

Race, Digital and Traditional Media, and Public Relations Health Campaigns

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Abstract

Applying situational theory to adolescent health contexts, this study examines whether race, medium use, and involvement may serve as significant determinants of information seeking and processing in conjunction with constraint and problem recognition. Analysis of a cross-sectional survey among 452 adolescents showed that problem recognition was positively related to information processing and seeking. Constraint recognition was positively related to information seeking, but not information processing. Involvement was positively related to information seeking and both media and interpersonal information processing. Findings support the importance of considering racial diversity in audience segmentation. Non-whites were more likely than were whites to actively seek information. Print media use was more predictive of information seeking and processing than was Internet, television, or radio use. Implications for audience segmentation in public health campaigns are discussed.

Keywords: Situational theory, race, audience segmentation, health campaigns, media use

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Race, Digital and Traditional Media, and Public Relations Health Campaign

Race impacts health in both direct (genetic) and indirect (environmental) ways. Public relations campaigns are essential to improving health communication. But health communication campaigns often focus more on risk and messaging than on audience segmentation and communication medium (Slater, 1996). One consequence of this is that racial differences among message recipients, as well as medium of choice among different races for these messages, are often overlooked. This study employed situational theory (see Grunig, 1968) to determine whether medium use, race, and involvement may serve as significant determinants of information seeking and processing in conjunction with constraint recognition and problem recognition in the context of health issues.

Information sources consumers depend on to access health information and to learn about health issues need empirical attention, according to Dutta-Bergman (2004). A survey of literature suggests a dearth of scholarship on health information processing by consumers (Cline & Haynes, 2001). Health conscious individuals seek health-related information and are motivated to access useful communication channels (Celsi & Olson, 1988; Kraft & Goodell, 1993; Moorman & Matulich, 1993). Some communication channels depend on either active or passive information consumers (Chaiken & Eagly, 1983; DeFleur & Cronin, 1991; Robinson & Levy, 1996).

This study attempts to address the dearth of scholarship on health information processing by employing concepts from the situational theory of publics in a health campaign environment. Of particular interest is examining demographics, media use, and involvement as predictors of active versus passive health information processing.

Race and Public Relations

Race is a highly powerful element of human identity and permeates virtually all aspects of living (Giroux, 2003; Allen, 2007). It may serve as a lens through which information is filtered

(Waymer, 2010). While populations become increasingly diverse, however, and “. . . despite these compelling conditions, communication and public relations scholars in general seldom investigate race” (Waymer, 2010, p. 240). Edwards (2010) advances this point as well, indicating that “. . . when minoritized groups do become a focus for public relations activity, perhaps under the rubric of ‘diversity’ or ‘multicultural communications,’ they are of interest because of their income, their voting habits, the need to ‘manage the problem they represent to policymakers, or their spectacle as the exotic ‘Other’” (p. 217). There is no thorough explanation for why race has been largely ignored, but as these and other scholars point out, it has been left out of much public relations scholarship. As worldwide populations become increasingly diverse this oversight should be rectified.

Situational Theory of Publics

Situational theory in public relations was developed and introduced by James Grunig (1968). It has been extensively tested, expanded and explained over the last 40-plus years (e.g., Kim & Ni, 2010; Aldoory, 2001; Grunig, 1975, 1976, 1997, 2006; Grunig & Hunt, 1984; Hamilton, 1992; Sha 2006). In 1984, Grunig and Todd Hunt included a section on the theory in their frequently cited textbook, “Managing Public Relations.” The theory has been used to examine topics as diverse as investor relations (Cameron, 1992), political communication (Hamilton, 1992), drunk driving campaigns (Anderson, 2009), and consumer relations in Singapore (Sriramesh, Moghan, & Kwok Wei, 2007). The theory is used to identify and segment publics into active and passive information consumers.

Information Seeking and Processing

The first of two dependent variables in situational theory is information seeking. Information seekers “look for information and try to understand it when they obtain the information” (Grunig & Hunt, 1984, p. 149). Information processing, the second dependent variable, describes people who “will not look for information, but they will often process information that comes to them . . . without any effort on their part” (Grunig & Hunt, 1984, p. 149). Situational theory predicts that high problem recognition, low constraint recognition, and high involvement lead to high information seeking and

processing (Grunig & Hunt, 1984). Grunig (1997) wrote: “people seldom seek information about situations that do not involve them. Yet, they will randomly process information about low-involvement situations, especially if they also recognize the situation as problematic” (p. 10). Knowing whether information is actively or passively processed is useful in public relations to help identify message strategy and medium of delivery.

