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AFTER CLOSING THE RURAL BROADBAND GAP: THE CASE OF KOREAN INFORMATION NETWORK VILLAGE

By

KyuJin Shim

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ABSTRACT

WHAT HAPPENS AFTER THE RURAL BROADBAND GAP IS CLOSED?
THE CASE OF KOREAN INFORMATION NETWORK VILLAGE

By

KyuJin Shim

Having reached 98% coverage in rural areas in Korea, the Information Network Village (INVIL) project focused on not only constructing broadband infrastructure but also building online social networks. The current study examined the impact of public investment in information communication technology on online interaction and social capital in rural areas after broadband infrastructure was saturated. The findings indicated that public investment served a key role for the sustainable development of rural area through increasing community attachment and reducing migration intention.

To Min

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INTRODUCTION

Public investment in Information Communication Technology (ICT) and its effect on rural development is becoming a global issue as rural outmigration and an economic downturn are threatening the sustainability of rural society. Efforts in telecommunication infrastructure investment had a significant impact on social and economic development in rural and developing regions (Hudson, 1995). Reducing the rural-urban broadband gap is also a critical issue even to developed countries like the United States. It was shown that government investment in rural broadband had significant relationships to rural employment and economic viability (Gillett, Lehr, & Sirbu, 2006; Katz & Suter, 2009).

However, it is unknown whether public investment in ICT is still effective after broadband adoption reaches high penetration levels nationally (i.e., "saturated", Katz & Suter, 2009, p. 2). To address this question, it is worth noting the Korean case of INVIL (Information Network Village), which is a government-driven project that aims to build broadband infrastructure in rural areas and online communities of local residents. While many parts of the world are still implementing public investment in infrastructure, Korea has already achieved 98% broadband coverage even in small cities as well as rural areas (Kim & Santiago, 2005) and high broadband penetration rate (75%) across the country (Ministry of Public Administrations and Security [MOPAS], 2009). Still, government support continues to provide the training and maintenance of online social networks in rural communities. Thus, the Korean case of INVIL provides a unique opportunity to examine what happens after the rural broadband gap is addressed systematically.

Since infrastructure penetration in Korea reached maturity, closing the rural-urban broadband adoption rate is no longer a primary issue (Korea Local Information Research & Development Institute [KLID], 2008). The new question becomes: how is public investment in ICT used to enhance the viability of rural areas? This question is worth noting since Korean rural areas are suffering from economic decline and rural exodus (Kim, 2003), which is similar to how American rural areas are suffering (Galston & Baehler, 1995).

Social capital is a significant determinant of sustainability of rural development initiatives, and ICT serves an important role in enhancing social capital of communities (Simpson, 2005). Yet, the social benefits of the INVIL project are as yet unknown (KLID, 2008). Thus, the current study explored the impact of government support of utilization of ICT infrastructure in rural communities. What is the impact of the INVIL project on social capital of rural areas? Why a public investment is still needed, when ICT infrastructure is saturated? In what manner, can INVIL help preserve the fabric of rural communities?

The current study examined the social impacts of the INVIL project from three perspectives. First, from the perspective of social cognitive theory (Bandura, 1986), the study examined the influence of INVIL on Internet self-efficacy and outcome expectations, which are major indicators in overcoming the digital divide through sustainable broadband adoption (Hoffman & Novak, 1998; LaRose, Gregg, Strover, Straubhaar, & Carpenter, 2007). Second, as INVIL has emphasized online social networks of local residents, its effect on social capital was investigated. Specifically, its effects on online interaction and real-life community attachment were examined. Finally,

the impact of INVIL on community satisfaction and intention to stay which are regarded as crucial for sustainability of rural areas were investigated. As rural areas are suffering from the economical decline and rural exodus, this question is closely related with viability of local community. By examining the three aspects of social impacts, the current study aims to examine implications for a future public investment in closing the digital divide.

OVERVIEW OF INVIL

Since its implementation in 2001, the INVIL project has aimed to 1) construct broadband infrastructure in informationally disadvantaged areas, 2) build content-rich local websites, 3) encourage community members to use information technology in their daily lives, and 4) increase the long term viability of local communities through building an online community and improving the local economy (MOPAS, 2009).

At the early stage of the INVIL project, the government mainly focused on the former two objectives to close the infrastructure gap between rural and urban areas. Fiber optic backbone networks connected each village and 10M bps asymmetric digital subscriber lines (ADSL) linked each household. As a result, the Internet penetration rate for participating communities (65%) was significantly higher than that of non-participating communities (40%) (Korea Association of Local Informatization [KALI], 2006). As of January 2008, the INVIL project completed building local websites for a total of 358 participating villages.

In order for a rural village to benefit from the INVIL project, the village has to apply to be considered as participant village, clarifying their aims and plans to build the community's ties and boom the economy through the network infrastructure and village websites. The cases of fulfilling the criteria index formed by government body in charge at competing level are likely to be accepted. According to main bodies in charge, the village selection criterion is the following. Farming and fishing villages has yet to develop Internet and informatization infrastructure. Villages should be able to generate income by making use of local specialties and experience tourism. Finally, village

residents must present strong will to conduct self-operation volition to carry on following construction (MOPAS, 2009).

Currently, the INVIL project focuses on the latter two goals. To increase local residents' involvement, the government employed program managers for each village, who not only manage local websites and teach computer skills to local residents but also organize online communities. With the effort of local program managers, the number of memberships on the INVIL website (http://www.invil.org) increased by 64% from 2005 to 2007. At the same time, the number of forums and posts increased by 88% and 38%, respectively (KALI, 2006). Along with this active online participation, the e-commerce system on the INVIL website contributed to local economies. From 2005 to 2007, the sales record of specialty goods and tour programs increased by 900% and 90%, respectively (KALI, 2006). Considering positive collateral effects such as online promotions of local specialties and tourism, the INVIL project has significantly contributed to enhanced economic viability of participating villages.

The results of the INVIL project have been promising. According to a survey conducted by MOPAS, 74.1% of the participants responded that the project was helpful in resolving the digital divide issue and 62.4% agreed that it had enhanced the viability of their local community. Two-thirds of participants (65.7%) agreed that the INVIL project was conducive to local economic growth. Regarding the outlook of e-commerce, 62.8% thought that revenue would increase in the near future (KALI, 2006). Along with these positive results, the INVIL project was acknowledged by the 2006 World e-Gov Forum as a notable case of closing the digital divide.

LITERATURE REVIEW

Closing the digital divide and INVIL

The digital divide refers to "the gap between those who have access to digital technologies and those who do not" (Hargittai, 2003, p. 2). In terms of the access and usage of ICT, the digital divide has diverse dimensions such as "quality of equipment, autonomy of use, the presence of social support networks, experience and online skill" among the different segments of the populace (Hargittai, 2003, p. 3). The digital divide research has focused on the relationship between demographics and the digital divide. Demographics are reported to have a greater influence on broadband adoption than the service availability by public investment (Horrigan, 2009; Government Accounting Office [GAO], 2006).

Seeking answers to the question "is demography destiny?" (LaRose, Gregg, Strover, Straubhaar, & Inagaki, 2008, p. 5), empirical studies examined mediating factors such as education and ethnicity. By comparing different ethnic groups in the U.S., Hoffman and Novak (1998) found that education had helped to transform Internet access into usage. Also, Hargittai (2003) suggested that proper policy should be put into effect to strengthen the users' benefits not only by improving access to ICT but also by investing in training. Moreover, broadband adoption was found to be enhanced by external stimuli such as government's investment in broadband service and public education efforts aimed at perceptions of broadband service (LaRose et al., 2010).

