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Mobile use, personal values, and connectedness with civic life



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ABSTRACT

This study aims to examine whether and how mobile communication enables citizens to translate their value orientations into their connectedness to the civic life. Specifically, we probe the indirect process in which different types of personal values predict key dimensions of engagement with civic affairs through patterns of mobile phone use. We show that individualism is indirectly associated with engagement with civic affairs through informational mobile use, whereas the link between collectivism and community involvement is positively intervened by relational mobile use. Additionally, socio-tropic empathy yields indirect relationships with civic engagement through informational mobile use. Implications of these findings are discussed.

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1. Introduction

Mobile communication has the potential to facilitate people's engagement in civic life. The anytime, anywhere nature of the technology allows users to seamlessly weave network interactions into the fabric of their everyday lives, to the extent that "perpetual contact" (Katz & Aakhus, 2002) with peers and family members can be achieved. To be sure, social connection among core ties is one of the defining characteristics of mobile communication (Ling, 2008). However, for some users, heightened levels of network connectivity may mean being isolated within their close contacts, unable to engage outside of the private sphere of social relations (Gergen, 2008). There has been an increase in scholarly attention toward whether and how intensive mobile contact among close ties can lead to a type of insularity where one is highly connected at the network level, but less engaged in civic life (Campbell & Kwak, 2010; Lee, Kwak, Campbell, & Ling, 2014). Despite the theoretical

concern above, these studies consistently showed that mobile telephony could encourage citizen engagement in civic and social matters.

Our interest in this study is grounded in prior works that examined the link between individual value orientation and social media use (Chau, Cole, Massey, Montoya-Weiss, & O'Keefe, 2002; Kim, Sohn, & Choi, 2011; Skoric & Park, 2014) and a related line of research that attended to mobile communication's effectiveness in the civic realm of social life (Lee et al., 2014). There has been only limited research on whether and how specific personal value orientations are tied to people's engagement with civic matters in the public sphere (Allik & Realo, 2004; Yoon, 2010). We anticipate that taking into account the role of mobile communication can help us understand how particular personal values play into individuals' action on civic matters. Within this framework, mobile communication can emerge as a distinctive medium that plays a critical role in enabling citizens to translate their specific value orientations into their connectedness to the civic realm of social life. Thus, this study advances the existing work in this area by accounting for the ways in which different types of personal values (individualism, collectivism, and

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socio-tropic empathy) predict key dimensions of engagement with civic affairs (community involvement and support for social cause) through prevailing patterns of mobile phone use (informational and relational uses).

1.1. Personal value orientations and connectedness with civic life

Individuals' value orientations play a powerful role in shaping the ways people view and experience social life. In particular, the constructs of individualism and collectivism have garnered much attention in social psychology because they guide how people reason, understand the self, and relate to others (Oyserman, Coon, & Kemmelmeier, 2002; Skoric & Park, 2014; Triandis, 2001). Individualism refers to an orientation to the personal self, characterized by qualities such as self-reliance, competition, and personal goals and achievements. Collectivists tend to have a "we" orientation with core ties and family members, valuing interdependence, mutual obligation, and integrity within social groups. Given that these types of value orientations are at the core of how and how much individuals prioritize the self, others, and society, they have the potential to help as well as hinder engagement in public matters.

The extant research shows that these types of value orientations predispose people toward certain tendencies in their engagement and relations with others. In individualistic cultures, people tend to give priority to personal rights over social duties and place a greater emphasis on self-autonomy than group membership (Hofstede, 2001). As such, it has been argued that individualists are rather unresponsive to the common good and civic order in a society and often detach themselves from civic engagement in matters of public interest (Sampson, 1977). In contrast, collectivism usually prioritizes groups over self and often obligates individuals to align their own goals to those of a society (Oyserman et al., 2002). Hence, people in collectivistic cultures have been hypothesized to be more interested in and more enthusiastic about their engagement in the broader realm of social life (Yoon, 2010).

Despite the theoretical merit of the reasoning above, it remains largely unclear how individualism and collectivism play into differing levels of social engagement. In fact, studies have shown that individualistic value orientation may prove a boon to people's engagement in a broader realm of social life. For example, Allik and Realo (2004) found that individualistic values were associated with higher levels of civic engagement and political activity and also with larger numbers of voluntary associations and group memberships. On the contrary, Yoon (2010) noted that collectivism tends to have a negative impact on the behavioral aspect of civic culture and suppress people's involvement with actions in matters of public concerns. It can be reasoned that individualism predisposes citizens toward more dynamic engagement in civic life to the extent voluntary cooperation helps them achieve self-relevant goals (Yoon, 2010) and also to the extent this value orientation fosters greater willingness to interact with strangers (Oyserman et al., 2002) and more openness to new experiences (McCrae, 2001). Collectivists, with their focal interests rather narrowly confined within the

closest, in-group circle of social relationships, may remain less engaged in the broader social sphere that encompasses a sizable body of out-group members (Hofstede, 2001; Triandis, 2001).

