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Relationship management as antecedents to public communication behaviors: Examining empowerment and public health among Asian Americans

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ABSTRACT

This study examined the effects of relationship management by community health organizations on the situational perceptions, and, in turn, on information behaviors about health issues among community members. Survey data with 222 Asian Americans indicated that trust and control mutuality played different but complementary roles on problem recognition, involvement recognition, and constraint recognition, which then differently impacted four information behaviors ranging from information attending, information forwarding, information sharing, and information seeking. This study proposed and tested a public-oriented model and contributed to two lines of research: examining public-centered consequences of relationship management and exploring antecedents to the formation of publics. It has practical implications on fostering relationships and empowering community members.

1. Introduction

Relationship management has been one of the central themes in public relations research (e.g., Hon & Grunig, 1999). However, while most current OPR research uses data obtained from the public (e.g., employees, consumers, students, volunteers, etc.), it does not necessarily mean that these studies are public-centered. Instead, most research on the consequences of such relationship management has been organization-centric, taking the premise that organizations need to understand their publics and build and maintain quality relationships with these publics in order to enhance certain organizational interests in different ways. For example, some studies in this research area have examined how relationship management helps organizations *reduce negative public behaviors* in cases of conflict management (e.g., Y.-H. Huang, 2001) and crisis management (e.g., Park & Reber, 2011). Other studies have examined how relationship management helps *increase positive public behaviors* such as perceptual, attitudinal, and behavioral outcomes desired by various types of organizations, including corporations, non-profits, and political organizations (e.g., Grunig & Hung-Baesecke, 2015; Ki & Hon, 2007; Pressgrove & McKeever, 2016; Seltzer & Zhang, 2011; Yang & Cha, 2015), yet very few of these behaviors are meant to benefit the public themselves.

Linking relationship management with another central stream of research in public relations literature, segmenting publics (e.g., Grunig, 1997; Kim & Grunig, 2011), recent research has examined the outcomes of relationship management in terms of communication behaviors. For example, Kim and Rhee (2011) and Kim, Park, Krishna, and Martino (2015) studied how organization-public relationships (OPRs) enhanced employees' voluntary information communication behaviors that were central to organizations, such

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as megaphoning (employees' voluntary information transmission to others about organizational strengths or weaknesses) and scouting (employees sharing information about strategic publics with an organization). However, again, most studies in this area have been organization-centered, focusing on how an organization can use relationship management to advance information sharing through their internal publics (i.e., employees) to benefit the organization itself.

To fill this gap, the study adopts a public-centered, rather than organization-centered approach by using the situational theory to examine the effects of relationship management on public communication behavior. Specifically, we attempt to use the situational theory framework to shift the focus from an issue created by a specific organization (and therefore has to be managed by that organization) to an issue that matters to the public. Different from a context where an issue is created and managed by a specific organization (e.g., during a crisis where the organization has to manage different situational perceptions from the publics), our study focuses on community health issues. These issues, while affecting community members to varying degrees, are not created by any specific organization. Yet, community members' situational perceptions still matter tremendously when it comes to empowering these community publics to help themselves. With this focus, we examine how community organizations that serve these community members can use relationship management as a mechanism to influencing members' situational perceptions and their subsequent health communication behaviors.

Therefore, integrating the theoretical frameworks of relationship management and publics research, we propose a public-centered model in which relationship management variables predict the public's situational perceptions, which in turn, predict the public's information behaviors (cf. Ni, Wang, & Sha, 2018). In doing so, the study contributes to the research in relationship management by adding a public focus, while contributing to the research in publics by exploring antecedents to their formation.

Below, we review the literature in the formation of publics and public communication behaviors, various levels of antecedents to public formation, and the role of relationship management. Then, we discuss how relationship management empowers Asian Americans through enhancing their situational perceptions and in turn communicative activeness in the context of public health.

2. Literature review

2.1. Formation of publics and public's communication behaviors

To study public relationship management, a good starting point is the understanding of *publics*. The situational theory of publics (Grunig, 1997) and the situational theory of problem solving (Kim & Grunig, 2011) have been used extensively in public relations research to identify and understand publics. The situational theory of publics explains when and how people communicate and what messages are effective. The theory argues that publics arise situationally, meaning that different members communicate and act in different manners in regard to the same problem (Grunig, 1997).

The depiction that publics form and revolve differently around organizations' behaviors is a unique merit of the situational theory of publics, but the theory has been criticized for its implication that people are mere passive reactors to problems resulted from organizational actions. The situational theory of problem solving (STOPS, Kim & Grunig, 2011) was developed to address this criticism and expand the scope of communication to include how publics communicate among themselves to build their own communities. Kim, Grunig, and Ni (2010) proposed communicative action in problem solving, which encompassed broader aspects of communication behaviors related to a problematic life situation. The constructs that explain information behaviors in STOPS include three domains: information acquisition, information transmission, and information selection, each containing an active variable and a passive variable (Kim & Grunig, 2011).

To represent information acquisition, the active variable is *information seeking*, or "planned scanning of the environment for messages about a specific topic" and the passive variable is *information attending*: "unplanned discovery of a message followed by continued processing of it" (Grunig, 1997, p. 9). To represent information transmission, the active variable is *information forwarding*, "a planned, self-propelled giving of information to others" about the problem, and the passive variable is *information sharing*, or the "sharing of information reactively only when someone else requests one's opinion, idea, or expertise about the problem" (Kim & Grunig, 2011, p. 127). Finally, for information selection, the active variable is *information forefending*, or "the extent to which a problem solver fends off certain information in advance by judging its value and relevance for a given problem-solving task" and the passive variable is *information permitting*, or "the extent to which a problem solver accepts any information related to a given problem-solving task" (Kim & Grunig, 2011, p. 126).

