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The Relationship Between Health Information Seeking and Community Participation: The Roles of Health Information Orientation and Efficacy

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Health communication scholarship has built on the health-promoting role of the community in exploring participatory communication techniques in community-based health promotion efforts. Community participation inculcates responsibility, strengthens community bonds, and provides a platform for diffusing health interventions. This power of a community to embody responsible action and promote participation in preventive behavior is examined in recent research on social capital. Exploring the link between community participation and health, this article demonstrates, through 2 survey studies, that health information orientation and health information efficacy are positively correlated with community participation. Furthermore, community participation is linked with prevention orientation, health beliefs, and health behaviors. Based on the findings, theoretical and pragmatic suggestions are presented.

Health communication scholarship and application have consistently demonstrated the link between community and health promotion (Campbell & Jovchelovitch, 2000; Dutta-Bergman, 2003, 2004b). This has spawned a series of health campaign efforts and research on the role of participatory communication in promoting healthy behavior (Eisen, 1994; Hawe & Shiell, 2000; Mittelman, 2004). Health communication scholars have noted that community participation generates systematic changes through citizen involvement in identifying health needs and implementing initiatives for the improvement of the health of the community and its members (Eisen, 1994; Thorson & Beaudoin, 2004). A health communication model within a participatory community-based framework empowers members of the community to articulate their needs, map available resources, mobilize them in the production of positive health outcomes, and engage in sustenance behaviors

(Campbell & Jovchelovitch, 2000; Dutta-Bergman, 2003, 2004b). This ability of a community to be accountable, participate, develop, and maintain preventive behavior is played out in terms of social capital (Putnam, 1995).

Social capital refers to the ability of a community to mobilize its collective resources and secure maximum gains through its network of relationships and social structures (Putnam, 1995). It is often equated with community participation and all social, collective, economic, and cultural resources to which a community has access. Dutta-Bergman (2004b) examined the role of health consciousness, measured at the individual level, in generating social capital. Dutta-Bergman's (2004b) study demonstrated that greater health consciousness among individuals led to increased community participation, which when summed up across the community, led to positive health outcomes in communities. We propose to build on this line of research by exploring the association between health information seeking and community participation.

The increasing consumer participation in health information seeking has led to the increasing need for understanding

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the construct (Cline & Haynes, 2001). Health information seeking fundamentally influences a variety of health outcomes, including the use of preventive services, satisfaction with the provider, perceived health, and physiological health. Extant research points out systematic variance within the population in the realm of health information seeking. Of particular relevance is the role of health information seeking in the context of social capital because individuals who search for health information can potentially serve as sources of health information in community networks. Specifically, we believe that the two constructs, health information orientation (a motivation-based construct) and health information efficacy (an indicator of perceived ability to seek out health information) will be related with community participation.

COMMUNITY PARTICIPATION AND HEALTH

The community, defined as a group of individuals who share a common space and social, cultural, and economic milieu (Leonard & Airhihenbuwa, 1993), plays a critical role in health promotion efforts. Health behaviors are often embedded within this social milieu. As a result, health communication scholars have become increasingly interested in the role of the community as an avenue for promoting positive health behaviors (Eisen, 1994; Hawe & Shiell, 2000; Dutta-Bergman, 2004a). They have consistently noted that community participation generates systematic changes in the population through citizen involvement and active participation in identifying the health needs of the community and in implementing initiatives for the improvement of the health of the community and its members (Eisen, 1994). The importance and usefulness of community participation is underlined in its use in a variety of health campaigns like heart disease prevention, smoking, HIV prevention, healthy eating, and road safety (Kennedy, 2001; Person & Cotton, 1996). Stephens, Rimal, and Flora (2004) point out that because participation and membership in community organizations are voluntary, health messages that come out of community organizations are likely to be considered with greater trust.