These rather puzzling implications of individualism and collectivism for social engagement may reflect the fact that these two value orientations are not opposing sides of the same continuum in their understanding of common good and goals of a larger society. Perhaps, they operate separately by bringing salience to different issues (Campbell, 2008; Oyserman et al., 2002). At the same time, individualism and collectivism share something very fundamental in common. Each is a value system that places emphasis on orientations toward the personal sphere of social life in predicting attitudes and behavior. Individualism highlights orientations toward the personal self, while collectivism highlights orientations toward personal ties within connected social units (Oyserman et al., 2002). Together, these two frames offer a rather narrow view of personal value orientations in the sense that orientations toward larger society (i.e., unknown members of the public realm) are paid much less theoretical attention.

Here, we see an opportunity to broaden the traditional individualism-collectivism framework to better understand how fundamental orientations toward the public realm of social life also shape the ways in which people are socially engaged through media use. Thus, we add a third dimension to the individualism-collectivism value orientations framework, which we characterize as *socio-tropic empathy*. Socio-tropic empathy refers to one's intensity of concern for the welfare of unknown others in society at-large. By adding socio-tropic empathy to the mix, we expand the range of the individualism-collectivism value orientations framework to account for how individuals prioritize the welfare of broader society, as well as the personal self and in-group others. While there may be insufficient literature to frame a hypothesis about this value orientation, there are theoretical grounds for anticipating it serves as a foundation for being socially engaged, especially at levels of society that lie outside the realms of the self and personal relationships (see Batson, 2010; Dawes, Van De Kragt, & Orbell, 1988).

1.2. Personal value orientations and patterns of mobile phone use

Despite the abundance of scholarly attention to various mobile phone usage patterns and their unique ramifications (Campbell & Kwak, 2010; Lee & Kwak, 2016), there is a dearth of research on how individuals' value orientations can entail discrete forms of mobile phone use. We aim to fill this gap by linking personal value orientations to specific uses of mobile telephony. The present study takes a special interest in two prominent user practices in mobile communication—*relational* use to manage close tie networks and *informational* use to gather and discuss content about news (Lee & Kwak, 2016; Wilken, 2011). The ensuing literature should highlight how distinctive personal values lead to particular forms of mobile communication.

A wealth of scholarly work suggests that distinctive value orientations entail peculiar applications and

practices of social media. Most notably, the extant research indicates that characteristics and properties of social network people form on social media may depend largely on value orientations they hold. A corpus of literature, while focusing primarily on the macro-level cultural difference, indicates that individualism is associated with more inclusive but looser network building, whereas people with collectivistic orientation tend to establish an exclusive but dense network on social media (Choi, Kim, Sung, & Sohn, 2010; Kim et al., 2011). As for mobile communication, Boase and Kobayashi (2012) demonstrate that mobile users with collectivistic values tend to prioritize voice calling with strong ties, while interaction outside the boundary of an immediate network through voice calling is more prevalent among members of individualistic societies. Drawing on these distinct forms of social networks under different social orientations, studies (Lee, Noh, & Koo, 2013; Wang, Jackson, Zhang, & Su, 2012) also note that personal value orientations can play a noteworthy role in shaping the way people disclose or present themselves on social media. That is, users with individualistic orientation tend to disclose themselves selectively about their favorable facets of their life due to the large number of less familiar people in their social media network, whereas collectivists often engage in honest and truthful sharing of greater information owing to their more intimate social ties. These studies suggest that distinctive types of personal value orientations predispose people toward certain tendencies and trends in their use of social media.

More germane to the aforementioned two core usage patterns, Chau et al. (2002) demonstrate that people with individualistic orientation are more inclined to utilize the Internet for searching and gathering information, while collectivistic counterparts tend to view it typically as a means for enhancing social relations. In a similar vein, Kim et al. (2011) identify seeking information as the prevailing motivation of SNS use among Americans who possess individualistic orientation, while obtaining social support from close tie network was more dominant among Koreans due to their collectivistic values. As such, mounting evidence indicates that social media serve the main goal of maintaining social connection among members of collectivistic societies, while they fulfill essentially the needs for seeking and exchanging information among people with individualistic value orientation (Ji et al., 2010; Nadkarni & Hofmann, 2012).

Reasoning behind the link between collectivism and relational use of social media may include that this particular usage pattern denotes an efficient way of consolidating strong social ties (Lin & Lu, 2011) to which people with collectivistic values attach the utmost emphasis (Hofstede, 2001; Triandis, 2001). On the other hand, individualists tend to stress their own goals and accomplishments (Gudykunst & Kim, 1992); therefore they are more disposed to goal-directed online activities such as seeking and exchanging information to their own needs (Chau et al., 2002). Taken together, the existing literature suggests that people with distinctive personal value orientations may put social media into use for disparate needs and goals. Furthermore, this line of explanations can be extended to mobile communication, given research also shows

collectivism and individualism can play into how people understand and use mobile phones (Campbell, 2008; Kang & Jung, 2014). Meanwhile, little can be predicted regarding the association between socio-tropic empathy and mobile phone use due to the lack of empirical evidence. Drawing on the literature above that has attended to the relationships between specific personal value orientations and distinctive forms of mobile phone use, we posit the following hypotheses and research questions.