STOPS proposed three perceptual factors that affect publics' information behaviors. *Problem recognition* refers to "one's perception that something is missing and that there is no immediately applicable solution" (Kim & Grunig, 2011, p. 128). *Involvement recognition* refers to "a perceived connection between the self and the problem situation" (p. 130). *Constraint recognition* is the "perceived obstacles in a situation that limit one's ability to do anything about the problem" (p. 130). Kim and Grunig (2011) also proposed a cognitive factor in STOPS, *referent criterion*, which refers to people's "*any knowledge or subjective judgmental system* that influences the way in which one approaches problem solving" (p. 131).

In testing STOPS, Kim and Grunig (2011) found that, through a motivational variable called situational motivation, problem recognition and involvement recognition promoted information seeking, attending, forwarding, and sharing, whereas constraint recognition hindered these four information behaviors.

Both the situational theory of publics and STOPS are called *situational* because they focus on the non-enduring and dynamic characteristics of the publics (Kim, Ni, & Sha, 2008). In comparison, *the cross-situational approach* to understanding publics uses more enduring and stable characteristics of publics such as demographics. In addition, Ni (2012) proposed that the quality of organization-public relationships, almost like a backdrop, serves as a lasting cross-sectional influencer on a public's situational perceptions (i.e.,

problem recognition, involvement recognition, and constraint recognition) and consequently, its communication behaviors. This line of research has been evidenced by a growing number of empirical studies in recent years, discussed in next section.

2.2. Antecedents to situational perceptions

A growing number of studies have identified different cross-situational antecedents to situational perceptions, and in turn, the publics' communication behaviors (e.g., Kim & Ni, 2013). Synthesizing these studies, Ni et al. (2018) proposed a framework composed of multi-level cross-situational factors that influence the formation of publics. They classified these factors into micro-level (e.g., individuals' cultural identities and life experiences), meso-level (e.g., organizational factors such as organization-public relationships), and macro-level factors (e.g., societal culture).

At the *micro*-level, individual characteristics such as life experiences and cultural identity have been found to affect situational perceptions (Aldoory, 2001; Sha, 2006, 2008). Sha (2006, 2008) found that avowed identity (self-subscribed identity) affects situational perceptions more heavily than ascribed identity (other-assigned identity). At the *meso*-level, organizational factors such as internal communication and relationship management influence situational perceptions and communication behaviors (e.g., Kim & Rhee, 2011; Ni, 2012). Finally, at the *macro*-level, Sriramesh, Moghan, and Lim (2007) examined the effects of national culture on the formation of publics in the case of consumer publics in Singapore.

In this study, because the research setting involves Asian American community health organizations and their members, the most appropriate level of factors examined is the meso-level.[1] Four variables are most widely accepted in assessing organization-public relationships (e.g., Y.H. Huang, 2001; Jo, 2006; Ki & Hon, 2007; Kim, 2007; Yang, 2007). The first variable, *trust*, refers to the confidence in and willingness to be open to the other party (Hon & Grunig, 1999). Second, *control mutuality* refers to the "degree to which partners agree about which of them should decide relationships goals and behavioral routines" (Stafford & Canary, 1991, p. 224). Third, *relational satisfaction* is the degree to which both an organization and publics are mutually satisfied with their relationship. Finally, *relational commitment* refers to a lasting compliance to maintain a valued relationship (Moorman, Zaltman, & Deshpande, 1992), which includes two aspects: continuance commitment (endurance of a certain line of action) and affective commitment (endurance of a certain emotional attribute toward an object) (Grunig & Huang, 2000; Meyer & Allen, 1984).

To understand the public's perspective, we operationalize these variables by asking the publics to report their *perceptions*. Because a community organization is a nonprofit organization with a mission to serve its community members, perceived relational quality from the members is key to its influence on members' communicative behaviors about health issues (e.g., Ni et al., 2016). Next, using Asian Americans' health disparities as a specific research context, we examine the effects of relationship quality on the situational perceptions and information behaviors of community members.

2.3. Health disparities in Asian American communities and community empowerment

In the public health context, community refers to "a group of people with diverse characteristics who are linked by social ties, share common perspectives, and engage in joint action in geographical locations or settings" (MacQueen et al., 2001, p. 1929). Core elements identified for the meaning of community include locus (physical location; place with people), sharing (shared perspective, common interests), action (joint action or activities), ties (social ties and relationships), and diversity (differences or diversity). MacQueen et al. (2001) pointed out that community was defined in a broad way, and its members may experience it differently because of their diverse backgrounds.

In this study, we define Asian American community in terms of their shared perspective about Asian heritage and common cultural experiences. While great diversity exists among Asians in terms of languages, socioeconomic status, etc., the community is characterized by similar cultural identity, immigration history, and linked fate (Junn & Masuoka, 2008).

We focus on Asian American community health because of health disparities not commonly recognized by either this community or others. Health disparities are "preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations" (Center for Disease Control & Prevention, 2018).

Asian immigrants are the first racial group to experience cancer as the leading cause of death for both men and women beginning in 2000, while heart disease is the leading cause of death for other Americans (Chen, Chow, & Nguyen, 2018). In addition, Asian immigrants are considered as an underserved and underrepresented minority population in the United States, and they are not represented in public health research very often (Jung et al., 2017; Kagawa-Singer & Han, 2007). Therefore, we hope this study can contribute to the body of research literature.

Asian Americans face as many challenging health issues as other ethnic groups (Anderson & Smith, 2005). For example, Asian Americans have higher or faster growing rates of cancer of various kinds than any other ethnic group (e.g., breast cancer, Chu & Chu, 2005; cervical cancer, Kagawa-Singer & Han, 2007). Heart disease is another major cause of death, accounting for about 26% of total deaths for Asian immigrants (Office of Prevention Education & Control, 2000). Mental health problems and overall suicide rates are also high in the Asian immigrant community (Leung, Cheung, Kao, & Gulati, 2017).