According to Merzel and D'Afflitti (2003), the rationale for the community-based approach to health promotion stems from the notion that individuals cannot be considered separate from their social milieu, and that context is interdependent with the health and lives of individuals living in the community. Campbell and Jovchelovitch (2000) state that participation allows community members to formulate strategies that are based on the barriers they face and their perceived health needs. As a result, health program messages and program implementation procedures are created from within the community, enhancing their chances of eliciting desired results. Related to this articulation is the notion of empowering the community. Communities with actively participating members are likely to

perceive that they are more in charge of their lives. Hence they are also more likely to take control of their health, engage in health enhancing behaviors, and actively seek out health resources (Campbell & Jovchelovitch, 2000). A conglomeration of individuals with such high loci of control will result in a community that ranks high on a scale of being healthy and engaging in health promotion practices. In other words, situating a health communication model within a participatory community-based framework empowers members of the community to articulate their needs, map resources available, mobilize them in the production of positive health outcomes, and engage in health sustenance behaviors (Dutta-Bergman, 2003).

Inherent in these conceptualizations of community participation is an underlying sense of social commitment (Dutta-Bergman, 2003; Scheufele & Shah, 2000; Tocqueville, 1948). This sense of commitment leads members of the community, and hence the community, to partake in health promoting behaviors. In a way then, a community that is characterized by a high sense of social commitment among its members (reflected in high participation) is likely to be better off in terms of practicing healthy behaviors. In articulating this link between community participation and health, researchers and practitioners in the field consistently evoke the concept of social capital.

SOCIAL CAPITAL AND HEALTH

Whereas Bourdieu (1993) described social capital as investment in social connections through valuable social relationships, the concept was highlighted in the scholarship of political scientist Robert Putnam (1995). Putnam defines social capital as "features of social organization such as networks, norms, and trust that facilitate coordination and cooperation for mutual benefit" (p. 66). According to Pilkington (2002), Putnam's analysis of social capital had four characteristics: the existence of community networks, civic engagement, local identity and a sense of solidarity and equity with other community members, and trust and reciprocal help and support. Coleman (1990) states that "social capital inheres in the structure of relations between persons and among persons" (p. 302). McMichael and Manderson (2004) refer to social capital as those factors that contribute to well-being and those that capture "how people use and gain from voluntary associations, interactions with others in their neighborhoods, and the contacts that friends and relatives provide" (p. 89). Operationalizing social capital in an effort to measure it has been varied. Whereas Weitzman and Kawachi (2000) operationalized social capital in terms of an individual's average time committed to volunteering over a time period, the Health Development Agency in the UK developed a 54-question matrix within five topic areas (view of local area, civic engagement, reciprocity and local trust, social networks, social support) to measure social

capital. Despite this diversity in defining/operationalizing social capital, there is little evidence to deny the relationship between social capital and health (Pilkington, 2002).

With its emphasis on participation, social capital assumes a lead role in instituting positive health behavior change through mobilization efforts of community members. Social capital has often been considered an antecedent of health indicators of a community in a way that health outcomes are related to social capital. Whereas a community rich in social capital enjoys good health, one that is low in social capital suffers from disease and mortality. This link is played out consistently in several studies (Baum, 1999; Campbell & Jovchelovitch, 2000; Dutta-Bergman, 2003; Kennedy, 2001; Person & Cotton, 1996; Rappaport, 1987). The February 16, 2004 issue of *Health and Medicine Week* quoted a series of studies in Sweden stating that there is a relation between social activity—social, cultural, and religious participation; political empowerment—and coronary heart disease. Participation in community activities and friendships has been shown to improve conditions related to mental illness (Markovic & Manderson, 2002). Although these studies leave no doubt about the link between social capital and health promotion, several explanations are offered to lay out the mediating processes involved in the link.

Mediators

Community participation enables community members to engage in strategic decisions regarding resources available in the community and the barriers faced in propagating certain health behaviors (Campbell & Jovchelovitch, 2000). This helps interventions to be tailored in terms of needs of the community and on the basis of the ability of community members to access resources that are required to practice a health behavior. Social-psychological models of health behavior emphasize that health decisions are often influenced by social norms, community structures, peer influence, and role modeling. Stated simply, an individual who practices a healthy behavior, and one who is an active participant in community affairs, is likely to trigger similar behavior among other members of the community, ultimately leading to setting up of community norms on the behavior (Dutta-Bergman, 2003, 2004b). Members of a well-knit community are also able to voice their needs and limitations more cohesively, seek out resources, overcome barriers, and implement social change through collective action.