H1: Individualism is positively related to informational mobile use.

H2: Collectivism is positively related to relational mobile use.

RQ1a: How is socio-tropic empathy related to informational mobile use?

RQ1b: How is socio-tropic empathic related to relational mobile use?

1.3. Mobile phone uses and engagement with civic affairs

Many agree that multitude venues of new media including the Internet, blogs and social networking sites plays a positive role in social and civic life, when used for informational purposes to seek out and discuss news and public affairs (Park, 2015; Park, Kee, & Valenzuela, 2009; Shah et al., 2007; Skoric & Park, 2014). Studies extending this line of research to mobile communication point to a similar trend, with the positive association between informational use of mobile telephony and civic engagement (Campbell & Kwak, 2010; Lee et al., 2014). Explanations for the positive effects of informational uses include the ease of acquiring substantive content that could encourage more profound reflection about public matters (Shah et al., 2007) and the formation of weak tie networks helping individuals encounter greater recruitment attempts (Kavanaugh, Reese, Carroll, & Rosson, 2005).

Next we turn to the expected link between relational use of the mobile phone and social engagement. To be sure, mobile communication strengthens core ties by keeping family and friends connected while carrying on with daily life (Ling, 2008). Gergen (2008) warns that this type of intensive mediated contact within the intimate private sphere can invite detachment from the public realm. However, recent evidence suggests that relational forms of mobile communication may also support engagement in civic life (Lee et al., 2014). In fact, mobile mediated interactions with peers and family can inadvertently add to involvement in social activities, as casual conversations with friends and family members can foster trust and create a space for discussing other matters, such as community affairs and social issues (Wyatt, Katz, & Kim, 2000). Taken together, there are grounds for anticipating that not only informational use but also relational use of mobile telephony can serve as an enhancer of engagement with civic affairs. Hence, we propose the following hypotheses.

H3: Informational mobile use predicts enhanced engagement with civic affairs.

H4: Relational mobile use predicts enhanced engagement with civic affairs.

1.4. Personal value orientations, mobile phones uses, and engagement with civic affairs

There have been limited research efforts demonstrating clearly how specific personal value orientations are tied to citizen's engagement with civic affairs, although evidence is suggestive of the constructive role of socio-tropic empathy (see Batson, 2010; Dawes et al., 1988). Nonetheless, the role of mobile communication may help us clarify how particular values play into individuals' action on social matters. That is, personal values may be indirectly linked to engagement in civic matters via distinct mobile practices, given (1) the plausible association between personal values and mobile uses as well as (2) the well-researched linkage between mobile communication and social engagement.

As such, a synthesis of literature reviewed above illuminates mobile communication's capacity to help people translate their personal value orientations into action on civic matters. Given that individualism is expected to explain the increased level of informational mobile use, which has been shown to predict more active engagement in social matters, it is reasonable to anticipate that using mobile phones for information positively mediates the relationship between individualistic value orientation and engagement with civic affairs. In addition, integrating the direct association between collectivistic value orientation and mobile phone use for grooming social relations and the latter's subsequent link to civic engagement can point to the reinforcing mediating role of relational mobile use. Still, it remains largely unclear how mobile communication translates socio-tropic empathy into meaningful civic action. Accordingly, we put forward following hypotheses and research questions concerning the indirect relationships between personal value orientations and engagement with civic affairs via distinct patterns of mobile phone use.

H5: Individualism is indirectly associated with engagement with civic affairs via informational mobile use.

H6: Collectivism is indirectly associated with engagement with civic affairs via relational mobile use.

RQ2a: How does socio-tropic empathy relate to engagement with civic affairs via informational mobile use?

RQ2b: How does socio-tropic empathy relate to engagement with civic affairs via relational mobile use?

2. Methods

2.1. Data

We relied on data from an online survey that was conducted in South Korea in March, 2010 by the research firm *Synovate*. A target sample, selected from *Synovate*'s pre-recruited panel of approximately 800,000 members, was to reflect the demographic characteristics of the 18–59 old population in the major six regions in South Korea. This stratified quota sampling method is somewhat different from conventional probability sample procedures. However, scholars (e.g., Putnam & Yonish, 1999) demonstrated that this method produced highly comparable data. Note that those over 60 years of age tend to be underrepresented in online surveys because of a low level of their

online use. For this reason, it is challenging to construct a representative sample of the older population. Thus, the study population entails those 18–59 years old. Of 4,226 target respondents who were eligible for our study, a total of 812 respondents participated in the survey. Of those, 800 respondents completed the survey (a cooperation rate of 18.9%, COOP1, AAPOR). Additionally, there were 24 respondents who were originally included in the target sample, but excluded later from our analysis because they did not meet the criteria for participation (i.e., age and place of residence).

