

Associations with Parental Socioeconomic Status, Social Capital,
Technological Capital and Student's Scores for College Entrance
in South Korea

By

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Introduction

Since Coleman (1987) referred to social capital as a resource inherent in the relations between or among actors, social capital has stood as an important factor in social sciences. The importance of social capital stems from its role in converting networks and trust to other types of capital, such as economic or cultural capital (Astone, 1991). Moreover, a wide variety of studies suggest that social capital plays an important role in the educational process (Putnam, 2004; Meier, 1999; Morgan and Sorenson, 1999; Morgan, 2000; Monkman *et al.*, 2005).

As such, technological capital of interest, which is incorporated into cultural capital, is comprised of both the understanding of digital tools and how these tools are utilized (DeBoer, 2012). A few previous research studies have been conducted on the relationship between technological capital and students' achievement (Fuchs, 2004; Kulik, 1994; Wrenglinsky, 1998). However, little attention has been paid to measuring social capital and technological capital and investigating their effect on education outcome in reality.

The purpose of this paper is to identify the relationship between parental socioeconomic status, social capital within the family, social capital within a school, technological capital and students' scores for college entrance in South Korea. This study builds on and extends existing work in that it examines parental socioeconomic status and the effect of social capital, dividing social capital into two forms of social capital, and their relationship to college enrollment in Korea. In Korea, a few studies have recently examined effects of social capital on secondary school academic performance, not with regard to college choice (Shin, 2010; Won, 2009). This paper can contribute to the empirical study of social capitals and technological capital on education by examining the relationships between those capitals and their college entrance in Korea.

Theoretical Framework

Social capital is defined differently according to different scholars. While Bourdieu (1986) defined social capital as “social relations that increase the ability of an actor to advance his/her interests”, Putnam (2004) explained social capital as “features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit”. Despite some differences, social capital is regarded as social networks, norms, and their value (Brown, 2000). Although social capital is difficult to measure, three indicators are proposed and incorporated in Coleman’s model (Coleman, 1988): number of children in the family, both parents in the household, and parents work outside the home. As Coleman (1988) explains operationally this means the greater the number of siblings, the less attention parents can give to each child.

Coleman’s definition is usually quoted in the education field that social capital is a resource inherent in the relations between or among actors. Furthermore, Coleman first invoked the concept to explain the differences in student learning across types of schools (Morgan and Sorenson, 1999). A number of studies have discussed this term as influencing education in the vein of “social capital within school” (Morgan and Sorenson, 1999; Morgan, 2000; Monkman *et al.*, 2005) or “school social capital” (Haghighat, 2003). The quality of expectations and exchanges existing between school principals, teachers, students and parents generate collective good which affects the success of students (Coleman, 1990). Schools that build relationships grounded on high quality interpersonal relationships and support tend to facilitate academic success (Goddard, 2003; Goddard *et al.*, 2001). Studies have shown that the effects of harnessing social skills within the classroom, for example in the use of cooperative learning techniques and skills that sustain student engagement, are significantly related to learning (Gibbs, 1995). Relationships with teachers can provide access to

information and opportunities that enhance the educational performance of children (Hill and Rowe, 1996, 1998; Meier, 1999). Besides, studies have demonstrated that parental involvement in school activities and in their children's academic work is positively associated with school achievement (Horvat, Weininger and Largeau 2003; Adams and Christenson 2000; Ho Sui-Chu and Willms 1996). As Astone (1991) notes, in general, children who live with single parents have a tendency to receive less encouragement and care with their schoolwork than children who live with both parents. This kind of parental involvement has increased student's achievement (Astone, 1991).

In addition, previous research has shown that the quality of students' peer relations affects academic orientation and performance (Wrentzel and Watkins, 2002; Wrentzel, 1998). The social experiences of school children shape their attitudes towards school, their motivation to engage in school activities and their determination to apply themselves to the demands of schooling.