However, Asian Americans are sometimes not considered as facing health disparities because this community carries the common

[1] It is noted that the three levels (micro, meso, and macro) used in this manuscript are used to categorize the relative order of factors influencing an individual. They are not used to refer to the level of analysis. Therefore, the organization-public relationship quality is still measured at the individual level, as most studies on OPRs in public relations do.

misperceptions of having good physical and mental health (Kagawa-Singer & Han, 2007). This misperception contributes to the low level of health awareness, which in turn lead the community to be less likely to seek help or use healthcare services compared to other ethnic groups (Chang, Chen, & Alegría, 2014). Other factors contributing to underuse of healthcare services include insurance coverage (Miller, 2012), socioeconomic status, education, English proficiency and health literacy (Squiers, Peinado, Berkman, Boudewyns, & McCormack, 2012), quality of patient-provider interaction (Boyer & Lutfey, 2010), cultural beliefs in modesty and fatalism (Miller, 2012), and perceived racial discrimination (Kim, 2014).

A comparison of Asian Americans and Whites' cancer information seeking preferences and experiences show that Asians had lower awareness of cancer-prevention related resources, were less knowledgeable about certain types of cancer screening, and considered their personal cancer risk to be low (Nguyen & Bellamy, 2006). Compared to other ethnic groups, therefore, conventional health providers may be less effective in addressing Asian Americans' health needs, particularly cancer-related health problems. Meanwhile, community-based organizations have shown great promise in improving health outcomes among Asian Americans (Chaudhary, Vyas, & Parrish, 2010). Below, we present a community-based approach in response to the unique health challenges faced by Asian Americans.

2.4. Community-based approach to addressing health disparity

Community-based organizations have long played an important role in reaching minority populations, advocating for positive health behaviors and reducing disparities among the under-served communities (e.g., Wallerstein & Duran, 2006). Although community engagement has been widely used to promote health awareness and positive behavioral changes (Wilkin, 2013; Zeldin, 2004), much remains unknown about the underlying mechanisms through which community organizations enhance health communication among community members.

Some researchers have explored different interventions to raise awareness of health disparities and improve the utilization of healthcare services in Asian American communities (e.g., Wong-Kim, 2007). However, the interventions approach is limited to targeting individual behaviors rather than reaching and engaging minority communities (Knifton, 2012). Knifton (2012) contended that reflections and authentic dialogues *within* ethnic communities would be much more effective than disseminating one-way educational information or advertisements. This dialogical approach can only be built on high relational qualities such as high levels of trust and control mutuality (Ni et al., 2016). When community members perceive that their community organizations have the best intentions for them, they may be motivated to communicate actively about their health issues. This effect can be considered as one way to manifest community empowerment, defined as "a social action process that promotes the participation of people and organizations toward the goals of community" (Oetzel, 2009, p. 280). Laverack (2006) defined empowerment more specifically, as a process through which the less powerful people collaborate to gain control in making decisions of their lives.

Community empowerment includes both individual and collective levels, such as personal empowerment (e.g., immediate psychological empowerment, such as an increase in self-esteem and confidence); development of small mutual group, organizations, and partnerships; and social and political action (Laverick & Labonte, 2000). When community members feel empowered, they are likely to take personal and social actions to make decisions. Translated into the community health context, these actions are best demonstrated in pro-health communication behavior. Next section specifies the links discussed so far.

2.5. Rationale: STOPS in community health context

In the community health context, positive relationship management at the community level may bring about positive information communication behaviors. Extant research has found that quality relationships serve as significant antecedents to the activeness of general publics' communication behaviors, predicting increased information sharing and forwarding (e.g., Kim & Rhee, 2011; Kim et al., 2015). In the context of community health, Fawcett et al. (1995) identified multiple strategies of community empowerment: enhancing experience and competence, enhancing group structure and capacity, removing social and environmental barriers, and enhancing environmental support and resources.

While it is true that relationship management cannot address everything mentioned above, it has the potential of enhancing individual experience, competence and enhancing group capacity. In particular, effective relationship management functions similarly to these empowerment strategies because it allows community members to feel more connected, thereby gradually building community capacity. Through the increased bonding with community organizations, community members may perceive increased trust, capacity to participate in problem solving, and willingness to spread messages that lead to collective community capacity. In other words, relational quality with community organizations may increase community members' overall sense of community, understanding of situations, and capacity of information sharing.

Specifically, strong relationships with community organizations that specialize in health issues make community members feel they have someone or somewhere in the community to turn to and rely on. These health organizations tend to provide community members with various resources and support, social or informational, that are related to health issues. This dependability may increase individuals' perceived self-efficacy and community efficacy in addressing health concerns, thereby reducing their *constraint recognition*. Meanwhile, such relationships also make the members feel more connected to the community and more willing to attend to the health issues of high importance, thereby enhancing their *involvement recognition*. Finally, a strong relationship and a strong sense of community can make the members feel more concerned about potential health issues and want to do something about them. This capacity may increase their *problem recognition* (Ni, 2012).

Although referent criterion is an important factor in STOPS, it is more cognitive than perceptual. The relationships with health

organizations per se may not directly relate to individuals' frames of reference gained from past experience or knowledge. Therefore, we do not include this in our current model.

Among the four relationship indicators, trust and control mutuality have been found to be the most critical factors for relationship development and play a more important role than the other indicators (Wang, Ni, & de la Flor, 2014). Therefore, we only focus on these two, instead of all four relationship factors, in our current examination. Thus, the following hypotheses are proposed:

H1. Higher levels of control mutuality are related to higher levels of problem recognition, higher levels of involvement recognition, and lower levels of constraint recognition.

H2. Higher levels of trust are related to higher levels of problem recognition, higher levels of involvement recognition, and lower levels of constraint recognition.

Further, positive relationship management has been linked to communicative activeness in various studies (e.g., Kim & Rhee, 2011). More active information behaviors are evidenced in information acquisition (including information seeking and attending) and information transmission (including information forwarding and sharing). The other domain, information selection (including information forefending and permission), is less relevant to the community health context and less used in other similar studies (e.g., Kim et al., 2015).