Dutta-Bergman (2004b) complements this macrolevel approach to social capital with a microlevel articulation. He argues that although social capital is measured at a macrolevel in terms of the community, it is important to remember that social capital stems from individual action. Based on the core idea that communities are made up of individuals, individual-level differences place social capital

in the domain of the individual's perceptions of and engagement with the community. Voluntary organizations, religious institutions, and community initiatives are all sites of individual participatory action, collectively strengthening the community's social capital. This argument highlights the need to perceive a community as a web of local action-oriented individuals and not as "a homogenous group in which no internal discrepancies and intra- and inter-individual differences are recognized" (Wiesenfeld, 1996, p. 338). It has significant implications in the realm of health promotion efforts, as it challenges campaign structures and applications that target communities as singular, nonlayered entities.

Based on this individual-driven conceptualization of social capital, Dutta-Bergman (2004b) examined the relationship between health consciousness, measured at the individual level, and social capital, measured in terms of community participation. Dutta-Bergman's (2004b) study demonstrates that "the health conscious consumer monitors the resources in his or her environment to optimize the health benefits" of the community (p. 405). A health-conscious individual will also be more likely to voice his or her opinion on health matters and participate in community-related issues. This participation is likely to translate into the community having greater access to structural resources that improve health. At the macrolevel, it is argued that because individual-level behavior culminates in collective action, health consciousness among individuals will lead to their improved health and participation, which when summed up across the community, will lead to positive health outcomes in neighborhoods, states, and countries. Health consciousness thus becomes a link between social capital/community participation and health outcomes. We propose to build on this line of research by instituting health information as another significant connection in the realm of positive health correlates of social capital. In the context of social capital, it is important to examine how an inclination to seek out health information (health information orientation) and the ability to garner required health information (health information efficacy) relate to a person's willingness and tendency to participate in community activities.

HEALTH INFORMATION: ORIENTATION AND EFFICACY

Besides demographic variables (age, gender, education, and income) that have been proven to act as antecedents of social capital (Dutta-Bergman, 2003, 2004b), health information seeking behavior and the efficacy of health information seeking can act as important links with social capital.

Health Information Orientation

Health orientation, or the way individual attitudes and motivations are orientated to a healthy way of life, has

emerged as a critical concept in health behavior enumeration (Dutta-Bergman, 2004c). Dutta-Bergman (2004c) listed health information orientation as a primary measure of health orientation. He states: "health information orientation refers to the extent to which the individual is willing to look for health information" (p. 275). Extrapolating from Petty and Cacioppo (1986), it may be argued that a high level of health-information orientation suggests the willingness to look for issues related to health and to find out ways to educate oneself about these issues, including the consumption of those communication channels that serve as potential sources of information regarding the issue. In this article, we argue that an individual who is health information oriented will be motivated enough to seek out health information and seek out ways to use the information gathered to practice healthy behaviors, thus actively participating in community-based networks. In addition, a healthy citizen who is responsible enough to take care of his or her own health will, in all probability, make an effort to mobilize community action in not only seeking out and providing health information, but also spreading the good word about healthy practices through community networks. It is this Tocquevillean (1948) sense of an intertwined web of individual and social responsibility that helps to increase community participation, and contributes to community health outcomes.

The high level of responsibility among the health information oriented segment is most likely to permeate from the domain of the individual to the community. An actively health information seeking individual will influence others in the community to engage in similar healthy behavior because the ability of an individual to remain healthy is dependent, to a large extent, on the health of the community that surrounds the individual. This symbiotic relationship that stems from a sense of participatory responsibility lends itself to the link between health information orientation, community participation, and health outcomes. Hence, we hypothesize:

H1: Community participation will be positively correlated with health information orientation.

Health Information Efficacy

Our second hypothesis is based on the concept of health information efficacy. Based on Bandura's (1977) social learning theory, Witte (1992) used the concepts of self and response efficacy in the extended parallel process model to show how fear appeals can induce behavior changes. We describe efficacy of information seeking as the perceived ability of an individual to seek out health information as and when there is a need or a desire to do so. It refers to the intrinsic consumer belief in his or her ability to search for and process health information. The greater the efficacy, the stronger the likelihood of health information seeking under states of felt motivation.