Coleman (1988) extended the concept of social capital further by asserting that it functions as a mechanism to transfer the effects of family human capital from parents to children. Parents with high levels of human capital but low levels of interaction with their children (a source of social capital within families) have fewer opportunities to transmit their human capital to their children than parents who have high levels of interaction with their children. This is because human capital is transferred through interaction. Thus, in Coleman's conception, the transmission of human capital from parents to children is contingent upon the level of social capital available within the family. A number of studies have found that parental socioeconomic status has a positive effect on children's achievement (Majoribanks, 1996; Jeynes, 2002; Baharudin and Luster 1998; Eamon, 2005; McNeal, 2001). In this regard, the important reason to analyze social capital within families is because it illuminates how it

can reconcile the effect of parental socioeconomic status on students' academic accomplishment. That is, if a low socioeconomic status (SES) family has high levels of interaction in terms of social capital even if the family has low level of parental socioeconomic status, this leads to an increase in a student achievement.

Coleman (1987, 1990) has indicated social capital as a complex set of factors or relationships that exist in a close-knit group such as a family. It includes the time parents invest in raising their children, the energy they use, the encouragement they give, and the support they give them with respect to education (Hossler, Schmit, and Vesper, 1999). Later on, three indicators are proposed and incorporated in Coleman's model (Coleman, 1988): number of children in the family, both parents in the household, and parents work outside the home.

As Coleman (1988) explains, operationally this means the greater the number of siblings, the less attention parents can give to each child. Also as Astone (1991: 309) notes, in general, "children who live with single parents or stepparents during adolescence receive less encouragement and less help with schoolwork than children who live with both natural parents, and parental involvement has positive effects on children's school achievement".

Thus, parental socioeconomic status, and parent-children and teacher-student relationships and interactions are very influential on students' achievement. In other words, these factors are expected to have a positive correlation with or an effect on students' college entrance scores as well. With this in mind, this study assumes that there is a disparity among parental socioeconomic status, social capitals and students' college entrance.

As far as technological capital is concerned, unlike cultural capital and social capital, the concept of technological capital is new and only some researchers recently have been interested in technological capital. DeBoer (2012) defines technological capital as both the

understanding of digital tools and the application of these tools. Technological capital as a component of cultural capital makes one gain more privileged social status (DeBoer, 2012). DeBoer (2012) asserts that a school system with more technological capital can be advantageous for students. Likewise, a school with less technological capital can be disadvantageous for students as well. Technological capital is measured by expenditure on Information Communication Technology (ICT), and on the computer itself, the use of computer software programs, or the Internet. In this paper, it is confined to measuring the use of the Internet to search for information concerning a student's study and learning.

Based on this theoretical framework, five research questions are derived as follows:

H1: What is the relationship between parental socioeconomic status and students' test scores for going to college?

H2: What is the relationship between social capital within the family and students test scores for going to college?

H3: What is the relationship between social capital within a school and students' test scores for going to college?

H4: What is the effect of technological capital and students' test scores for going to college?

H5: What is the effect of social capital within a family, social capital within a school, technological capital, and students' test scores for going to college?

Literature Review

This section examines the previous studies related to social capital, technological capital, and college access which are the main variables in this paper.

Social Capital and College Access

Social capital is defined differently by different scholars. While Bourdieu (1986) defined social capital as “social relations that increase the ability of an actor to advance his/her interests” (p. 252), Putnam (2004) explained social capital as “features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit”(p. 67). Despite some differences, social capital is typically regarded as social networks, norms, and their value (Brown, 2000).

However, since James Coleman began with the seminal works on the role of social capital in education, Coleman’s definition is usually quoted in the education field that social capital is a resource inherent in the relations between or among actors. Furthermore, Coleman first invoked the concept to explain the differences in student learning across types of schools (Morgan and Sorenson, 1999).

A number of studies have discussed this term as influencing education in the vein of “social capital within school” (Morgan and Sorenson, 1999; Morgan, 2000; Monkman *et al.* 2005) or “school social capital” (Haghighat, 2003). The quality of expectations and exchanges existing between school principals, teachers, students and parents generates collective good which affects the success of students (Coleman, 1990). Besides, studies have demonstrated that parental involvement in school activities and in their children’s academic work is positively associated with a greater likelihood of aspiration to attend college as well as school achievement (Horvat, Weininger and Largeau, 2003; Adams and Christenson, 2000; Ho Sui-Chu and Willms, 1996).