Therefore, we decide to only focus on the first four information behaviors and did not examine information forefending and permitting. Unlike most of these studies that focused on information behaviors desired by organizations, we test the links between relationship management outcomes and information behaviors needed for the public's own well-being. The following two hypotheses are proposed:

H3. Higher levels of control mutuality are related to higher levels of information seeking, attending, forwarding, and sharing, respectively.

H4. Higher levels of trust are related to higher levels of information seeking, attending, forwarding, and sharing, respectively.

Finally, in recent studies using STOPS in health issues, Shen, Xu, and Wang (2019) examined the links among situational perceptions (problem recognition, involvement recognition, and constraint recognition) and information behaviors. We explore a similar set of relationships between situational perceptions and publics information behaviors below:

H5. Higher levels of problem recognition are related to higher levels of information seeking, attending, forwarding, and sharing, respectively.

H6. Higher levels of involvement recognition are related to higher levels of information seeking, attending, forwarding, and sharing, respectively.

H7. Higher levels of constraint recognition are related to lower levels of information seeking, attending, forwarding, and sharing, respectively.

3. Method

3.1. Data and sampling

With institutional IRB approval, survey data were collected from individuals who self-identified as Asian Americans in a southern metropolitan area in the United States. Because of the difficulty of accessing and recruiting community members, a combination of in-person and online recruitment strategies were used, resulting in a convenience sample. Although convenience sampling is less favorable than probability sampling in terms of making statistical inferences, it has been commonly used in community-based research, particularly for the purpose of recruiting minority participants (e.g., Yancey, Ortega, & Kumanyika, 2006).

In the current study, although the sample obtained is not representative of the entire Asian community in terms of their ethnic breakdown, the demographic background like age, income, and educational level was comparable with the Asian population in the region (Kindle Institute of Urban Research, 2016).

As part of a larger project, this portion of the data was collected with the help of major health organizations that focused on cancer prevention and awareness in the community targeting various Asian American groups. These organizations were approached to directly help with participant recruitment. The resulting participants therefore were asked to rate their perceptions of relationships with the specific health organization that recruited them. Both English and Chinese were used during participant recruitment. Specifically, English was the primary language used for recruitment among different Asian American groups, whereas both English and Chinese were used on WeChat —a popular social media platform among ethnic Chinese—to recruit ethnic Chinese community members.

Research participants were offered $5 in appreciation for their participation. Depending on individual preference, participants either completed the online survey hosted on the platform of Qualtrics or filled in the hard-copy questionnaire. Online survey links were distributed via both partner organizations and the platform of WeChat, and hard-copy questionnaires were made available to their members through the partner organizations. A total of 222 responses were collected, including 204 responses from online surveys and 18 completed questionnaires. To ensure online and offline responses were comparable, both versions of the survey included identical items in the exact same order. In addition, we compared the means of major variables using the two sub-sets of

Table 1
Means Comparison of Major Variables from Online and Offline Sample.

	Online (N = 204)	Offline (N = 18)	Significance Tests
Age	M = 38.29, SD =16.13	M = 36.42, SD = *22.80*	t (183) = -.38, p = .71
Gender	55.39% male 38.73% female 5.88% undisclosed	55.56% male 22.22% female 22.22% undisclosed	χ^2 = (2) = 0.97, p = .32
Ethnicity	71.57% Chinese 4.90% Filipino 6.86% Vietnamese .49% Others 9.80% undisclosed	66.67% Chinese 0% Filipino 0% Vietnamese 5.56% Others 27.78% undisclosed	χ^2 = (4) = 7.51, p = .06
Income	M = 5.46, SD = 4.39	M = 4.86, SD = 2.32	t (182) = -.51, p = .61
Education	M = 5.57, SD = 4.34	M = 5.00, SD = 2.32	t (181) = -.48, p = .63
English proficiency	M = 3.73, SD = 5.22	M = 3.82, SD =2.89	t (167) = . 06, p = .95
Residential tenure	M = 14.69, SD = 11.48	M = 16.82, SD =12.00	t (166) = . 59, p = .55
Control mutuality	M = 3.35, SD = 1.39	M = 3.02, SD =1.08	t (167) =-.76, p = .45
Trust	M = 3.76, SD = 1.25	M = 3.21, SD =.72	t (175) = -1.55, p = .12
Problem recognition	M = 3.71, SD =1.32	M = 3.04, SD =.93	t (180) =-1.84, p = .07
Involvement recognition	M = 3.92, SD = 2.23	M = 3.28, SD =1.06	t (181) =-1.02, p = .31
Constraint recognition	M = 2.96, SD =1.05	M = 3.17, SD =1.34	t (192) = . 73, p = .47
Information seeking	M = 3.22, SD =1.94	M = 2.89, SD = 1.42	t (183) =-. 57, p = .57
Information attending	M = 3.46, SD =1.06	M = 3.24, SD =1.21	t (184) =-. 64, p = .53
Information forwarding	M = 2.92, SD = 1.08	M = 2.75, SD =1.40	t (180) =-. 54, p = .59
Information sharing	M = 3.19, SD = .97	M = 3.24, SD =1.34	t (191) = .19, p = .85

samples using independent sample *t*-test and chi-square analysis, finding no statistically significant difference among any variable (for detail, see Table 1)

