

Will Social Media Use Reduce Relative Deprivation? Systematic Analysis of Social Capital’s Mediating Effects of Connecting Social Media Use with Relative Deprivation

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This study aimed at examining the relationship between social media use, communication with influential others, social capital, and relative deprivation. It examined the roles of two main variables—communication with influential others and social capital—for mediating social media use and relative deprivation. For this examination, a path model was tested through structural equation modeling (SEM). SEM results indicated that communication with influential others significantly and positively mediated the relationship between social media use and social capital—personal network and personal trust. Moreover, it could be found that social capital significantly reduced relative deprivation. These results indicate the considerable role of social media for reducing relative deprivation, helping the resolution of social problems related to relative deprivation.

Keywords: social media use, communication with influential others, social capital, relative deprivation

Introduction

Scholars have expressed much concern over the fact that various gaps between the haves and have-nots have widened (Dettrey & Campbell, 2013). In terms of an economic gap, it has been often reported that the annual income share of the top 1% of the population has continued to increase (Desilver, 2013). Desilver reported that U.S. income inequality is now at its highest since 1928, showing that the top 1% of the U.S. population, approximately, received 22.5% of all pretax income, while the remaining population received 77.5%. In addition to economic inequality, there has been an exacerbation

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of other types of gaps such as the digital divides (DiMaggio, Hargittai, Celeste, & Shafer, 2004) or health service inequalities (Shim, 2008).

Such increased inequalities in diverse social and political arenas accelerate the increase in individuals' perceptions of relative deprivation, which negatively impacts life satisfaction or well-being (Valenzuela, Park, & Kee, 2009), physical health (Adler, Epel, Castellazzo, & Ickovics, 2000; Cattell, 2001), and political participation (Valenzuela et al., 2009). Thus, many scholars and practitioners have investigated the potential factors that reduce relative deprivation (D'Ambrosio & Frick, 2007; H. J. Smith, Pettigrew, Pippin, & Bialosiewicz, 2012). However, little research has focused on how interpersonal communication with influential others could be related to relative deprivation, even though interpersonal communication, especially with influential others (e.g., friends, colleagues, etc.) can be indirectly connected to relative deprivation through potential mediators. Particularly, it is necessary to consider that interpersonal communication is closely related to individuals' social capital (Ellison, Steinfield, & Lampe, 2011), which has been found to be negatively correlated with relative deprivation (Kennedy, Kawachi, Prothrow-Stith, Lochner, & Gupta, 1998). This implies that interpersonal communication with influential others can indirectly create the reduction of relative deprivation by being mediated through social capital. Thus, this study aimed at investigating social capital's role in mediating the relationship between interpersonal communication and relative deprivation.

Furthermore, we must consider that for the last decade, there has been a continuous increase of social networking sites as influential channels for interpersonal communication in this contemporary society (Blanchard, 2011; Lenhart, 2009; Lin & Lu, 2011). Users of social networking sites (SNSs) such as Facebook and Twitter have doubled from 2008 to 2011 (Hampton, Goulet, Rainie, & Purcell, 2011). Duggan and Smith (2013) also reported that approximately 73% of American adults online are currently using SNSs and that 42% of those adults are now using multiple SNSs. Due to this widespread penetration of SNSs into our society, our lives have become closely interconnected with one another through these sites (Blanchard, 2011). Previous studies have shown the positive functions of SNSs on increasing social capital (Ellison et al., 2007, 2011; Valenzuela et al., 2009). For instance, Valenzuela et al. (2009) found that Facebook use strengthened bonding and bridging social capital. Based on previous research applying uses and gratification theory to the purposes of using SNSs (Y. Kim, Sohn, & Choi, 2011), it can be understood that people use SNSs for active communication with influential others. Accordingly, this present study aimed at exploring the indirect effect of individuals' SNS use on relative deprivation, mediated by interpersonal communication as well as social capital in Korea.

South Korea is suitable for this present study because of its fast development of IT industries, and high rates of Internet penetration as well as smartphone ownership. According to the Korea Internet & Security Agency (2013), 86.2% of Korean adults used the Internet in 2013. Especially supported by the increasingly broad reach of smartphone culture and the development of telecommunication infrastructures (e.g., 4G, wireless Internet), Koreans have become highly reliant on diverse types of SNS. Sohn (2013) reported that approximately 60% of young Korean adults were using at least one SNS. Moreover, in their survey report, Yim et al. (2013) found that 50.4% of their survey participants engaged in mobile SNS use

through smartphones and that 79.5% of smartphone owners in their twenties used mobile SNS services. This data indicates that Korea is an adequate research site for investigating topics related SNS use.

Moreover, it is also notable that under the influence of Confucianism, strong interpersonal ties play a critical role in forming the everyday lives of Koreans (B. Kim, 2011; Park, 2011). Particularly, personal ties are considered one of the strongest determining factors of social success in Korea (B. Kim, 2011). Therefore, social capital created from these ties also becomes a crucial condition for achieving social success in Korea's Confucian culture. This signifies the adequateness of Korea as the research site for this present study.

