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Understanding Local News Consumption and Community Participation via the Lens of Information Repertoires and Media Multiplexity

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Abstract

This study applies and extends the frameworks of information repertoires and media multiplexity to examine how the use of local information repertoires affects multimodal community participation, which is in turn reflected in community integration. A path analysis was conducted on the data gathered by the Pew Internet and American Life Project. The results showed that four variables—habits of information seeking, diverse community interests, access to technology, and local information repertoires—were associated with each other. In addition, together they predicted community participation through multiple media use and the media gratifications

obtained, which in turn positively influenced the level of local ties, community satisfaction, and community efficacy. Implications of the findings for theoretical and societal contributions and directions for future research are discussed.

Keywords

community integration, community participation, information repertoires, local news consumption, media multiplexity, social media, uses and gratifications

An enduring question in contemporary society is whether and how civic and community engagement is enabled or constrained due to the growing use of new media technology (Putnam, 1993). With the prevalence of media convergence, individuals are now able to select different media and communication channels for their purposive actions (Jenkins, 2006). This change in media behaviors also parallels the emergence of a new social operating system in contemporary society, or what Rainie and Wellman (2012) call “networked individualism,” in which individuals are able to connect with easily accessible social networks through technology use. Instead of being constrained within physical communities, people can now construct and maintain their personal networks regardless of geographic location. Yet the fluidity and mobility associated with technology use does not necessarily mean that individuals no longer wish to construct interest-laden ties with others rooted within a geographic area (Katz, Rice, Acord, Dasgupta, & David, 2004). This pattern raises an important question: will the new opportunities afforded through use of multiple technologies change the dynamics of localized community involvement and if so in what ways?

A great amount of research has focused on identifying the positive relationship between new technology use and participation in civic and community activities (e.g., Ksiazek, Malthouse, &

Webster, 2010; Rojas, Shah, & Friedland, 2011; Shah, Cho, Eveland, & Kwak, 2005). Traditional local news media such as newspapers and radio stations have long been considered to serve an important intermediary role of disseminating information about the local community, which can in turn facilitate community participation (e.g., Norris, 1996; Stamm, Emig, & Hesse, 1997). Nonetheless, the focus of this line of work tends to be limited to the relationship between single technology use—such as local newspaper consumption or Internet use—and community involvement in terms of face-to-face interaction. What is missing so far is an exploration of how people can use various means of communication to participate in community activities beyond the face-to-face mode. Recalling the notion of networked individualism mentioned above, individuals have the latitude to avail themselves of a diverse set of technological resources for personal and interpersonal practices as part of daily life (Wellman, 2002). In addition, there has been little research done to provide a broader understanding of how multiple media uses play into an individual's communicative and social actions. Thus, it is important to use a systemic view to study multiple technology use in the community context, which gives attention to the use of multiple or complementary media in fulfilling individuals' interpersonal and social needs.

This study draws on two systemic frameworks—theories of media multiplexity and information repertoires—to examine the relationships between local information repertoires, multimodal community participation, and community integration. Specifically, this study investigates the antecedent factors of multimodal community participation, which in turn facilitates different types of community attitudes and behaviors, including the number of local ties and the degree of community satisfaction and community efficacy. By integrating the theories of information repertoires and media multiplexity in one study, this research allows for a more complete examination of the circumstances under which individuals integrate technology use with their

involvement with the physical community and encourages researchers to put both an individual's media use and the larger media environment in which such a use is embedded into consideration when studying communication usage and its related effects. Additionally, this study provides societal implications by addressing a fundamental question in research on mass communication and society: whether the increasing use of multiple media technologies will provide new opportunities for community engagement or lead to information polarization, social isolation, and reduced community participation.

Information Repertoires and Media Multiplexity

Systemic frameworks, such as theories of information repertoires and media multiplexity, are relevant when looking at individual media use as embedded in a larger media environment. The framework of information repertoires focuses on users' selection of multiple information sources to satisfy the need and interest for a certain topic (Reagan, 1996). The concept of media multiplexity refers to the patterns of communication based on the strength of ties (Haythornthwaite, 2005), which suggests that the more frequently two people communicate, the stronger the tie and the more types of media they use (e.g., face-to-face talk and email) (Haythornthwaite & Wellman, 1998). Both approaches highlight the active nature of social behaviors manifested through multiple means of communication. In other words, they examine how media use is embedded into and interacts with a social collective's existing communicative practices (Orlikowski & Yates, 1994). In the following section, drawing on the frameworks of information repertoires and media multiplexity, hypotheses are developed investigating the factors predicting multimodal community participation, which in turn influences community attitudes and behaviors (see **Figure 1**).

Information Repertoires and Community Participation

The concept of information repertoires suggests that individuals tend to use a set of different sources (e.g., television, newspapers, interpersonal communication) to obtain information about a topic of their interest. Users are active in choosing not only which multiple information sources to use but also the number of sources used for a certain topic (Reagan, 1996). Research suggests that both individual (e.g., interest, motivation, gratification, habit) and structural factors (e.g., audience time availability, access to technologies) predict the size and composition of such repertoires (Kim, 2014; Yuan & Webster, 2006).

People tend to use multiple channels to gather information about different topics of their interest, ranging from community (Reagan, Pinkleton, Chen, & Aaronson, 1995), environmental issues (O'Keefe, Ward, & Shepard, 2002), and news (Dutta-Bergman, 2004; Yuan, 2011). For example, if individuals are highly interested in local news, they are likely to use multiple sources of information to satisfy their interests (Baldwin, Barrett, & Bates, 1992). Those interested in community issues tend to develop a media routine for seeking and exchanging local information (Robinson, 2014). Research has found that the number of media used increases with the level of interest in a topic (Reagan, 1996) as well as the diversity of interests (Jeffres, Atkin, Neuendorf, & Lin, 2004).

Prior experience and habit can also influence the way media are selected and used (Feaster, 2009). Researchers have highlighted the role of habit strength in shaping information repertoires during the past decade (see LaRose, 2010; Taneja, Webster, Malthouse, & Ksiazek, 2012). For example, Watson-Manheim and Belanger (2007) found that organizational members' use of media repertoires was influenced by the routine use of those media over time. It can be said that

in a world where time is limited but information is overloaded, individuals often rely on routine and habit to determine their media use in order to save time and effort (see Cooper & Tang, 2009; Taneja et al., 2012).