Key demographic characteristics of the sample are comparable to those of the population figures reported by the South Korean government's statistical agency, *Statistics Korea*. For instance, the median age in both the sample and population was 39 and there were 49.6% female in the sample and 49.0% in the population. Yet those who are highly educated are somewhat overrepresented in the sample (56.2% with a college degree) in comparison with the population (37.8% with a college degree). The annual median household income was also slightly higher in the sample (KRW 48,000,000–59,880,000) than in the population (KRW 38,880,000).

2.2. Measures

2.2.1. Personal value orientations

Three categories of personal value orientations – individualism, collectivism, and socio-tropic empathy – were examined. To tap these three value orientations, we measured respondents' agreement with a total of seven statements designed to tap their attitudes on a six-point scale, ranging from "definitely disagree (1)" to "definitely agree (6)." First, individualism ($M = 4.32$; $SD = .89$; Cronbach $\alpha = .71$) was measured with the following three items: "I'd rather depend on myself than others," "I rely on myself most of the time," and "I often do my own thing." For collectivism ($M = 4.46$; $SD = 1.00$; inter-item correlation = .71), we used the following two statements: "If a friend gets a prize, I would feel proud" and "The well-being of my friend is important to me." Two items were used for socio-tropic empathy ($M = 3.51$; $SD = 1.04$; inter-item correlation = .47): "Regardless of my own situation, I view the problems of the nation as my own," and "When hearing about a natural disaster, I often feel as if the victims' sufferings were my own." An averaged index was created for each personal value orientation.

2.2.2. Mobile phone uses

Two distinctive forms of mobile phone use were examined: informational and relational. For each of the items employed to measure respondents' mobile phone use, we asked them to report the frequency of their mobile phone use for a particular need and goal in the past month on an eight-point response scale, ranging from "none in the last month (1)" to "several times a day (8)." Those who reported not using a mobile phone were treated as zero frequency. Informational use of the mobile phone, which concerns use of the mobile phone for gathering and discussing public affairs, was measured by two questions, which specifically asked how frequently respondents used their mobile phone

for 1) discussing politics and other news, and 2) seeking out information about what's going on in the news ($M = 4.65$; $SD = 2.89$; inter-item correlation = .35).

To measure the mobile use to maintain and develop personal relationships, a total of six items were employed ($M = 25.16$; $SD = 8.17$; Cronbach $\alpha = .83$). Respondents were asked to report how frequently they used their mobile phone 1) just to be social; 2) to touch base; 3) to chat; and 4) to have a long conversation to discuss important personal matters. The last two items were asked separately for voice calling and text messaging.

2.2.3. Engagement with civic affairs

We were interested in two related, but different measures of engagement with civic affairs. For each item tapping respondents' civic engagement, they were asked to report the frequency of their participation on a particular activity in the past month on a seven-point scale, ranging from "none in the last month (1)" to "everyday (7)." For our first measure, community involvement, three specific areas of participation in local community activities were used: 1) working on a community project, 2) going to a neighborhood meeting, and 3) volunteering in my community. The responses were averaged to form an index ($M = 1.53$; $SD = .95$; Cronbach $\alpha = .86$). The second measure of engagement was a level of individual support for social cause. For this, respondents were asked about three aspects of involvement in social cause: 1) contributing money to a social group or cause, 2) working on behalf of a social group or cause, and 3) doing something to help raise money for a charitable cause. An averaged index was created for support for social cause ($M = 1.62$; $SD = .93$; Cronbach $\alpha = .80$).

2.2.4. Control variables

For control, this study included age, gender, education, household income, TV new use, newspaper use, and internet news use. We also controlled for the news media use in which respondents were asked to report, on a five-point scale, ranging from "never" to "very often," how frequently they had watched national television news ($M = 4.05$; $SD = 1.01$); read daily newspapers ($M = 2.94$; $SD = 1.39$); and read news on online sites ($M = 3.85$; $SD = 1.20$).

3. Results

We begin by examining direct links between personal value orientations and engagement with civic affairs, as illustrated in Table 1. The results show that individualistic value orientation was largely unrelated with community involvement ($\beta = -.033$, ns) and support for social cause ($\beta = -.018$, ns), whereas collectivism predicted significantly lower levels of community involvement ($\beta = -.101$, $p < .05$) and support for social cause ($\beta = -.106$, $p < .05$). On the other hand, socio-tropic empathy produced the most promising relationship with engagement with civic affairs, as it explained considerable increases in community involvement ($\beta = .182$, $p < .001$) and support for social cause ($\beta = .203$, $p < .001$).