Considering that relative deprivation is closely related to important personal and social issues including poor physical health (Adler et al., 2000), income satisfaction (D'Ambrosio & Frick, 2007), crime rates (Kennedy et al., 1998), and psychological well-being and health (Bellani & D'Ambrosio, 2011), this study will contribute to extending our understanding of SNS use to various additional aspects of individuals' personal and social lives. The following section will further discuss SNS use and social capital, and move on to an elaboration of relative deprivation.

Literature Review

SNS Use

As discussed above, there has been a constant increase in SNS use (Duggan & Smith, 2013), supported by the advancements in mobile devices, especially smartphones, as well as networks such as 4G and wireless Internet. Particularly, the increase in smartphone ownership is notable, because social networking on cell phones has been increasing with the popularity of mobile SNS apps. According to A. Smith (2013), approximately 56% of American adults currently own smartphones, while the ownership of other types of cellular phones has decreased. Smith (2013) reported that 40% of cell phone owners are currently using SNS through their mobile phones. Furthermore, the expansion of wireless Internet networks and 4G telecommunication networks facilitates the acceleration of mobile social networking.

It is also considerable that according to the Korea Internet & Security Agency (2013), the Internet penetration rate in Korea is 99.9%. More notably, in 2013, Korea was ranked the number one country in terms of smartphone ownership in the world. Approximately 73% of Korean adults now own smartphones, and they also actively use various types of SNSs. For instance, according to Ki (2014), 67.5% of the citizens of Seoul—with a population of over 10 million—use SNSs, and the most widely used SNS is Kakao Story. Particularly, supported by the expansion of smartphone ownership, approximately 64.8% of smartphone users between the ages of 20 and 40 were using SNSs mainly for the purpose of reading and writing posts. In this way, various types of SNSs have become an important tool for interpersonal communication in Korea.

Social Capital

According to Coleman (1988), unlike financial and human capital, social capital is not tangible and can potentially be converted into financial or economic capital. Moreover, social capital emerges from the interpersonal relations among actors rather than from the actors themselves. Therefore, although there exist multiple different definitions of social capital, it has been commonly argued that social capital originates from individuals' interactions with others (Lin, 2001). Moreover, social capital involves both the 'capacity' and 'actual use' of relational resources. That is, in terms of capacity, one's social capital refers to one's potential power to use resources from others in his/her personal network. In addition, one can actually use his or her social capital to gain specific and tangible outcomes like job information.

There have been diverse theoretical perspectives to studying social capital (Lin, 2001). Among those various perspectives, Putnam (2000) placed more emphasis on the normative aspects of social capital. This implies that unlike other perspectives relying on instrumental and structural viewpoints of social capital (e.g., perspectives of Lin, Burt, and Coleman), Putnam's perspective paid more attention to the collective and communicative aspects of social capital. That is, Putnam addressed the importance of communication regarding the building of community trust as a form of social capital. Thus, this present research examining the role of communication for creating social capital mainly depended on Putnam's concept of social capital.

More specifically, Putnam (2000) identified three main components of social capital: network, trust, and reciprocity. First, the larger a personal network an individual has, the larger social capital s/he will mostly likely have. This is because a network is the infrastructure composed of individuals' personal relationships with others, who will serve as one's potential resources. Next, trust refers to one's belief in the expectation of getting some outcomes from his/her relational sources. In regard to trust, Fukuyama (1995) considered trust in itself as social capital. While trust is related to the quality of a network, network is related to the size. Lastly, reciprocity refers to the exchanges of relational resources. That is, when an individual actually utilizes relational resources from a source, s/he is expected to compensate for the resources at some point in the future. This suggests that, unlike the two other tangible components, reciprocity should be understood as an intangible normative component.

Here, it is notable that scholars have often pointed out that Putnam and Fukuyama's perspectives pay too much attention to community-level trust and network (Lin, 2001). In spite of the importance of these community-level components of social capital, these scholars overlooked the personal-level aspects of the two components. However, in order to investigate the relationships between social capital and other personal outcomes (in this study, relative deprivation and SNS use), it is conceptually more appropriate to focus on personal network as well as personal trust rather than community-level trust and network. Consequently, although this present study relied on Putnam's concept of social capital, it mainly measured personal network size and personal trust, which were more directly related to personal outcomes.

Korean Contexts in Social Ties and Social Capital

Since the Joseon dynasty, Korea has been traditionally known for its Confucian culture. To this day, diverse cultural and social aspects of Korean society highly depend on Confucian norms and values. Thus, in order to thoroughly understand social capital in Korea, it is necessary to consider how Confucian values are embedded in multiple types of social ties. Indeed, personal connections (*Inmaek* in Korean, *Quan Xi* in Chinese) are the most crucial factor for achieving success in Confucian cultures. Personal connections are often a crucial condition for gaining social success in Korea's Confucian culture (B. Kim, 2011; Park, 2011).