A post-hoc power analysis was performed using the G*Power software (Faul, Erdfelder, Lang, & Buchner, 2007) to determine the statistical power of the sample size, which yielded an estimated power of .93 (Power (1-β err prob.) = .93 at .05 alpha level), suggesting that the results obtained from the current sample can adequately reject the null hypotheses. The entire sample consisted of 113 (50.9%) males and 79 females (35.6%). Thirty did not disclose gender information (13.5%). The average age among participants was 41.27 (SD = 12.91). The majority of the respondents were ethnic Chinese (n = 158, 71.2%), with others identified as Vietnamese (n = 14, 6.3%) and Pilipino (n = 10, 4.5%), and the remaining 40 respondents did not disclose ethnicity information. A total of 136 participants (61.4%) reported to have annual household income higher than $75,000, 24 participants (10.8%) had annual income between $50,001 and $75,000, 17 (7.7%) had income between $25,001 and $50,000, and only 9 (4.1%) had income lower than $25,000. The rest 36 (16.2%) chose to not answer this question. Sixty-six (29.7%) had a bachelor's degree, 59 (26.6%) with a master's degree, and 29 (13.1%) with a doctoral degree. The English language proficiency level was relatively high, with the majority reporting that their English was excellent (n = 59; 26.6%), very good (n = 59; 26.6%), or good (n = 33; 14.9%); only 12 individuals (5.4%) reported that their English was poor. Participants had lived in the study area for 14.96 years on average (SD = 11.26).

The health problem used in this study to measure situational perceptions was cancer. This was chosen because Asian Americans are the first racial group to experience cancer as the leading cause of death for both men and women since 2000 (Chen et al., 2018).

3.2. Measurements

Established measures were used in this study for relationship management outcomes, situational perceptions, and information behaviors (e.g., Kim & Grunig, 2011; Ni & Wang, 2011). Adjustment was made to fit the current health context. All measurement items used a 5-point Likert scale, where 5 = *Strongly Agree*, 4 = *Agree*, 3 = *Neutral*, 2 = *Disagree*, and 1 = *Strongly Disagree*. Table 1 lists specific measurement items, descriptive statistics, Cronbach's alphas, and Confirmatory Factor Analysis (CFA) results (Table 2).

It is noted that for constraint recognition, the following three questions were initially asked: (1) I believe cancer is a problem I can personally do something about; (2) I believe I have the ability to change situation about cancer; (3) cancer is more difficult for me to understand than other problems. The first two items were reverse-coded. This measurement yielded low reliability (M = 3.02, SD = .77, Cronbach's α = .57). The low Cronbach's alpha indicated that the three items did not reliably form a single scale. After analyzing item intercorrelations, we dropped the third item and took only the first two items for the subsequent analysis.

3.3. Analysis and model specification

Structural Equation Modeling (SEM) was used to fit the hypothesized model on observed data, as it supports a simultaneous analysis of the interrelationships among a set of latent and outcome variables (Jöreskog & Sörbom, 1993). Although probability sampling and the resulting parametric data are recommended for running confirmatory factor analysis and structural modeling, data obtained from non-probability sampling can still be explored using SEM, with greater caution to be made regarding the generalizability of the findings (Bollen & Pearl, 2013).

A two-step latent variable modeling approach was used, including an evaluation of construct validity using CFA, and an

Table 2
Confirmatory Factor Loadings, Reliability and Descriptive Statistics for All Variables (N = 222).

Factors	Items	Coefficients	s.e.
Control mutuality (M = 3.34, SD = .79, α = .87)	The organization and I are both satisfied with the decision-making process.	.64	.05
	The organization and I have equal influence during decision-making.	.72	.07
	The organization and I agree on what we can expect from one another.	.79	.06
	The organization and I are cooperative with each other.	.75	.06
Trust (M = 3.74, SD = .79, α = .93)	I am confident that the organization has the ability to accomplish what it says it will do.	.77	.06
	Members of the organization's leadership are truthful with me.	.74	.05
	The organization treats me fairly and justly.	.75	.05
	The organization keeps its promises.	.69	.05
Problem recognition (M = 3.57, SD = .80, α = .81)	I am very concerned about the cancer outcomes among Asian Americans.	.63	.06
	I feel that something needs to be done to improve the cancer problems among Asian Americans.	.68	.06
	I believe cancer among Asian Americans is a serious social problem.	.82	.06
Involvement recognition (M = 3.73, SD = .88, α = .84)	I believe cancer is important to me personally.	.91	.06
	Cancer could involve me or someone close to me at some point.	.66	.07
	I see a connection between myself and cancer.	.84	.07
Constraint recognition (M = 3.05, SD = 1.10, ρ = .66)	I believe cancer is a problem I can personally do something about (reverse-coded).	.97	.09
	I believe I have the ability to change situation about cancer (reverse-coded).	.84	.09
Information seeking (M = 2.84, SD = 1.12, α = .92)	I check any new information about cancer.	.93	.07
	I request free booklets or publications about cancer from organizations.	.93	.07
	I visit online or bookstore to find information about cancer.	.97	.07
Information attending (M = 3.56, SD = .99, α = .91)	I watch or listen to cancer-related news stories if coming across on TV or radio.	.97	.07
	I listen to others talking about cancer.	.83	.06
	I click hyperlinks online related to cancer.	.94	.07
Information forwarding (M = 3.21, SD = 1.00, α = .82)	It is my top priorities to share knowledge and perceptions about cancer.	.91	.07
	I take time to explain things about cancer to other people.	.87	.07
	I look for opportunities to share my knowledge and thoughts about cancer.	.94	.07
Information sharing (M = 3.57, SD = .80, α = .81)	I'm a person to whom my friends and others come to learn more about cancer.	.99	.07
	I would talk to others about cancer when they express concerns or interest.	.97	.07
	I participate but do not lead conversations about cancer.	.76	.07

Note. All standardized factor loadings are significant at $p < .001$.

evaluation of the structural model. In the structural model, trust and control mutuality were specified as two exogenous variables, and each was measured by four items. The endogenous variables included the block of situational perception variables (problem recognition, involvement recognition, and constraint recognition) and the block of cancer-related communication variables (information seeking, information attending, information forwarding, and information sharing). In addition, we included the following control variables in the model: age, gender, education, income, residential tenure, and English language proficiency.