Health information efficacy taps into the perception of access to or the availability of health information resources. It is important to note the perceptual notion of efficacy. In other words, an individual living in a community that might have Internet access at the local public library might still have a low level of health information efficacy because he or she is unaware of the availability of these resources, and is not familiar with the Internet in the realm of gathering health information. In other words, the simple availability of resources is not a sufficient condition for health information efficacy. Individuals with access to electronic media might still have low levels of health information efficacy because they have anxiety regarding the use of the Internet, because they do not have the time to do so, or because they simply do not have the know-how to navigate the health information on the Internet. Scholars like Johnson and Meischke (1991) and Rice (2001) have noted that people in the lower socioeconomic status bracket, that is, people who are predicted to have lesser access to resources and hence have low health information efficacy, generally tend to display lower levels of health orientation. They are less motivated to seek out health information than those who have greater access to health information resources. In short, health information orientation and health information efficacy influence and mediate each other in the pathway to positive health behavior outcomes.

We argue that this connection between motivation and ability means that low health information efficacy might hamper health information seeking behavior even in the presence of high health information orientation or motivation to seek out health information. A person who is motivated to seek information on eating healthy might not be able to do so in the absence of access to friends and peers (social network) who would serve as information resources, or due to the lack of access to know-how regarding seeking information from channels like the electronic media or the Internet. In fact, the knowledge gap hypothesis (Viswanath & Finnegan, 1995) locates lack of access to health information as well as health resources as a prime reason for differentials in levels of health and well-being among different communities.

Health information efficacy is intrinsically linked to the community and participation in two ways. First, lack of community participation isolates an individual and cuts off possible channels of health information and social support from peer networks. The community is a repository of health information, and therefore, individuals with low levels of participation in their communities are unable to tap into this resource. Conversely, communities with low participatory levels are unlikely to serve as health information resources owing to the lack of strong participatory networks. A person who is not resource-rich enough to afford communication channels like the Internet might still have a viable channel of health information gathering through community channels. But when that channel is unavailable, the person, no matter

how motivated he or she is to seek out health information, is unable to do so.

Second, a person who is able to access health information from the community when he or she needs to, will tend to contribute to the community for his or her own good because he or she knows that he or she has to and can turn to the community bank of information to receive the health information he or she seeks. In other words, a person who knows that he or she can extract health benefits from the community will try to strengthen the community. This linkage between individual and social responsibility plays out in the form of increased individual participation in the community, social cohesion, enhanced exchange, and percolation of ideas and health practices. Stated simply, not only health information orientation, but also the ability to garner required health information (efficacy) will be influenced by and/or influence social capital. Based on this notion, we hypothesize

H2: Community participation will be positively correlated with health information efficacy.

Although linking health information efficacy to community participation we do not assume or generalize that all well-knit communities promote healthy practices among individuals. The implicit assumption in our contentions here is that high social capital communities will influence and be influenced by practices of participating individuals in the community. For the purpose of our research, we will assume that being what is considered healthy in traditional health promotion literature is a generalizable goal of individuals and the communities they inhabit.

To test the hypotheses, two separate nationally representative studies are reported.

STUDY 1

Data

Data for Study 1 were collected through a National Random Digit Dial Survey as part of a class project in a Midwestern university in the spring of 2004. A "Type B" professional survey sample, considered highly representative of the U.S. population, was procured from Survey Sampling International. The telephone survey was targeted at 300 respondents after numbers were screened and nonfunctional ones were deleted. The telephone interviews, lasting between 20 min and 30 min, were conducted mostly on weekdays (9 a.m.–9 p.m.), with disproportionately low calls over weekends. The surveys were conducted from the interviewing station at the social research institute of the university and after a third round of calling to account for incompletes, refusals, and nonanswers, the response rate (completed surveys) was close to 65%. Questions in the survey were based on a wide range of research

issues, ranging from personality disorders, political perceptions, and environmental concerns to the health and the Internet.