It is well known that in Korea three different social ties are important for social success. These ties are blood ties, regional ties, and school ties. Although the influence of regional ties has gradually decreased since the governments of Presidents Noh and Kim, two other ties play key roles in determining individuals' social success. First, familism is the most fundamental value of Confucianism. In Confucian culture, family is not just a baseline component of a society but more likely a foundational and indispensable part of society as a whole (W. Choi, 2008). Confucian scholars strongly emphasize the stabilization of family for successful governance of a country. They constantly address the importance of strong ties among family members that are built through filial duty and respect for elder members. Thus, blood ties are fundamental and powerful resources for building social capital in Korean society.

Next, in terms of school ties, it is notable that in Korea college background directly and significantly affects one's employment, promotion, and even income level (Y. Kim, 2010). Therefore, for the purpose of protecting these benefits accrued from school backgrounds, Koreans strengthen their school ties through graduates' and alumni associations. It is not uncommon to see employees within a company, who have graduated from the same college, regularly hold social gatherings. Although people argue that the invisible wall created from such school ties reproduces social inequality, school ties still play a key role in determining social success in Korean society. This clearly implies the influence of school ties on creating social capital.

In addition to these two main types of social ties, Koreans place much emphasis on their personal relationships with other influential people, such as fellow employees and bosses, in order to increase their own social capital. Here, it is important to differentiate family ties from ties with other influential people. This is mainly because Confucianism assigns higher value to relationships among family members, differentiating them from relationships with influential others in general. The fundamental principles of Confucianism—*Sam Gang Oh Ryun* (Three Bonds and Five Relationships)—identify differently the principles that define relationships among family members and principles that define relationships among others (e.g., friends, colleagues).

Moreover, we need to pay attention to the differences in the ways in which social capital is accumulated among family members and among other influential people. According to Ryu, Wang, and Park (2008), various social ties—including clan gatherings, graduates' associations, and civic groups—create multiple components of social capital in different manners. In terms of social networks, clan

gatherings show higher network density compared to graduates' associations; the frequency of meeting was higher in graduates' associations than in clan gatherings. Moreover, while people reported much higher materialistic trust toward graduates' associations and civic groups compared to that toward clan gatherings, they showed higher non-materialistic trust toward clan gatherings. This findings indicate that while personal connections in ties through schools and civic groups are built on people's expectations toward potential exchange of materialistic resources, blood ties are reliant on one's expectations of non-materialistic resources, such as psychological support. Considering these differences in the manners of building social capital, this present study differentiated between family members and influential others in general (e.g., friends, colleagues) in order to build the specific hypotheses presented in the following sections.

Relationship between SNS Use and Social Capital

Previous research has found that the Internet plays a critical role in facilitating various interpersonal relationships (Lee & Lee, 2010). In particular, diverse types of SNSs allow users to create, maintain, and draw upon both new and old acquaintances (Donath & boyd, 2004). Previous research, especially relying on uses and gratification theory, has commonly observed that a key motivation of using SNSs is to communicate with others and contact them (Espinoza & Juvonen, 2011; Lenhart, 2009). Moreover, recent research on social capital has shown positive relationships between individuals' SNS use and the main components of social capital (Basiri, Rahman, & Iahad, 2012; Y. Choi & Park, 2011; Farrow & Yuan, 2011; Valenzuela et al., 2009). For example, Farrow and Yuan (2011) found that one's use of an alumni group Facebook page strengthened his or her network ties. Moreover, individuals use SNSs in order to enlarge their personal networks by making new friends (Basiri et al., 2012). In regard to another main component of social capital, personal trust, Y. Choi and Park (2011) found a positive relationship between SNS use and personal trust.

Here, we need to consider that previous research has often hypothesized and tested the direct effects of social media use on social capital. For example, Valenzuela et al. (2009) focused on how Facebook use increases social trust and civic/political participation, which can be considered to be the main components of social capital. Valenzuela et al. (2009) paid attention to the intensity of Facebook use, measuring the amount of time to use Facebook, number of Facebook friends, and emotional attachment to Facebook. The researchers found direct effects of intensity of Facebook use on social trust and civic/political participation.

However, these findings do not provide us with sufficient explanation of *why* and *how* people actually build social trust and participate in civic and political events. This is mainly because of a lack of consideration about the relationship between SNS use and actual interpersonal communication. In other words—because social capital is defined not simply as the size of social connections but more complicatedly as a combination of personal networks and, especially, personal trust—we need to pay attention to the effects of SNS use on interpersonal communication that actually creates personal trust as well expanding personal networks. Moreover, as elaborated above, this present study differentiated social capital among family members from social capital among influential others in general (e.g., friends,

colleagues, bosses). This differentiated examination of interpersonal communication, in terms of communication with family members and communication with influential others in general, will be helpful for more precisely and thoroughly comprehending the roles of communication in the SNS context.

