청소년들의 소셜 네트워크 사이트 이용과 사회적 자본의 상관관계에 있어서의 성별 및 지역 차이

Effects of Gender and Region on the Relationships between Teenagers' Use of Social Network Sites and Social Capital

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요　약

본 연구는 소셜 네트워크 사이트 이용과 사회적 자본 사이의 관계가 성별과 지역에 따라 어떻게 차이가 나는가에 대해 조사해보고자 했다. 한국 청소년들로부터 수집된 자료를 분석함으로써 유의미한 성별과 지역별 차이를 발견할 수 있었다. 특히 도시에 거주하는 남자 청소년들의 경우, 소셜 네트워크 사이트의 이용은 결속적 그리고 교량적 사회자본에 부정적인 영향을 미쳤다. 이러한 연구결과는 청소년들의 소셜 네트워크 사이트 사용이 청소년들의 개인적인 인간관계에 미치는 영향을 이해하는데 도움을 줄 것이다.

☞ 주제어 : 청소년의 소셜 네트워크 사이트 이용, 결속적 사회자본, 교량적 사회자본, 성별 차이, 지역 차이

ABSTRACT

This study aimed to examine how gender and regional differences affect the relationships between SNS use and social capital. By analyzing a large set of data from Korean teenagers, significant roles of gender and regional differences could be found. In regards to gender difference, the most notable finding was the negative effects of SNS use on bonding and bridging social capital among male teenagers. Furthermore, it was found that such negative effects of SNS use were significant particularly among urban teenagers. These findings theoretically contribute to broadening the understanding of the relationships between SNS use and social capital.

☞ keyword : Teenagers' SNS use, Social Capital, Bonding and Bridging, Regional Differences, Gender Differences

1. INTRODUCTION

As social network sites (SNS) have become the dominant media platforms of contemporary society, scholars have increasingly investigated the relationships between SNS use and social capital created from social relations [1][2][3]. However, although previous studies have often emphasized the significant and positive function of SNS use for strengthening social capital, such positive effects are not necessarily guaranteed, implying the necessity to conduct further research on the relationships between SNS use and social capital [4]. Thus, this study aims to broaden understandings of this topic by addressing the effects of gender and regional (urban vs. rural) differences.

For further exploration of this topic, the current study focuses on the population of teenagers, mainly because, as adolescents, they are undergoing a crucial stage that is strongly characterized by social development. In addition, considering the heavy dependence on new communication technologies of today's teenagers, who are accordingly often referred to as the "digital generation," it is very worthwhile to investigate how teenagers' SNS use impacts their social capital.

In consequence, this study investigated the following general questions: "How does Korean teenagers' SNS use affect their social capital?" and "How do the effects of SNSs on social capital differ by gender and region?" The following section provides an analytical review of the existing theoretical and empirical understandings of SNS use, particularly in relation to social capital, gender, and regional differences. Based on this

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review, the specific hypotheses and research question of the study are presented.

2. THEORETICAL BACKGROUND

2.1 SOCIAL CAPITAL AND SNS USE

According to Coleman [5], social capital created through social relations has the potential of being transformed into financial/economic capital in certain contexts. In other words, social capital is, "the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (p. 14) [6].

According to Putnam [7], there exist two different types of social capital: bonding and bridging. These two types of social capital are closely related to two different social ties: strong and weak ties. According to Granovetter [8], strong ties are social relationships that directly connect two different actors. Corresponding to strong ties, it is argued that people bond with others to maintain pre-existing social relationships, ultimately strengthening their social capital. Differentiated from strong ties, weak ties imply social relationships that are created through a mediator [8]. People take chances to develop new relationships through such mediators. Finally, weak ties play key roles in increasing social capital by bridging an actor with others.

Moreover, from existing research, we well know that the key motivations to use SNSs derive from the desire to create and maintain social ties and the key activities further revolve around the creation and maintenance of these ties [9]. Accordingly, studies have found much evidence that supports the positive relationships between the use of such platforms and users' levels of social ties or social capital [10].

Despite the large quantity of research on the relationship between SNS use and social ties, research examining the relationship between SNS use and the resourcefulness of these social ties is still quite scarce [1]. Particularly, there are still many limitations to our understanding of this relationship among teenagers.