Information processing (passive behavior) was initially measured by asking respondents to assign a numeric value to indicate “how likely you would be to pay attention to each of these stories after hearing the opening lines” (Grunig, 1997, p. 42). The more active **information seeking** was measured by asking respondents to assign a value in response to the question: “If you were to see an announcement offering each of the following free booklets, how likely would you be to call or send for it” (p. 43).

While the aforementioned study (i.e., Grunig, 1997) focused on asking about television in the processing measure and about print media in the seeking measure, in the rich media environment in which young adolescents now find themselves, a broader range of information sources – both mediated and interpersonal – are essential to measure.

The concept of processing as a passive behavior runs counter to literature in some other social scientific disciplines. In citing the intellectual history of the situational theory of publics, Grunig noted initial theorizing conceptualized communication behavior “as purposeful and active” in the tradition of uses and gratifications literature (Grunig, 1997, p. 11). However, in 1976 Grunig wrote, “I added Krugman’s (1965) concept of level of involvement to the theory to explain passive communication behavior” (Grunig, 1997, p. 11). Herbert Krugman (1965) linked level of involvement to the television medium as it applied to advertising. He noted that sociologists had identified “sleeper effects” in communication and psychologists had asserted that latent learning occurred and was measured by behavior (Krugman, 1965, p. 354). Grunig wrote: “I defined level of involvement as a perception that

people have of a situation, whereas Krugman had defined it as a characteristic of a medium” (Grunig, 1997, p. 11).

Grunig’s operationalizations of situational theory are well-tested. However, the theory has seldom, if ever, been examined using adolescents as the public with health as the issue of interest. Therefore, we proposed testing the three independent variables and their prescribed relationships to the theory’s two dependent variables using this often inaccessible public.

While the situational theory of publics has been tested in a variety of studies as noted above, in more recent years there has been a call to use the theory to segment publics in health communication campaigns and to examine race as an antecedent to the theory (e.g., Aldoory, 2001; Sha, 2006; Slater, 1996).

Demographic Predictors of Information Seeking and Processing

Brown and Witherspoon (2002) identified gender and racial differences regarding the availability, frequency of use, and desirable attributes of mass media among adolescents. African Americans were the highest among media consumers (9.52 hours a day), whereas Whites averaged only 7.16 hours. Adolescent boys out-scored girls in media use, 8.10 and 7.41 hours, respectively (p. 154).

Although higher incomes have been achieved by some African Americans in recent decades, the overall figures remain markedly different among races (U.S. Bureau of the Census, 2011; 2006). Additionally, it is widely known that there is a direct relationship between socio-economic-status (SES) and a wide range of health problems. Whether measured by income, level of education, or employment classification, persons with low SES, who are disproportionately black, suffer from certain cancers, heart disease, diabetes, arthritis, hypertension, and factors associated with infant mortality, like low birth weight more than do their Caucasian counterparts (CDC, 2011; National Center for Health Statistics, 2007; Agency for Healthcare Research and Quality [AHRQ], 2007). This inter-relationship among race, income, and health is a center-stage public policy concern in numerous

domains (e.g., Institute for Research on Race and Public Policy, 2010; Dinovitzer, Sterling, Garth, & Wilder, 2009).

These realities suggest that health issues would be fertile ground for testing links between situational theory of publics and race as a prospective antecedent. Some research in this direction has begun. For example, Aldoory (2001) conducted focus groups and interviews with women from diverse ethnic, class, educational, and sexual backgrounds to explore antecedents to involvement in health messages. She found “a consciousness of everyday life, source preference, self-identity, a consciousness of personal health, and cognitive analyses of message content influenced involvement with health messages” (p. 163). Applying this finding to our study, it means that race and self-reported health status may be related to how individuals seek and process information, depending on their preferences of information sources.

Sha (2006) found that race or “cultural identity” may be an antecedent to situational theory. She found that racioethnic identity predicted variables of the situational theory, with the exception of constraint recognition. Sha argued for additional research into the relationship between race/culture and situational theory variables.