Previous research on SNS use has often found that SNSs are generally used for communicating with individuals in ones' existing personal networks (boyd & Ellison, 2007; Urista, Dong, & Day, 2009). Urista et al. (2009) found out that SNS use was helpful for managing efficient and convenient communication with people in one's social network. This implies that SNS use is generally helpful for improving interpersonal communication with influential others. However, in regard to the effect of SNS use on family communication, previous studies have provided controversial findings. On the one hand, although SNSs are influential tools that facilitate interpersonal communication in general, it often substitutes individuals' face-to-face (FtF) communication with their family members, occasionally negatively affecting family communication (Gentzler, Oberhauser, Westernman, & Nadorff, 2011; Pollet, Roberts, & Dunbar, 2011). On the other hand, SNSs are useful tools for older individuals to communicate with younger family members (Nef, Ganea, Müri, & Mosimann, 2013). The large penetration rate of SNSs among Korean adults assists understanding of such trends. As elaborated above, the mobile communication experience through smartphones has been greatly enhanced with the advancements in diverse communication infrastructures. Supported by a mobile communication environment of higher quality, various SNSs have infiltrated the everyday lives of Korean adults. Considering this emerging trend of SNS uses, it is predictable that SNSs have become timely and trendy communicative tools for conversing with family members. Accordingly, the following hypotheses were established and tested:

H1: SNS use will be positively associated with communication with family members.

H2: SNS use will be positively associated with communication with influential others in general.

As discussed above, this study investigated social capital in terms of two dimensions: personal trust and personal network size. It is necessary to note that personal trust is significantly related to communication (Mayer, Davis, & Schoorman, 1995). In regard to personal trust and interpersonal communication, it is easily understandable that, as a person communicates more and more about various issues (e.g., personal concerns, social issues) with influential others, s/he may build more personal trust toward those people. Moreover, in general, it is plausible that greater levels of communication with influential others will help individuals broaden and strengthen their personal networks with people who can share serious issues. Previous studies have shown that interpersonal communication through the Internet tends to be positively related to personal network size (Hampton, Lee, & Her, 2011; Wellman, Boase, & Chen, 2002). Especially, Hampton et al. found that individuals' SNS use was positively related to the diversity of their social networks. Consequently, this study hypothesized the following associations:

H3: Communication with family members will be positively associated with personal trust toward family members.

H4: Communication with influential others in general will be positively associated with personal trust toward influential others in general.

H5: Communication with family members will be positively associated with personal network size.

H6: Communication with influential others in general will be positively associated with personal network size.

Social Capital and Relative Deprivation

As the gap between the haves and the have-nots continuously increases, relative deprivation has received huge attention from scholars and practitioners (D'Ambrosio & Frick, 2007; H. J. Smith et al., 2012). This increasing attention to relative deprivation can be explained by the fact that it is often related to various personal and social problems such as crime rates, social mistrust, inequalities in healthcare and so on (H. J. Smith et al., 2012). For example, it has been well known that crime rates are higher among people with higher relative deprivation (Bellani & D'Ambrosio, 2011).

In terms of defining relative deprivation, based on arguments from Runciman (1966) and Walker and Pettigrew (1984), Tropp and Wright (1999) defined the concept as, "one's sense of deprivation in comparisons [*sic*] with other individuals or social groups" (p. 708). In addition, Runciman (1966) states that, "The magnitude of a relative deprivation is the extent of the difference between the desired situation and that of the person desiring it" (p. 10). This definition is reliant on individuals' psychological cognition and emotional feelings of deprivation that originate from comparisons with others. In other words, it focuses on the subjective aspects of relative deprivation. The present study mainly relied on this psychological and subjective definition of relative deprivation, because it aimed at examining the connections among interpersonal communication, social capital, and relative deprivation at the personal level.

Previous research has found that social capital can be significantly correlated to relative deprivation (Cattell, 2001; Kawachi, 1999). In particular, social capital was considered an outcome of relative deprivation. For instance, when people experience relative deprivation from income inequalities, they feel less cohesion to their community, because of the subjective and cognitive gap created from personal comparisons between their own conditions and that of others. This reduction of group cohesion often causes disorganization of a community, consequently reducing social capital (Kennedy et al., 1998). In this case, the reduction of social capital is an outcome of relative deprivation.