Measures

Demographics. Age of the respondent was measured by asking respondents which year they were born—"In what year were you born?" Gender was measured by a dichotomous variable with 1 reflecting male and 2 reflecting female. Education was measured by the question, "What is the highest grade of school that you have completed?" Responses were measured on a 6-point scale from 1 (*less than high school graduate*) to 6 (*postgraduate degree*). Income was measured on a 7-point scale in response to the question, "Please stop me when I reach the category that best describes your household income last year, before taxes," on a scale from 1 (*less than \$15,000 per year*) to 7 (*\$100,000 or more*). The means and standard deviations of the measures are presented in Table 1.

Community participation. Participants were provided the following instruction, "For the next several questions, I would like for you to tell me how strongly you agree or disagree with each statement. Community participation was measured by the item, 'I participate in community activities.'" Responses were measured on a 5-point scale from 1 (*strongly agree*) to 5 (*strongly disagree*).

Health information orientation. Health information orientation was measured by the item, "I keep up with health related stories in the news." Responses were measured on a 5-point scale from 1 (*strongly agree*) to 5 (*strongly disagree*).

Health information efficacy. Health information efficacy was measured by the item, "I can get information about my health when I need to." Responses were measured on a 5-point scale from 1 (*strongly agree*) to 5 (*strongly disagree*).

Results

H1 stated that community participation will be positively correlated with health information orientation and H2 stated

TABLE 1
Descriptive Statistics for Community Participation, Health Information Orientation, and Health Information Efficacy

Variable	M	SD
Community	2.62	1.17
Age	54.66	20.53
Education	3.75	1.68
Income	4.37	2.29
Gender	1.71	.46
Health information orientation	2.24	1.02
Health information efficacy	1.71	.63

TABLE 2
Correlations Among Community Participation, Demographic Variables, Health Information Orientation, and Health Information Efficacy

	Community	Education	Income	Gender	Age	Health Information Efficacy	Health Information Orientation
Community	—						
Education	-.18*	—					
Income	-.13	.48**	—				
Gender	-.13	-.07	-.21**	—			
Age	.02	-.07	-.06	-.18*	—		
Health information efficacy	.16*	.05	-.10	.080	-.08	—	
Health information orientation	.23**	-.04	.07	-.20**	.17*	.23**	—

* $p > 0.05$, two-tailed.

** $p > 0.01$, two-tailed.

that community participation will be positively correlated with health information efficacy. To test the hypotheses, a correlation analysis was conducted (see Table 2).

Among the demographic variables, education was positively correlated with community participation. Furthermore, health information orientation was likely to increase with age, and women were more likely to have higher levels of health information orientation as compared to men. In the realm of community participation, the hypotheses were supported. The results of the correlation analysis demonstrated the existence of a positive relationship between community participation and health information orientation.¹ H2 stated that community participation will be positively correlated with health information efficacy. Once again, the hypothesis was supported, demonstrating that a positive relationship existed between health information efficacy and community participation. Furthermore, health information orientation and health information efficacy were positively correlated.

One of the limitations of study one was the use of single measures of community participation, health information orientation, and health information efficacy. In other words, the measures did not tap into the range and diversity of experiences in the realm of community and health information. Therefore, to address this limitation, a second study was conducted with more comprehensive measures of community participation and health information. Furthermore, the first study did not tap into the relationship among community participation, health information orientation, and health behaviors. Study 2 introduces prevention orientation, health beliefs, and health behaviors in tapping into the link between social capital and health indicators.

STUDY 2

Data and Measures

The HealthStyles database (Porter Novelli, 1999), collected annually since 1995, is based on the results of three

postal mail surveys. The initial survey, the DDB Needham Lifestyles survey (commissioned by DDB Needham Worldwide), is sent to a stratified random sample of approximately 5,000 U.S. adults in April of each year. The sample is generated from a panel of 500,000 cooperating households that represent a range of sociodemographic characteristics. The second survey is a supplemental mailing of the Lifestyles survey to adjust the representation of particular households in the database. The third survey, HealthStyles, is sent to participants who completed either the initial or supplemental Lifestyles survey. Participants in each of the surveys are sent small gifts for their participation (such as a 20 min calling card) and are entered into a cash prize drawing. In 2000, the response rates for Lifestyles and HealthStyles were 68% and 74%, respectively. The entire sample was weighted on age, sex, race or ethnicity, income, and household size to reflect the U.S. Census population. There were 2,353 participants who provided usable data. The sample was comprised of 48.1% men and 51.9% women. The mean age of the sample was 45.04 ($SD = 16.63$).