The *lavaan* statistical package for structural equation modeling on the platform of R (Rosseel, 2012) was used to estimate the direct and indirect effects among a set of endogenous and exogenous variables as proposed in the study. The significance level for all parameter estimates was set at $p < .05$. Maximum Likelihood was used to produce those estimates. To evaluate the fit of the model, three goodness-of-fit indices were obtained. First, a Chi-square to degrees-of-freedom (χ^2/df) ratio was calculated; this statistic should be less than 3 (Jöreskog & Sörbom, 1993). Second, the comparative fit index (CFI) was obtained. The CFI compares the hypothesized model with a null model. Higher CFI value suggests the relative advantage of the hypothesized model over the null model, and values greater than .90 indicates an acceptable fit (Bentler, 1992). Third, the root mean square error of approximation (RMSEA) was obtained. The RMSEA is a parsimony-adjusted index that evaluates the size at which the observed variances and covariances differ from the hypothesized ones. RMSEA ≤ .05 indicates an excellent fit, RMSEA ≤ .08 a satisfactory fit, RMSEA between .08 and .10 a fair fit, and RMSEA ≥ .10 a poor fit (Jöreskog & Sörbom, 1993).

4. Results

4.1. Measurement model evaluation and specification

A confirmatory factor analysis (CFA) was first conducted to evaluate the measurement model. In this model, all structural paths were saturated to allow for independent evaluation of the measurements of the model. The model achieved an acceptable level of fit, $\chi^2 = 632.04$, $df = 314$, $p < .001$, $\chi^2/df = 2.01$; CFI = .93; RMSEA = .07 (95% confidence interval: .06–.08). To further improve model fit, we referenced modification indices and allowed the residual variances of several observed variables to be correlated. The final fit indices were improved to a satisfactory level, $\chi^2 = 354.96$, $df = 219$, $p < .001$, $\chi^2/df = 1.62$; CFI = .96; RMSEA = .05 (95% confidence interval: .05–.07). All factor loadings from the indicators to their corresponding latent constructs were significant ($p < .001$) and .66 or above (Table 1). These statistics supported construct validity of the measurement models.

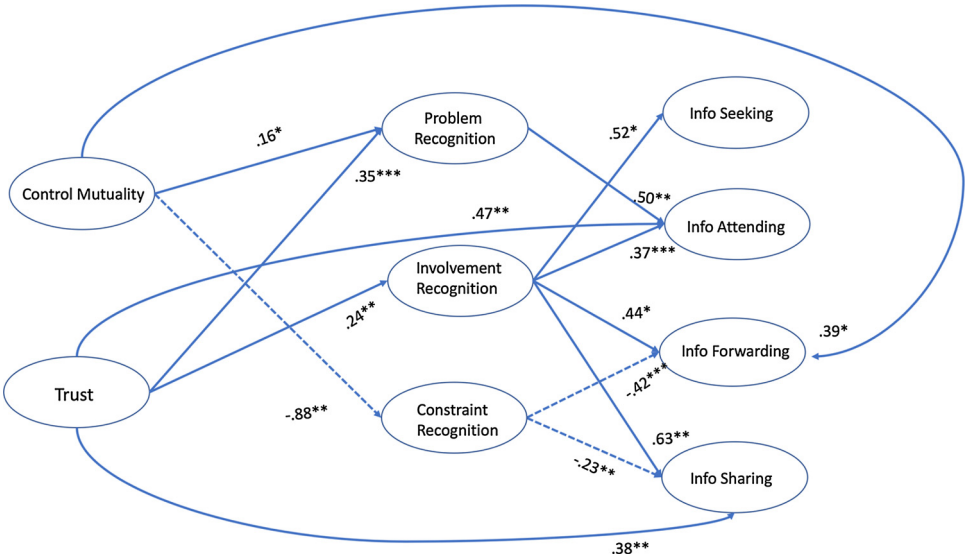

Fig. 1. Structural model with statistically significant paths based on the hypotheses. Arrows with concrete lines represent positive effects. Arrows with dotted lines represent negative effects, *$p < .05$, ** $p < .01$, *** $p < .001$. (Control variables are not shown.).

4.2. Structural model evaluation and hypothesis testing

The hypothesized structural model demonstrated less than satisfactory fit to the data ($\chi^2 = 963.91$, $df = 432$, $p < .001$, $\chi^2/df = 2.23$), CFI = .95, and RMSEA = .08 (95% confidence interval: .07–.08). Following modification indices, we revised the model by adding the residual correlations of the following two sets of latent variables, trust and mutuality, and problem recognition and involvement recognition. The updated model reached a better level of fit, $\chi^2 = 747.57$, $df = 430$, $p < .001$, $\chi^2/df = 1.74$), CFI = .95, and RMSEA = .06, 95% confidence interval: .06-.08. Fig. 1 presents all significant paths identified among control mutuality, trust, situational perception variables, and four cancer-related communication behaviors.

H1 stated that levels of control mutuality would positively predict levels of problem recognition and involvement recognition, and recognition and would negatively predict levels of constraint recognition. This hypothesis was partially supported. Control mutuality positively predicted problem recognition ($b = .16$, $p < .05$) and negatively predicted constraint recognition ($b = -.88$, $p < .001$). Meanwhile, it did not significantly predict involvement recognition ($b = -.27$, $p > .05$).

H2 hypothesized that levels of trust would positively predict levels of problem recognition and involvement recognition, and would negatively predict levels of constraint recognition. This hypothesis was partially supported. Trust positively predicted problem recognition ($b = .35$, $p < .001$) and involvement recognition ($b = .24$, $p < .01$). However, trust did not significantly predict constraint recognition ($b = .64$, $p > .05$).

H3 and H4 predicted that control mutuality (H3) and trust (H4) would positively predict levels of cancer-related information seeking, attending, forwarding, and sharing. H3 was largely unsupported, as control mutuality only significantly predicted information forwarding ($b = .39$, $p < .05$). H4 was partially supported: Trust significantly predicted cancer-related information attending ($b = .47$, $p < .01$) and information sharing ($b = .58$, $p < .001$).