It is also important to note that media consumption is not free of constraints of time, cost, and resources. Structural factors such as access to technology influence the amount and types of information repertoires (Cooper & Tang, 2009; Kim, 2014; Taneja et al., 2012). Simply put, individuals must have access to a medium before they can choose to use it (Cooper & Tang, 2009). For example, Ferguson (1992) found that whether people had access to cable was the strongest predictor of channel repertoires. Taneja et al. (2012) suggested that mobile media repertoire use was high during commutes when people had access to mobile technologies but not to other media options. Researchers have long believed that the range of available media options influences information repertoires. When users have access to more technologies, their repertoires will change (Cooper & Tang, 2009; Hasebrink & Popp, 2006). Based on this review, the following hypotheses are developed.

H1a: There will be a positive relationship between use of local information repertoires and strength of information-seeking habits.

H1b: There will be a positive relationship between use of local information repertoires and diversity of community interests.

H1c: There will be a positive relationship between use of local information repertoires and access to technology.

Central to the information repertoires research is the influence of various motivation factors on media choice behaviors, which has also been widely studied by the Uses and Gratifications

(U&G) research. Basically, U&G suggests that people are active and goal-directed and that they make a rational choice to use media to gratify their needs and desires (Katz, Blumler, & Gurevitch, 1974; Ruggiero, 2000). Most of the U&G studies have focused on demonstrating the relationship between what audiences get out of media uses and what media they use (Katz et al., 1974; Ruggiero, 2000). Researchers suggest that there is a positive relationship between gratifications and media repertoires (Ferguson & Perse, 2000; Reagan, 1996).

Gratifications obtained are also related to individuals' pre-existing needs and interest in a particular topic/content (Barton, 2009; Sundar & Limperos, 2011). For instance, Jamal and Melkote (2008) found that people who are interested in politics were more likely to gain opinion leadership and surveillance gratifications from watching Al-Jazeera satellite TV. Kaye and Johnson (2002) also found that interests in politics were positively associated with social utility, information seeking, and surveillance gratifications. In addition, habit strength is important in deriving gratifications such as passing time or relieving boredom (Rubin, 1984). In other words, if people have a strong habit of seeking information about certain topics, they are likely to have more opportunities to have their relevant informational needs gratified. Following U&G, it is expected that gratifications will likely to be obtained if people regularly use their preferred combination of multiple media or informational sources to satisfy their needs regarding a particular topic (Dimmick, Ramirez, Wang, & Lin, 2007; Reagan, 1996; Taneja et al., 2012). Thus, the following hypotheses are developed.

H2a: Strength of information-seeking habits will be positively associated with media gratifications.

H2b: Diversity of community interests will be positively associated with media gratifications.

H2c: Use of local information repertoires will be positively associated with media gratifications.

Media Multiplexity and Community Integration

The theory of media multiplexity suggests that strongly tied people tend to use multiple media, including email, mobile phones, and face-to-face contact, to maintain their personal networks (Boase, 2008; Haythornthwaite, 2005; Haythornthwaite & Wellman, 1998). Invariably, media multiplexity also represents the emergence of norms associated with technology use for communication (Haythornthwaite, 2002). If one channel of communication fails to reach the intended recipient, an individual will try other media based on the communication norms that have developed over time. Instead of focusing on the attributes of media or individual characteristics, the framework of media multiplexity emphasizes the context in which a medium is used (Haythornthwaite, 2002). In other words, it examines how media use is embedded into and interacts with a social collective's existing communicative practices (Orlikowski & Yates, 1994).

Applying the framework of media multiplexity in the community context, it is expected that individuals may be motivated to use multiple media in order to begin or maintain their relationship with the community. In this article, this pattern of using multiple media to participate in community activities is called *multimodal community participation*. In line with the systemic frameworks, multimodal community participation suggests that people tend to use multiple means of communication to engage in activities related to the community. Similarly, the community should encourage its members' involvement by providing multiple and flexible ways for members to communicate and participate (see Lai, 2014).

In Haythornthwaite's (2005) conceptualization, compared to those with weak ties, strongly tied people frequently engage in multiple types of resource and information exchanges. Such needs and interests for a wider scope of exchanges facilitate media multiplexity. Just as the use of multiple media can depend on the strength of ties, individuals' multimodal community participation may be influenced by various factors, such as prior experience, the level of interest in the community, routinized technology use, and/or the need to get information about the community. Yet, under the media multiplexity framework, relatively few studies (except for Lai, 2014) have examined the factors that influence the use of multiple media.

Arguably, the theoretical underpinnings of media multiplexity are the human needs and interests for receiving a wider scope of exchanges and resources integral to interpersonal relationships (Haythornthwaite, 2005). Lai (2014) found that the degree of affiliations and individuals' interest in and commitment to voluntary groups predicted multimodal group participation. Prior experience and habit related to technology use may also influence multimodal behaviors. For example, Hsieh (2012) posited that online networking skills (that is, the ability to use technology for social interaction) are related to media multiplexity because such skills will motivate one to acquire different communication resources to maintain social relationships. The possession of digital skills relates to multimodal social behaviors not only because it represents individuals' acquired technological competence, but also because it constitutes the social context in which individuals engage in their daily routine activity (Lai, 2014). It is thus expected that individuals who show more interest in diverse community issues, have a habit of keeping up with news, and regularly use technology are more likely to engage in community activities through multiple media channels.

Similarly, use of local information repertoires facilitates the use of multiple channels to get involved in community activities. Wei (2012) suggested that the more Internet sources people use, the more participatory Internet applications and political participation they will engage in. Hsieh and Li (2014) also found that people who use multiple online media for their regular social interaction were likely to use multiple types of online media to communicate with political figures and express their political thoughts. On the basis of these predictions, the following hypotheses are developed.

H3a: Strength of information-seeking habits will be positively associated with multimodal community participation.

H3b: Diversity of community interests will be positively associated with multimodal community participation.

H3c: Access to technology will be positively associated with multimodal community participation.

H3d: Use of local information repertoires will be positively associated with multimodal community participation.

Gratifications obtained as a result of local information repertoires may also serve as a catalyst for multimodal community participation. However, the literature of media gratifications tends to focus on the relationship between the gratifications obtained and the use of a particular medium (e.g., Dimmick et al., 2007; Leung & Wei, 2000). Little is known about the behaviors that result from the gratifications obtained. Yet, it is still reasonable to expect that if a person is satisfied with using multiple sources to obtain information about the local community, he or she is likely to participate in community activities via multiple means.

H4: Media gratifications will be positively associated with multimodal community participation.