Community participation. Respondents were provided the following instruction, "In the past twelve months, have you done any of the following?" Responses were measured on a dichotomous yes/no scale. The items were "written a letter to the paper," "written an article," "written to your congressman or senator," "made a speech," "worked for a political party," "served on a committee for some local organization," "held or ran for political office," "served as an officer for some local club or organization," "attended a political speech or rally," "been a member of some group for better government," and "attended a public meeting on town or school affairs." The items were summed to create the community participation scale.

Demographics. Age of the respondent was measured in number of years. Gender was measured by a dichotomous variable with 1 reflecting female and 2 reflecting male. Education was measured by the question, "What is the last grade or class you completed in school?" Responses were

¹A negative value reflects a positive relationship.

TABLE 3
Descriptive Statistics for Community Participation, Health Information Orientation, Health Information Efficacy, Prevention Orientation, and Healthy Activities

	Minimum	Maximum	M	SD
Community	.00	11.00	1.22	1.73
Age	18.00	96.00	44.87	16.71
Education	1.00	9.00	4.97	1.30
Income	1.00	21.00	12.60	5.95
Gender	1.00	2.00	1.48	.50
Health information Orientation	1.00	5.00	3.68	.73
Health efficacy	2.00	10.00	7.23	1.56
Prevention orientation	6.00	25.00	19.58	3.38
Health beliefs	1.00	5.00	4.14	.68
Health activities	.00	8.00	3.86	2.46

measured on a 7-point scale from 1 (*attended elementary school*) to 7 (*postgraduate training*). Income was measured on a 21-point scale in response to the question, ranging from 1 (*less than \$5,000*) to 21 (*\$125,000 or more*). The means and standard deviations are presented in Table 3.

Health information orientation. Health information orientation was measured by the following items: "I need to know about health issues so I can keep myself and my family healthy," "When I am sick, I try to get as much information as possible about my disease," "I make a point to read and watch stories about health," "To be and stay healthy, it is critical to be informed about health issues," "I really enjoy learning about health issues," "When I take medicine, I try to get as much information as possible about its benefits and side effects," "It is important to me to be informed about health issues," "I like to get health information from a variety of sources," and "Before making a decision about my health, I find out everything I can about the issue." The items were measured on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). When subjected to a principal components factor analysis with Varimax rotation, a single factor was produced with factor loadings ranging from .64 to .78. The Eigenvalue of the factor was 4.24 and the Cronbach's alpha for the scale was .88. The responses were summed to create the health information orientation scale.

Health information efficacy. Health information efficacy was measured by the following items: "I am able to find good health information when I need it," and "The amount of health information available today makes it easier for me to take care of my health." Responses were measured on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha for the scale was .68. The responses were summed to create the health information efficacy scale.

Prevention orientation. Prevention orientation was measured by the following items: "Living life in the best

possible health is important to me," "Eating right, exercising, and taking preventive measures will keep me healthy for life," "I try to understand my personal risks," "I actively try to prevent disease and illnesses," and "I do everything I can to stay healthy." The items were measured on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). When subjected to a principal components factor analysis with Varimax rotation, a single factor was produced with factor loadings ranging from .66 to .76 and an Eigenvalue of 2.49. Cronbach's alpha for the scale was .74. The responses were summed to create the prevention orientation scale.

Health-oriented 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." Items included "eating a diet that is low in fat," "eating lots of fruits, vegetables and grains," "drinking plenty of water every day," "taking vitamins and mineral supplements regularly," "exercising regularly," "not smoking cigarettes," "not drinking alcohol or drinking in moderation," and "maintaining a healthy body weight." A principal axis factor analysis yielded a single factor with factor loadings ranging from .52 to .77. Eigenvalue of the factor was 3.71 and it explained 46.31% of the variance. Cronbach's alpha for the aggregated scale was .82. The responses were summed to create the health beliefs scale.