However, here we need to consider an opposite direction in regard to the relationship between social capital and relative deprivation. In other words, social capital can help people reduce their feelings and cognition of deprivation. This can be explained in the following way. When an individual has higher social capital, meaning more connections with more people and higher trust toward influential others, s/he may possibly feel that s/he will receive help from those people. This is mainly because social capital can

provide people with social support, self-esteem, and perceptions of control (Cohen & Syme, 1985). In order to further comprehend this relationship, we need to consider two different contexts in terms of ones' socio-economic status: advantaged/prestigious groups vs. disadvantaged groups of people. On the one hand, when a person is of low SES—a disadvantaged group—and high social capital, s/he feels less deprivation, replacing low SES with social capital as a different form of resource. That is, such person may reduce relative deprivation by intentionally placing more value on their own social capital composed of personal network and personal trust. In the case of prestigious groups of people, because they already are of high SES, represented by financial capital and social status, they may show more active attitudes toward high social capital, considering social capital as resources that can be promptly used to gain more benefits. Thus, in this case, because of this perception of potential benefits, social capital can be a direct cause of reducing relative deprivation. In this way, regardless the level of SES, social capital will be helpful for people in reducing relative deprivation. Therefore, the following hypotheses were established and tested:

H7: Personal trust toward family members will reduce relative deprivation.

H8: Personal trust toward influential others in general will reduce relative deprivation.

H9: Personal network size will reduce relative deprivation.

Unlike previous research, this study focused not on the direct effects of SNS use on social capital but on SNSs' indirect effect on social capital, mediated by interpersonal communication. In addition to interpersonal communication's mediating effect, this study connects this variable with relative deprivation, by examining social capital's role in mediating the relationship between interpersonal communication and relative deprivation. Consequently, the following hypotheses were established:

H10: Communication with family members will mediate the relationship between SNS use and social capital.

H11: Communication with influential others in general will mediate the relationship between SNS use and social capital.

H12: Social capital will mediate the relationship between communication with family and relative deprivation.

H13: Social capital will mediate the relationship between communication with influential others in general and relative deprivation.

Method

Participants and Procedures

To test proposed hypotheses, this study collected online survey data from 2,169 citizens who were randomly selected by a Korean research company. Each survey participant was randomly selected from the research company's sampling pool, which is composed of panel members who have registered with the company. In 2014, the total number of these panel members was larger than one million. Each of the randomly selected members was personally contacted by the company. In order to increase the representativeness of the sample, a proportionate stratified sampling method was used, taking into consideration the proportion of gender, age, and residential areas of the Korean population. Only participants who agreed to participate in the survey received an email inviting them to complete an online survey. The average age of the participants was 32.59 years ($SD = 9.45$), ranging from 14 to 49. The gender composition was quite even, indicating 51.4% of male participants. In addition, the median income of the participants was \$30,000-\$40,000. The gender distribution as well as median annual income were quite representative of the larger population.

Instruments

All of the measurements, except the measurement for SNS use, used a 5-point Likert-type scale (e.g., 1 = *Strongly disagree*, 5 = *Strongly agree*). SNS use was measured through a 7-point Likert-type scale.

SNS use. Unlike previous research of simply asking the amount of time or frequency of using social media, this study paid attention to two behavioral patterns of social media use: reading and writing posts on SNSs. In other words, through a 7-point Likert type scale, this study asked how much a participant writes and reads posts on SNSs. In total, two items were used to measure SNS use. The reliability for this measurement ($M = 2.98$, $SD = 1.92$, $N = 2169$) was acceptable ($\alpha = .90$).

Communication with influential others. This variable was divided into two sub-dimensions: communication with family and with others in general. First, participants were asked to rate the extent to which they communicate with their family about the following four topics: a) personal concerns; b) social life, including school life and work life; c) hobbies (e.g., reading books); and d) social and political issues. The reliability for this measurement ($M = 2.16$, $SD = .82$, $N = 2169$) was acceptable ($\alpha = .76$). Next, research participants were asked to rate the extent to which they had conversations with influential others in general, including friends and colleagues, about those same topics. A reliability test indicated that the Cronbach's alpha score ($M = 2.27$, $SD = .79$, $N = 2169$) was acceptable ($\alpha = .72$).

Personal network size. In this study, personal network size was operationalized as the size of network composed of people with whom a person communicates about important issues or with whom s/he enjoys hobbies/sports. Research participants were asked to indicate the number of people with whom they communicate/discuss about the following topics: a) problems with school or work life b) family

issues, c) social and political issues, and d) everyday details of personal life. For this measurement, a 7-point Likert type scale was used (1=No one, 2=1-2 persons, 3=3-4 persons, 4= 5-6 persons, 5=7-8 persons, 6=9-10 persons, 7=More than 11 persons). The reliability for this measurement ($M = 2.71$, $SD = .98$, $N = 2169$) was acceptable ($\alpha = .77$).

Personal trust. To measure personal trust, research participants were asked to rate the extent to which they trusted a) family members, b) friends, c) neighbors, d) colleagues, and e) alumni². Personal trust toward family members was measured by the single item regarding family members ($M = 4.41$, $SD = .73$, $N = 2169$). The remaining four items were used to measure personal trust toward influential others in general. The reliability test provided a moderate Cronbach's alpha score ($\alpha = .81$) for this variable ($M = 3.20$, $SD = .58$, $N = 2169$).