However, as expected, Kahlenberg (2001) has found that parental involvement in high-poverty schools is low. Likewise, Lareau (2002) has found that low-income parents are not willing to get involved in their children’s education even at home because they are

typically less educated and do not know how they can help with their children's schoolwork.

Additionally, previous research has shown that the quality of students' peer relations affects academic orientation and performance (Wrentzel and Watkins, 2002; Wrentzel, 1998). The social experiences of school children shape their attitudes towards school, their motivation to engage in school activities and their determination to apply themselves to the demands of schooling.

Coleman (1988) extended the concept of social capital further by asserting that it functions as a mechanism to transfer the effects of family human capital from parents to children. Parents with high levels of human capital but low levels of interaction with their children (a source of social capital within families) have fewer opportunities to transmit their human capital to their children than parents who have high levels of interaction with their children. This is because human capital is transferred through interaction. Thus, in Coleman's conception, the transmission of human capital from parents to children is contingent upon the level of social capital available within the family. The important reason to analyze social capital within families is because it can reconcile the effect of parental socioeconomic status on students' academic accomplishment. That is, if even a low SES family has high levels of interaction in terms of social capital, this leads to an increase in a student achievement.

Coleman (1987, 1990) has indicated social capital as a complex set of factors or relationships that exist in a close-knit group such as a family. It includes the time parents invest in raising their children, the energy they use, the encouragement they give, and the support they give them with respect to education (Hossler, Schmit and Vesper, 1999). Later on, three indicators are proposed and incorporated in Coleman's model (Coleman 1988): number of children in the family, both parents in the household, and parents' work outside the home.

As examined, parental socioeconomic status, and parent-children and teacher-student relationships and interactions are very influential on students' achievement by increasing student aspiration for college; and these factors are expected to have a correlation or an effect on students' college entrance as well. Furthermore, parents with higher levels of education and income are more likely to invest in social capital for their children; thus social capital is a mechanism through which parents' education and income influence their child's educational outcomes and college access (Sandefur, Meier and Campbell, 2005).

Technological Capital and Students' College Access

Based on the Secretary's Fourth Annual Report on Teacher Quality, while only 35 percent of schools had Internet access in 1994, almost every school (99%) has Internet access now. The student-to-connected-computer ratio increased from 12-to-1 to 4.4-to-1. Moreover, according to a survey, most teens (86%) think that the Internet is useful for their study in school (Hitlin and Rainie, 2005). Given these circumstances, No Child Left Behind (NCLB) requires states to demonstrate that "every student is technologically literate by the time of the eighth grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability"(U.S. Department of Education, 2001). The Organization for Economic Cooperation and Development (OECD) has investigated the effect of technology such as Web 2.0 and digital learning resources (DLR) and students' achievement. OECD (2010) points out that technology can improve the teaching and learning process, and provide the necessary skills to students for 21st century.

Many debates have been conducted regarding how technology affects students' learning. However, little research has been conducted on technological capital in education, and the results of the research have been mixed. Barrow *et al.* (2009) suggest that computer-

aided instruction has increased student's test scores in the U.S. Likewise, Banerjee *et al.* (2005) show that computer-assisted mathematics instruction has a positive effect on math scores of fourth-grade students in India. In the meantime, Angrist and Lavy (2002) find a negative relationship between the programme-induced use of computers and fourth grade math scores in Israel. Goolsbee and Guryan (2006) also suggest that technology does not have a significant effect on student performance. Machinet *al.* (2006) find that the effect of ICT depends on the subject. For instance, they identify a positive impact on primary school performance in English and Science, but not in Mathematics.

As examined so far, few analyses have been conducted regarding social capital and technological capital. In the few analyses that have been conducted, the results of studies are mixed. While Coleman (1998) reported that there is no effect on social capital and students' achievement, a number of studies (Bogenscheider, 1997; Ho and Will, 1996; Teachman *et al.*, 1996) have found a positive relationship between social capital and students' academic gains. As well, the results of studies with respect to technological capital are mixed. Barrow *et al.* (2008) and Banerjee *et al.* suggest that technology has a positive effect on students' academic gains while Angrist and Lavy (2002) find that there is a negative effect or marginally significant effect of technology on student's performance.