Healthy activities. Healthy activities were measured by eight items. The respondents were provided the following instruction: "please place a X for each of these behaviors that you currently perform to maintain your health." Items included "eating a diet that is low in fat," "eating lots of fruits, vegetables and grains," "drinking plenty of water every day," "taking vitamins and mineral supplements regularly," "exercising regularly," "not smoking cigarettes," "not drinking alcohol or drinking in moderation," and "maintaining a healthy body weight." Responses were measured with a dichotomous yes/no format and the activities were summed up to constitute the healthy activities scale.

Results

According to H1, community participation will be positively correlated with health information orientation. Furthermore, H2 posited that community participation will be positively correlated with health information efficacy. To test the hypotheses, a correlation analysis was conducted (see Table 4).

Demographic variables were significantly correlated with both community participation and the various health indicators. In the realm of community participation, it was observed that community participation was positively correlated with age, education, and income. In other words, older participants were more likely to be involved in their communities. Also, participants who had higher levels of education

TABLE 4
Correlations Among Community Participation, Demographic Variables, and Health Variables

	Community	Gender	Age	Education	Income	Health Information Orientation	Health Information Efficacy	Prevention Orientation	Health Beliefs	Health Activities
Community	1									
Gender	.03	1								
Age	.11**	.03	1							
Education	.23**	.00	-.04*	1						
Income	.14**	.10**	.12**	.37**	1					
Health information orientation	.11**	-.27**	.13**	.04*	-.04*	1				
Health information efficacy	.06**	-.11**	.07**	.07**	.08**	.57**	1			
Prevention orientation	.12**	-.15**	.26**	.06**	.03	.69**	.44**	1		
Health beliefs	.11**	-.18**	.15**	.15**	.15**	.45**	.30**	.48**	1	
Health activities	.11**	-.06**	.10**	.16**	.16**	.27**	.23**	.34**	.46**	1

* $p > 0.05$, two-tailed.

** $p > 0.01$, two-tailed.

and income were more likely to participate in their communities as compared to participants who had lower levels of education and income. Furthermore, health information orientation, health information efficacy, prevention orientation, health beliefs, and health activities were positively correlated with age and education. Income was positively correlated with health information orientation, health information efficacy, health beliefs, and health activities. In the realm of gender, it was observed that women were more likely than men to have stronger levels of health information orientation, health information efficacy, prevention orientation, health beliefs, and health activities. Also, health information orientation and health information efficacy were positively correlated.

In the context of the relationship between community participation and health information orientation, it was observed that community participation was positively correlated with health information orientation. Also, in support of H2, community participation was positively correlated with health information efficacy. In the realm of prevention orientation, health beliefs, and health activities, it was observed that community participation was positively correlated with prevention orientation, health beliefs, and health activities. Overall, the different indicators of health ranging from motivation to efficacy to behavior were positively correlated with participation in the community.

DISCUSSION

Drawing on the formulations of a growing body of scholarship that suggests the positive link between social capital

and health outcomes (Dutta-Bergman, 2003, 2004b), this article examined the link between community participation and a specific indicator of health behavior: health information seeking. It supported the published literature by suggesting the role of health information as a key variable in understanding the relationship between community participation and health indicators. However, the unique contribution of this article lies in its extension of the concept of health information to two of its key indexes—health information orientation and health information efficacy. Health information orientation taps into the motivation of consumers to seek out health information, and efficacy taps into the perception of consumers regarding their ability to locate and search health information when needed.

Drawing on the conceptualization of communities as constitutive of individuals, the individual-difference perspective situates social capital in the individual and in his or her engagement with the surrounding community. It is within this individual-level location of social capital that this article examines the link between social capital and health information related indicators. Extant research points out that the socially engaged community participant is also oriented toward information seeking. The link between information orientation and community participation has been explored by other scholars, suggesting that the community participant is likely to seek out information-based communication channels to fulfill his or her role as an engaged citizen (Dutta-Bergman, 2003, 2004b). The health-motivated individual actively seeks out community resources and takes an active role in his or her community so the resources can be maximized. Health-conscious

individuals are also more likely to actively participate in community platforms to ensure that the community has access to structural resources that improve the health of its people.