Research thus far has attempted to identify various consequences of media multiplexity, such as relational closeness (Caughlin & Sharabi, 2013), relational development (Baym & Ledbetter, 2008), political engagement (Wei, 2012), participation in voluntary associations (Lai, 2014), and continued contributions to the online community (Sessions, 2010). Ellison, Lampe, Steinfield, and Vitak (2011) suggested that greater use of different social networking sites resulted in greater bonding (i.e., the ability to get emotional and substantive support from one's close social ties for group solidarity and social cohesion) and bridging social capital (i.e., mostly associated with weak ties for information diffusion, see Putnam, 2000). The benefits of obtaining bonding and bridging social capital are purported to be associated with positive individual and collective outcomes such as enhanced self-esteem, expanded social networks, and coordinated action (Putnam, 2000; Steinfield, Ellison, & Lampe, 2008). In our case, the acquisition of social capital may take place during the process of engaging in information repertoires and multimodal community participation because people tend to obtain information related to the community and disseminate and exchange the information through a mix of strong and weak ties. In light of this, we argue that using a variety of forms of communication to engage in activities related to the local community can result in the generation of positive outcomes—for example, a feeling of community attachment and satisfaction.

As people engage in community activities through multiple forms, such as posting comments about a local news story on a blog or exchanging emails with someone about a local news story, they might not necessarily develop the connection or feel integrated into the community yet. But by doing so, they are likely to know more people in their neighborhood, like living in the area, and develop the confidence that they can make a difference in the community. Invariably, these

community attitudes and behaviors may affect each other. Knowing more neighbors may facilitate a positive assessment of the quality of life at the community level, which can be seen as an indicator of community satisfaction (Jeffres, Lee, Neuendorf, & Atkin, 2007). With a higher level of satisfaction with the community, individuals may exhibit a higher level of efficacy regarding collective impact (Perkins, Florin, Rich, Wandersman, & Chavis, 1990).

H5a: Multimodal community participation will be positively associated with the level of local ties.

H5b: Multimodal community participation will be positively associated with community satisfaction.

H5c: Multimodal community participation will be positively associated with community efficacy.

H6: The level of local ties will be positively associated with the level of community satisfaction, which will in turn influence the level of community efficacy.

Reliance on local information repertoires and other information-seeking behaviors may indirectly foster community integration. For example, Jeffres, Atkin, and Neuendorf (2002) found positive relationships among information-seeking about the community through multiple sources, knowing and socializing with neighbors, and psychological attachment to the community. Hence, the following research question is posed:

RQ: What is the relationship between the four predictors—use of local information repertoires, information-seeking habits, diversity of community interests, and access to technology—and community attitudes and behaviors?

Method

This study examines how the use of local information repertoires affects multimodal community participation and community integration via the analysis of a nationally representative telephone survey conducted by the Pew Research Center from January 12–25, 2011, using a sample of 2,251 adults. Within this sample, 78.3% of participants were Internet users, and 19.9% of them lived in a rural area (for full descriptive statistics from the dataset, see the original report: Rosenstiel, Mitchell, Purcell, & Rainie, 2011). The average participant was 46 years old, female (51.5%), and White/Non-Hispanic (78.9%).

Exogenous Variables

Strength of information-seeking habits was measured by asking how much participants enjoy keeping up with the news on a scale of 1 to 4 (1 = not at all; 4 = a lot). To measure *diversity of community interests*, participants were asked to report whether they have gotten information about each of the following eight topics: local arts and cultural events, local breaking news, local job openings, local politics, local social services, local weather, local zoning, and other government activity (0 = do not get information about the topic, 1 = get information about the topic). Responses to each topic were then summed to create an aggregate index that operationally defines “diversity of community interests” ($M = 4.69$, $SD = 1.96$).¹ To measure *access to technology*, participants were asked whether they used the Internet or email from home and from

¹The measures of diversity of community interests, access to technology, size of information repertoire use, and multimodal community participation are formative measures (to indicate different facets of these constructs) and we used indices that accumulated scores. Thus, we did not report the value of Cronbach’s alpha associated with these variables [<link rid="bib44">\(Petter, Straub, & Rai, 2007\)</link>](#).

work (0 = No, 1 = Yes). An aggregate index of these two questions was created and operationally defines “access to technology” ($M = 1.45$, $SD = .58$).

Use of local information repertoires was measured through two dimensions. First, participants were asked to report how often they use each of the following 12 types of media to get information about their local community on a 5-point scale (1 = never; 5 = every day): the print version of a local newspaper, the website of a local newspaper, a local television news broadcast, the website of a local television news station, a local radio broadcast, the website of a local radio broadcast, websites for the community, a blog about the community, listserv about the community, a print newsletter about the community, word of mouth from a friend, and online searches. An index of *frequency of local information repertoires* was created by averaging these 12 items ($M = 2.47$, $SD = .58$, $\alpha = .66$). Then, responses for each of these 12 types of media were further dichotomized where 0 = never use and 1 = used. These dichotomized responses were summed to create an index which operationally defines *the size of local information repertoires* ($M = 7.05$, $SD = 2.50$).

Endogenous Variables

To measure local *media gratifications*, participants were asked to identify how much they think the sources they use for local news and information provide the information they need on a 4-point scale (1 = none of the information that matters to you; 4 = all of the information that matters to you). The variable of *multimodal community participation* is a six-item sum-scale consisting of dichotomous (1 = yes/0 = no) measures of participation in community activities ($M = 0.94$, $SD = 1.27$). These activities included contributing to an online discussion/message board about the local community, customizing a homepage to include local information,

emailing a link to a local news story to someone, tagging online local news content, contributing an article about the local community on an online news site, and commenting on a local news story or local blog read online.

To measure *level of local ties*, participants were asked to identify the number of people living nearby they know on a scale of 1 to 3 (1 = do not know any; 3 = yes, know them all). In addition, *community satisfaction* was measured by asking participants to indicate how they perceive their community as a place to live on a 4-point scale (1 = poor; 4 = excellent). *Community efficacy* was measured by asking participants to report how much impact they think people like themselves can have in making the community a better place on a scale of 1 to 4 (1 = no impact at all; 4 = a big impact).

Controls

Four demographic and ecological factors that are often thought to influence community integration (e.g., Dutta-Bergman, 2005; Sampson, Raudenbush, & Earls, 1997; Theodori, 2001) were included as control variables: *age*, *residential stability*, *geographic location of residence*, and *religious activity*. *Residential stability* was measured by asking participants to identify the duration of their residence in the current neighborhood on a 6-point scale (1 = less than 1 year; 6 = all my life). Their *geographic location of residence* was identified in terms of a rural area, a small city/town, a suburb near a large city, or a large city. Participants were also asked how often they attend any religious services on a 6-point scale to measure *religious activity* (1 = never; 6 = more than once a week). Finally, participants self-reported their age.