In addition, to date, little is known about the linkage between social capital, technological capital, and academic performance in Korea, specifically with respect to college entrance in terms of higher education study.

Exploring the role that students' access to capital plays in college access is not new; however, most studies have focused on economic capital resources (Berger, 2000). Extending the role of economic capital resources, the process of optimizing social and technological capital resources is also an important influence on college access.

Statistical Design

This section describes the statistical design used to address the five research questions previously stated.

This study examines five models based on the research purpose, analyzing the following specific null hypotheses.

Q1: What is the relationship between parental socioeconomic status and students' test scores for going to college?

The null hypothesis is that there is no difference between parental socioeconomic status and students' test scores for college entrance, and the alternative hypothesis is that there is a difference in students' achievement according to their parental socioeconomic status. Therefore, my proposed model is $Y_i = \beta_0 + \beta_1 SES + e_i$. SES includes father's education, mother's education, and household income.

Q2. What is the relationship between social capital within the family and students' test scores for going to college?

The null hypothesis is that there is no relationship between social capital within the family and students' test scores, and the alternative hypothesis is that there is a difference. My proposed model is

$Y_i = \beta_0 + \beta_1 \text{Social Capital within the family} + \beta_2 \text{Gender} + \beta_3 \text{SES} + e_i$. In the second model, gender and SES are control variables.

Q3. What is the relationship between social capital within a school and students' test scores for going to college?

The null hypothesis is that there is no relationship between social capital within a school and students' test scores, and the alternative hypothesis is that there is a relationship. My proposed model is

$Y_i = \beta_0 + \beta_1 \text{Social Capital within a school} + \beta_2 \text{Gender} + \beta_3 \text{SES} + e_i$. In the third model, gender and SES are control variables as well.

Q4. What is the effect of technological capital and students' test scores for going to college?

The null hypothesis is that there is no relationship between technological capital and students' test scores, and the alternative hypothesis is that there is a relationship. My proposed model is $Y_i = \beta_0 + \beta_1 \text{Technological Capital} + \beta_2 \text{Gender} + \beta_3 \text{SES} + e_i$. Like other models, gender and SES are control variables.

Q5. What is the effect of social capital within a family, social capital within a school, technological capital, and students' test scores for going to college?

The null hypothesis is that there is no relationship between all interest variables and students' test scores, and the alternative hypothesis is that there is a relationship. My proposed model is

$$Y_i = \beta_0 + \beta_1 \text{Social Capital within a Family} + \beta_2 \text{Social Capital within a School} + \beta_3 \text{Technological Capital} + \beta_4 \text{Gender} + \beta_5 \text{SES} + e_i . .$$

To answer these research questions, I used Ordinary Least Squares (OLS) regression analyses.

Research Design

Data and Population

This study used the longitudinal data from the Korea Youth Panel Survey (KYPS) conducted annually by the National Youth Policy Institute from 2003 to 2008, which includes data from adolescents and their parents in grades 4 and 8. Since this paper focuses on the students' test scores for college entrance, I limit the study population to eighth grade in 2003

and use the 2008 data, which means that they are university students when 2008 data are released in the year of 2008. In this study, I used data of university 1st grade in 2008 year.

Table 1. Longitudinal Study for Korean Youth Panel Survey (KYPS)

	Elementary School			Middle School			High School			University
	Grade4	Grade3	Grade6	Grade7	Grade8	Grade9	Grade10	Grade11	Grade12	1 st grade
2003(1 st)					P1(1)					
2004(2 nd)	P2(1)					P1(2)				
2005(3 rd)		P2(2)					P1(3)			
2006(4 th)			P2(3)					P1(4)		
2007(5 th)				P2(4)					P1(5)	
2008(6 th)					P2(5)					P1(6)*

The initial sample design is stratified multi-stage cluster sampling, which stratifies 16 administrative districts, randomly selects schools in each district in line with population rate based on proportionate probability sampling, that is, probability proportional to size (PPS), and randomly selects one class per school. This sampling method has a limitation in terms of population representation because it selects a class not students. Despite the limitation, this is the only possible method for sampling for KYPS longitudinal study (KYPS, 2003).