The INVIL project was originally aimed to close the digital divide between rural and urban areas in terms of Internet accessibility. However, with the saturation of

broadband, the INVIL project is now turning its focus to the creation of user benefits, such as improving economic viability and strengthening online social networks. Regarding this, in terms of the digital divide, the current study examined "what happened after broadband saturation."

Internet Self-Efficacy and Outcome Expectations

On the premise that demographic characteristics do not necessarily lead to significant differences in user behavior, social cognitive variables have received attention as indicators in overcoming the digital divide (Eastin & Larose, 2000). Social cognitive theory (SCT) has explained the possible factors of information technology adoption in rural areas (LaRose et al., 2008). Social cognitive variables were viewed as factors to overcome the Internet paradox (Kraut, Patterson, Kiesler, Mukhopadhyay & Scherlis, 1998) which addressed the negative effect of Internet on social involvement and psychological well-being (LaRose, Eastin & Gregg, 2001). LaRose et al. (2008) claimed that Internet self-efficacy enabled individual users with few social ties to seek social support online.

Social cognitive theory (Bandura, 1986) proposes that self-efficacy and outcome expectations are associated with human behavior. Self-efficacy refers to "people's judgments of their capabilities to organize and execute courses of action required to achieve designated types of performances" (Bandura, 1986, p. 391). Individuals cognitively process information concerning their ability and regulate their choice behavior and exert effort accordingly (Bandura, 1977).

Internet self-efficacy can be constructed as the belief in one's capabilities to organize and execute courses of Internet actions needed to produce given attainments

(Eastin & LaRose, 2000). Internet self-efficacy has strong ties with other relevant factors such as prior Internet experience, outcome expectancies, and Internet use (Eastin & LaRose, 2000). Previous studies found that the level of cognitive outcome expectations is an antecedent factor to achieve a successful outcome. Expected outcomes of Internet usage predict Internet use (LaRose et al., 2001). Outcome expectations are deemed as indicators to close the digital divide between rural and urban areas (Eastin & LaRose, 2000). Expected outcomes of broadband usage were explored as factors to increase broadband adoption intentions (LaRose et al., 2007), to encourage purchases online (Vijayasarathy, 2004), try new e-services (Hsu & Chiu, 2004), and to motivate engagement in web-based instruction (Joo, Bong & Choi, 2006). The findings indicated that strong Internet self-efficacy was related to high levels of outcome expectations, thus, mediating the behavioral intention. Prior experience encouraged by behavioral intentions in turn would incur higher expected outcomes, recurrently affecting Internet self-efficacy.

Considering that INVIL supports diverse programs to motivate rural residents' Internet usage the current study aimed to investigate impact of the INVIL project on rural residents' Internet-self efficacy and the expected social outcomes. Training programs and maintenance of village websites are also provided in order to maximize the utilization of infrastructure. Further attention is paid to promoting village websites to achieve community viability through active online interaction. Taken together, from the social cognitive perspective, it is likely that the INVIL project has contributed to rural residents' usage, Internet self-efficacy and expected social outcomes. This leads to the following questions:

RQ1a: What is the relationship of the INVIL project with the degree of rural residents' Internet self-efficacy?

RQ1b: What is the relationship of the INVIL project with the degree of rural residents' expected social outcome?

Social Capital and INVIL

To examine the social benefit of the INVIL project, social capital framework is employed as one of the major theoretical frameworks for this study. Social capital framework claims that social networks have value (Jacobs, 1960). Social capital can be formed from various aspects of social engagement and result in enhancing community ties and bonds. Putnam (2000) claimed that social capital contributes to the entire society by enabling political and social participation to flourish. Besides the altruistic dimension of social capital in which Putnam coined the term, social capital can be termed as pertaining to a "shared interest" within economically engaged circles (Salisbury, 1969) such as membership in social networks (Portes, 1998). At the individual level, social capital should be distinguished from an altruistic dimension of community involvement. For example, people who appear to be friendly neighbors could be business partners or stake-holders within the same economic community as demonstrated in the INVIL project. This means social capital can involve a self-serving dimension of community members' attachment that is associated with the desire for high quality of one's living condition. In this regard, the current study focused on the social networks and shared interest aimed by the INVIL project and its relationship with the degree of online interaction and real-life community attachment of rural residents.

Online interaction and Community attachment

Online interaction refers to social use of the Internet. Recent study about *facebook* (Ellison, Lampe & Steinfield, 2007) indicated that online social networking might be linked both to increases and decreases in social capital. Through online interaction, rural residents can be connected with their friends or relatives beyond their local community and link their online and offline relationship together. Furthermore, online interaction can mediate real-life community attachment through online interaction. In this sense, online interaction means community-oriented-online engagement as opposed to the mere accumulated time spent online. That is, the more time given to online activity does not necessarily bring about online interaction and community ties. In this respect, it was found that the Internet has no effect on social capital as online interaction is combined with the real life activities (Wellman, Haase, Witte, & Hampton, 2001).

However, in general, recent attention has turned towards the positive role of online social networking. In this regard, the current study explored the interplay between social networking based on online interaction and community attachment. Community attachment was constructed by employing the concept of bonding and bridging social capital. According to Putnam (2000), bonding capital means a social connection within common groups whereas bridging capital means a social linkage across diverse characters of groups, which have an incremental effect to each other.

The long term effect of online interaction was found to be positive on social involvement and psychological well-being in contrast to the negative effect previously found, also known as the "Internet paradox" (Kraut et al., 2002). Also, it was found that online interaction has a significant effect on increased social contact, community

attachment and participation (Kavanaugh, Carroll, Rosson, Zin, & Reese, 2005). In a way, online interaction facilitates community attachment and psychological well-being, facilitating alternative access to a community (Ellison et al., 2007). This benefit may be given especially to those with low self-esteem and low life satisfaction (Ellison et al., 2007), also to those who lack interaction with friends and neighbors (Bargh & McKenna, 2004). Moreover, it is noted that certain aspects of online interaction provide optimal conditions to motivate self-disclosure more than face-to-face communication (Bargh, McKenna, & Fitzsimons, 2002). Thus, the degree to which online interaction through INVIL was related to real-life community attachment came into focus in this study.

RQ2a: What is the relationship of the INVIL project with the degree of rural residents' online interaction?

RQ2b: What is the relationship of the INVIL project with the degree of rural residents' community attachment?

Community Satisfaction and Intention to stay

Rural exodus is a critical issue across the globe. American rural areas are suffering from an economical decline and a rural exodus (Galston & Baehler, 1995). This is likely the case for Korean society as well. To be specific, the 10-30 year old age group, which is considered to be the "effective labor forces of society," is dramatically decreasing in rural areas (Kim, 2003) , which defines the rural exodus. However, there have been consistent findings about the promising factors for rural economic viability and the influx of new residents, among one of which Information Technology counts (Galston & Baehler, 1995; Parker, 2000).

Previous studies have focused on both the intention to stay and psychological attachment. Putnam (2000) viewed outmigration in an attempt to gain job opportunities may explain the decreased social capital in the U.S. Psychological attachment is reflected in the degree of satisfaction that comes with community involvement, helping to reduce the gap between rural and urban areas in terms of overall life quality.