For this study, it must further be noted that previous studies have often found one's psychological well-being, in particular self-esteem, to be significantly related to the strength of one's social capital in a positive direction [11]. That is, levels of

self-esteem positively predict both bonding and bridging social capital [1][2]. Therefore, considering the influential role of self-esteem on social capital, this study regards self-esteem as a control variable and attempts to detect the true effects of SNS use on both bonding and bridging social capital. Consequently, the following hypotheses were established:

H1: After controlling for the effect of self-esteem, the amount of teenagers' SNS use will be positively associated with their bonding social capital.

H2: After controlling for the effect of self-esteem, the amount of teenagers' SNS use will be positively associated with their bridging social capital.

2.2 GENDER DIFFERENCE IN SNS USE

Gender has been considered one of the most influential factors that affect the amount or intensity of SNS use. Females, both minors and adults, tend to use SNSs for longer amounts of time compared to males [12]. Gender differences have been found to be quite distinct particularly among teenagers [13][14].

Additionally, research has found that the types of relationships formed within SNSs differ by gender. For example, as boys are more outgoing than girls, a higher percentage of them reach out to make new friends. On the other hand, girls have a greater tendency to use SNSs to maintain ties with friends they rarely get to see offline [14]. In other words, girls seem to have a tendency toward securing established or strong ties while boys are more comfortable with expanding their weak ties. This is consistent with broader observations of social capital. In general, while males tend to build new relationships through weak ties, females are more likely to strengthen strong ties [15]. However, it has yet to be addressed how differently by gender these ties are relied upon or converted into social capital. Based on these discussions, the following hypotheses were established in regards to SNS use, social capital, and gender:

H3: The association between SNS use and bonding social capital will be stronger among females, compared to males.

H4: The association between SNS use and bridging social capital will be stronger among males, compared to females.

2.3 REGIONAL DIFFERENCE IN SNS USE

Previous studies have taken much effort to confirm the significant roles of diverse demographic factors such as age, gender, race/ethnicity, and socioeconomic status [12][13][16]. In terms of demographic factors that influence SNS use, an understudied variable is that of regional difference. The differences between urban and rural areas have mostly been addressed in terms of Internet adoption [17]. This is understandable as the urban-rural digital divide is still very prominent in many parts of the world. However, Horrigan and Murray's research [18], one of the limited efforts to understand rural online usage, did find that there are a number of differences between urban and rural use of the Internet.

As research on the urban and rural differences of online use is scarce, there is even a greater lack of research on the regional differences in regards to SNS use. Related to SNS use, only a few studies have explored regional differences in SNS use [19]. For example, Gilbert et al. discovered that urban users spent more time using SNSs and had a greater number of SNS friends [19]. This study aims at a more detailed understanding of the regional differences in terms of the relationships between SNS use and social capital. Because of the very limited number of previous studies, this current study explored the following research question:

RQ: How do the relationships between SNS use and social capital differ between teenagers of urban and rural areas?

3. METHODS

3.1 PARTICIPANTS AND PROCEDURE

For data collection, students from four high-schools in South Korea—one rural and three urban—were invited to complete a self-administrated survey. The primary researchers of this study individually contacted the high-schools by way of the principals or teachers. In total, 570 high-school students ages 15 to 18 completed the survey: 192 (33.7%) students from one high-school in a rural city, and 378 (66.3%) students from three high-schools in Seoul. The mean age was 16.5 years. A greater number of male students (56.5%) completed the survey than female. More than 90 percent of the participants had Internet connection at home in both urban (99.5%) and rural (94.2%) areas.

3.2 MEASUREMENTS

Except for SNS use, all variables were measured through five-point Likert scales composed of multiple items (1 = strongly disagree, 5 = strongly agree). All composite measurements reached acceptable Chronbach's alpha scores (larger than .70).

This study measured individuals' SNS use time by asking respondents to report the average time they spend on SNSs per day in hours and minutes (M = 1.09, SD = 1.34).