The questionnaire for the data collection consists of two parts: one is the self-reported questionnaire with an interviewer targeting students and the other is a telephone-interview for their parents. The student questionnaire includes personal information; education and training; vocational attitude; part-time employment; leisure and activities; relationships with parents, teachers and friends; self-concept; deviant behaviors; and historical events. In the case of parents, the questionnaire contents are family members and type; parents' educational level; parents' employment and earning; and housing.

Measure and Data Analysis

From these panel surveys, five sets of variables were derived that operationalize key concepts from the theoretical framework described above:

- Students' test score for going to college (College Scholarly Attitude Test (CSAT))
- Parental socioeconomic status (father's education level, mother's education level, and household income)
- Social capital within a family
- Social capital within a school
- Student's technological capital

Table 2 displays the operational definitions of the variables that make up these five sets. This study includes father's education, mother's education, household income respectively as parental socioeconomic status. Social capital within a family primarily implies interactions with parents, and the scale is comprised of eleven items. Although Coleman proposed the number of siblings as a measure of social capital, this study did not include that variable. The reason is that while Coleman viewed siblings as competitors for the time and attention of parents, other research suggests that more siblings are often associated with more parental involvement (Meier, 1999). Thus, the effect of number of siblings is unclear and was excluded in this research. These constructs was measured using a scale with eleven questions presented in Table 2. The reliability of the scales developed was evaluated using the Cronbach alpha reliability measure and inter-item correlations.

Social capital within a school refers to "any interaction with teachers or schoolmates within a school", and the scale is comprised of five items. However, as presented in Table 2, Cronbach alpha reliability for the scale of social capital within a school is only .51. It can be a limitation of this study since it is not sufficient to be reliable.

Technological capital is composite of two items that measure technological capital “how much use of the technology for study”. The Cronbach alpha for two items is .71, which is fairly reliable.

Table 2. Definition of Dependent and Independent Variables

<i>Variable</i>	<i>Definition</i>
Gender	Student gender (male=0; female=1)
Student’s CSAT Level	College Scholastic Attitude Test (the lowest level=1; the highest level=9)
Father’s Education Level	Level of father’s educational attainment (primary school=0; middle school=1; high school = 2; 2-year college=3; 4-year college=4; master degree=5; doctoral degree=6)
Mother’s Education Level	Level of mother’s educational attainment (primary school=0; middle school=1; high school = 2; 2-year college=3; 4-year college=4; master degree=5; doctoral degree=6)
Household Income	Parent-reported estimated monthly household income. Range from 0 to 15,000,000 won. (approximately \$1=1,000 won)

<p style="text-align: center;">Social Capital within the Family</p>	<p>Composite of eleven items that measure social capital within a family as “any interaction with parents at home”. The 11 items are as follows: (1) the expectation level of parents for a student,(2) parents’ affectation, (3) mutual understanding between parents and a student, (4)talking with parents frankly, , (5) how often a student talks to parents about school life, (6) how often a student talks with parents, (7) parents know where I am when I go out, (8) parents know who I am with when I go out, (9) parents know what I am doing when I go out, (10) parents know when I am coming back, and (11) I am getting along with my siblings well. (Strongly disagree = 1; strongly agree = 4). Cronbach’s alpha = .89.</p>
<p style="text-align: center;">Social Capital within a School</p>	<p>Composite of five items that measure social capital within a school as “any interaction with teachers and schoolmates”. The five items are as follows: (1) teachers’ affectation and interest in students, (2) students can talk to teachers honestly, (3) I would like to be a person like a teacher, (4) I feel lonely even though there are many friends around, and (5) I can get along with my friends. (Strongly disagree = 1; strongly agree = 5).Cronbach’s alpha = .51</p>
<p style="text-align: center;">Technological Capital</p>	<p>Composite of two items that measure technological capital “how much use of the technology for study”. The two items are as follows: (1) how often students use a computer to search for information related to study and learning, (2) how often students use Internet to search for information. (Strongly disagree = 1 ; strongly agree = 5). Cronbach’s alpha = .71.</p>