Results

Path analysis in Amos 20 was used to test the hypotheses (H1–H6) and answer the research question. As an extension of regression modeling and the original form of structural equation modeling, path analysis allows for the simultaneous assessment of the significance of individual paths as well as the global test of the entire model when variables are measured with a single indicator (Kline, 2005; Stage, Carter, & Nora, 2004). All 14 variables (except multimodal community participation) were significantly non-normally distributed. A transformation of square root was thus applied to normalize the variable of multimodal community participation. Multivariate kurtosis was then used to test multivariate normality, which is a critical assumption of path analysis. The kurtosis critical ratio was .701 (smaller than the critical value of 1.96), which indicated no substantial multivariate normality. Nonetheless, multicollinearity was detected between the two dimensions of local information repertoires. Therefore, they were analyzed separately.² List-wise deletion was performed to handle the missing data. The final sample size after list-wise deletion was 760.³ Among these 760 participants, 19.6% of them

²The path model with the size of local information repertoires as the exogenous variable was not an acceptable model. The χ^2 value was 503.80 ($df = 50$, $p < .001$), which indicated a less-than-adequate fit between the overall model and the observed data. Except for GFI (.90), CFI (.56), AGFI (.82), RMSEA (.11) did not meet the common values. The results of the significance tests of individual parameters were similar to the model with frequent use of local information repertoires as the exogenous variable. The only difference was that the scope of local information repertoires did not significantly predict media gratifications ($B = .01$, $s.e. = .01$, $p > .10$). The final model with the size of local information repertoires indicated a good fit. The χ^2 value for the revised model dropped to 146.98 ($df = 46$, $p < .001$), with GFI (.97), CFI (.90), AGFI (.94), and RMSEA (.05). Because of length limitation, only the model results with frequent use of local information repertoires are reported in the paper. Please contact the authors for this part of analysis and results.

³To ensure consistency of the magnitude and significance of the estimated parameters, we used maximum likelihood estimation (available in Amos) and mean replacement to re-test the full model on the original sample of 2,251. The results of hypothesis testing and indirect effects were similar to the model run with the reduced sample of 760. The only exception was that the relationship between media gratifications and multimodal community participation became marginally significant with a small amount of coefficient change (analysis with maximum

lived in a rural area. The average participant was 46.4 years old, female (54.1%), and White/Non-Hispanic (84.8%). Zero-order correlations among the variables are presented in **Table 1**.

Model Fit and Hypothesis Testing

The initial test of the hypothesized conceptual model indicated a poor model fit. The χ^2 value was 498.89 ($df = 50$, p (Kline, 2005)). Nonetheless, other fit indices did not suggest a good fitting model. Except for GFI (.90), CFI (.57), AGFI (.82), RMSEA (.11) did not meet the common values. Typically, RMSEA less than .05 and GFI, CFI, and AGFI greater than .90 indicate reasonably good fit (Kline, 2005). **Figure 2** displays the results of the significance tests of the individual paths. Unstandardized regression coefficients are reported in the results discussed below.

Use of local information repertoires was hypothesized to co-vary with the other three predictors. The results showed the associations were significant: $r_{\text{use of local information repertoires- access to technology}} = .19$, $p .05$), so H2b was rejected.

In terms of multimodal community participation, H3b, H3c, and H3d were supported because diversity of community interests ($B = .08$, $s.e. = .01$, $p .10$), thus H3a was not supported. H4 was rejected as well, because the variable of media gratifications did not significantly predict multimodal community participation ($B = -.03$, $s.e. = .04$, $p > .10$)

With regard to the three variables related to community integration, after controlling for age, residential stability, geographic locations, and religious activity, multimodal community

likelihood estimation: $B = -0.06$; mean replacement: $B = -0.04$). These results might be ascribed to the large sample size of the original dataset.

participation significantly predicted local ties ($B = .06$, $s.e. = .03$, $p = .10$). H6 received support in that local ties significantly predicted community satisfaction ($B = .20$, $s.e. = .04$, $p < .001$), which in turn predicted community efficacy ($B = .33$, $s.e. = .04$, $p < .001$).

Demographic factors also significantly predicted community integration. Age ($B = .01$, $s.e. = .00$, $p < .001$), geographical location ($B = -.11$, $s.e. = .02$, $p < .001$), residential stability ($B = .14$, $s.e. = .02$, $p < .001$) and religious activity ($B = .05$, $s.e. = .01$, $p < .001$) all significantly predicted the formation of local ties. Both age ($B = .01$, $s.e. = .00$, $p < .001$) and residential stability ($B = -.05$, $s.e. = .02$, $p < .05$) impacted community satisfaction. Age and religious activity predicted community efficacy ($B = -.01$, $s.e. = .00$, $p < .05$; $B = .06$, $s.e. = .02$, $p < .001$).

In answering RQ, the results showed significant indirect effects of three predictors on community efficacy through media gratifications and multimodal community participation. Specifically, diversity of community interests ($B = .01$, $s.e. = .00$, $p < .05$), use of local information repertoires ($B = .05$, $s.e. = .02$, $p < .01$), and access to technology ($B = .02$, $s.e. = .01$, $p < .01$) had significant indirect effects on community efficacy. Despite the small effects, these results collectively showed that media gratifications and multimodal community participation played a mediating role between these four predictors and community integration.

Model Revisions

The model fit indices reported earlier indicated an opportunity to respecify the model. Post-hoc model modifications were performed accordingly, relying on both theoretical reasons and the size of the modification indices produced by Amos. First, the non-significant paths were removed, including the path from diversity of community interests to media gratifications (H2b), the path from information-seeking habits to multimodal community participation (H3a), the path

from media gratifications to multimodal community participation (H4), and the path from multimodal community participation to community satisfaction (H5b). Second, two predictors—diversity of community interests and information-seeking habits—were allowed to co-vary with each other ($r = .26$, p Dutta-Bergman, 2005; Shah, McLeod, & Yoon, 2001) and the gap between gratifications sought and gratifications obtained (Ruggiero, 2000), which will be elaborated on in the discussion section. The additions of the paths related to the variable of age were supported by research showing the influence of age on both the scope of media used and community involvement (e.g., Dutta-Bergman, 2005; Taneja et al., 2012; Wei, 2012). After these modifications, the final model improved (see **Figure 3**). The χ^2 value for the revised model dropped to 148.28 ($df = 46$, $p < .001$), and GFI (.97), CFI (.90), AGFI (.94), and RMSEA (.05) indicated a good fit. In the final model, different paths explained 5% of variance in media gratifications, 22% of variance in multimodal community participation, 16% of variance in local ties, 6% of variance in community satisfaction, and 12% of variance in community efficacy.