Relative deprivation. In order to measure relative deprivation, the nine items proposed by Chae and Kim (2004) were used. The examples of those items are: a) It is unpleasant for me to see people who are of higher social status than me; b) It is unpleasant for me to see people who are more handsome than I am; c) It is unpleasant for me to see people who have better career experiences than I have; c) It is unpleasant for me to see people who are richer than I am; d) It is unpleasant for me to see people who have better natural abilities than I have. The reliability for this measurement ($M = 2.72$, $SD = .84$, $N = 2169$) was acceptable ($\alpha = .94$).

Table 1. Correlations for Key Study Variables.

	1	2	3	4	5	6
1 Social Media Use						
2 Communication with Family Members	.13***					
3 Communication with Influential Others in General	.24***	.50***				
4 Personal Trust toward Family Members	.01	.20***	.10***			
5 Personal Trust toward Influential Others in General	.03	.18***	.15***	.33***		
6 Personal Network Size	.25***	.29***	.36***	.16***	.24***	
7 Relative Deprivation	-.02	-.05*	00	-.12***	-.23***	-.12***

Note: $N = 2169$, * $p < .05$, *** $p < .001$

² In Korea, school relations or ties are one of the most crucial assets for one's successful social lives. Thus, to measure personal trust in general, this study included alumni.

Control variables. For more rigorous analysis, this study controlled for the effects of three socioeconomic status (SES) components—educational background, monthly household income, and monthly expenses. The median monthly household income was \$3,000-\$4,000, and the median individual monthly expenses were \$300-\$400. The majority of survey participants (47.4%) had 4-year college or higher degrees. While 17.9 % of participants had graduated from 2-year colleges, 33.8 % reported high school or middle school as their final level of education.

Results

Hypotheses Tests

In order to test the hypotheses, this study used a path analysis as a specific form of structural equation modeling (SEM) through AMOS 21. In addition to direct paths among six main variables, four covariance among five error terms were also added to the path model (see Figure 1). This was mainly because two variables (e.g., personal network and personal trust) for each pair were conceptually associated with each other. Relying on Lee and Lim's (2007) guidelines to control for the effects of the three SES components, paths from the three variables to all of the exogenous and endogenous variables were added into the model. Figure 1 shows the final path model that indicates regression coefficients of each path, after controlling for the effects of the three SES components. Following Lee and Lim's suggestion, paths from the control variables to all of the main study variables were omitted for clarification of the model. Following suggestions from Hu and Bentler (1999), this study used three model fit indices—comparative fit index (CFI; higher than .90), incremental fit index (IFI; higher than .90), and a standardized root-mean squared residual (SRMR; lower than 0.10). The final model had acceptable model fit indices ($\chi^2(df = 8) = 104.15$, CFI = .96, IFI = .96, SRMR = .03).

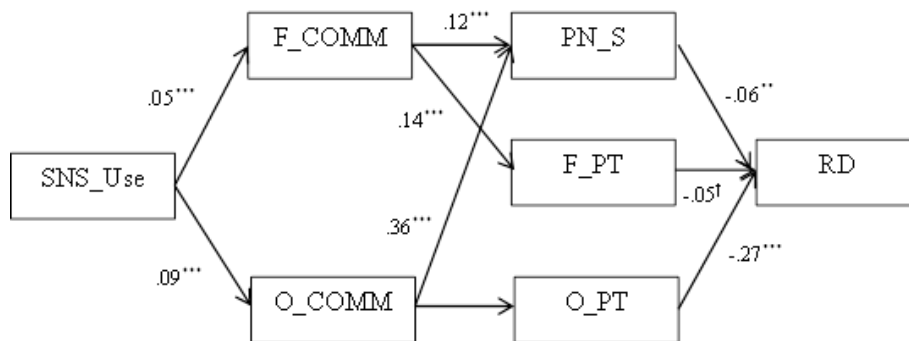


Figure 1. Path model of key study variables.

Notes: F_COMM=Communication with Family Members, O_COMM =Communication with Influential Others in General, PN_S=Personal Network Size, F_PT=Personal Trust toward Family Members, O_PT=Personal Trust toward Influential Others in General, RD=Relative Deprivation.

*** $p < .001$, ** $p < 0.01$, † $p < 0.10$

First, SNS use was significantly and positively associated with the two variables of communication: communication with family members ($\beta = .05, p < .001$), and communication with influential others in general ($\beta = .09, p < .001$). These results supported H1 and H2.

Next, in regard to the effect of interpersonal communication on social capital, communication with family members was positively associated with personal trust on family members ($\beta = .14, p < .001$) and personal network ($\beta = .12, p < .001$), fully supporting H3 and H5. In addition, communication with influential others in general was also positively associated with both personal trust on influential others in general ($\beta = .12, p < .001$) and personal network ($\beta = .36, p < .001$). These results fully supported H4 and H6.