Slater (1996) wrote that situational theory could and should be used to segment audiences for health communication. “[I]t is easy to define low-income, urban, African American adolescent boys as an audience segment,” Slater wrote. “Such a segment is only truly useful to a campaign designer insofar as it provides a basis for campaign design. If it turns out that there are some very different patterns of beliefs, behavior, and value in this population, this demographically based segment would prove inadequate” (p. 270). Therefore, the combination of demographic and typological segmentation via situational theory should assist in developing meaningful health communication campaigns.

While broader demographics are of interest, our primary concern in this study related to the effect of race on health communication audience segmentation. Based on the conceptual and

empirical accounts for race as an important audience segment factor, we address the following research question.

RQ1: Will race be a significant determinant of information seeking and processing?

Media Exposure as Predictors of Information Seeking and Processing

In addition to race, type of medium used to seek or process information should be examined (as evidenced by Aldoory, 2001) – especially given the rapid diffusion of digital media and the high adoption levels of these media by adolescents.

Interpersonal Channels. Parents, friends, schools, and media remain important sources of health information for adolescents even in the 21st century's digitally saturated environment. The specific source young people turn to for health information depends at least partially on the health issue itself (Marcell & Halpern-Felsher, 2007). In their study of 210 high school students, Marcell and Halpern-Felsher (2007) found that if an issue is purely medical (e.g., illness), adolescents prefer a medical information source first, and a parent second. When the issue is a risky health behavior, however (e.g., cigarette smoking, sex), they prefer information from peers. Other studies support that parents and medical personnel are preferred sources, especially for youngest adolescents (Ackard & Neumark-Sztainer, 2001) and that schools, media, and friends increase in importance with age and need for confidentiality associated with some behaviors (Aten, Siegel, & Roghmann, 1996).

Thus, some existing literature seems to suggest that interpersonal sources (parents, friends, health providers) are as strong as ever and perhaps stronger than those of media messages on adolescent health (e.g., Paek, 2008; Smith & Stutts, 1999).

It also remains true that with age comes greater reliance on peers than on parents. Social interactions with peers become increasingly intimate, extensive, and diverse throughout adolescence, often supplanting or replacing that role previously held by parents and other authority persons and entities, like schools (Allen, Donohue, Griffin, Ryan, & Turner, 2003; Bearman, 2002; Rew, 2005). Studies of numerous specific risky health behaviors document this trend, including smoking

(Maxwell, 2002; Urberg, Degirmencioglu, & Pilgrim, 1997), substance abuse (Grunbaum, Kann, Kinchen, Williams, Ross, & Lowry, 2001), and sexual activities (Hutchinson, 2002).

Mass Media Channels. Health information is made available to consumers through many different media channels (e.g., TV, magazine, radio, and Internet) and media types (e.g., news, entertainment, and advertising) (Bernhardt & Cameron, 2003; Brodie, Flournoy, Altman, Blendon, Benson, & Rosenbaum, 2003). Historically, more Americans receive their health news via television than through any other medium (Newport, 2002). One recent study of young adolescents found, when the children were asked where they obtained health information, the most frequent source named was television (Weaver Lariscy, Reber, & Paek, 2010). From focus groups and a survey, middle-school age students indicate their most reported health learning is from television, followed by radio, print, Internet, and social networking sites. Findings further suggest middle school students do not differentiate among advertising, entertainment, and news content when evaluating information.

Smith, Menn and McKyer (2011) found that 27% of a sample of adults “regularly obtained health information from the radio” (p. 196). Of individuals over the age of 12, 92% listen to radio programming each week (Arbitron, 2008). While respondents said they most preferred to receive health information from healthcare professionals (42%), the highest percentage (69%) claimed to have obtained their health information from the Internet (Smith, Menn & McKyer, 2011, p. 204). Dutta-Bergman (2004) suggested that health knowledge from television and radio might be from serendipitous learning. “This type of ‘bumping into information’ happens, for instance, when a health topic gets covered in the news. For the individual that is not health motivated, this form of serendipitous learning provides one of the most frequent and primary processes in learning health information” (Dutta-Bergman, 2004, p. 278).