Finally, H5 and H6 hypothesized that problem recognition (H5) and involvement recognition (H6) would positively, whereas constraint recognition (H7) would negatively, predict levels of information seeking, attending, forwarding, and sharing. H5 was largely unsupported, as problem recognition only significantly predicted information attending ($b = .15$, $p < .05$). H6 was fully supported. Involvement recognition positively predicted information seeking ($b = .52$, $p < .001$), attending ($b = .37$, $p < .001$), forwarding ($b = .44$, $p < .05$), and sharing ($b = .63$, $p < .01$). Finally, H7 was partially supported. Constraint recognition significantly and negatively predicted information forwarding ($b = -.42$, $p < .001$) and sharing ($b = -.21$, $p < .001$), but it did not significantly predict information seeking ($b = .39$, $p > .05$) or information attending ($b = -.26$, $p > .05$) (Table 3).

5. Discussion

Findings from the study supported most hypotheses derived from the proposed theoretical model that is based on Kim and Grunig's (2011) and Ni's (2012) frameworks, despite some unexpected findings. The findings overall indicated several implications for theoretical development in both relationship management and understanding publics. Below we discuss these two major areas: expanding theories in publics through further identifying antecedents to public formation and expanding the public-centered consequences of relationship management in the form of community empowerment.

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Table 3
Structural Path Coefficients Included for Hypothesis Testing (N = 222).

	Information Seeking	Information Attending	Information Forwarding	Information Sharing	Problem Recognition	Involvement Recognition	Constraint Recognition
Socio-demographics	*b (s.e.)*	*b (s.e.)*	*b (s.e.)*	*b (s.e.)*	*b (s.e.)*	*b (s.e.)*	*b (s.e.)*
Age	.01(.01)	.00(.01)	.01(.01)	.01(.01)	.01(.01) *	.02(.01) **	−.00(.01)
Gender	.12(.16)	.11(.14)	.03(.14)	.25 (.14)	-.09 (.10)	-.41(.14) **	.26 (.19)
Income	.06(.03)	.06(.03) *	.03(.03)	.05(.03)	−.03 (.02)	−.03(.03)	.02 (.04)
Education	.02(.06)	−.01(.05)	−.02(.05)	.02(.05)	.02(.04)	.02(.06)	−.10(.07)
English proficiency	−.07 (.07)	.04(.07)	−.03(.07)	−.04 (.06)	−.11(.05) *	−.14(.07)	.06(.10)
Residential tenure	−.01(.01)	−.00(.01)	.00(.01)	−.00 (.01)	−.01 (.01)	−.02(.01) *	.03(.01) **
Stakeholder-Public Relations							
Control mutuality	.39(.38)	−.26 (.34)	.39(.18) *	−.02(.12)	.16(.09) *	.27(.35)	-.88(.23) **
Trust	−.14 (.31)	.47(.11) **	.03(.28)	.38(.11) **	.35(.04) ***	.24(.06) **	.64(.38)
Situation Perceptions							
Problem recognition	.15(.32)	.50 (.15) **	.01(.29)	.10 (.28)	–	–	–
Involvement recognition	.52(.22) *	.37(.02) ***	.44 (.20) *	.63(.20) **	–	–	–
Constraint recognition	-.09 (.08)	-.02(.07)	-.42 (.08) ***	-.23(.07) **	–	–	–

* $p < .05$.
** $p < .01$.
*** $p < .001$.

5.1. Antecedents to public formation

This study advanced theories of publics through further exploring the antecedents to the formation of publics and the communication behavioral changes in these publics. It integrates the cross-situational and situational approaches (cf. Kim et al., 2008) in a way that helps both organizations and publics. It is important to recognize two underlying themes in the findings: different functions of relationship indicators and useful but limited role of relationship quality as an antecedent to public formation.

5.1.1. Different functions of relationship indicators

First, different relationship indicators played different roles. Although increased trust and increased control mutuality both function to empower the community by encouraging its members to participate actively in information behaviors, they played different and perhaps complementary roles as antecedents to situational perceptions. Both control mutuality and trust were positively related to problem recognition, whereas only trust was positively related to involvement recognition and control mutuality was negatively related to constraint recognition.

These findings imply that, overall, good relational quality with a health organization might empower community members by changing their perspectives on the problems they were facing. When community members felt that they had a say in the organization's decision-making and they trusted the organization, they are more willing to face the problems—even as harsh as cancers—and felt that these problems were relevant.

At the same time, the finding that a higher level of perceived control mutuality was, whereas trust was not, related to less constraint recognition suggests that the two relational outcome variables might have impacted people's efficacy perceptions differently. In particular, control mutuality measurement emphasized more on what the *community members could do or achieve* with the aid of the organization-public relationship (e.g., the organizations and I have equal influence during decision-making); trust measurement emphasized more on how *an individual feels about or evaluates an organization* (e.g., the organization treats me fairly and justly). Thus, control mutuality may directly enhance individuals' self-efficacy by connecting individuals with organizational resources. Trust, on the other hand, although it fosters benevolent feelings and confidence towards an organization in terms of its integrity, dependability, and competence, may not be adequate to motivate the public to reduce constraints or boost efficacy that is specifically related to the issue of cancer.[2]

Perhaps for the same reason outlined above, only trust was related to involvement recognition whereas control mutuality was not. Whether an individual feels involved in a health issue can be influenced by the level of bond between the individual and the organization working on the health issue. When there is a high level of public-organization trust, the public is more likely to actively engaged in the issues advocated by the organization.