Lastly, this study aimed at examining the potential effects of social capital on relative deprivation, hypothesizing that social capital would reduce relative deprivation. SEM results indicated that influential others in general ($\beta = -.27, p < .001$) as well as personal network ($\beta = -.06, p = .001$) significantly and negatively affected relative deprivation. Personal trust toward family members ($\beta = -.05, p = .07$) had a weak effect on relative deprivation. This indicates that while H7 was marginally supported, H8 and H9 were fully supported.

Table 2. Sobel's Statistics for Mediators.

Independent Variables	Mediators	Dependent Variables	Sobel's Statistics
Social media use	Communication with family members	Personal network size	5.41 ($p < .001$)
		Personal trust toward family members	4.61 ($p < .001$)
Social media use	Communication with influential others in general	Personal network size	8.58 ($p < .001$)
		Personal trust toward influential others in general	6.40 ($p < .001$)
Communication with family members	Personal network size	Relative deprivation	- 2.66 ($p = .008$)
	Personal trust toward family members		- 1.72 ($p = .08$)
Communication with influential others in general	Personal network size	Relative deprivation	- 3.11 ($p = .001$)
	Personal trust toward influential others in general		- 5.66 ($p < .001$)

Moreover, in order to check the mediating roles of the multiple mediators, this study conducted a Sobel's test. As Table 2 shows, Sobel's statistics for most of the mediating effects were statistically strongly significant. An exception was the mediating effect of personal trust toward family members on the relationship between communication with family members and relative deprivation. This effect was relatively marginally significant ($p = .08$). These results imply that interpersonal communication and social capital significantly mediate the relationship between social media use and relative deprivation, supporting H10 through H13.

Discussion

This study aimed at examining how SNS use would ultimately impact relative deprivation, being mediated by communication with influential others and social capital. For this examination, a path model was developed and tested through SEM. SEM results showed that most of the proposed hypotheses were statistically strongly supported, indicating significant roles of interpersonal communication and social capital for connecting social media use with relative deprivation. In regard to these results, the following points are meaningful to discuss.

SNS Use, Interpersonal Communication, Social Capital

In contemporary society, SNSs are now largely influencing our lives (Blanchard, 2011). Because of the critical roles of SNSs in strengthening various types of relational ties, scholars have intensively explored how SNSs can be connected with social capital. Many previous studies have examined and found the very direct effects of SNSs on the creation of multiple dimensions of social capital (Lin & Lu, 2011). However, as stated above, with this approach to studying SNSs, we are not able to fully understand the complete process through which SNSs actually create social capital originating from human relationships. In other words, social capital represented by personal trust and personal network does not directly originate from SNS use but from interpersonal communication. For instance, personal trust can increase, not simply when people more frequently use SNSs, but when they have interpersonal communication about important issues with influential others in deeper ways. Thus, this study hypothesized and found that interpersonal communication with influential others was significantly associated with one's SNS use.

Here, the positive effect of SNS use on communication with family members was quite notable. This implies a remarkable change in values assigned to SNSs for family communication. As elaborated before, previous research found that SNS use among family members negatively affected personal relationships among them by reducing FtF communication (Gentzler et al., 2011). However, as recent research has shown (Nef et al., 2013), SNS use has increased among older generations. This means that SNSs have become a more suitable and acceptable communication channel for the elder generations. Consequently, family communication through SNSs has become more natural and to be considered as helpful for strengthening bonds among family members. Consequently, this finding is helpful for broadening our knowledge of the contingent roles of SNSs in facilitating family communication, especially in this contemporary society that largely depends on various types of social media, especially SNSs.

Communication, Social Capital, and Relative Deprivation

Because of increasing inequalities in various social dimensions (e.g., income, social status, consumption of cultural products), relative deprivation has garnered increasing attention from scholars and practitioners (Bellani & D'Ambrosio, 2011). In addition, considering social capital's generally positive functions on personal and social lives, previous studies have examined how social capital would be connected with relative deprivation (Kawachi, 1999).

Unlike previous research regarding social capital as the outcome of relative deprivation, this study explored how social capital could help people reduce relative deprivation. Moreover, another goal of this study was to extend our knowledge of social capital and relative deprivation from a communicative perspective. Results from a path analysis indicated that social capital mostly mediated the effects of interpersonal communication on relative deprivation. In other words, as people gain more social capital through interpersonal communication triggered by social media use, they tend to experience less relative deprivation. However, it is quite interesting that, while communication with influential others in general significantly reduced relative deprivation through social capital, the effect of communication with family members on relative deprivation was not significantly mediated by personal trust toward family members. It is possible that people expand their personal network through family members. This expanded personal network signifies an increase in social capital, which can help people reduce their perception of relative deprivation. However, in the case of personal trust toward family members, as the descriptive result showed, the average score for this variable was very high ($M = 4.41$). Moreover, the low standard deviation ($SD = .73$) shows that most participants reported higher scores on personal trust toward their family members, diminishing the statistical effect of personal trust toward family members on relative deprivation. This result indicates the necessity to differentiate family members from other influential people, especially in regard to the creation of social capital. It is helpful for more thoroughly understanding the underlying mechanisms of the processes involved in creating and accumulating social capital.