The Internet likely complements traditional mass media for adolescents. A national survey reported that 28% of 12- to 17-year-olds in the United States have searched for health information on

the Internet (Jones & Fox, 2009). Empirical studies also indicate that an increasing number of young people have been going online to find health information (Borzekowski & Rickert, 2001a, 2001b). Many of them treat the Internet as the primary source of such information (Gray, Klein, Noyce, Sesselberg, & Cantrill, 2005).

This finding that the Internet is rather ideal for adolescents seeking sensitive information has been supported in another study that concluded: “for adolescents, the Internet is an accessed and valued information source on a range of sensitive health issues” (Borzekowski & Rickert, 2001). Almost half (49%) of the 412 10th grade students surveyed reported they had used the Internet for health information. Findings from a study about used and trusted health information sources for adolescents suggest that online media provide a parasocial experience and should be harnessed as important health information sources for this population (Weaver Lariscy, Reber, & Paek, 2011).

Information processing and seeking are not media or source specific. And varied media appear to be important information sources especially when health is the subject of communication. Sriramesh, Moghan, and Wei (2007) asked Singaporeans where they might turn for information on issues related to customer service. They found that 61% used newspapers and magazines as sources of consumer information. About 40% turned to television and 26% turned to the Internet for such information (pp. 321-322). Such findings illustrate the potential role of media use as an antecedent to information processing and seeking and as a potential device in segmentation of publics. These findings and the dearth of research linking situational theory, adolescents, and health communication campaigns, suggest a second research question:

RQ2: Will media use be a significant determinant of information seeking and processing?

Situational Variables as Predictors of Information Seeking and Processing

The situational theory of publics identifies problem recognition, constraint recognition and involvement as independent variables that affect dependent variables, information seeking and information processing (Grunig & Hunt, 1984). Problem recognition, the first of three independent

variables in situational theory, is described as “the concept . . . that people do not stop to think about a situation unless they perceive that something needs to be done to improve the situation” (Grunig & Hunt, 1984, p. 149). Constraint recognition is described as “the extent to which people perceive that there are constraints – or obstacles – in a situation that limit their freedom to plan their own behavior” (Grunig & Hunt, 1984, p. 151). The third independent variable, level of involvement, “represents the extent to which [people] connect themselves with the situation” (Grunig & Hunt, 1984, p. 152).

Measurements of these independent variables have naturally differed from study to study. Grunig (1997) had respondents address 14 items by providing a numerical value indicating their **level of involvement** in a series of health concerns (e.g., “To what extent do you believe [the quality of health care] is a serious national problem,” p. 44). To measure **problem recognition**, he listed four issues and directed respondents: “After I name each of these issues, tell me whether you stop to think about the situation often, sometimes, rarely, or never” (p. 46). To measure **constraint recognition**, he asked respondents: “Now would you think of whether you could do anything personally that would *make a difference* in the way these issues are handled. If you wanted to do something, would your efforts make a great deal of difference, some difference, very little difference, or no difference” (p. 46).

The situational theory of publics suggests that these independent variables will affect information processing and information seeking, thereby suggesting a series of hypotheses:

H1: Problem recognition is positively related to (a) information processing and (b) information seeking.

H2: Constraint recognition is negatively related to (a) information processing and (b) information seeking.

H3: Involvement is positively related to (a) information processing and (b) information seeking.

Method

A paper-and-pencil survey was conducted among 7th-grade students in three rural and urban public school districts in the southeastern United States. All three districts possess large proportions of African American students and high proportions (over 65%) of children on federal meals programs. Previous studies that found poor adolescents appear *most* at risk for health problems reinforce the need to focus on the relationship between adolescent residence and health risk behaviors so that intervention programs and information can be program-specific to their needs (Atav & Spencer, 2002).

All subjects were recruited following approved human subjects procedures for conducting research with children; multiple incentives (i.e., drawings for small cash prizes and local store and restaurant gift cards) were offered over a two-week period when students were encouraged to discuss participation with their parent(s)/guardian(s). Letters were mailed from the districts to the homes that included a full explanation of the study and a parental consent form.