Discussion

Integrating the frameworks of information repertoires and media multiplexity, this study found that four variables—habits of information seeking, diverse community interests, access to technology, and local information repertoires—were associated with each other. In addition, together they predicted community participation through multiple media use and media gratifications obtained, which in turn positively influenced the level of local ties, community satisfaction, and community efficacy. Findings suggest that if people have developed a habit of keeping up with news and seeking information about the community, they are likely to use multiple media frequently to satisfy their needs and interests associated with the community.

Thus, their level of satisfaction with the information obtained will likely rise. This perception of the fulfillment of community-related interests and needs may be sufficient for people to feel satisfied with the community without actively engaging in multimodal community participation. Nonetheless, multimodal community participation helps people to expand their local ties and have a stronger belief that they can make an impact on the community.

Our results showed that having interests in a wider range of community-related topics alone does not guarantee these interests and needs being accurately fulfilled, which echoes the argument concerning the discrepancy between gratifications sought and gratifications obtained (Ruggiero, 2000). Interestingly, we found that unless the general news is related to the local community, the habit of general information seeking does not necessarily facilitate one's engagement in multimodal community participation. This echoes the argument about domain-specific media gratifications and outcomes (e.g., Dutta-Bergman, 2005; Shah et al., 2001). Nonetheless, this general habit can plant the seed of one's multimodal community participation through developing a wide range of interests about the local community.

By extending two systemic frameworks—theories of media multiplexity and information repertoires—to the community context, this research presents a multimodal and communicative view of community participation and involvement, as well as highlights the importance of studying media technology usage and effects within a broader cultural and societal context. The results of this study demonstrate a simultaneous interplay among media environments, individual choices, and community environments. That is, multimodal community participation is embedded in the existing communication practices of constructing local information repertoires to seek information about the community and of regularly using the Internet and other media technologies as part of everyday life. As such, our empirically tested model presents a dynamic

process of how individuals enact technological and social structures in today's society. As Warschauer (2003) put it, researchers should "re-orient the focus from that of gaps to be overcome by provision of equipment to that of social development to be enhanced through the effective integration of ICT into communities and institutions" (p. 14).

Findings of this study also contribute to a useful conceptualization of U&G by highlighting both individual and structural factors' impacts on multimodal participation. This study found that use of local information repertoires, diversity of community interests, and access to technology all predicted multimodal community participation, which suggests that both individual cognitive and structural contextual factors influence human behaviors. Simply put, multimodal community participation is both an active choice and a habitual behavior that are constrained by time, access, and resources. Accordingly, this study contributes to a recent research call for empirical integration of both active-audience (e.g., U&G) and structural theories to best explain media usage and effects (see Cooper & Tang, 2009; Kim, 2014; Taneja et al., 2012).

The other important finding of this study is that information repertoires and media multiplexity were positively associated with people's community participation and social cohesion. Results suggest that multimodal community participation was linked to community integration, especially community efficacy. Community efficacy has been considered as an important prelude to collective action (Sampson et al., 1997). Individuals may cultivate the belief that they can make an impact on the community by means of the opportunities offered through technology use (Jeffres et al., 2002; Kavanaugh, Reese, Carroll, & Rosson, 2005). In fact, the link observed between use of information repertoires, multimodal community participation, and community efficacy echoes Bandura's (2001) assertion concerning perceived efficacy and technology use. That is, through the acquisition of multiple technological resources, individuals firmly believe

that they have the capacity to put their efforts into practice for the community. As Bandura (2002) argued, technologies will only be useful to people who believe they can use them productively. For future research, it would be useful to examine how efficacy beliefs in using multiple technologies and information sources influence the actual technology use related to community activities, which in turn affects community integration.

Multimodal community participation was also positively related to expanding local social ties and potentially resulted in the generation of different types of social capital. This finding contributes to the existing research by demonstrating the synthesis of physical proximity and mediated communication in forming ideal communities (Blanchard & Horan, 2000; Hampton, 2003; Katz et al., 2004). It can also be argued that multimodal community participation fosters a localized form of networked individualism (Wellman, 2002), where individuals voluntarily choose to create and engage in their own physical communities through face-to-face and mediated contact, and through physical and mediated engagement. Due to the limitation of the secondary data, the measures of information repertoires and multimodal community participation did not distinguish the sources of information and the types of social contacts (e.g., strong ties, weak ties), thus leading to the generation of bridging and bonding social capital (Putnam, 2000). Future research can focus on the network structure of the sources of local information repertoires and multimodal community participation. For example, people may obtain information about the community via Facebook from their weakly tied contacts and use the information acquired to participate in community activities both online and face to face with other strong ties belonging to a community organization. By uncovering a broader network structure of local information repertoires and multimodal community participation, researchers can gain a more nuanced

understanding of how individuals' technology uses are embedded and how they interact with existing social practices (Ellison et al., 2011).

Nonetheless, multimodal community participation failed to surface as a significant predictor of community satisfaction. One explanation is that people may be actively involved in community activities because they see a need to improve the community, which reflects their moderate or lower level of community satisfaction. Alternatively, it is also possible that people who are satisfied with their community do not necessarily need to get involved in community activities beyond what they have been doing in more traditional face-to-face ways.

Overall, this research addresses an important societal question: Will the growing use of multiple technologies enhance or constrain civic and community engagement? Findings from this study assuage the public concerns about information overload and selective exposure on community integration by showing that engaging in a regular set of information sources and using different ways to participate in local communities help people to feel integrated with their local communities. Media use and other social activities may not neatly fit a zero-sum game, whereby use of one medium or activity simply replaces another. That means, while being embedded in the media-saturated environment, individuals are still able to enact their technological structures (information repertoires, multimodal community participation) as part of their daily activity. People can squeeze in a few minutes to send out an email about their local communities while they are working on other matters on their computers. Indeed, as the society continues to provide citizens an expanded media and social activity menu, the community should embrace the opportunities afforded by multiple media technologies and use available channels to diffuse information, connect with their members, and provide a forum for social and civic participation.

Future research should continue to investigate how the abundance of media choices influences people's attention to their immediate physical and social environments.