To measure the two types of social capital, this study used a modified and shortened version of Williams' online/offline bonding and bridging scales [20]. The items were selected and slightly modified in order to reflect high-school students' conditions and relationships. After a factor analysis, four items were removed from further calculation due to low factor loading scores (less than .50), and a final of seven items were used to measure bonding (three items) and bridging (four items) social capital. An example of items measuring bonding social capital is "There are several students at my school I trust to help solve my problems", and an example item for bridging social capital is "Interacting with students at my school makes me want to try new things." These two measurements reached acceptable Cronbach's alpha scores—bonding social capital (M = 3.45, SD = .80, a = .86), bridging social capital (M = 3.18, SD = .64, a = .74).

Six items from Regenberg's self-esteem scale were used in order to measure self-esteem [21]. Examples from the scale are as follows: a) On the whole, I am satisfied with myself, and b) I am able to do things as well as most other people. The reliability test showed an acceptable Cronbach's alpha for the composite measure (M = 3.38, SD = .66, a = .84).

To check the validity of the three main factors, we conducted a confirmatory factor analysis (CFA). Following Hu and Bentler's suggestion [22], we reviewed three model fit indices: comparative fit index (CFI), infinite fit index (IFI), and standardized root mean square (SRMR). Results from the CFA for the three-factor model confirmed the validity of the three factors (x^2 (df = 62) = 231.8, CFI = .94, IFI = .94, SRMR = .04).

4. RESULTS

To test the proposed hypotheses and explore the research question, this study depended on hierarchical regression analyses. In this study, self-esteem was controlled for in order to detect the true effects of SNS use on bonding and bridging social capital. Two dummy variables—gender and region—were also controlled.

First, H1 and H2 predicted a positive association between SNS use and teenagers' social capital. After controlling for the three control variables, SNS use was negatively and significantly associated with bonding social capital (β = -.07, p = .003). Furthermore, the addition of SNS use significantly increased the explained variance in bonding social capital (ΔR^2 = .014, ΔF (1, 503) = 8.43, p = .004). Next, after controlling for the same variables, SNS use was significantly and negatively associated with bridging social capital (β = -.04, p = .042). The addition of SNS use significantly increased the explained variance in bridging social capital (ΔR^2 = .007, ΔF (1, 503) = 4.17, ^{p} = .042). These negative effects of SNS use on both bonding and bridging social capital supported H1 and H2 in an opposite direction.

(Table 1) Gender Comparisons of Regression Coefficients

	Bonding Social Capital			Bridging Social Capital		
	β		z	β		z
	Male	Female		Male	Female	
SNS Use	-0.11	0.05	3.05	-0.05	-0.02	0.67

Next, unlike the original prediction of H3, the two hierarchical regression results showed that, while SNS use was significantly and negatively (β = -.11, p < .001) associated with male teenagers' bonding social capital, no significant association was found between these two variables (β = .05, p = .24) among female teenagers. This gender difference in regression coefficients was statistically significant (z = 3.05, p = .001). These results supported H3 in an opposite direction.

In regards to H4, the hierarchical regression results indicated that, while male teenagers' SNS use was significantly and negatively (β = -.05, p = .05) associated with bridging social capital, there was no significant association between these two variables among female teenagers (β = -.02, p = .57). However, this gender difference in regression coefficients was not statistically significant (z = .67, p = .25). Consequently, H4 was rejected.

(Table 2) Regional Comparisons of Regression Coefficients

	Bonding Social Capital			Bridging Social Capital		
	β		z	β		z
	Urban	Rural		Urban	Rural	
SNS Use	-0.10	0.01	1.85	-0.09	-0.01	1.39

Next, in regards to bonding social capital, results from two hierarchical regression analyses presented that, after controlling for gender, while SNS use was strongly and negatively (β = -.10, p < .001) associated with bonding social capital among urban teenagers, no significant association between these two variables was found among rural teenagers (β = .01, p = .90). This regional difference was statistically significant (z = 1.85, p = .03).

Similarly, only among urban teenagers, SNS use was strongly and negatively (β = -.09, p = .011) associated with bridging social capital. SNS use was not significantly associated with bridging social capital among rural teenagers. This regional difference was statistically significant marginally (z = 1.39, p = .08).