Table 2 reports the results from an OLS regression analysis predicting informational mobile use from three categories of personal value orientations. The findings in

Table 1

OLS predicting engagement with civic affairs from personal value orientations.

	Engagement with civic affairs	
	Community involvement	Support for social cause
Control variables		
Age	.033	-.009
Gender (high: female)	.026	-.031
Education	-.014	-.003
Household income	.071 [†]	.110 ^{**}
Newspaper news use	.152 ^{***}	.134 ^{**}
Television news use	-.093 [*]	-.119 ^{**}
Internet news use	.006	.029
<i>R</i> ² (%)	4.3	4.8
Personal value orientations		
Individualism	-.033	-.018
Socio-tropic empathy	.182 ^{***}	.203 ^{***}
Collectivism	-.101 [*]	-.106 [*]
Inc. <i>R</i> ² (%)	2.9	3.5
Total <i>R</i> ² (%)	7.2	8.3

Note: sample size = 738. Entries are standardized final regression coefficients.

[†] $p < .10$.

^{*} $p < .05$.

^{**} $p < .01$.

^{***} $p < .001$.

Table 2

OLS predicting mobile phone uses from personal value orientations.

	Mobile phone uses	
	Informational mobile use	Relational mobile use
Control variables		
Age	-.158 ^{***}	-.262 ^{***}
Gender (high: female)	-.043	.166 ^{***}
Education	-.047	-.015
Household income	.123 ^{**}	.189 ^{***}
Newspaper news use	.164 ^{***}	.151 ^{***}
Television news use	.033	.010
Internet news use	.001	.068 [†]
<i>R</i> ² (%)	7.2	13.7
Personal value orientations		
Individualism	.081 [*]	.052
Socio-tropic empathy	.197 ^{***}	.007
Collectivism	-.049	.129 ^{**}
Inc. <i>R</i> ² (%)	3.8	2.4
Total <i>R</i> ² (%)	11.0	16.1

Note: sample size = 738. Entries are standardized final regression coefficients.

[†] $p < .10$.

^{*} $p < .05$.

^{**} $p < .01$.

^{***} $p < .001$.

the first column show that individualism (H1) was associated with more frequent use of the mobile phone for information ($\beta = .081$, $p < .05$), while socio-tropic empathy (RQ1a) also explained a significant increase in informational mobile use ($\beta = .197$, $p < .001$). In contrast, the corresponding link for collectivism was negative, although it was not significant ($\beta = -.049$, ns). Meanwhile, the second column of Table 2 summarizes parallel results from the OLS model in which relational mobile use served as the criterion variable. As expected from H2, collectivism

Table 3

OLS predicting engagement with civic affairs from mobile phone uses controlling for personal value orientations.

	Engagement with civic affairs	
	Community involvement	Support for social cause
Control variables		
Age	.114 ^{**}	.058
Gender (high: female)	.028	-.022
Education	.004	.013
Household income	.011	.060
Newspaper news use	.079 [*]	.070 [*]
Television news use	-.106 ^{**}	-.130 ^{**}
Internet news use	.000	.026
R ² (%)	4.4	4.8
Personal value orientations		
Individualism	-.067 [†]	-.049
Socio-tropic empathy	.109 ^{**}	.139 ^{***}
Collectivism	-.095 [*]	-.094 [*]
Inc. R ² (%)	2.8	3.5
Mobile phone uses		
Informational mobile use	.362 ^{***}	.351 [*]
Relational mobile use	.087 [*]	.040
Inc. R ² (%)	13.5	11.4
Total R ² (%)	20.7	19.7

Note: sample size = 738. Entries are standardized final regression coefficients.

† p < .10.

* p < .05.

** p < .01.

*** p < .001.

explained greater use of mobile telephony for grooming personal social relationships ($\beta = .129$, $p < .01$). However, neither individualism ($\beta = .052$, ns) nor socio-tropic empathy (RQ1b: $\beta = .007$, ns) was related to relational mobile phone use.

To investigate the implications of distinct uses of mobile phone for people's engagement with civic matters, we regressed community involvement and support for social cause respectively on patterns of mobile phone use, while incorporating the same set of control variables as well as three categories of personal value orientations in the OLS models. The result summarized in the first column of Table 3 lends support for H3 demonstrating that informational mobile use explained a higher level of community involvement ($\beta = .362$, $p < .001$). It is also shown that relational mobile use ($\beta = .087$, $p < .05$) was linked to increased community involvement (H4). Meanwhile, the findings reported in the second column in Table 3 indicate that information use (H3) was associated with higher level of support for social cause ($\beta = .351$, $p < .001$), whereas the corresponding link for relational use (H4) was also positive but it failed to reach statistical significance ($\beta = .040$, ns).

Collectively, the OLS coefficients discussed above display dynamic patterns of relationships among different categories of personal value orientations, distinct forms of mobile phone use, and measures of engagement with civic affairs. In particular, the findings suggest that individualism is indirectly connected to engagement with civic matters via informational mobile use (H5), given that the positive correlation between individualism and informational use is noteworthy and also that the former's subsequent links

Table 4

Specific indirect relationship between personal value orientations and community involvement through mobile phone uses.