Instrument Development

The survey instrument was developed based on important primary data (i.e., a focus group study conducted in the same districts one semester prior to the survey) as well as publicly available secondary data about young adolescent health behavior (e.g., *Behavioral Risk Factor Surveillance System, Monitoring the Future, National Youth Tobacco Survey*). This allowed us to use both standard pre-existing measures on specific health-related questions and to identify from the focus groups the issues, concerns, and information sources the young adolescents themselves generated. Finally, we included questions on basic demographics (e.g., gender, race, and residence) and frequencies of general and health-specific media use. Then, we asked question items guided by our theoretical framework of situational theory.

Pre-existing situational theory measures were not used verbatim. Rather, the concepts and definitions guiding pre-existing measures were used to write more colloquial questions that were on

the appropriate readability level for these students. Issues related to pre-existing situational theory operationalizations have been discussed and calls have been made for “greater empirical exploration for survey measures that validly and reliably reflect 21st-century publics and the wide variety of issues and media they contend with daily” (Aldoory & Sha, 2007, p. 348). Therefore, input from preceding focus group participants was considered and combined with “classic” situational theory concepts to come up with new measures. The survey instrument was pretested by a dozen of the same age cohorts (who were recruited from a non-participating school) and revised in terms of question wordings and nuances.

Procedures

The survey titled “Information Sources and Health Lifestyle Study” was administered by the researchers and trained teachers during school hours. Only the students whose parent(s)/guardian(s) sent their consent form to their children’s schools were allowed to participate in the survey.

Participating students signed personal assent forms on the day of the survey.

Teachers informed students that their answers would be completely confidential and that they could decline to answer any questions. The survey took approximately 20 minutes to complete. The total sample size was 452: females=52%; rural adolescents=55%; black=56% and white=27%. The response rate (the number of participating students divided by the total number of enrolled students) was 23%. The return rate seems a bit low, but studies have found no significant difference in the findings between low-return rate and high-return rate studies (e.g., Keeter et al., 2000). Table 1 presents frequency of demographic characteristics and descriptive statistics of all the measures.

Measures

Based on situational theory, we measured information seeking and processing as the two key dependent variables, with problem recognition, constraint recognition, and involvement as three key independent variables. Race and media use were also included as potentially significant determinants of the dependent variables.

Table 1 : Descriptive Statistics (N=452)

Variables	Percentage	Mean	SD
Control Variables			
Sex	Male	48	-
	Female	52	-
Race	Black	56	-
	White	27	-
Residence	Urban	45	-
	Rural	55	-
Health status		1.71	.93
Media use (TV)		3.33	1.02
Media use (radio)		3.00	1.27
Media use (print)		2.37	1.13
Media use (Internet)		2.55	1.03
Independent variables			
Problem recognition		2.59	1.41
Constraint recognition		1.77	1.15
Involvement		4.30	1.04
Dependent variables			
Information seeking		3.72	.94
Information processing (media)		2.85	.93
Information processing (interpersonal)		3.11	1.15

As previously noted, in order to make the constructs easy to understand for our young adolescent population and because our measures were based on both previous focus groups with a

similar population and pre-existing health campaign literature, our questions were simple, colloquial, and personal.

Operationalization of Variables

Information seeking was measured with an averaged index among three items (EFA= 65% of total variance explained; Cronbach's alpha=.73).

Information seeking:

I try to get as much information about health as possible (1=Never, 5=All the time)

I try to follow what I'm taught about health (1=Never, 5=All the time)

How interested are you in learning about health (1=Not at all interested, 5=Very interested)

Information processing was measured with the following nine question items (5-point Likert scale from 1="not at all often" to 5="very often"): How often do you hear about the various health topics from each of the following sources?

- (1) Parents or other guardians at home,
- (2) Friends or siblings,
- (3) School (teachers, counselors, or coaches),
- (4) Broadcast news programs,
- (5) Broadcast entertainment,
- (6) Broadcast advertising (e.g., TV and radio),
- (7) Print news (newspaper or magazine articles),
- (8) Print advertising,
- (9) Internet (e.g., Google or specific websites like WebMD).

EFA showed clearly two factors: the three interpersonal items construct one latent factor (labeled as interpersonal processing; 40% of total variance explained) and the six media channels construct the second latent factor (labeled as media processing; 13% of total variance explained). Cronbach's alpha reliability analysis also indicates reasonably good internal consistency for each of

the two factors ($\alpha = .66$ and $.79$, respectively). Thus, the two variables were constructed as averaging indices of the respective question items.