Conclusion

One of the limitations of this study is its reliance on secondary data for explaining and testing the theoretical framework. As a result, the measurements of the variables were limited to those present in the original data, and most variables were measured through single items and in categories (e.g., residential stability). This might account for the modest levels of reliability for some variables measured in this study and the weak yet significant effects of different paths in the model. Yet by introducing the concept of multimodal community participation, we hope to evoke more empirical research by refining the measurement of this variable, along with others, investigated in this study. Along the same line, the research design was limited in terms of including more control variables that may have influenced the relationships between information repertoires and community participation. For example, membership of voluntary association may be an important factor that affects individuals' acquisition of local information and participation in community activities (e.g., Putnam, 2000).

Moreover, due to the implementation of the statistical analysis, this study reduced the final sample size to 760. Although the final sample was large enough and close to the initial nationally representative sample, results should be interpreted with caution with the noticeable decrease of sample size. Furthermore, due to the cross-sectional design of the study, this study did not aim to claim any causal inferences. Results regarding causality should be interpreted with caution.

Although alternative models have been performed,⁴ a longitudinal design and a next phase of confirmatory study would be required to address and clarify these concerns.

Despite the limitations, by employing the frameworks of information repertoires and media multiplexity, this study investigates how multiple media technology use is intertwined with news consumption and community participation, which in turn enhances the formation of local ties, community satisfaction, and community efficacy. This research contributes to the field of mass communication by extending the theories of information repertoires and media multiplexity to the community context and highlighting the importance of studying multiplatform media usage and effects rather than focusing on medium-specific research. It is also important to note that community involvement may not necessarily take multimodal forms. Still in the current convergent media environment, human behaviors are both directly and indirectly influenced by technology use. As Bimber, Flanagin, and Stohl (2012) put it, “the presence of technology in people’s lives affects what options are available to them, what they do, or how they experience

⁴Two equivalent models were performed to assess the adequacy of the final model reported in [Figure 3](#). In the first alternative model, community efficacy and local ties were used to predict multimodal community participation, and community satisfaction would predict media gratification utility. In other words, variables of media use became the endogenous variables that were accounted for by one’s behaviors and perceptions of being integrated into the community. The χ^2 value for this first alternative model increased to 159.93 ($df = 46$, $p < .001$). While GFI (.97) and AGFI (.94) met the common standard, RMSEA (.06) and CFI (.89) only suggested a moderate model fit. In the second model, in addition to the above reversed relationships, the direct effects were replaced with unanalyzed associations between local ties, community satisfaction, and community efficacy. The χ^2 value increased to 162.10 ($df = 46$, $p < .001$). Showing very similar results as the first alternative model, while GFI (.97) and AGFI (.94) met the common standard, RMSEA (.06) and CFI (.89) only suggested a moderate model fit. Despite the moderate differences of the model fit between the equivalent models and the final model presented in [Figure 3](#), these results demonstrate the theoretical choice supporting the final model. That is, following the frameworks of information repertoires and media multiplexity, the tendency of using multiple information sources and multiple means of communication with the community represents the afforded opportunity that serves to facilitate the change of community behaviors and attitudes.

the world around them” (p. 29). Media multiplexity is not only embedded in existing social contexts, it is itself a social context in which human behaviors transpire.

References

- Baldwin, T. F., Barrett, M., & Bates, B. (1992). Profile: Uses and values for news on cable television. *Journal of Broadcasting & Electronic Media*, 36, 225–233. doi:10.1080/08838159209364170
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52, 1–26. doi:10.1146/annurev.psych.52.1.1
- Bandura, A. (2002). Growing primacy of human agency in adaptation and change in the electronic era. *European Psychologist*, 7(1), 2–16. doi:10.1027//1016-9040.7.1.2
- Barton, K. M. (2009). Reality television programming and diverging gratifications: The influence of content on gratifications obtained. *Journal of Broadcasting & Electronic Media*, 53(3), 460–476. doi:10.1080/08838150903102659
- Baym, N. K., & Ledbetter, A. (2009). Tunes that bind? Predicting friendship strength in a music-based social network. *Information, Communication & Society*, 12, 408–427. doi:10.1080/13691180802635430
- Bimber, B., Flanagin, A. J., & Stohl, C. (2012). *Collective action in organizations: Interaction and engagement and engagement in an era of technological change*. New York: Cambridge University Press.
- Blanchard, A., & Horan, T. (1998). Virtual communities and social capital. *Social Science Computer Review*, 16(3), 293–307. doi:10.1177/089443939801600306
- Boase, J. (2008). Personal networks and the personal communication system: Using multiple media to connect. *Information, Communication & Society*, 11(4), 490–508. doi:10.1080/13691180801999001
- Caughlin, J. P., & Sharabi, L. L. (2013). A communicative interdependence perspective of close relationships: The connections between mediated and unmediated interactions matter. *Journal of Communication*, 63(5), 873–893. doi:10.1111/jcom.12046
- Cooper, R., & Tang, T. (2009). Predicting audience exposure to television in today’s media environment: An empirical integration of active-audience and structural theories. *Journal of Broadcasting & Electronic Media*, 53(3), 400–418. doi:10.1080/08838150903102204
- Dimmick, J., Ramirez, A., Wang, T., & Lin, S. F. (2007). Extending society: The role of personal networks and gratification-utilities in the use of interactive communication media. *New Media & Society*, 9(5), 795–810. doi:10.1177/1461444807081225

Dutta-Bergman, M. J. (2004). Complementarity in consumption of news types across traditional and new media. *Journal of Broadcasting & Electronic Media*, 48(1), 41–60. doi:10.1207/s15506878jobem4801_3

Dutta-Bergman, M. J. (2005). The antecedents of community-oriented Internet use: Community participation and community satisfaction. *Journal of Computer-Mediated Communication*, 11(1), 97–113. doi:10.1111/j.1083-6101.2006.tb00305.x. article 5. http://jcmc.indiana.edu/vol11/issue1/dutta_bergman.html

Ellison, N. B., Lampe, C., Steinfield, C., & Vitak, J. (2011). With a little help from my friends: How social network sites affect social capital processes. In Z. Papacharissi (Ed.), *A networked self* (pp. 124–145). New York: Routledge.