Specific indirect effect	Point estimate	SE	95% bootstrap CI	
			LL	UL
I → IMU → CO	.029	.015	.003	.064
I → RMU → CO	.005	.004	-.001	.017
S → IMU → CO	.071	.019	.039	.114
S → RMU → CO	.006	.004	-.007	.009
C → IMU → CO	-.018	.015	-.049	.009
C → RMU → CO	.011	.006	.002	.027

Note. I: individualism; S: socio-tropic empathy; C: collectivism; IMU: informational mobile use; RMU: relational mobile use; CO: community involvement.

to measures of engagement with civic affairs were all significantly positive. On the other hand, mobile phone use for managing personal relations appears to have the capacity to translate collectivism into more active involvement in community matters (H6). Interestingly, there seems to be a significant indirect relationship between socio-tropic empathy and civic action via the conduit of information mobile use (RQ2a), although an equivalent indirect link is unlikely through relational mobile use (RQ2b) as socio-tropic empathy was largely unrelated to this particular form of mobile use (RQ1b).

In order to more precisely assess if these dynamic indirect links are statistically significant, we utilized PROCESS macro (Model 4) provided by Hayes (2013) to compute relevant coefficients and confidence intervals. Fig. 1 and Table 4 summarize the results for the model in which community involvement served as the criterion variable. As shown in Fig. 1, the link between individualism and informational mobile use in conjunction with the latter's subsequent relationship with community involvement lends credence to H5, which attended to the considerable intervening role of informational mobile use. Indeed, the computed confidence interval reported in Table 4 ($\beta = .029$, $SE = .015$) (95% bc CI: .012; .096) confirms that individualism was indirectly associated with community involvement through informational mobile use.

Fig. 1 also illustrates that after accounting for mobile phone use, the direct relationship between individualism and community involvement became negative, although it was only marginally significant ($\beta = -.067$, $p < .10$). Similarly, there was a significant indirect relationship between socio-tropic empathy and community involvement through information mobile use (RQ2a) as shown in Table 4 ($\beta = .071$, $SE = .019$) (95% bc CI: .039; .114). The indirect link via relational mobile use (RQ2b) was not significant ($\beta = .006$, $SE = .004$) (95% bc CI: -.007; .009). In addition, socio-tropic empathy's direct link to community involvement remained considerably positive, even after explaining the role of mobile telephony ($\beta = .109$, $p < .001$). On the other hand, the confidence interval reported in Table 4 suggests that collectivism was associated with community involvement indirectly through relational mobile use ($\beta = .011$, $SE = .006$) (95% bc CI: .002; .027). This significant indirect relationship (H6) was mainly due to the positive link between collectivism and relational mobile

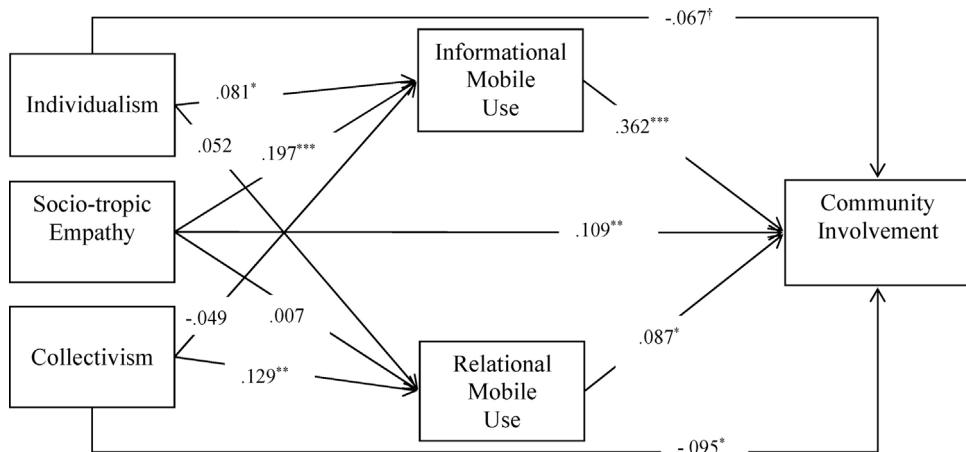


Fig. 1. Indirect relationships among personal value orientations, mobile phone uses, and community involvement.

Table 5

Specific indirect relationship between personal value orientations and support for social cause through mobile phone uses.