Problem recognition consisted of an eleven-item scale. On a scale from 1=“Not at all worried” to 5=“Very worried,” respondents were asked to respond to the following: Please tell us how worried you are about your risk for each:

- (1) Smoking tobacco,
- (2) HIV/AIDS,
- (3) Drinking too much alcohol,
- (4) Diabetes,
- (5) Eating disorders,
- (6) Bad heart,
- (7) Sexually Transmitted Diseases (STD),
- (8) Being too fat,
- (9) Cancer,
- (10) Becoming a parent too young,
- (11) Other illegal drug use (e.g., marijuana, mushrooms, party drugs).

Exploratory Factor Analysis (EFA) used with the Principal Component Analysis (PCA) extraction method (Varimax rotation; Eigen value criterion of 1) clearly indicated that these eleven items construct one latent factor with 69% of total variance explained. Cronbach’s reliability alpha among these items indicate $.95$, demonstrating strong internal consistency. Thus, these items were averaged to construct the variable of problem recognition.

Constraint recognition was measured with a single item: “How much do you think a kid can do to grow up to be a healthy adult?” The responses ranged from 1=“Almost nothing” to 5=“A lot.” This item was reversed-scored so that a higher number indicated a higher level of constraint recognition.

Level of involvement was measured by asking “How important is each of the following to you?” Responses ranged from 1=“Not at all important” to 5=“Very important.”

The level of involvement items were:

- (1) Maintaining a healthy body weight,
- (2) Not using illegal drugs like marijuana and mushrooms,
- (3) Not smoking tobacco,
- (4) Avoiding drinking too much alcohol,
- (5) Not becoming a parent too young.

EFA indicated clearly one factor with 67% of total variance explained. Cronbach’s alpha among these question items was .87. Thus, these items were averaged to construct the variable of involvement.

For **media use**, participants were asked to use a five-point ordinal scale to answer how frequently they used:

- (1) TV (weekend and weekday),
- (2) Radio,
- (3) Magazines,
- (4) Internet (weekend and weekday)

The TV-use and Internet-use variables were measured by averaging the index of the respective two weekday and weekend items (inter-item $r=.51$ and $.67$, respectively). Radio-use and print (magazine)-use variables were single items. EFA indicated that various media use items did not construct clear latent factors (also, $\alpha=.11$ among all the items). Thus, the four media use items were included separately in our model.

Analysis

To test the three sets of hypotheses and two research questions, three hierarchical regression models were performed with information seeking, interpersonal information processing, and media

information processing as dependent variables. Because our factor analysis showed interpersonal and media information processing as separate latent constructs, we treated them as two separate dependent variables. Predictors were entered in the hierarchical regression model in the following order: demographics (gender and race), geographics (urban/rural residence), and adolescents' own health status were entered in the first block; general media use variables in the second block; and in the third block, constraint recognition, problem recognition, and involvement variables were entered. The demographic and geographic variables and health status (health lifestyle) are controlled because they are important baseline variables for audience segmentation. Table 2 presents the results of the three hierarchical regression models.

Results

RQ1: Will race be a significant determinant of information seeking and processing?

Race was a significant determinant of information seeking, but not processing. Our regression models show that non-white adolescents were significantly more likely than were white adolescents to seek health information ($\beta = -.16, p < .05$). There were no significant differences by race for either interpersonal or media information processing.

RQ2: Will media use be a significant determinant of information seeking and processing?

The models testing information seeking and processing showed that television use ($\beta = -.11, p < .05$), newspaper and magazine reading ($\beta = .16, p < .001$), and Internet use ($\beta = -.09, p < .05$) were all significant determinants of information seeking, but not listening to the radio ($\beta = .08, p = ns$). The more the participants read print but the less they watch TV and use Internet, the more likely they seek information. Only newspaper and magazine reading ($\beta = .21, p < .001$) was a significant determinant of media information processing. Lastly, print media use was a significant determinant of interpersonal information processing ($\beta = .11, p < .05$).

