



Research Article

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Influences of Economic Capital, Cultural Capital, and Social Capital on Asian High School Students' Academic Achievement

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Abstract

This study aims to explore the influences of various family capital on the academic achievement of Asian high school students. To this end, we constructed a structural equation model with economic capital, cultural capital, and social capital on academic achievement, and 215 students participated in cluster sampling. The findings confirmed that high school students' academic achievement was significantly influenced by social capital among the various capital acquired from their families. Moreover, there were significantly different trends according to the economic capital level, and individual efforts to learning engagement could not surpass the family capital in specific groups. Therefore, this study suggested paying attention to alternatives to overcome economic capital in terms of opportunity equality. Moreover, it should be considered that sufficient emotional exchanges within the family, as small network units of society, have diffuse potential influences.

Key words: economic capital; cultural capital; social capital; learning engagement; academic achievement

1. Introduction

Achieving a higher education level through academic achievement has long become an effective way to obtain the desired career and ensure a quality life (Jencks, 1979; Bodycott, 2009). As a result, parents show high educational enthusiasm for their children and have high expectations for academic achievement (Nakamura, 2005). Especially, Asian parents' education enthusiasm has been definitely revealed throughout COVID-19. In this situation, the educational gap between people at a lower social level was serious compared to those who could still maintain a high educational enthusiasm.

Prior studies have found that family socioeconomic status greatly impacts adolescent development in all aspects (Lerner et al., 2009), and family resources can significantly affect children's educational achievement (Blau & Duncan, 1967). Parcel and Dufur (2001) insisted that both family capital and school capital can help improve academic performance, but school capital has a weaker impact on academic performance than family capital. In the family investment theory, children from a family with higher economic status have more development capital, such as financial capital, which promotes positive academic development. In contrast, children with lower family

economic status have less development capital, which hinders the positive development of academic performance (Conger & Donnellan, 2007). Parents' educational attainment and annual income have a greater impact on children's access to higher education than whether children can graduate from high school (James, 2000).

Some studies have pointed out that advantaged parents can pay for additional learning opportunities for their children to enter high level schools. Children from advantaged families participate in shadow education more than disadvantaged children. Thus shadow education creates inequalities in learning opportunities and mechanisms that maintain and increase social inequalities (Lynch & Moran, 2006; Zwier et al., 2020). Furthermore, parents of advantaged families are more inclined to convert economic capital into shadow education (Matsuoka, 2018).

Meanwhile, many studies have documented that students' learning engagement is positively correlated with academic achievement, or learning engagement can positively predict students' academic performance (Abid & Akhtar, 2020; Lei et al., 2018; Zhang et al., 2018). However, some studies found that although children of disadvantaged cohorts are more invested in learning than advantaged groups, their academic performance is not as high as that of advantaged groups. Greene et al. (2008) demonstrated that African-American students have higher levels of academic engagement, but their academic achievement levels are lower than white students. It can be shown that children of disadvantaged classes achieve low academic performance not necessarily because of a lack of commitment to learning. Therefore, it is necessary to study the influencing mechanism behind learning engagement according to social class. This means that learning engagement acts on academic achievement as a student's personal will and effort but cannot surpass the influence of family socioeconomic status.

About this argument, many existing studies have separately discussed the relationship between economic capital, cultural capital, social capital, and academic achievement (Amanet al., 2019; Huang, 2009; Perna & Titus, 2005; Teachman, 1987). In particular, as much as the deep interest in Asia's high educational enthusiasm, most people have wanted to know which family capital factors affect their children. However, there are few studies that simultaneously incorporate family capital, learning engagement, and academic achievement into the model.

Therefore, based on reviewing the existing literature, this study constructed a structural equation model to examine the influence of economic capital, cultural capital, and social capital on academic achievement. And it targeted Asian high school students among school-age youths who are most immersed in academic achievement, and demonstrated the effects of various types of family capital and personal learning characteristics.

2. Literature Review

2.1 *Economic capital, learning engagement, and academic achievement*

Capital can be generally divided into three forms, economic capital, cultural capital, and social capital (Bourdieu, 1986). Economic capital can be converted directly into money and institutionalized in the form of property rights. Within the family, economic capital is reflected in the use of family wealth, and family economic capital can provide children with material resources to achieve goals, including learning places and learning resources (Coleman, 1988).

Studies have shown that family socioeconomic status can significantly predict students' level of learning engagement. Families with high socioeconomic status can provide better educational conditions and material support for their children, which is beneficial to their development. In comparison, families with low socioeconomic status have relatively few resources available to their children, and family economic pressure will make it difficult for children to invest in learning (Bempechat & Shernoff, 2012; Randolph et al., 2006; Sirin, 2005). For example, Steele (2003) found that although black people are socioeconomically disadvantaged, they are similar to whites of the same age in entrance exams. However, their performance lags as they spend more time in school.