Specific indirect effect	Point estimate	SE	95% bootstrap CI	
			LL	UL
I → IMU → SC	.029	.015	.003	.061
I → RMU → SC	.002	.003	-.001	.011
S → IMU → SC	.069	.019	.038	.113
S → RMU → SC	.003	.002	-.003	.007
C → IMU → SC	-.017	.015	-.049	.011
C → RMU → SC	.005	.005	-.002	.019

Note. I: individualism; S: socio-tropic empathy; C: collectivism; IMU: informational mobile use; RMU: relational mobile use; SC: support for social cause. Estimates were calculated using the PROCESS macro provided by Hayes (2013). CIs are bias-corrected 95% confidence intervals based on the bootstrapping of 5,000 samples.

use and the latter's subsequent correlation with community involvement, both of which are also displayed in Fig. 1. It can also be seen that the direct relationship between collectivism and community involvement turned significantly negative ($\beta = -.095$, $p < .05$), when mobile phone uses are controlled for.

The results from the analytical model in which support for social cause was the criterion variable, summarized in Fig. 2 and Table 5, largely parallel those for community involvement. For instance, it is shown in Table 5 that individualism was indirectly associated with increased support for social cause through informational mobile use ($\beta = .029$, $SE = .015$) (95% bc CI: .012; .096), which again presents support for H5. Likewise, the indirect path from socio-tropic empathy to support for social cause via the informational mobile use (RQ2a) was also noticeably positive ($\beta = .069$, $SE = .019$) (95% bc CI: .038; .113). The indirect link via relational mobile use (RQ2b) was not significant ($\beta = .003$, $SE = .002$) (95% bc CI: -.003; .007). Meanwhile, Table 5 indicates that the comparable indirect relationship between collectivism and support for social cause (H6) was not significant ($\beta = .005$, $SE = .005$) (95% bc CI: -.002; .019). This is primarily due to the lack of significant relationship between relational mobile use and support for social cause

as illustrated in Fig. 2. Meanwhile, personal value orientations' direct relationships with support for social cause are mostly consistent with those observed from the model of community involvement. That is, socio-tropic empathy was positively related to support for social cause ($\beta = .139$, $p < .001$), while individualism ($\beta = -.049$, ns) and collectivism's ($\beta = -.094$, $p < .05$) links to the criterion variable turned negative after accounting for the role of mobile communication, although the former relationship was not statistically significant (see Fig. 2).

4. Discussion

This study attended to mobile communication's potential to help people translate personal value orientations into action on civic matters. To this end, we drew on a survey conducted in South Korea, and our results showed that specific value orientations explained particular patterns of mobile phone use. In addition, it was observed that the two most prevailing forms of mobile communication were linked to more dynamic engagement with civic matters. Taken together, the results highlighted the predictive capacity of personal value orientations for citizen involvement can be largely explicated by indirect relationships through mobile phone uses. As such, a closer investigation of key findings provides the insights into scores of implications for the literature pertaining to the relationships among personal value orientations, mobile communication, and engagement with civic affairs.

First, our results attest to the role of personal value orientations in shaping the way people perceive and use social media. Indeed, it was shown that individualism (H1) and socio-tropic empathy (RQ1) were associated with higher levels of information mobile use, while collectivism predicted more frequent use of mobile telephony for grooming personal social relations (H2). This line of findings extends the previous literature that has illustrated how specific value orientations play into peculiar applications and practices of social media with a particular emphasis on individualism's linkage to use for seeking and exchanging information and collectivism's connection with use for enhancing personal social relations (see e.g.,

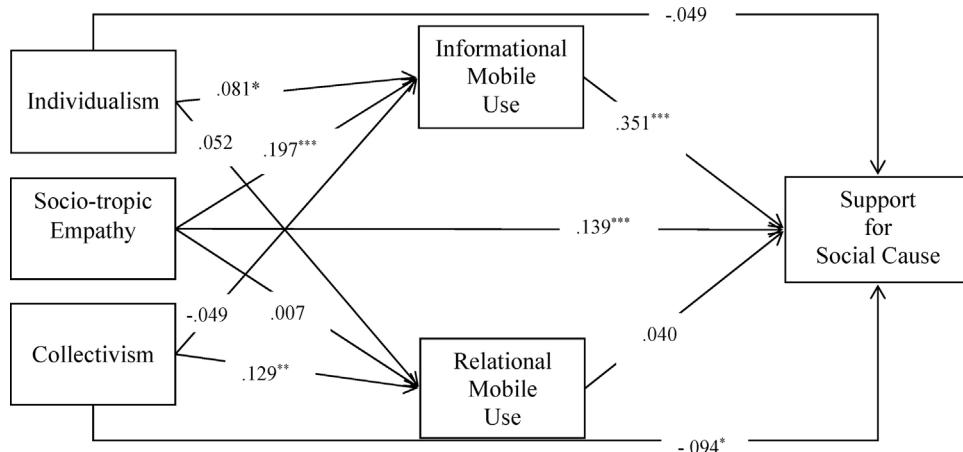


Fig. 2. Indirect relationships among personal value orientations, mobile phone uses, and support for social cause.