The relationship between Internet usage and migration intentions remains arguable. It has been found that the Internet eases the burden of looking for better living conditions (Wellman et al., 2001). Also, heavy use of the Internet decreases community commitment (Wellman et al., 2001). For example, computers placed in rural libraries (Egan, 2002) were reported as the possible causes for outmigration, helping library patrons gain city jobs online. Also, online communication with users outside of the community would downgrade the quality of the services and goods provided by rural suppliers and employers, which is detrimental to the sustainability of the rural communities (Rowley & Porterfield, 1993).

In another light, online interactions result in social integration, one of the dimensions of social well-being (Smith, Krannich, & Hunter, 2001). As an indicator of social well-being, community satisfaction may be subject to the availability of entertainment, education, and public services (Smith et al., 2001); also, rural community self-development efforts might lead to increased social capital (Flora, Sharp, Newlong & Flora, 1997). In a longitudinal study conducted in rural American communities, social uses of the Internet were found to be community satisfaction and attachment, leading to less intention to relocate from their rural communities (LaRose et al., 2008). Thus, it is plausible that a government sponsored project, such as INVIL that promoted social

networking could be a predictor of enhanced community attachment. Community attachment, community satisfaction and intention to stay were constructed as major variables affecting relocation, because enhanced satisfaction and intention to stay may lead to extended residency. Thus, the research questions are as follows:

RQ3a: What is the relationship of the INVIL project on the degree of rural residents' community satisfaction?

RQ3b: What is the relationship of the INVIL project on the degree of rural residents' intention to stay?

METHOD

Participants

Two hundred and nine participants were recruited from 14 randomly selected rural towns listed on the INVIL website in Korea. Among participants, 63.2% lived in villages designated as INVIL, while 36.8% lived in non-information villages. The sample consisted of almost identical numbers of male (N = 99) and female (N = 100) participants. Participant's average age was 44.71 (SD = 12.50). On average, participants had been living in their town for 25.38 years (SD = 2.85), working as farmers (24.29%) or housewives (23.72%). More than half of participants did not have college education (21.2% some high school, 38.4% high school graduates). Most participants had family income of US$ 8,500-17,000 (27.6%) or US$ 17,000-30,000 (22.9%).

Procedure

The current study used a cluster sampling method for participant recruitment. The INVIL website (http://www.invil.org/) provided a list of 358 rural villages participating in the INVIL project and supported diverse forms of online social clubs of rural residents. The researchers randomly selected 14 sample villages among 358 villages listed on the INVIL website. INVIL residents were recruited from the 14 selected villages. Non-INVIL residents were recruited by drawing INVIL site members who reside in the same administrative district with the selected 14 villages. Since INVIL website is a kind of meta site, aggregating all the INVIL websites as well as providing online social clubs for ordinary rural Korean residents. Thus, both INVIL and Non-INVIL residents in rural areas are included as members of each websites in INVIL sites. Even if non-INVIL and

INVIL residents belong to the same administrative district they are separate from each other according to whether they are the members of INVIL participant villages which call certain areas in the selected administrative district.

The INVIL site also provided each village/club members' contact information. Thus, researchers drew 400 contact information from the selected villages. Emails were sent to the drawn addresses, describing the purpose of the study to the community organizers, church members, and social club members listed on the website of sample villages. If participants' phone numbers were available on the website, the researchers encouraged their participation. Once they have agreed to participate in the survey by replying to the researcher's email, participants would be notified of the time and location at which the survey will be conducted.

The researcher then visited the selected communities and conducted the survey one-site, at the appointed place. Participants had done so by a self-reported written survey. Participants signed the consent form prior to taking the survey, and were thanked upon the completion for their input.

In this way, 14 villages succeed in covering each and every province of Korea and all the participants are recruited through INVIL sites. It turned out 209 out of 400 actually participated in the survey which showed a 52% participation rate

Measurement

Among demographical questionnaire age and whether or not INVIL residents were coded into nominal scale. Age and income used ratio scale. Degree of education was responded by 5-point ordinal scales.

The questionnaire used 5-point scales ranging from strongly agree (scored 5) to strongly disagree (scored 1) and negatively worded items were reflected. The responses to multi-item indices were averaged across the number of items. Questionnaires were originally written in English, and were carefully translated into Korean by a bilingual researcher. Each scale showed evidence of a good fit for a one-factor model and satisfactory reliability.

Internet Self-Efficacy. Seven items were drawn from Eastin & LaRose (2000). With a maximum-likelihood estimation procedure, a one factor model showed an acceptable fit, NFI (normed fit index) = .92; IFI (incremental fit index) = .94; CFI (comparative fit index) = .94; SRMR (standardized root mean residual) = .05. The reliability (Cronbach's alpha) was $\alpha = .92$.

Social Outcome Expectations of Internet Use. Five items were selected from LaRose et al. (2007). A one-factor solution yielded a good fit, NFI = .94; IFI = .95; CFI = .95; SRMR = .04. The reliability was $\alpha = .88$.

Online Interaction. Five items were drawn from LaRose et al.'s survey questionnaire on socializing online (2008). A one-factor solution yielded a good fit, NFI = .98; IFI = .98; CFI = .98; SRMR = .03. The reliability was $\alpha = .92$.

Community Attachment. Seven items were adopted from LaRose et al. (2008). A one factor model showed a good fit, NFI = .94; IFI = .95; CFI = .95; SRMR = .04. The reliability was $\alpha = .92$.

Intention to Stay. Five items were adopted from LaRose et al. (2008). A one factor model showed a good fit, NFI = .97; IFI = .98; CFI = .98; SRMR = .04. The reliability was $\alpha = .86$.

Community Satisfaction. Six items were scale adopted from LaRose et al. (2008). A one factor model yielded a good fit, NFI = .94; IFI = .95; CFI = .95; SRMR = .04. The reliability was $\alpha = .88$.

Data Analysis

Independent sample t-tests, Pearson product-moment correlations, and point-biserial correlations were analyzed using SPSS, Inc. (2007) version 16.0. A confirmatory factor analysis was conducted using the AMOS-package (Arbuckle, 2006). Prior to the analysis, outliers were eliminated and missing data were imputed using maximum likelihood estimates.

RESULTS

Demographic Differences

Prior to test the effect of the INVIL project, the demographic differences between INVIL residents and non-INVIL residents were examined. The results showed a significant difference in age, t (194) = 4.82, $p < .001$. INVIL residents (M = 47.72, SD = 11.95) were older than non-INVIL residents (M = 39.19, SD = 11.64). In terms of the length of residency, INVIL residents (M = 29.16 years, SD = 17.37) had lived in their villages longer than non-INVIL residents (M = 18.43, SD = 14.24), t (194) = 4.39, $p <$ .001. The differences were not significant for income, t (190) = 1.32, p = .19, or education, t (196) = 0.67, p = .50.

Correlation Analysis

Table 1 shows the correlations among variables after controlling for demographic variables (gender, age, family income, education, and the length of residency). Table 2 shows a groups statistics about variables examined among INVIL and non-INVIL participants and Table 3 demonstrated t-test analysis.

INVIL was not correlated with Internet usage, r = -.03, p = .75. There was no significant difference between the residents in INVIL (M = 3.31 hours per day, SD = 2.78) and non-INVIL residents (M = 3.41, SD = 2.26).

