposure: Media orientations and their impact on political processes. *Communication Research*, *12*, 3–33.
- Moorman, C., & Matulich, E. (1993). A model of consumers' preventive health behaviors: The role of health motivation and health ability. *Journal of Consumer Research*, *20*, 208–228.
- Park, C. W., & Mittal, B. (1985). A theory of involvement in consumer behavior: Problems and issues. In J. Sheth (Ed.), *Research in consumer behavior* (pp. 201–231). Greenwich, CT: JAI.
- Perse, E. M. (1990). Media involvement and local news effects. *Journal of Broadcasting and Electronic Media*, *34*, 17–36.
- Petty, R. E., & Cacioppo, J. T. (1984). The effects of involvement on argument quality and quantity: Central and peripheral routes to persuasion. *Journal of Personality and Social Psychology*, *46*, 69–81.

- Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer-Verlag.
- Petty, R. E., & Cacioppo, J. T. (1990). Involvement and persuasion: Tradition versus integration. *Psychological Bulletin*, *107*, 367–374.
- Petty, R. E., Cacioppo, J. T., & Schumann, D. T. (1983). Central and peripheral routes to advertising effectiveness: The moderating effect of involvement. *Journal of Consumer Research*, *10*, 135–146.
- Robinson, J., & Bachman, J. (1972). Television viewing habits and aggression. In G. Comstock & E. Rubenstein (Eds.), *Television and social behavior: Television and adolescent aggressiveness* (pp. 372–382). Washington, DC: U.S. Government Printing Office.
- Robinson, J. P., & Levy, M. R. (1996). News media use and the informed public: A 1990s update. *Journal of Communication*, *46*, 129–135.
- Slater, M. D., & Rouner, D. (2002). Entertainment-education and elaboration likelihood: Understanding the processing of narrative persuasion. *Communication Theory*, *12*, 173–191.
- Zillman, D., & Bryant, J. (1985). *Selective exposure to communication*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