5. DISCUSSION

The main goal of this current study was to investigate how teenagers' SNS use was associated with their social capital and how two demographic factors—gender and region—moderated the effects of SNS use on social capital. Through a series of hierarchical regression analyses, this study observed meaningful findings. First, unlike the initial prediction, results from hierarchical regression analyses showed that, after controlling for the effects of gender, region, and self-esteem, the amount of time using SNSs strongly and 'negatively' affected both the

bonding and bridging social capital of the teenagers. An explanation of this finding may be found in displacement theory [22]. According to displacement theory, because of an actor's limited time and energy, time and energy spent in one activity interferes with time and energy that would be spent in another activity. Thus, this theory would suggest that people who depend more on online communication will have less time and energy to spend on offline modes of communication. Here, it needs to be considered that Korean high-schoolers spend a substantial amount of time taking classes and studying during and after school-time. The small amount of time that they do have to communicate and engage with their peers is primarily during the breaks and commute. Should a student wish to use this small window of time to spend online, s/he would be trading off time for offline interactions with schoolmates. Consequently, this displaced time may affect the opportunities one has to build relationships, weak or strong, with schoolmates. That is, it is possible that the greater amounts of time spent on SNSs reflects a motivation to compensate for the lack of social capital offline. Based on the concept of displacement theory, this compensatory use of SNS may reinforce the reduction of social capital in the manner of a vicious circle.

Moreover, online interaction through SNSs may further lead to lower levels of social capital due to Korean high-school teenagers' primary motivation for SNS use, which may not necessarily be associated with cultivating relationships. For example, Kang found that most teenagers aged 14 to 19 (72%) used social media for fun and pleasure, while only 24 percent used social media for maintaining relationships [23]. It is possible that this strong entertainment-orientation toward SNSs use does not motivate Korean students to share 'advice' or 'solutions to one's problem', implying the reduction of the opportunities to increase social capital

Next, this study found that male teenagers' SNS use was strongly and negatively associated with both bonding and bridging social capital, and there was a negligible effect of SNS use among female teenagers. Such negative effects of SNS among Korean male teenagers may be due to their potential behaviors within SNSs and their attitudes toward SNSs. Research on SNS behaviors have shown that male users' behaviors are stereotypically masculine, focusing on status, prestige, and strength, while female users showed behaviors that were more affectionate, and communication- and relationship-

oriented [24]. Thus, it is plausible that male adolescents stereotype communicative activities on SNSs as being feminine. Furthermore, it has been argued that individuals who do not act according to the dominant social ideas of gender are evaluated in a negative manner and rejected socially [25]. Therefore, this may lead to the stigmatization of heavy male SNS users as being less competent or less acceptable, that may ultimately negatively impact the effects of SNS use on social capital.

Next, another meaningful finding was in regards to regional difference. Interestingly, the negative effects of SNS use on social capital were found only among urban teenagers. Here, the differences found in after-school activities between urban and rural teenagers need to be considered. Compared to rural high-school students, a greater proportion of urban high-school students receive private, extracurricular academic education [26]. The time spent at these institutes is also greater among urban students [27]. This difference in after-school activities allows us to infer that there are differences between urban and rural high-school students in terms of the opportunities they have for quality offline time with school friends. While urban students may spend time in the same after-school programs with their friends (from school or not), the time they have to actually interact or 'play' with these friends is limited. This means that, should urban students choose to use their limited leisurely time to be online, they will be losing (or displacing) the time and opportunities to accumulate offline bonding or bridging social capital. However, as rural students are relatively less restricted in the leisurely time that they have to build and maintain offline social capital, the time they do spend online during this time may not critically affect the quality of their offline friendships.

6. CONCLUSION

This study primarily aimed to explore how gender and region differences affect the relationships between SNS use and two types of social capital among teenagers. In spite of several interesting findings and theoretical implications, there is much left for future researchers to study. First, in order to understand the negative effects of SNS use on social capital, this study suggests for future research to investigate teenagers' SNS use in the context of other daily activities as well as the detailed nature of their involvement with SNSs. Next, it is also recommended that future research conducts cross-cultural

analyses, comparing multiple countries to one another, mainly because of cultural differences in educational policies, curricula, philosophies, and infrastructures.

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