Notes. Standardized regression coefficients are reported. Estimates were calculated using the PROCESS macro provided by Hayes (2013), Model 4; ^a $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Chau et al., 2002; Kim et al., 2011). It is noteworthy that socio-tropic empathy predicted considerably higher level of informational mobile use (RQ1a), although this value orientation was not tied to the relational usage pattern (RQ1b). Due to the paucity of preceding work, it can only be reasoned that socio-tropic empathy, which refers to concern for the well-being of unknown others in society at-large, would promote informational mobile practices that have been vindicated to prompt conversations with lesser-known others in public settings (Campbell & Kwak, 2011) rather than relational uses that would limit the scope of people's interests with their intimate social sphere life (Ling, 2008).

Second, the results of the present study reaffirmed the significant link between mobile communication and engagement with public matters. More specifically, we found that informational mobile use was tied to more active involvement in community affairs and greater support for social cause (H3), while relational use was associated with the latter form of engagement (H4). The constructive role of using mobile phones for information aligns well with mounting evidence that has consistently documented the positive association between this usage pattern and engagement in civic and public life (Campbell & Kwak, 2010; Lee et al., 2014). On the other hand, there have been some theoretical concerns signifying that perpetual mobile-mediated contact with a small number of similar people could yield deleterious consequences for the health of a society by inviting withdrawal from civic/political engagement (Gergen, 2008). Nonetheless, this study warrants more recent research evidence uncovering that relational forms of mobile communication can also make citizens more enthusiastic about their involvement in civic life (Lee et al., 2014).

Most importantly, this study demonstrated how mobile communication enables people to translate personal value orientations they possess into meaningful engagement with civic matters. Although the extant literature remains rather inconclusive about the direct relationship between value orientations and citizen involvement in

public life especially within the traditional individualism-collectivism framework (see, for example, Allik & Realo, 2004; Yoon, 2010), it was our hope that taking distinct usage patterns of mobile telephony into account sheds light on how this linkage transpires via different forms of use. The results indicate that individualism was indirectly associated with engagement with civic affairs mainly through informational mobile use (H5), whereas the link between collectivism and community involvement was positively intervened by relational mobile use (H6). It is worth noting that prior to accounting for the role of mobile communication, individualists were no more likely to be committed to civic affairs and collectivism's relationship with community involvement was even significantly negative. Collectively, the findings lend credence to the pivotal role of mobile communication in the civic realm indicating that individualism's capability to consolidate engagement with civic affairs transpires only through informational mobile use, whereas collectivism play into community involvement exclusively via the conduit of relational mobile use. In other words, the constructs of individualism and collectivism alone may not trigger noticeable enhancement of civic engagement unless they are accompanied by appropriate uses of mobile telephony.

Beyond the scope of the individualism-collectivism typology, socio-tropic empathy yielded indirect relationships with the two measures of civic engagement through use of mobile phones for information (RQ2a). On the other hand, this value orientation's direct links to community involvement and support of social cause remained significantly positive, even after the indirect paths through mobile phone uses were controlled for. Findings along this line support theoretical considerations viewing socio-tropic empathy as a crucial basis for greater participation in an expanded social sphere, given that this value orientation can induce individuals to prioritize the welfare of broader society over the personal self and in-group others (Batson, 2010; Dawes et al., 1988). However, the observed positive mediating role of mobile communication also implies that using the mobile phone for gathering and exchanging infor-

mation can further augment the already constructive role of socio-tropic empathy in the broader social sphere.

The findings of the current research should be interpreted in light of its limitations. First, due to the cross-sectional nature of the survey data, the patterns examined here are not suitable for causal inferences. Admittedly, the most troubling causal relationship assumed in this study pertains to the flow from mobile phone uses to engagement with civic affairs. Nevertheless, evidence from panel data advocates the causal flow from mobile communication to engagement (Campbell & Kwak, 2011). In addition, it should be noted that the present study examined only informational and relational uses of mobile telephony. In and of themselves, they do not reflect the exhaustive list of mobile phone usage patterns and the potential relationship to other forms of digital media consumption (see Jang, Park, & Lee, 2016). Thus, future studies are encouraged to assess more nuanced forms of mobile communication beyond the two prevailing usage patterns examined in this study such as use for entertainment. Also, the sample used in this study is somewhat slanted to overrepresent those who are younger and college graduates perhaps due to the nature of an online survey. Hence, a future study will certainly benefit from a more representative sample to see if the patterns of relationships observed in this study are generalizable across different age groups and education levels. Lastly, there could be more far-reaching macro-level, international differences in terms of personal value orientations that can fundamentally shape specific uses of mobile telephony and also the level of civic engagement. This study relied on the survey data collected in one country. Thus, building on the findings of the present study, additional research efforts can benefit by probing the role of personal value orientations in cross-national context. Shortcomings notwithstanding, the current research can serve as a foundation for a future investigation aiming to understand how personal value orientations play into distinct uses of mobile and also how peculiar applications and practices can translate specific personal values into meaningful civic action.

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