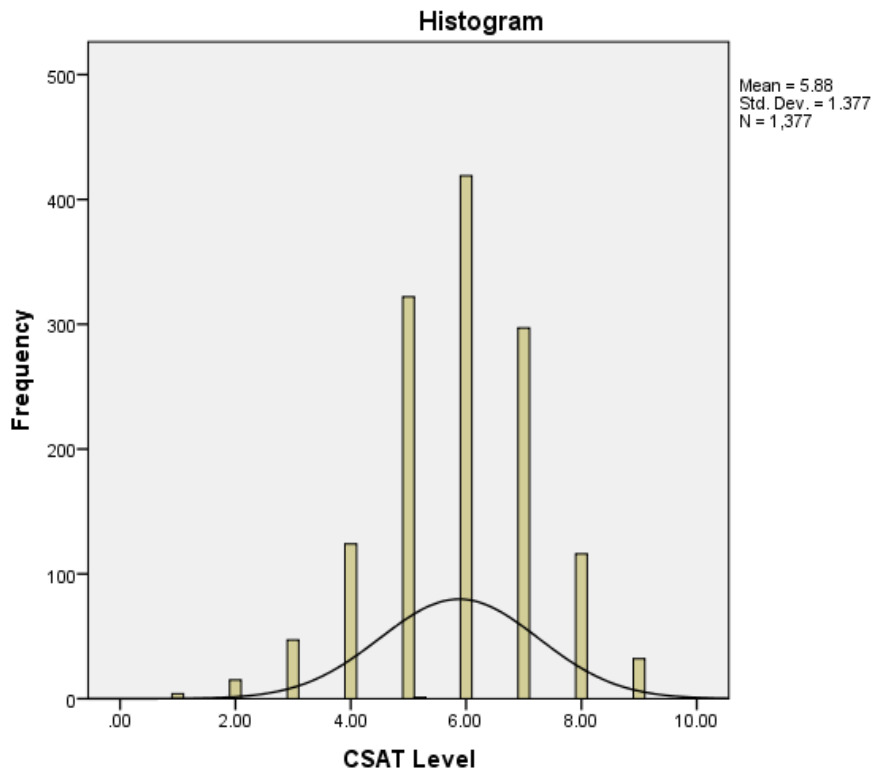
Results

Table 3: The majority of this sample was female (52.3%) and over 90% of high school graduates within the sample chose to attend college in Korea. This exceeds the statistical data (83.8%) of Statistics Korea. In this regards, this sample has a limitation in its representation. As mentioned in the previous section, random selection of a class can be a reason for it

Table 3. Sample Demographics

<i>Sample</i>	<i>Percent</i>
Male	47.7%
Female	52.3%
Do not enter college	0.8%
Enter college	99.2%
Observation	1900

It means that almost all high school graduates within the sample go to college and it is very difficult to determine out the difference between students who attend college and students who do not attend college because of disparity of sample size. In practice, it turns out to be true, and using it as a dependent variable means that I fail to explore the factors which influence college enrollment of students. Therefore, I used CSAT level (which influences college entrance of students) as a dependent variable rather than whether students go to college or not. As shown in Graph 1, CSAT level is normally distributed over the sampling population.



Before conducting a regression analysis, I tested for multicollinearity concerning Variation Inflation Factor (VIF). As shown in Table 4, VIF scores for independent variables are statistically low, which means that there is no multicollinearity problem in this study.

Table 4. Results of VIF and Tolerance

Variable	VIF	1/VIF
Mother's education	1.88	0.530579
Father's education	1.88	0.531840
Social Capital within a Family	1.15	0.870339
Social Capital within a School	1.11	0.904308
Gender	1.06	0.941605
Technological Capital	1.05	0.955847
Household Income	1.01	0.994167
Mean VIF	1.30	

Table 5 displays the results of the regression analyses testing hypotheses 1 to 5 of this study. Throughout all models, gender has a significant effect on students' achievement. For example, female students tend to have more academic gains than male students. Father's education and mother's education do statistically influence students' test results for going to college while household income does not influence students' test results in all hypotheses. In Model 1, father's education has increased .264 point of students' test levels at the significant level of .001 and mother's education has increased .163 point at the same significant level. In Model 2, social capital within a family has a positive impact on students' achievement at the significant level of .001, when other factors fixed. As shown in Model 3, social capital within a school also has statistically influenced on students' outcomes when controlling for other factors. Technological capital, my last independent variable, has a large impact on students' college entrance. The CSAT test levels of students with technological capital have been increased .280 at the significant level of .001, when other factors are fixed. Last, when adding all variables in Model 5, social capital within a family and technological capital still influence students' academic gain for college entrance, while social capital within a school loses its

statistical significance.