For social cognitive variables (RQ1a and RQ1b), INVIL was not associated with Internet self-efficacy (r = .06, p = .44). Internet self-efficacy of INVIL residents (M = 2.61, SD = 0.95) was not different from that of non-INVIL residents (M = 2.66, SD = 0.96); t(179)=-.495, p = .621. In contrast, INVIL was significantly and positively related with social outcome expectations of Internet use (r = .39, $p < .001$). INVIL residents (M

= 3.05, *SD* = 0.88) reported higher social outcome expectations than non-INVIL residents (*M* = 2.12, *SD* = 0.77); *t* (182)=6.532, $p < .001$.

For social capital variables (RQ2a and RQ2b), INVIL was associated both with online interaction ($r = .21$, $p = .005$) and community attachment ($r = .28$, $p < .001$). Online interaction was higher for INVIL residents (*M* = 3.14, *SD* = 1.03) than non-INVIL residents (*M* = 2.75, *SD* = 0.99); *t* (178)=2.31, $p < .05$. Community attachment was also higher for INVIL residents (*M* = 3.60, *SD* = 0.89) than for non-INVIL residents (*M* = 2.82, *SD* = 0.87); *t* (201)=5.98, $p < .001$.

For community satisfaction and intention to stay (RQ3a and RQ3b), INVIL was significantly associated with intention to stay, $r = .28$, $p < .001$. INVIL residents (*M* = 3.80, *SD* = 0.92) reported higher intention to stay than non-INVIL residents (*M* = 3.05, *SD* = 0.77); *t*(200)=.80, $p = .43$. INVIL was not significantly correlated with community satisfaction ($r = .02$, $p = .81$). There was no significant difference in the degree of community satisfaction between INVIL residents (*M* = 2.42, *SD* = 0.83) and non-INVIL residents (*M* = 2.33, *SD* = 0.72); *t* (178)=2.31, $p < .05$

Table 1. Correlation Matrix of Variables Controlling for Demographics

Variable	1	2	3	4	5	6	7	8	*M*	*SD*
1. INVIL	1.00								0.66	0.47
2. Internet usage	.02	1.00							3.36	2.63
3. Internet self-efficacy	.06	.32**	.92						2.63	0.97
4. Social outcome expectations	.39**	.26**	.54**	.88					2.75	0.98
5. Online interaction	.21**	.26**	.73**	.62**	.92				3.04	1.03
6. Community attachment	.28**	.13	.21**	.57**	.37**	.92			3.37	0.96
7. Intention to stay	.29**	.07	.10	.38**	.30**	.60**	.86		3.58	0.92
8. Community satisfaction	.02	.01	.27**	.18**	.12	.18*	.11	.88	2.41	0.80

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 2. t-Test Analysis

	INVIL			Non-INVIL			Statistics	
	n	M	SD	n	M	SD	t	P
Internet use per day	126	3.33	2.84	53	3.51	2.70	0.39	.70
Internet self-efficacy	122	2.60	0.98	59	2.68	1.09	0.50	.62
Social outcome expectations	126	3.06	0.90	58	2.14	0.86	-6.53	.00
Online interaction	121	3.15	1.07	59	2.75	1.19	-2.31	.22
Community attachment	130	3.60	0.90	73	2.82	0.89	-5.98	.00
Intention to stay	129	3.08	0.93	73	3.04	0.79	-5.89	.00
Community satisfaction	129	2.42	0.83	73	2.33	0.73	-0.80	.43

DISCUSSION

The current study investigated the impact of the INVIL project on 1) social cognitive variables, 2) social capital, and 3) community attachment. The effect of Internet usage was tested prior to the main analyses. The results showed that INVIL was not correlated with Internet usage. This finding diverged from previous studies conducted in the United States (e.g., LaRose et al., 2008) which showed a significant increase in Internet usage following public investment. The difference may arise from that broadband infrastructure construction already completed in rural areas in Korea. Non-INVIL residents were also well-connected to the Internet, thus, the difference in usage would not be significant.

Rather than closing the infrastructure gap, the INVIL project has had a more significant effect on the phase of rural residents Internet usage, specifically, in terms of social networking online given that its function mainly has centered on providing online community features. Thus, examining social cognitive variables is a critical point of the current study. The results showed that INVIL was significantly associated with social outcome expectations. It is possible that online community activities of INVIL over a long period of time have contributed to higher social outcome expectations of local residents. This implication also can be supported by a previous study of Eastin & LaRose (2000) that claimed formation of positive outcome expectations in social cognitive terms needs enough time after self-efficacy beliefs are established.

However, the correlation between INVIL and Internet self-efficacy was not significant. The reason for the low correlation between INVIL and Internet self-efficacy

might be explained in a way that low correlation between INVIL and Internet usage can be accounted. That is, with diverse phase and purposes of Internet usage of rural residents, the online social networking supported by the government grants does not necessarily create Internet self-efficacy that might be established from all sorts of Internet usage.

Internet self-efficacy and social outcome expectations were correlated to each other, consistent with the prediction of social cognitive theory. Outcome expectations were partly determined by self-efficacy beliefs; the outcomes individuals expect depend on their judgments of how well they will be able to perform in given situations (Bandura, 1986). For example, individuals apprehensive of their computer skills might expect disappointment as the outcome of their usage, while individuals competent in computer skills might anticipate convenience. Hence, social outcome expectations depend on the adequacy of individuals' performances to some extent. This emphasizes the need to improve Internet self-efficacy of local residents through more effective computer training.

In terms of social capital variables, the current results showed that INVIL was positively associated with online interaction and community attachment. This finding indicated the use of INVIL as a social network and was consistent with previous studies that showed the positive effect of online interaction on community involvement and social capital (Hampton & Wellman, 2003; Kavanaugh et al., 2005).

At the same time, online interaction and community attachment were positively associated. This finding was consistent with Hampton et al.'s (2003) study that suggested that the Internet did not weaken community by disengaging people away from the

neighborhood, or transform community by creating new forms of online relationship. Instead, INVIL enhanced existing relationships by adding a new means of extending relationships with neighbors. It might be explained that the online community supported by a government grant is a geographically-based one. Moreover, direct government support given to the personnel in charge of the INVIL website management enables online communities to function as a venue for viable online-offline communication among village residents. These features distinguish the INVIL project from other conventional social networking sites. INVIL may provide more effective online tools to strengthen "the fabric of real-life community."

In terms of community attachment, the results indicated that INVIL was positively related with residents' intention to stay. The finding suggested that intention to stay might be predicted by the intensive online social networking.

Interestingly enough, community satisfaction was neither related with INVIL nor intention to stay. One of the possible explanations is that the functions offered by INVIL merely focus on online social networking. Considering that there are diverse purposes of Internet usage might have effect on life quality of rural residents, online social networking does not necessarily bring about enhanced satisfaction with community life. Also, it should be noted that INVIL does not provide any other available online resources such as entertainment resources and health/education services connected to life in rural community, which might be indicators to community satisfaction.

It is notable that online interaction was positively associated with both community satisfaction and the intention to stay. This finding is inconsistent with LaRose et al.'s (2008) study that showed a positive relationship between social capital and relocation

intention. It appeared that exposure to the outside world on the Internet and creating new social ties online stimulated outmigration from rural communities (LaRose et al., 2008). The difference might arise from the characteristic of social networks created by INVIL. INVIL has unique features in that it combines online market place and online social networking which is based on same geographic area and real-life community. Through those features the INVIL project helped in creating "shared interest" among village members which might increase the intention to stay, instead of stimulating outmigration intention. In this sense, INVIL has a potential to encourage local residents to act on their common interests and concerns in a systematic and sustainable manner, and to actively cope with economical decline and rural exodus.