Feaster, J. C. (2009). The repertoire niches of interpersonal media: Competition and coexistence at the level of the individual. *New Media & Society*, 11(6), 965–984. doi:10.1177/1461444809336549

Ferguson, D. A. (1992). Profile: Channel repertoire in the presence of remote control devices, VCRs and cable television. *Journal of Broadcasting & Electronic Media*, 36(1), 83–91. doi:10.1080/08838159209364156

Ferguson, D. A., & Perse, E. M. (2000). The World Wide Web as a functional alternative to television. *Journal of Broadcasting & Electronic Media*, 44(2), 155–174. doi:10.1207/s15506878jobem4402_1

Hampton, K. N. (2003). Grieving for a lost network: Collective action in a wired suburb special Issue: ICTs and community networking. *The Information Society*, 19(5), 417–428. doi:10.1080/714044688

Hasebrink, U., & Popp, J. (2006). Media repertoires as a result of selective media use: A conceptual approach to the analysis of patterns of exposure. *Communications*, 31, 369–387. doi:10.1515/COMMUN.2006.023

Haythornthwaite, C. (2002). Strong, weak and latent ties and the impact of new media. *The Information Society*, 18(5), 385–401. doi:10.1080/01972240290108195

Haythornthwaite, C. (2005). Social networks and Internet connectivity effects. *Information, Communication & Society*, 8(2), 125–147. doi:10.1080/13691180500146185

Haythornthwaite, C., & Wellman, B. (1998). Work, friendship, and media use for information exchange in a networked organization. *Journal of the American Society for Information Science*, 49(12), 1101–1114. doi:10.1002/(sici)1097-4571(1998)49:123.3.co;2-s

Hsieh, Y. P. (2012). Online social networking skills: The social affordances approach to digital inequality. *First Monday*, 17(4). doi:10.5210/fm.v17i4.3893. Retrieved from <http://uncommonculture.org/ojs/index.php/fm/article/view/3893/3192>

Hsieh, Y. P., & Li, M.-H. (2014). Online political participation, civic talk, and media multiplexity: How Taiwanese citizens express political opinions on the Web. *Information, Communication & Society*, 17(1), 26–44. doi:10.1080/1369118X.2013.833278

- Jamal, A., & Melkote, S. R. (2008). Viewing and avoidance of Al-Jazeera satellite television channel in Kuwait: A uses and gratifications perspective. *Asian Journal of Communication*, 18(1), 1–15. doi:10.1080/01292980701823732
- Jeffres, L. W., Atkin, D., & Neuendorf, K. A. (2002). A model linking community activity and communication with political attitudes and involvement in neighborhoods. *Political Communication*, 19(4), 387–421. doi:10.1080/01957470290055574
- Jeffres, L. W., Atkin, D. J., Neuendorf, K. A., & Lin, C. A. (2004). The influence of expanding media menus on audience content selection. *Telematics and Informatics*, 21(4), 317–334. doi:10.1016/j.tele.2004.02.002
- Jeffres, L. W., Lee, J.-W., Neuendorf, K., & Atkin, D. (2007). Newspaper reading supports community involvement. *Newspaper Research Journal*, 28(1), 6–23.
- Jenkins, H. (2006). *Convergence culture: Where old and new media collide*. New York: NYU Press.
- Katz, E., Blumler, J., & Gurevitch, M. (1974). Utilization of mass communication by the individual. In J. Blumler & E. Katz (Eds.), *The uses of mass communication: Current perspectives on gratifications research* (pp. 19–34). Beverly Hills, CA: Sage.
- Katz, J. E., Rice, R. E., Acord, S., Dasgupta, K., & David, K. (2004). Personal mediated communication and the concept of community in theory and practice. *Communication Yearbook*, 28, 315–371. doi:10.1207/s15567419cy2801_9
- Kavanaugh, A. L., Reese, D. D., Carroll, J. M., & Rosson, M. B. (2005). Weak ties in networked communities. *The Information Society*, 21(2), 119–131. doi:10.1080/01972240590925320
- Kaye, B. K., & Johnson, T. J. (2002). Online and in the know: Uses and gratifications of the Web for political information. *Journal of Broadcasting & Electronic Media*, 46(1), 54–71. doi:10.1207/s15506878jobem4601_4
- Kim, S. J. (2014). A repertoire approach to cross-platform media use behavior. *New Media & Society*. doi:10.1177/1461444814543162
- Kline, R. B. (2005). *Principles and practices of structural equation modeling* (2nd ed.). New York: The Guilford Press.
- Ksiazek, T. B., Malthouse, E. C., & Webster, J. G. (2010). News-seekers and avoiders: Exploring patterns of total news consumption across media and the relationship to civic participation. *Journal of Broadcasting & Electronic Media*, 54(4), 551–568. doi:10.1080/08838151.2010.519808
- Lai, C.-H. (2014). A multimodal view of voluntary associations. *Information, Communication & Society*, 17(8), 1017–1033. doi:10.1080/1369118X.2013.877055
- LaRose, R. (2010). The problem of media habits. *Communication Theory*, 20, 194–222. doi:10.1111/j.1468-2885.2010.01360.x

Leung, L., & Wei, R. (2000). More than just talk on the move: Uses and gratifications of the cellular phone. *Journalism & Mass Communication Quarterly*, 77(2), 308–320. doi:10.1177/107769900007700206

Norris, P. (1996). Does television erode social capital? A reply to Putnam. *PS: Political Science & Politics*, 29(3), 474–480. doi:10.1017/S104909650004511X

O’Keefe, G. J., Ward, H. J., & Shepard, R. (2002). A repertoire approach to environmental information channels. *Science Communication*, 23(4), 392–409. doi:10.1177/107554700202300402

Orlikowski, W. J., & Yates, J. (1994). Genre repertoire: The structuring of communicative practices in organizations. *Administrative Science Quarterly*, 39, 541–574. doi:10.2307/2393771

Perkins, D. D., Florin, P., Rich, R. C., Wandersman, A., & Chavis, D. M. (1990). Participation and the social and physical environment of residential blocks: Crime and community context. *American Journal of Community Psychology*, 18, 83–115. doi:10.1007/BF00922690

Petter, S., Straub, D., & Rai, A. (2007). Specifying formative constructs in information systems research. *MIS Quarterly*, 31(4), 623–656.

Putnam, R. D. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton, NJ: Princeton University Press.

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon & Schuster.

Rainie, L., & Wellman, B. (2012). *Networked: The new social operating system*. Cambridge, MA: The MIT Press.