In regard to these findings, we need to consider that previous research has found inconsistent relationships between SNS use and individuals' psychological conditions, including psychological well-being, loneliness, and self-esteem (Chen & Lee, 2013; Kalpidou, Costin, & Morris, 2011; J. Kim & Lee, 2011; Ledbetter et al., 2011; Liu & Yu, 2013; Nabi, Prestin, & So, 2013; Neira & Barber, 2014). While some studies have found positive effects of SNS use on such psychological conditions (Liu & Yu, 2013), others have shown SNSs' negative effects (Chen & Lee, 2013; Kalpidou et al., 2011). For instance, Neira and Barber (2014) found that more frequent use of SNSs was helpful for reducing college students' depressed moods, and Liu and Yu (2013) also found that college students' Facebook use was positively related to their well-being. On the other hand, Kalpidou, et al. (2011) found negative relationships between SNS use and self-esteem, and Chen and Lee (2013) also found that Facebook use increased psychological stress. In this way, previous studies have not been able to agree on the effects of SNSs on psychological outcomes. However, considering the roles of interpersonal communication and social capital, this particular study found that SNS use can help individuals reduce their perception of relative deprivation. This specific finding contributes to our understanding of the relationship between SNS use and

psychological outcomes. In particular, this study stands as a meaningful effort toward applying a communication perspective to understanding relative deprivation, which has often been examined from sociological and economic perspectives.

Future Directions

Although this study was able to find theoretically meaningful findings in regard to such important issues regarding social media, social capital, and relative deprivation, the following recommendations are suggested for future research. First, it is recommended for future research to extend the concept of social capital into more public domains, such as community networks (e.g., town community, neighborhood networks) and institutional trust (e.g., trust toward governmental agencies). Mainly focusing on individual-level personal communication as the mediator, this study paid more attention to social capital in the personal domain—personal network and personal trust. This is theoretically meaningful for studying psychological and subjective relative deprivation. Nevertheless, as Putnam (2000) proposed, we need to consider public domains for the purpose of more fully scrutinizing social capital. Thus, it will be valuable for future research to explore how social media is related to social capital in both the personal and public domains.

Next, it is recommended for future research to further consider the unique characteristics of different types of social media. Social media refers to the entire group of media depending on Web 2.0, implying that there exist various types of social media. For example, while SNSs (e.g., Facebook, MySpace, LinkedIn) aim at building, maintaining, and strengthening individuals' interconnections and their personal relationships with others, other types of social media—such as YouTube, Foursquare, and Pinterest—mainly support file-sharing and information-sharing rather than relationship building. Each form of social media has its own unique service and social functions. Thus, it is highly recommended for future research to explore how unique functions of social media will differently impact social capital and as well as relative deprivation.

Third, this study paid attention to two different behaviors of SNS use: writing and reading posts on SNSs. Although these two behavioral aspects are most dominant, there still exists the necessity to scrutinize more specific behavioral uses of SNSs. For instance, Ledbetter et al. (2011) measured Facebook communication through seven items, mainly depending on Lenhart and Madden's (2007) research. Some of those items were: "I send my friend a private message," "I 'poke' my friend," and "I write on my friend's wall." Examining such particular forms of behaviors will be helpful for thoroughly understanding the more diverse dimensions of SNS use.

Lastly, this study relied on cross-sectional data that did not support the analysis of causal relationships between independent and dependent variables. In other words, it is recommended for future research to collect longitudinal data and use time-series analysis in order to further scrutinize how SNS use predicts the actual reduction of relative deprivation. In regard to analytical perspectives, it is also recommended that future research collect data from the elder population. In spite of the steady increase in the elderly population's Internet use, they still make up the minority in terms of SNS users (Braun,

2013; Madden, 2010). Thus, it will be valuable to explore the ways in which SNS use among the elderly can be facilitated and to further scrutinize how this population's SNS use may be related to social capital and relative deprivation.

Conclusion

The main goal of this study was to explore the potential indirect effects of social media use on relative deprivation. In order to connect social media use and relative deprivation, this study focused on two mediators—communication with influential others and social capital. For this analysis, this study developed a theoretical model composed of four main constructs and tested it through a path analysis. The SEM results supported most of the proposed hypotheses, confirming that social media use can be indirectly associated with relative deprivation. The main finding exemplified the positive functions of SNSs in terms of facilitating interpersonal communication and ultimately reducing relative deprivation. This finding addresses the practical necessity to improve digital media literacy in regard to SNS use, especially among the elderly and lower income populations. This type of normative communication will help such users to create more social capital and to reduce relative deprivation.

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