LIMITATIONS AND FUTURE RESEARCH

Internet usage had been explored as a significant factor in determining social cognitive variables such as Internet self-efficacy, social outcome expectations, online interaction (LaRose et. al, 2001). Also, the current study indicates that Internet usage and Internet self-efficacy have a causal relationship with online interaction and community attachment. However, INVIL residents did not show higher degree of Internet usage and Internet self-efficacy than non-INVIL residents. So, one may not be able to jump to the conclusion that INVIL might have encouraged more Internet usage, and thus, led to more social networking among rural residents.

In this regards, the future research should explore which of the attributes that INVIL offers the participants village to create social capital such as high degree of online interaction and community attachment. As long as this question remains, it is arguable that the benefits of INVIL would come from the online social networking. That is, it could be something else such as simply strong ties of participant villages irrelevant to the online community that the INVIL project supports. Other possibility is that INVIL residents may have strong ties and be encouraged to bond online, which hinge on the economic benefits of selling their commodities and specialties online.

To address the limitation of this study further study should be conducted to examine in what way INVIL help increase social capital in rural areas. To be specific, further research should explore whether the factor of high degree of social capital shown in the INVIL participants comes from e-commerce initiative or social networking initiative. In that way it could be expected to examine and embody the source and the

phase of social capital induced by government driven project in rural areas in a more specific manner.

CONCLUSION

Current study implicated the online social network services supported by rural ICT policy is related to social capital. This result might provide an answer to the question that whether or not ICT investment in rural areas should be continued even when access does not matter. Since INVIL residents demonstrated high community attachment and intention to stay it is implicated that community attachment might be predicted by geographically based online social networking.

In this regards, it is proposed that government investment in ICT should focus on the utilization of existing infrastructure, pertaining to social capital in rural areas. Even after the access and the adoption gap is closed continuous public investment is still needed to be instituted for community development in rural areas.

The current study also provides insight to the global society which suffers from a rural exodus in a similar phase. As access and adoption became more available in rural and developing areas, the INVIL case demonstrated a portrait about what should be sought and done after broadband adoption with regards to ICT policy.

APPENDIX

Research Participant Information and Consent Form

STUDY TITLE: Rural Life in the Information age

I am doing a study to verify the correlation among the intensity of internet use and the degree of community involvement and life satisfaction in rural areas as an independent study this semester. The purpose of the survey is to know how your internet use and government support of Internet technology and education in your community affects your family and your community. This study need will benefit your community in that it would help to make appropriate and right government policy of investing in internet infra to better off rural places. This study would also be beneficial in finding out how a business is able to communicate with their clients via the web and what can the community/city do to help the business owners.

To verify the hypothesis of this study by measuring how rural population use Internet and feel about their life, research on rural residents should be involved. If you are at least 18 years old, you are eligible to participate in the survey.

The survey involves answering some general demographics questions and some questions about your opinions toward your local community. The survey takes about 15 minutes or so to complete. Your responses will be completely anonymous. The data I collect will be analyzed at the group level only. You do not have to answer any question you'd rather not answer.

If you agree to complete the survey, please do NOT write your name on it. After you finish filling it out, please put the survey sheets in the box. By filling out the survey you are consenting to participate. The risks associated with your participation are minimal and are limited to the release of private information you supply in completing the survey. Your privacy will be protected to the maximum extent allowable by law. Your answers are completely confidential and your name will not be linked to the data in any way. Your participation is completely voluntary,

you may choose not to participate at all, or you may refuse to answer certain questions or discontinue your participation at any time without consequence.

The researcher of this study, KyuJin Shim can answer questions about your rights as a volunteer participant in this project. She can be reached at 81-10-9998-1565, 1-517-899-8976. Primary investigator of this study is Dr. Robert Larose, who is a professor in Michigan State University, you can reach him through email larose@msu.edu.

If you have any questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this research study, you may contact, anonymously if you wish, Michigan State University Human Research Protection Program at 1-517-355-2180, FAX 1-517-432-4503, or e-mail irb@msu.edu, or regular mail at: 202 Olds Hall, MSU, East Lansing, MI 48824, United States of America.

If you agree to participate in this study please reply me by email at shimkyuj@msu.edu, m cell phone number is 81-10-9998-1565. The results of my project will be available after August 22, 2009. If you would like a copy of the results of my project or have any questions, please contact me. (82-10-9998-1565, 1-517-899-8976)

Please keep this for your records. Thank you for your participation.

I HAVE READ THE INFORMATION PROVIDED ABOVE (OR HAVE HAD IT READ TO ME) AND HAD MY QUESTIONS ANSWERED TO MY SATISFACTION. I VOLUNTARILY AGREE TO PARTICIPATE IN THIS STUDY.

SIGN HERE _____

DATE _____

Questionnaire (English)

1. Is your community receiving benefits from government policy of investment in computer use in rural communities?

   ____ Yes
   ____ No
   ____ Don't know

2. Is your business or job connected to the Internet?

   ____ Yes
   ____ No
   ____ Don't know

3. Does your business or company or producers' cooperative have a web site?

   ____ Yes
   ____ No
   ____ Don't know

4. Is your company's or business' web site equipped to process purchases of your products and service?

   ____ Yes
   ____ No

5. Do you have a computer at home?

   ____ Yes
   ____ No

6. Does your village have an Information Center in which anyone can receive computer skills training program?

   ____ Yes
   ____ No
   ____ Don't know

7. Have you ever participated in computer skills training program provided by information center?

   ____ Yes => IF YES How many times? _____ times
   ____ No

8. Do you have basic skills to use computer?

____ Yes (which ones? Please list the programs and applications you can use via computer, e.g., e-mail, messenger, internet, Word, PowerPoint, Excel etc.) _____)
____ No

9. Do you currently use the Internet?

____ Yes (Continue to Question 10)
____ No (Skip to Question 20)

10. About how much time do you spend at home on the internet in the typical weekday? (ENTER 0 IF NONE)
_____ HOURS _____MINUTES

11. About how much time do you spend at home on the internet in the typical weekend day?
_____ HOURS _____MINUTES

12. The following are things people have told us they do on the Internet. How frequently do you use the Internet to…

No.	Item	Rarely or never		Neutral		Very frequently
1	Bank online	1	2	3	4	5
2	Purchase products	1	2	3	4	5
3	Read news	1	2	3	4	5
4	Work on my own blog or site	1	2	3	4	5
5	Find information on government websites	1	2	3	4	5
6	Seek information about health	1	2	3	4	5

13. Please tell us how much you agree or disagree with the following statements about the Internet in your life.

No.	Item	Strongly disagree		Neutral		Strongly agree
1	I feel confident using the Internet to gather data.	1	2	3	4	5
2	I feel confident explaining why a task will not run on the Internet.*	1	2	3	4	5
3	I feel confident I know how to learn advanced skills related to the Internet.*	1	2	3	4	5
4	I feel confident understanding terms/words relating to Internet software.*	1	2	3	4	5
5	I know how to make new friends on the Internet.*	1	2	3	4	5
6	I use the Internet so much it interferes with other activities.*	1	2	3	4	5
7	I get strong urges to be on the Internet.	1	2	3	4	5
8	I know how to get help with my personal problems through the Internet.*	1	2	3	4	5
9	I have to struggle with myself to limit my time online.	1	2	3	4	5
10	I am confident I can find social support on the Internet.*	1	2	3	4	5

* Items used in the analysis for the Internet self-efficacy dimension

14. Including email, instant messaging and social networking sites like C*afé or Cyworld*, how often do you contact people from inside your local community online?