Table 5. OLS Estimates of the Parental Socioeconomic Status, Social Capital within a Family, Social Capital within a School, Technological Capital and CSAT Score

Dependent Variable: CSAT Level					
Independent Variable	Model 1 Coef. (Std. Error)	Model 2 Coef. (Std. Error)	Model 3 Coef. (Std. Error)	Model 4 Coef. (Std. Error)	Model 5 Coef. (Std. Error)
Female	.287*** (.072)	.240** (.073)	.292*** (.072)	.192** (.072)	.160* (.073)
Father's Education	.264*** (.039)	.257*** (.039)	.262*** (.039)	.259*** (.038)	.254*** (.038)
Mother's Education	.163*** (.046)	.151** (.046)	.160** (.046)	.161*** (.045)	.152** (.045)
Household Income	2.83e-07 (.000)	2.31e-06 (.000)	3.15e-07 (.000)	3.65e-07 (.000)	1.98e-06 (.000)
Social Capital within a Family		.235*** (.057)			.187** (.059)
Social Capital within a School			.125* (.061)		.026 (.063)
Technological Capital				.280*** (.037)	.266*** (.037)
Constant	3.76*** (.163)	3.04 (.238)	3.40*** (.243)	2.980*** (.190)	2.211*** (.292)
R²	.13	.14	.13	.16	.17
N	1291	1291	1291	1289	1289

*p<0.05, **p<0.01, ***p<0.001

Limitation

This study has some limitations. First of all, I used the scale of social capital within a school which is comprised of five items and Cronbach alpha reliability for the scale is only .51. It can be a reason that social capital within a school does not have a statistical influence on student's performance. Therefore, we need to do further research regarding the development of a reliable scale for social capital within a school.

Second, KYPS data was collected by random selection of class not a student.

Therefore, it might have a limitation in its sampling representation.

Third, under the situation that 90% of high school graduate goes to higher education, it might more important whether students goes to a prestigious college or not rather than whether going to a college or not. Therefore, I suggest that we should consider the higher education situation of Korea and we need to do further research concerning a prestigious college entrance in Korea.

Conclusion and Discussion

The primary goal of this study is to examine the relationships of students' SES status, social capital within a family, social capital within a school, technological capital and students' college entrance in Korea. A number of previous studies have investigated the relationship between social capital and students' academic outcomes in general, but this study examined the association between two kinds of social capitals and students' academic gains for their college entrances. In addition, this study explored the influence of technological capital on students' academic achievement in Korea.

The main findings of this research are as follows: (1) father's education and mother's education except a household income have a statistically positive impact on students' achievements; (2) social capital within a family has a statistically positive impact on students' achievements; (3) social capital within a school has a statistically positive impact on students' achievements; (4) technological capital has a statistically positive impact on students' achievement; and (5) only social capital within a family and technological capital influence students' achievements when combining all variables. These results imply that family social capital and technological capital improve students' academic performance, but school social capital does not. That is, the more students communicate with their parents and the more

student use computer or electronic tools for their studies, the better they academically perform. These results seem to correspond to previous studies that support the effect of social capital and technological capital on student's academic achievement. However, as for the effect of social capital within a school, the additional analysis is necessary to explore the reason why social capital within a school does not have any influence on student's achievement when including all variables together.

In sum, according to the results of regression analysis, it can be concluded that social capital in family and technological capital do play significant roles in student's college entrance in Korea. This assertion forms the primary conclusion of this study as the first trial to examine the effect of social capital and technological capital on student test scores for college entrance in Korea. However, this does not necessarily mean that social capital in a family and technological capital are critical in college entrance because almost all students go to college regardless of their CSAT scores.

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