Overall, these findings supported the theoretical framework in exploring antecedents to public formation (e.g., Ni, 2012) and corroborated the recent study findings in the effects of relationship management on communication behaviors (e.g., Kim et al., 2015). The findings also indicate the importance to recognize different effects of antecedents on different situational perceptions. Only by motivating the publics to feel engaged and by helping remove the perceived barriers can the publics be activated, becoming vigorously engaged in various information behaviors related to the health issue. In this case, it appeared that making community

[2] This is also one of the limitations we recognize.

members feel they have some say in how community organizations interact with them could help remove perceived barriers of feeling hopeless and helpless.

5.1.2. Useful but limited role of relationships as antecedents to information behaviors

At the same time, it is important to note the limits of the effects of relationship management on information behaviors. Among the more active dimensions of communication behaviors, only information forwarding was positively related to control mutuality. Information forwarding was one of the most active communication behaviors in the context of community health because it reflected community members' social initiation in disseminating information, raising public awareness, and empowering the entire community in addressing health issues.

Interestingly, trust was only directly and positively related to information attending and sharing, both passive and reactive dimensions of communication behaviors. These findings, again, suggest that trust might have reflected more of social emotional feelings than rational cognition. When community members trust their community organization, the feeling of connection did not equate the feeling of empowerment or capacity. Therefore, when relevant information came by, they did not mind sharing, but trust itself did not sufficiently motivate them to take active information seeking or forwarding.

5.2. Situational theories in the community health context

The findings largely confirmed the proposed relationships from situational perceptions to information behaviors in situational theories (e.g., Grunig, 1997; Kim & Grunig, 2011). Intensive involvement was positively related to all active and passive information behaviors, and constraint perceptions was negatively related to information transmission behaviors (i.e., forwarding and sharing), but not information acquisition behaviors (seeking and attending). Because the current study is set in public heath context among Asian Americans, it validates the situational theories in this specific context for the most part. However, one intriguing finding was that problem recognition was not related to any but one information behavior, information attending.

These unexpected findings about problem recognition might have resulted from the unique nature of the situation used in this study. As cancer almost always signals death and mortality, typically people do not want to engage in intensive information behaviors unless they feel they are personally connected to it in some way. Therefore, involvement recognition played the strongest role here.

On the other hand, problem recognition could hardly lead to relatively effortful behavioral changes such as information seeking, forwarding, and sharing. In contrast, information attending means that people do not actively look for certain information but simply pick up and browse through the information presented to them. It was the least effortful behavior among the four. Changing one's problem recognition, therefore, might have slightly nudged them to pay a little more attention. The same reasoning applies to the finding about constraint recognition. It does not matter whether people perceive many or few constraints; they just engage in more or less the same level of this effortless behavior regardless.

Together, the effects of trust and control mutuality on situational perceptions and information behaviors suggest that while it is possible to identify, and potentially change, the antecedents to situational perceptions in the formation of publics, the more active domain of information behaviors of publics may not be direct outcomes of these antecedents. Rather, these types of information behaviors are still more heavily and directly shaped by situational perceptions, an argument that has been consistently made by researchers and supported by decades of research on the situational theory of publics and situational theory of problem solving (Grunig, 1997; Kim & Grunig, 2011).

5.3. Public-centered consequences of relationship management

Taking a public-centric approach of relationship management (Ni, Wang, & Sha, 2018), we tested and showed that high quality organization-public relationships were positively related to community members' situational perceptions, and, in turn, their communicative activeness. In this sense, community empowerment can be established as one outcome of relationship management, when the research lens is public-centered. In particular, this study identified a specific domain of empowerment in community health. When community members had good relationships with relevant organizations, they perceived situations and health issues in a more constructive manner, and thus might have developed a sense of ownership, responsibility, and motivation to empower themselves and the greater community. Such communication behaviors then led to individual and collective capacity building, supporting the proposition of empowerment as a process and outcome (e.g., Laverack, 2006),

In this case, the importance of and consequences of relationship management are better understood in terms of solving problems important to both the organizations and the publics, i.e., the increased level of communication activeness of health issues that matter to the public itself.

5.4. Limitations and directions for future research

One of the limitations of the study was that the sample size was somewhat small. However, it is typically acknowledged that accessing and recruiting participants from the community are much more difficult. Patel, Doku, and Tennakoon (2003) pointed out that typically "specific attention may be required for the adequate recruitment of participants from ethnic minority" (p. 232).

Another limitation was that the majority of participants identified themselves as Chinese in origin. This was due to the fact that the community health organizations assisting the current project have greater outreach among Chinese than other Asian American groups. In addition, most of our participants had high levels of education and income. Future research is encouraged to draw a more

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representative sample and recruit Asian participants from more diverse cultural, national, and socio-economic backgrounds.

In addition, the current questionnaire already included many variables. We decided to only use two most critical indicators for the OPR measure so we could cut the length of the questionnaire in order to increase the response rate. This was necessary because response rates tend to be much lower in this kind of community-based studies. However, future research may consider adding other OPR factors such as communal relationships that may play a role in the Asian community.

Moreover, to capture the full complexity of the unique communication behaviors of the Asian community, both quantitative and qualitative methods are needed. Future research could examine issues such as how Asian community members perceive the cancer issue, how they obtain information and what specific concerns they may have which may differ from other ethnic groups.

The control variables in the study were mainly individual-related such as age and gender because we intended to examine individual community members' perceptions. While other control variables such as the type and size of health organizations would have been useful to include, our survey participants were individual community members who did not necessarily have accurate knowledge about the type or size of the organizations they went to. This information might be best provided by the community organization representatives, who were not, at the time, our survey participants. To supplement the current findings, future studies may examine the situational perceptions from the standpoint of community organizations and see if organizational type or size may play a role.

One final limitation was the choice of the situational problem, cancer. Due to its unique nature and the relatively low probability of being cured as compared to other diseases, cancer might have elicited different perceptions, especially in terms of constraint recognition, from other health issues. This issue could be related to unique patterns in information behaviors (e.g., information sharing and forwarding). In future research, other health issues that may have different impacts on the publics should be examined to understand community empowerment more deeply.

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