Reagan, J. (1996). The “repertoire” of information sources. *Journal of Broadcasting & Electronic Media*, 40(1), 112–121. doi:10.1080/08838159609364336

Reagan, J., Pinkleton, B., Chen, C.-F., & Aaronson, D. (1995). How do technologies relate to the repertoire of information sources? *Telematics and Informatics*, 12(1), 21–27. doi:10.1016/0736-5853(94)00035-R

Robinson, S. (2014). The active citizen’s information media repertoire: An exploration of community news habits during the digital age. *Mass Communication and Society*, 17, 509–530. (ahead-of-print), 1–22. doi:10.1080/15205436.2013.816745

Rojas, H., Shah, D. V., & Friedland, L. A. (2011). A communicative approach to social capital. *Journal of Communication*, 61(4), 689–712. doi:10.1111/j.1460-2466.2011.01571.x

Rosenstiel, T., Mitchell, A., Purcell, K., & Rainie, L. (2011). How people learn about their local community. *Pew Internet and American Life Project*. Retrieved from <http://www.pewinternet.org/~media/Files/Reports/2011/Pew%20Knight%20Local%20News%20Report%20FINAL.pdf>

- Rubin, A. M. (1984). Ritualized and instrumental television viewing. *Journal of Communication*, 34(3), 67–77. doi:10.1111/j.1460-2466.1984.tb02174.x
- Ruggiero, T. E. (2000). Uses and gratifications theory in the 21st century. *Mass communication & Society*, 3(1), 3–37. doi:10.1207/S15327825MCS0301_02
- Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science*, 277(5328), 918–924. doi:10.1126/science.277.5328.918
- Sessions, L. F. (2010). How offline gathering affect online communities. *Information, Communication & Society*, 13(3), 375–395. doi:10.1080/13691180903468954
- Shah, D. V., Cho, J., Eveland, W. P., Jr., & Kwak, N. (2005). Information and expression in a digital age: Modeling Internet effects on civic participation. *Communication Research*, 32(5), 531–565. doi:10.1177/0093650205279209
- Shah, D. V., McLeod, J. M., & Yoon, S.-H. (2001). Communication, context, and community: An exploration of print, broadcast, and Internet influences. *Communication Research*, 28, 464–506. doi:10.1177/009365001028004005
- Stage, F. K., Carter, H. C., & Nora, A. (2004). Path analysis: An introduction and analysis of a decade of research. *The Journal of Educational Research*, 98(1), 5–13. doi:10.3200/JOER.98.1.5-13
- Stamm, K. R., Emig, A. G., & Hesse, M. B. (1997). The contribution of local media to community involvement. *Journalism & Mass Communication Quarterly*, 74(1), 97–107. doi:10.1177/107769909707400108
- Steinfeld, C., Ellison, N. B., & Lampe, C. (2008). Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *Journal of Applied Developmental Psychology* 29(6), 434–445. doi:10.1016/j.appdev.2008.07.002
- Sundar, S. S., & Limperos, A. M. (2013). Uses and grats 2.0: New gratifications for new media. *Journal of Broadcasting & Electronic Media*, 57(4), 504–525. doi:10.1080/08838151.2013.845827
- Taneja, H., Webster, J. G., Malthouse, E. C., & Ksiazek, T. B. (2012). Media consumption across platforms: Identifying user-defined repertoires. *New Media & Society*, 14(6), 951–968. doi:10.1177/1461444811436146
- Theodori, G. L. (2001). Examining the effects of community satisfaction and attachment on individual well-being. *Rural Sociology*, 66(4), 618–628. doi:10.1111/j.1549-0831.2001.tb00087.x
- Warschauer, M. (2003). *Technology and social inclusion: Rethinking the digital divide*. Cambridge, MA: MIT Press.
- Watson-Manheim, M. B., & Belanger, F. (2007). Communication media repertoires: Dealing with the multiplicity of media choices. *MIS Quarterly*, 31(2), 267–293.

Wei, L. (2012). Number matters: The multimodality of Internet use as an indicator of the digital inequalities. *Journal of Computer-Mediated Communication*, 17, 303–318. doi:10.1111/j.1083-6101.2012.01578.x

Wellman, B. (2002). Little boxes, glocalization, and networked individualism. In *Digital cities II: Computational and sociological approaches* (pp. 10–25). New York: Springer. Berlin Heidelberg.

Yuan, E. (2011). News consumption across multiple media platforms. *Information, Communication & Society*, 14(7), 998–1016. doi:10.1080/1369118X.2010.549235

Yuan, E. J., & Webster, J. G. (2006). Channel repertoires: Using peplemeter data in Beijing. *Journal of Broadcasting & Electronic Media*, 50(3), 524–536. doi:10.1207/s15506878jobem5003_10

Table 1. Bivariate correlations of the study variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Local Ties	—													
2	Communi- ty Satisfac- tion	.19* **	—												
3	Communi- ty Efficacy	.05	.29 ***	—											
4	Multimo- dal Communi- ty Particip- ation ^a	.04	.01	.12 *	—										
5	Media Gratific- ations	.50	.12 **	.08 *	.05	—									

6	Info Seeking Habits	.11* *	-.02	.16***	.09* *	.18***	—								
7	Diversity of Local Interests	.16** **	.09*	.09**	.30** **	.14***	.26***	—							
8	Access to Technology	-.01	.14***	.18***	.21** **	-.03	-.03	.04	—						
9	Frequency of Local Info Repertoires	.11** **	.08*	.16***	.38** **	.16***	.18***	.32***	.20** **	—					
10	Size of Local Info Repertoires	.06	.03	-.03	.37** **	.08*	.08*	.29***	.25** **	.80***	—				

	res														
1	Age	.24 [*]	.14	-.0	-.1	.06	.31	.27	-.2	-.1	-.1	—			
1		**	***	4	4***		***	***	1***	0**	8***				
1	Geograp	-.2	-.0	.04	.07	-.0	-.0	.02	.07 [*]	.02	.05	-.0	—		
2	hic	0***	3			1	1					9**			
	Locatio														
	n (large														
	city)														
1	Resident	.35 [*]	.02	-.0	-.0	.08	.13	.14	-.1	.03	-.0	.37	-.1	—	
3	ial	**		2	4	*	***	***	1**		2	***	1**		
	Stability														
1	Religiou	.15 [*]	.11	.15	.03	.04	.09	.16	-.0	.07	.05	.12	-.0	.0	—
4	s	**	**	**			*	***	2			**	1	5	
	Activity														
	<i>M</i>	2.18	3.2	3.0	.65	3.2	3.4	4.6	1.45	2.4	7.05	46.	2.4	3.	3.
			8	5		1	1	9		7		43	5	42	59
	<i>SD</i>	.68	.76	.85	0.72	.62	.81	1.9	.58	.58	2.50	16.	1.0	1.	1.
								6				65	2	35	64

Note. *N* = 760. ^aThe variable was square-root transformed.

Figure 1. The conceptual model of multimodal community participation.

Figure 2. The resulting model. The estimates are displayed in both unstandardized and standardized (in parentheses) forms. *Note.* * $p < .05$, ** $p < .01$, *** $p < .001$.

Figure 3. The final revised model. The estimates are displayed in both unstandardized and standardized (in parentheses) forms.