____Never contact them
____Less than once a month
____At least once a month but less than weekly
____At least once a week but less than daily
____One or more times a day

15. Including email, instant messaging and social networking sites like *Café or Cyworld*, how often do you contact people from outside your local community online?

____Never contact them

____Less than once a month
____At least once a month but less than weekly
____At least once a week but less than daily
____One or more times a day

16. Including family and friends, how many people from your local community have you been in contact with online in the past month? [ENTER 0 IF NONE]

_____ TOTAL ONLINE CONTACTS WITH LOCAL PEOPLE

17. How many of those are local people who run their own businesses [ENTER 0 IF NONE]

_____ CONTACTS WITH LOCAL BUSINESS OWNERS

18. How much do you agree or disagree with the following statement about the people online?

No.	Item	Strongly disagree		Neutral		Strongly agree
1	Interacting with people online makes me interested in things that happen outside of my town.*	1	2	3	4	5
2	Interacting with people online makes me want to try new things.*	1	2	3	4	5
3	Interacting with people online makes me feel connected to the bigger picture.*	1	2	3	4	5
4	There is someone online I can turn to for advice about making very important decisions.*	1	2	3	4	5
5	The people I interact with online would put their reputation on the line for me.*	1	2	3	4	5
6	If I needed an emergency loan of 500,000 Won, I know someone online I can turn to.	1	2	3	4	5

* Items used in the analysis for the social outcome expectations dimension

19. Thinking of your use of e-mail, instant messaging, village website or social networking site (such *as Café and Cyworld*) to what extent ...

No.	Item	Not at all		Neutral		A great deal
1	Does your participation make you feel a part of a community?*	1	2	3	4	5
2	Do you communicate with friends from your local community?*	1	2	3	4	5
3	Do you communicate with friends in other communities?*	1	2	3	4	5
4	Do you communicate with family from your local community?*	1	2	3	4	5
5	Do you communicate with family in other communities?*	1	2	3	4	5

* Items used in the analysis for the online interaction dimension

20. Please answer these questions even if you don't use the Internet so we can learn why some people use it while others don't. If you can't answer one, just skip to the next one. Using the Internet I will...

No.	Item	Strongly disagree		Neutral		Strongly agree
1	Improve my future prospects in life	1	2	3	4	5
2	Have my credit card number stolen	1	2	3	4	5
3	Find people like myself	1	2	3	4	5
4	Find cool new Web pages	1	2	3	4	5
5	Have fun	1	2	3	4	5
6	Find a way to pass the time	1	2	3	4	5
7	Spend money on things I don't need	1	2	3	4	5
8	Save time shopping	1	2	3	4	5
9	Provide help to others	1	2	3	4	5
10	Get support from others	1	2	3	4	5

11	Get up to date with new technology	1	2	3	4	5
12	Maintain a relationship I value	1	2	3	4	5
13	Find information about my local community	1	2	3	4	5
14	Find products I can't get locally	1	2	3	4	5
15	Find a job in another area	1	2	3	4	5
16	Start a home business	1	2	3	4	5
17	Make a new friend in the local community	1	2	3	4	5
18	Make a new friend in another community	1	2	3	4	5

21. How many voluntary associations, such as clubs, churches, youth programs, and any other community associations are you a member of?

_____ ENTER NUMBER OF ORGANIZATIONS, (ENTER 0 IF NONE)

22. Now think about issues in your community. How active are you in resolving community problems? Over the past month, have you …

No	Item	Yes	No
1	Spoken with a local politician		
2	Talked to a person or group causing a problem in the neighborhood		
3	Attended a meeting of a neighborhood group about a problem		
4	Talked with a local religious leader		
5	Gotten together with neighbors to do something about a problem in the neighborhood		

[Community attachment and intention to stay]

23. How much do you agree or disagree with each statement about your community?

No.	Item	Strongly disagree		Neutral		Strongly agree
1	I feel I am part of it.*	1	2	3	4	5
2	I spend a lot of time participating in activities there.*	1	2	3	4	5
3	I come into contact with new people all the time.*	1	2	3	4	5
4	I am willing to spend time to support activities there.*	1	2	3	4	5
5	I can count on my neighbors to run errands for me.*	1	2	3	4	5
6	The longer I live in this town, the more I feel that I belong.*	1	2	3	4	5
7	It makes no difference to me whether my job or business is here or in another community.	1	2	3	4	5
8	If I was in trouble, most people in this community would go out of their way to help me.*	1	2	3	4	5
9	I would never consider leaving here.**	1	2	3	4	5
10	If I had to move away from this community for some reason, I would be very sorry to leave.**	1	2	3	4	5
11	I would really like to leave this community if I had the opportunity.	1	2	3	4	5
12	Our community has seen better days.**	1	2	3	4	5
13	Our community has a lot of future potential.**	1	2	3	4	5

14	Our community's future depends on the efforts of its residents.**	1 2 3 4 5
15	The solutions to our community's problems will have to come from outside.	1 2 3 4 5

* Items used in the analysis for the community attachment dimension
**Items used in the analysis for the intention to stay dimension

[Community satisfaction]

24. Please keep your community in mind and circle a number between 1 (Very dissatisfied) and 5 (Very satisfied) in each row. How satisfied or dissatisfied are you with...

No.	Item	Very dissatisfied	Neutral	Very satisfied
1	Living in my community.	1	2 3 4	5
2	My opportunities for further education.	1	2 3 4	5
3	The recreational services and opportunities available.*	1	2 3 4	5
4	The quality of streets and roads.*	1	2 3 4	5
5	The availability of Internet services.*	1	2 3 4	5
6	The medical services.	1	2 3 4	5
7	The shopping facilities in my community.*	1	2 3 4	5
8	My employment opportunities.*	1	2 3 4	5
9	My opportunities to participate in the local government.	1	2 3 4	5
10	The programs for youth in my community.*	1	2 3 4	5

11	My cultural opportunities.	1 2 3 4 5
12	Educational opportunities for young people.*	1 2 3 4 5

*Items used in the analysis

25. The following are possibilities you may be considering. How likely is each one next year? If you are doing it or planning it already, consider how likely or unlikely you are to carry through on it in the next year. In the next year I will....

No.	Item	Very unlikely	Neutral	Very likely
1	Move out of village	1	2 3 4	5
2	Move to another home in urban area	1	2 3 4	5
3	Start a small business	1	2 3 4	5
4	Work from home using the Internet	1	2 3 4	5
5	Run a business from my home	1	2 3 4	5
6	Look for employment in another area	1	2 3 4	5
7	Complete a degree or training program	1	2 3 4	5
8	Have a member of my family move away	1	2 3 4	5
9	Install a wireless computer network at home	1	2 3 4	5

[Personal income and other information]

26. What is your sex?

____Male
____ Female

27. What year were you born? 19 _____

28. What is your family's total annual household income before taxes?

____Under 10,000,000 Won
____10,000,000 to 19,999,000 Won
____20,000,000 to 34,999,000 Won
____35,000,000 to 49,999,000 Won
____50,000,000 to 74,999,000 Won
____75,000,000 to 99,999,000 Won
____100,000,000 Won or more

29. What is the highest level of education you have completed?

____ Less than high school degree
____ High school degree
____ Some college
____ College graduate
____ Advanced graduate degree

30. How long have you lived in this area? _____YEARS _____MONTHS

31. What is your job and job title? _____

32. Do you have any children enrolled in local high schools?

____ Yes
____ No

33. Did you attend high school in the local community yourself?

____ Yes
____ No

Thank you.