Table 2 : Hierarchical Regression Analysis Results

Predictors	Information Seeking	Media Information Processing	Interpersonal Information Processing
Demographics (control)			
Sex (male) ^a	-.07	-.01	-.05
Race (Black) ^a	.07	-.03	.04
Race (White) ^a	-.16*	-.07	-.05
Residence (Urban) ^a	-.04	-.02	-.06
Health status	-.08	-.00	-.02
ΔR^2	.06***	.01	.02
Media use (predictors)			
TV use	-.11*	-.02	-.07
Radio use	.08	.07	.04
Print use	.16***	.21***	.11*
Internet use	-.09*	.10*	.07
ΔR^2	.06***	.07***	.02*
Main Predictors			
Problem recognition	.08*	.20***	.21***
Constraint recognition	-.26***	-.01	-.09
Involvement	.29***	.13**	.11*
ΔR^2	.20***	.06***	.07***
Total R² (%)			
	.32***	.14***	.11***

- All Beta coefficients are standardized

- * $p \leq .05$; ** $p \leq .01$, *** $p \leq .001$

Notes: ^a Dummy variables with male=1, female=0; white=1, other races=0; black=1, other races=0; urban=1, rural=0. Numeric values are beta final--the final equation with all the variables in.

H1: Problem recognition is positively related to (a) information processing and (b) information seeking.

The first hypothesis predicted that problem recognition would be positively related to both information processing and information seeking. To examine this hypothesis, we examined two types of information processing (as noted in the method section) – media processing and interpersonal processing – as well as information seeking.

This hypothesis was supported. Problem recognition was positively related to all the dependent variables, information seeking ($\beta=.08, p<.05$), media processing ($\beta=.20, p<.001$) and interpersonal processing ($\beta=.21, p<.001$). The more the adolescents recognize various health problems, the more likely they not only actively seek information but also passively process health-related information from both media and interpersonal sources.

H2: Constraint recognition is negatively related to (a) information processing and (b) information seeking.

Constraint recognition was not significantly related to media processing ($\beta=-.01, p=ns$) or interpersonal processing ($\beta=-.09, p=ns$). But constraint recognition was significantly related to information seeking ($\beta=-.26, p<.001$), indicating that the less the adolescents recognize constraints (so that they think they can do much to grow up to be a healthy adult), the more likely they seek information. Only H2b was supported.

H3: Involvement is positively related to (a) information processing and (b) information seeking.

Involvement was positively related to information seeking ($\beta=.29, p<.001$), indicating that the more the participants think that various health topics are important, the more likely they seek information. For H3b, involvement was significantly and positively related to both media information processing ($\beta=.13, p<.01$) and interpersonal information processing ($\beta=.11, p<.05$). Thus, hypothesis 3 was supported.

Discussion

The objective of this research was to determine what role, if any, race and media use play in predicting information seeking and processing, which is drawn from situational theory. It further examined situational theory in the context of health communication and an adolescent public. Findings confirm important antecedents to the independent variables of situational theory and test situational theory with a little-studied public on highly salient issues. The results help fill the vacuum in public relations research of racial diversity as an important audience segmentation consideration. For public relations practice, the findings provide guidance, especially in health communication campaigns, for segmenting these publics, particularly with regard to race. Additionally, our data showed that information processing may appropriately be divided into media and interpersonal categories of processing and determined by different factors. Specific application to public relations scholarship and practice is discussed and highlighted point-by-point below.

1. Race and media use predict information seeking.

Predictors of information seeking were more plentiful. Seeking is a more active information behavior as defined by Grunig and as operationalized in this study. Information seeking was significantly predicted by race (**non-whites are more likely to be information seekers**), television use (**the less they watched television the more likely they sought health information**), and reading newspapers and magazines (**more reading is a predictor of information seeking**). The negative association between Internet use and information seeking may be evidence that adolescents use the Internet more for entertainment than for health information. Additionally, **problem recognition and involvement were significant predictors of information seeking**. Constraint recognition was not significantly related to information processing, but was significantly related to information seeking. Taken together, these significant findings seem to support our central thesis—situational theory is applicable to adolescent health contexts, but with media use as important antecedents of the outcomes. These findings affirm Slater's

(1996) criteria that segmenting of publics is only useful if different patterns of beliefs, behavior, or values exist.