To test the hypotheses, this article examined nationally representative data gathered in two different projects. The first study used single measures of community participation, health information orientation, and health information efficacy. The analyses supported the hypothesis, demonstrating the positive link between community participation and health information orientation. Also, health information efficacy was positively correlated with community participation. Similar results were reported in Study 2 that were based on analysis of multiitem measures of health information orientation and health information efficacy. Furthermore, community participation was positively correlated with prevention orientation, health beliefs, and healthy activities, providing a direct link that documents the positive health behavior correlates of community participation. It was also observed that health information orientation and health information efficacy were positively correlated. In other words, individuals who were motivated to search for health information also perceived themselves to have the ability to search for health information. This supports the notion of health information divides, as those with higher levels of education and income have both the motivation and ability to search for health information as compared to those individuals who have lower levels of education and income.

Methodologically, one of the strengths of this study is its use of multiple data sources that are nationally representative. The use of these different sources and the different measures of health information and community participation further contribute to the validity of the theoretical framework. Whereas Study 1 suffered from the limitation of including single item measures of community participation, health information orientation, and health information efficacy, Study 2 used multiple items to measure community participation, health information orientation, and health information efficacy. One of the limitations of the second study is its use of dichotomous measures of community participation. Also, the measures of community participation ought to be extended to tap into other potential indicators of social capital.

The research conducted here raises important questions for future examination. How are health information behaviors and community participation related to demographic and personality variables? What is the relationship of health information behaviors to other indicators of social capital such as interpersonal trust, community trust, and life satisfaction? How does the relationship between health information indicators and community participation play out in the realm of health outcomes? Additional research is needed to further examine the complex relationship between community participation and health.

Applications

The health information constructs used here provide valuable guidelines for developers of public health campaigns who propose to use community-based strategies for diffusing interventions and preventive behaviors. The positive relationship between health information orientation/efficacy and community participation provides support for the use of community-based interventions as avenues for reinforcing already existing healthy behaviors in the communities. Because communities serve as avenues for seeking health information, the placement of health information in community outlets becomes a strategy for diffusing the information into the community. The relationship between health information efficacy and community participation further supports the importance of exploring this link. Community-based interventions that are strategically designed to act as channels for reinforcement are likely to reach the appropriate target group of health-conscious individuals in the communities.

Yet another strategic choice for campaign planners involves the targeting of unhealthy individuals, those individuals who are most at risk because they are least likely to engage in health-oriented practices. The results of this study perhaps suggest that unhealthy consumer segments are less likely to participate in community organizations compared to their healthier counterparts. Specifically, those individuals who are not health information oriented are also not likely to participate in their communities. Furthermore, low health information efficacy is positively related with low participation in the community. This suggests the increasing isolation of the less health involved segments of the population. Therefore, instead of simply placing their messages in community outlets, campaign planners need to strategically identify and target specific at-risk populations in the context of the specific health behaviors being advocated. The emphasis needs to be placed on generating community-wide awareness and attitude change, with particular attention to the less involved sectors of the community. Following this line of recommendation, an increasing number of participatory communication campaigns target at-risk segments of the population and work with nontraditional communicative platforms that draw the members of such segments.

Also, barriers to community participation need to be identified to promote community participation. Given the positive link between community participation and health information seeking, it is crucial to develop campaigns that seek to increase social capital in communities. Interventions need to address structural, cultural, and individual-level factors that limit individual action; a homogenized "one size fits all" approach is perhaps not the solution. More specifically, community-based initiatives need to emphasize communicative strategies for attracting the less engaged sectors of the community. Efforts need to be targeted toward lower social capital communities with the goal of increasing the social capital in these communities

(see, for instance, Mittelmark, 2004; Ramirez et al., 1999). Along these lines, health intervention campaigns have been launched with the objective of increasing participation in the low social capital communities and community capacity building (Benson, Blyth, & Roehlkepartain, 1995; Benson, Mangen & Williams, 1986; Mittelmark, 2004; Thorson & Beaudoin, 2004).

In summary, based on analysis of nationally representative data, this article points out that participation in local communities is positively related with both motivation to seek out health information and the perceived ability to seek out health information. This link is both theoretically and pragmatically important for understanding the link between community participation and health outcomes.

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