Questionnaire (Korean)

1. 현재 살고 있는 지역이 인터넷과 컴퓨터 사용에 관한 정부 정책의 혜택을 받고 있습니까?

   ___ 네
   ___ 아니오
   ___ 잘 모름

2. 현재 직장에서 인터넷 사용이 가능합니까?

   ___ 네
   ___ 아니오
   ___ 잘 모름

3. 현재 일하고 있는 직장이나 가입하고 있는 생산자 조합의 인터넷 홈페이지가 있습니까?

   ___ 네
   ___ 아니오
   ___ 잘 모름

4. 홈페이지를 통해 전자 상거래가 가능합니까?

   ___ 네
   ___ 아니오
   ___ 잘 모름

5. 집에 사용하고 있는 컴퓨터가 있습니까?

   ___ 네
   ___ 아니오
   ___ 잘 모름

6. 현재 사는 동네에 컴퓨터 사용법을 가르쳐주는 교육 센터가 있습니까?

   ___ 네
   ___ 아니오
   ___ 잘 모름

7. 컴퓨터 사용법 강좌에 참여해 본 적이 있습니까?

   ___ 네
   (만약 있다면) 몇 차례 참여했습니까?

_____ 번

____ 아니오

8. 기본적인 컴퓨터 프로그램이나 인터넷 기능들을 사용할 수 있습니까?

____ 네 (어떤 프로그램들이나 기능을 사용할 수 있습니까? 예: 이메일, 메신저, 인터넷, 문서작성프로그램, 파워포인트, 엑셀 등)
_____)

____ 아니오

9. 현재 인터넷을 사용하고 있습니까?

____ 네 (10 번으로 이동)

____ 아니오 (20 번으로 이동)

10. 주중, 평균 인터넷 사용시간은 하루 얼마입니까?

(사용하지 않는 경우 0) _____ 시간 _____분

11. 주말, 평균 인터넷 사용시간은 하루 얼마입니까?

(사용하지 않는 경우 0) _____ 시간 _____분

12. 평소, 본인의 인터넷 사용 패턴을 생각해 보고, 다음 항목에 대한 빈도를 체크해 주십시오. 다음과 같은 일을 하기 위해 인터넷을 얼마나 자주 이용하고 있습니까?

No.	내용	거의 안함		보통		매우자주
1	온라인 뱅킹	1	2	3	4	5
2	물건 구매	1	2	3	4	5
3	뉴스 구독을 위해	1	2	3	4	5
4	블로그나 사이트 관리	1	2	3	4	5
5	정부 기관 홈페이지 방문을 통한 정보 검색	1	2	3	4	5
6	건강 정보 검색	1	2	3	4	5

13. 응답자 본인의 인터넷 생활이 다음 항목들과 얼마나 일치되는지 답해주십시오.

No.	Item	전혀 아니다 보통 매우 그렇다
1	나는 인터넷으로 정보를 잘 찾는 편이다	1 2 3 4 5
2	나는 인터넷 접속이 안 되고 있는 이유에 대해 설명할 수 있다	1 2 3 4 5
3	인터넷을 더 잘 사용할 수 있는 기술이나 방법을 잘 배우는 편이다	1 2 3 4 5
4	인터넷 소프트웨어와 관련된 용어에 익숙하다	1 2 3 4 5
5	인터넷에서 친구를 사귀는 나름의 방법이 있다	1 2 3 4 5
6	인터넷을 하느라 다른 일을 하지 못할 때가 있다	1 2 3 4 5
7	항상 강박적으로 인터넷에 접속한다	1 2 3 4 5
8	인터넷으로 개인적인 문제를 해결할 수 있는 방법이 있다	1 2 3 4 5
9	인터넷에서 보내는 시간을 줄이는 것은 어렵다	1 2 3 4 5
10	인터넷을 통해 사회적인 지원이나 도움을 찾는 것에 자신이 있다	1 2 3 4 5

14. 이메일이나 메신저, 카페나 싸이월드와 같은 커뮤니티 사이트 이용 등을 하면서, 본인이 살고 있는 지역 사람들과 온라인을 통해 어느 정도나 연락합니까?

____ 전혀 접촉이 없다
____ 한달에 한 번 이하
____ 한달에 한번 이상 그러나 매주 한번 정도는 아님
____ 적어도 매 주에 한 번 그러나 매일은 아님
____ 하루 한 번 이상

15. 이메일이나 메신저, 카페나 싸이월드와 같은 커뮤니티 사이트 이용 등을 하면서, 본인이 살고 있는 지역 외 사람들과 온라인을 통해 어느 정도나 연락합니까?

____ 전혀 접촉이 없다
____ 한달에 한 번 이하
____ 한달에 한번 이상 그러나 매주 한번 정도는 아님
____ 적어도 매 주에 한 번 그러나 매일은 아님
____ 하루 한 번 이상

16. 가족과 친구를 포함하여, 지난 한달 동안 얼마나 많은 지역 내 사람들과 연락을 하고 있습니까? (전혀 없을 경우 0)

지역 사람들과 .....명 접촉

17. 마을 사람들 중 직접 사업을 운영하는 사람들은 몇 명입니까? (전혀 없을 경우 0)

지역에서 사업을 하고 있는 사람들과 .....명 접촉

18. 다음 내용에 얼마나 동의하는지 답하시오.

No.	Item	전혀 아니다 보통 매우 그렇다
1	인터넷을 하면서 우리 동네 일에 관심을 갖게 됐다	1 2 3 4 5
2	인터넷을 하면서 새로운 일들을 시작하게 됐다	1 2 3 4 5
3	인터넷을 하면서 더 큰 사회적 이슈에 나도 참여하게 된다는 기분이 든다	1 2 3 4 5
4	내가 중요한 결정을 내릴 때 상의할 수 있는 사람들이 인터넷에 있다.	1 2 3 4 5
5	인터넷 활동이 인터넷 상에서의 내 평판을 높여줄 것이다	1 2 3 4 5
6	급히 50 만원이 필요할 때, 인터넷에 접속하면 빌려줄 사람을 찾을 수 있다.	1 2 3 4 5

19. 이메일, 메신저, 홈페이지, 카페나 싸이월드 등의 활동을 통해 당신은 어느 정도로 다음과 같은 일을 하고 있습니까?

No.	Item	전혀 아니다	보통	매우 그렇다
1	인터넷을 통한 사회활동으로 지역 사회의 일원이라는 점을 느낍니까?	1	2 3 4	5
2	같은 지역에 사는 친구들과 교류하고 있습니까?	1	2 3 4	5
3	다른 지역에 사는 친구들과 교류하고 있습니까?	1	2 3 4	5
4	같은 지역 사회에 사는 가족들과 교류하고 있습니까?	1	2 3 4	5
5	다른 지역에 사는 가족들과 교류하고 있습니까?	1	2 3 4	5

20. 인터넷 사용 여부와 관계 없이 다음 설문에 답해주십시오. 응답할 수 없을 경우 다음 질문으로 넘어가세요. 인터넷을 사용하면서 나는 .....라고 생각한다 .