2. Traditional media trumps digital media as a predictor or information processing.

Despite the expectation by these researchers that digital media would play an important role in information seeking and processing, using traditional media (i.e., newspapers and magazines) was the only positive and significant media use predictor of information processing. This finding is somewhat surprising given that newspaper and magazine use might understandably be associated with the more active seeking, but might logically be less associated with passive processing. However, in this study, print was king of both information processing and information seeking. **The findings suggest that adolescents in this sample, at least related to health issues, will process health information even when they just happen across it in print media.** The puzzle remains why Internet use is not positively associated with information processing. Perhaps the Internet is seen primarily as an entertainment medium by these adolescents, meaning they do not process health-related information on the Internet. Perhaps the topics at hand (i.e., health issues) require more active rather than passive processing. Perhaps this particular age cohort, compared to most other studies where adults are the subjects, may be unique in the way they use Internet and the way they process information. Whatever the reason may be, the findings suggest that **traditional print media should not be dismissed when planning public relations campaigns for adolescents, especially when those campaigns are linked to health issues.**

3. Constraint recognition finding may be overlooked.

The only surprise based on previous theory testing and development was that constraint recognition was not significantly related to information processing. This fact bears consideration. Because the purpose of situational theory is to help segment publics, it is appropriate to consider what about the publics (adolescents), the issue (health), or the measurements of the factors may have

contributed to these unexpected findings. **Perhaps even though constraint recognition is high, the nature of the situation or issue (health) demands active information seeking.**

4. Consider both interpersonal and media processing.

Recognizing the potential for health problems (i.e., problem recognition) may lead to information processing. Both media and interpersonal processing were linked to problem recognition. This implies that the issue may draw adolescents' attention, whether or not they believe they are empowered (i.e., constraint recognition). **For health communication public relations campaigns, these findings logically reinforce that education or awareness tactics are key to engaging adolescents.** An admitted weakness, as noted in the limitations section, is that constraint recognition was measured by a single question item. This measurement issue may explain the result that constraint recognition was not significantly linked to either media or interpersonal processing.

5. Mass media is at least as important as interpersonal communication.

Involvement in the issue was positively related to information seeking and to media processing and interpersonal processing. While many health campaigns include interpersonal communication as a core element, these findings based on situational theory suggest that mass media are at least equally important. And, as noted above, **traditional media are unexpectedly and remarkably important.**

6. Remember to consider race.

Race as an antecedent to information seeking is a finding that reinforces Sha's (2006) call for further examination of racioethnicity as a determinant of information seeking and processing. Previous research has identified African Americans as the highest media consumers (see Dutta-Bergman, 2004). The finding that non-white students were more likely to seek health information may indicate **health PR practitioners should be quite sensitive to racial differences within**

publics. This finding **reinforces the importance of considering racial diversity when planning and implementing health and other public relations campaigns.**

The fact that non-white students are active seekers of information is encouraging, but at the same time, various speculations about health information disparities by race may exclude the possibility of minorities' lack of information processing. Rather, the disparities may have more to do with availability and accessibility of health information.

7. Multi-media campaigns are still best.

This research suggests that **public relations campaigns centered on health should focus on print to best reach adolescents.** Of course, that is not to say that digital media should be shunned in health communication campaigns. After all, **each medium except radio was a significant predictor of more or less information seeking.** There is evidence here that serendipitous learning may well occur. The processing finding simply affirms that it is still important to understand that traditional media should not be lost.

Finally, while they were not included in our hypotheses or research questions, it is notable that gender and self-assessment of health were not predictors of information seeking or processing.

Limitations and Future Directions

There are several limitations to acknowledge. Although previous research found there is not much difference between findings with low and high response rates, a relatively low survey response rate (consent form return rate to be more precise) may make these findings less generalizable. Additionally, constraint recognition was operationalized with only a single item, and situational theory measures were developed for this uncommon sample. While these issues are less than ideal, they do not approach the level of problems that would impact the validity of the research and analysis. Related, operational definitions of the key constructs in this study may be more exploratory rather than confirmatory in nature due to the dearth of research that tests situational theory in adolescent

health contexts. Future research should develop more rigorous measurements that can test the theory in various health contexts and with various age groups.

In addition, the research could also be extended beyond health topics to other high involvement subjects such as employee relations. Extending the reach of situational theory via promising determinants such as race and media use seems to be rich ground to continue to cultivate.

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