No.	Item	전혀 아니다	보통	매우 그렇다
1	인터넷이 내 삶의 미래 전망을 밝게 한다	1	2 3 4	5
2	인터넷을 하다가 내 카드 번호가 유출될 수 있다.	1	2 3 4	5
3	나와 비슷한 취향의 사람을 만날 수 있다.	1	2 3 4	5
4	쓸모 있는 새로운 웹사이트를 찾을 수 있다	1	2 3 4	5
5	재미있는 시간을 가질 수 있다	1	2 3 4	5
6	시간을 때울 수 있다	1	2 3 4	5
7	쓸데 없는 물건을 구매하는데 돈을 낭비하게 된다	1	2 3 4	5

8	쇼핑 하는데 쓰는 시간을 줄일 수 있다	1 2 3 4 5
9	인터넷이 내 삶의 미래 전망을 밝게 한다	1 2 3 4 5
10	인터넷을 하다가 내 카드 번호가 유출될 수 있다.	1 2 3 4 5
11	나와 비슷한 취향의 사람을 만날 수 있다.	1 2 3 4 5
12	다른 이에게 도움을 줄 수 있다	1 2 3 4 5
13	다른 이로부터 도움을 받을 수 있다	1 2 3 4 5
14	신기술에 관한 정보를 얻을 수 있다	1 2 3 4 5
15	중요한 인간관계를 유지할 수 있다	1 2 3 4 5
16	내가 사는 지역에 대한 정보를 찾을 수 있다	1 2 3 4 5
17	현재 살고 있는 동네에서는 구할 수 없는 물건을 찾을 수 있다	1 2 3 4 5
18	다른 지역에서 일자리를 구할 수 있다	1 2 3 4 5

21. 자발적으로 형성된 단체 예를 들면 동아리나 교회, 청소년 프로그램 혹은 지역 사회 단체에 가입해 활동 중입니까? (만약 없을 경우 0 을 쓰세요)

_____ 개 단체

22. 지역사회에 관한 질문입니다. 살고 있는 지역의 문제를 해결하기 위해 다음과 같은 조치를 취해 본 적이 있는지에 대해 "있다" 또는 "없다로 대답해 주세요.

No.	Item	네	아니오
1	지역 정치인과 상의해본 적이 있다.		
2	문제를 일으킨 이웃 주민이나 단체에게 얘기해 본 적이 있다		
3	문제 해결을 위해 반상회 등 회의에 참석해 본 적이 있다		
4	지역 종교 지도자와 얘기해 본 적이 있다		
5	이웃들과 모여 문제를 해결하기 위한 조치를 취해 본 이 있다		

23. 현재 살고 있는 지역에 대한 질문입니다. 다음 사항에 얼마나 동의하십니까?

No.	Item	전혀 아니다 보통 매우 그렇다
1	나는 지역 사회의 일원이라고 느낀다	1 2 3 4 5
2	그 곳에서 여러 활동에 활발히 참여하고 있다	1 2 3 4 5
3	항상 새로운 사람들과 접촉을 하고 있다	1 2 3 4 5
4	지역 활동을 위해 기꺼이 시간을 낼 수 있다	1 2 3 4 5
5	이웃들에게 개인적인 부탁을 할 수 있다	1 2 3 4 5
6	이 마을에서 오래 살수록 정이 들어간다	1 2 3 4 5
7	내 직장이 어느 곳에 있든지 별 상관은 없다	1 2 3 4 5
8	내가 개인적인 어려움을 겪는다면 마을 주민들은 만사 제쳐두고 나를 도울 것이다	1 2 3 4 5

9	나는 지역 사회의 일원이라고 느낀다	1 2 3 4 5
10	이 마을을 떠나 이사하는 것을 생각해 본 적이 없다	1 2 3 4 5
11	만약 꼭 이 마을을 떠나야 한다면 매우 서운할 것이다	1 2 3 4 5
12	더 좋은 기회가 있다면 이 지역을 떠나고 싶다	1 2 3 4 5
13	내가 사는 지역은 점차 더 살기 좋아지는 것 같다	1 2 3 4 5
14	내가 현재 살고 있는 동네는 앞으로도 계속 좋아질 가능성이 크다	1 2 3 4 5
15	내가 현재 살고 있는 동네는 지역주민들의 노력 여하에 따라 더 발전할 것이다.	1 2 3 4 5

24. 다음 항목들에 관해 얼마나 만족하고 있습니까?

No.	Item	매우 불만족 보통 매우 만족
1	현재 살고 있는 동네에서의 생활	1 2 3 4 5
2	(현재 동네에서) 심화된 교육을 받을 수 있는 기회	1 2 3 4 5
3	(현재 지역에서 누릴 수 있는) 휴식과 오락의 기회	1 2 3 4 5
4	(현재 살고 있는 지역의) 도로 확충 정도	1 2 3 4 5
5	가입 가능한 인터넷 서비스	1 2 3 4 5
6	의료 서비스	1 2 3 4 5
7	지역 내 시장이나 마트 등 쇼핑할 곳들	1 2 3 4 5
8	고용 기회	1 2 3 4 5

9	지역 정부에 참여할 수 있는 기회	1 2 3 4 5
10	지역 청소년들을 위한 프로그램	1 2 3 4 5
11	문화 향유 기회	1 2 3 4 5
12	젊은층들을 위한 교육 기회	1 2 3 4 5

25. 귀하가 고려할 수 있는 다음과 같은 계획들에 대해 답해 주십시오. 내년에 다음과 같은 계획들이 실현될 가능성은 얼마나 될까요?

No.	Item	매우 불만족 보통 매우 만족
1	다른 동네로 이사	1 2 3 4 5
2	도시 지역으로 이사	1 2 3 4 5
3	개인 사업 창업	1 2 3 4 5
4	인터넷으로 재택 근무	1 2 3 4 5
5	인터넷으로 재택 사업 창업	1 2 3 4 5
6	다른 지역에서 일자리 구하기	1 2 3 4 5
7	학위를 따거나 교육 프로그램 이수	1 2 3 4 5
8	가족 중 한 명이 다른 곳으로 이사	1 2 3 4 5
9	집에 무선 인터넷 설치	1 2 3 4 5

[개인 정보]

26. 당신의 성별은? ___ 남 ___ 여

27. 출생 연도는 ? 19 _____

28. 가족의 연간 수입은 어느 정도입니까?

____ 천만원 이하
____ 천만원- 2 천만원 미만
____ 2 천만원 -3 천 5 백만원 미만
____ 3 천 5 백만원 - 5 천만원 미만
____ 5 천만원 – 7 천 5 백만원 미만
____ 7 천 5 백만원 – 1 억 미만
____ 1 억원 이상

29. 교육 수준에 대해 답해주십시오.

____ 고교 중퇴 이하 ____ 고졸 ____ 대재 ____ 대졸
____ 대학원 이상

30. 이 지역에 거주한 기간은? _____년 _____ 개월

31. 직업과 직위는?_____

32. 지역 내 고등학교에 다니고 있는 자녀가 있습니까?

____ 네
____ 아니오

33. 본인 또한 이 지역에 위치한 고등학교 출신입니까?

____ 네
____ 아니오

감사합니다 .

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