That is, Minority students from low-income families are more likely to be disengaged in

classroom learning. However, McClenney and Marti (1981) found that students from low-income families showed a higher learning engagement than the general group. That is to say, there is a negative correlation between family background and learning engagement. There is also a significant gap in early development between children from high and low economic status families, and this gap persists, affecting students' learning attitudes, academic completion rates, and academic achievement (Bradley & Corwyn, 2002; Demir & Küntay, 2014; Waldfogel & Washbrook, 2011).

Teachman (1987) also used the data from the 'National Longitudinal Study of the High School Class' to explore the influence of family factors on students' educational status in high school. In the family investment theory, a family's socioeconomic status reflects the ability to operate financial, human, and social resources owned by the family. Families with higher socioeconomic status tend to invest various resources in cultivating the developmental potential of their offspring. In contrast, families with low socioeconomic status can only devote limited resources to the family's basic needs and have no time to take into account the growth and development of future generations (Mueller & Parcel, 1981).

2.2 Cultural capital, learning engagement, and academic achievement

Bourdieu (2018) identified cultural capital into three forms of expression, namely the embodied form (such as habitus, values), the objectified form (such as books, dictionaries), and the institutionalized form (such as academic qualifications). In the cultural reproduction theory, Bourdieu and Passeron (1990) believed that children of the elite class can help achieve higher educational achievement in school because they inherit more cultural capital from the family.

Coleman (1968) researched on the equalization of different educational opportunities and pointed out in the report on equal educational opportunities that family factors can affect students' academic performance more than school resource investment. Among family factors, cultural capital significantly influences students' academic achievement. Bourdieu (1973) found that the family's social background and academic achievement are affected by family cultural capital, and parents' economic capital is closely related to cultural capital. Cheng and Kaplowitz (2016) also came to the same conclusion through an empirical survey of students in Taiwan.

Studies have shown that family socioeconomic status significantly impacts children's academic performance, and parents' educational level and occupational status also impact children's academic achievement (Dincer & Uysal, 2010; Mancebón et al., 2012). The "Social status attainment" proposed by Blau and Duncan (1967) emphasizes the important role of family background and education level on individuals' acquisition of certain social status. Through research, it is pointed out that the father's education level has a significant relationship with children's education acquisition. In a study on the relationship between family background and children's academic performance in East Asian countries, it was found that in Korea and Singapore, parents' educational attainment positively predicted children's academic achievement (Wößmann, 2005). Studies have also confirmed that families with superior cultural capital have better academic performance (Dumais, 2022). Nakhaie and Curtis (1998) reported a relatively strong positive correlation between parents' educational level and the educational attainment of offspring. Furthermore, the effects of father and mother education tended to be same-sex oriented, mother's education level had a more significant impact on daughters than sons, and vice versa for fathers' education.

2.3 Social capital, learning engagement, and academic achievement

Social capital is the sum of available resources in social relations, and these resources are included in social relations (Bourdieu, 1986). Later then, Coleman (1988) further expanded social capital based on the original social capital theory and applied it to the field of education. Social capital is a social resource structure that exists in interpersonal networks and can be used as assets to achieve goals. General social capital is divided into internal family social capital and external family social capital. The internal family social capital mainly refers to the parent-child relationship,

education investment, et al. The external family social capital includes the relationship with neighbors, the relationship with children's teachers, and the relationship with children's parents. Internal social capital and external social capital can promote students' academic achievement. Studies have found that parental social support, as a special form of social capital, can prevent students from developing school-related burnout (Tsang, 2010). Huang (2009) conducted a national survey of middle school students in Norway and found that higher social capital in families was associated with higher academic achievement of students.

Coleman's social capital and Bourdieu's social networks resource research ideas are two basic research paradigms in the sociology of education (Dika & Singh, 2002). From the perspective of the social network, Bourdieu and Passeron (2002) proposed that family social network capital provides children with more and better educational opportunities so that children can achieve higher educational achievements. Social capital is closely related to the family. It is the source of social capital and the transmitter of social capital. Studies have shown that the reasons for the lower academic level of ethnic minority students are, on the one hand, lack of economic and cultural capital and, on the other hand, lack of resources obtained from family social networks (Perna & Titus, 2005).

Hagan et al. (1996) pointed out that the frequency of moving house will impact children's academic achievement. However, the degree of influence is low if parents have more educational support for their children. Martinez Jr et al. (2004) found that parental support for children's academics can increase the frequency of children's homework completion, thereby improving children's academic performance and reducing dropout rates. However, studies showed that parents' direct supervision and guidance of children's learning is negatively related to their children's academic achievement (Bronstein et al., 2005). In addition to parental support for children's education, parental emotional support also positively impacts children's academic achievement. Studies have shown that parents' emotional support is significantly positively correlated with children's academic effort and academic performance (Aman et al., 2019).

3. Methodology

3.1 Research Model

This study designed a structural equation model to analyze the relationship between the economic capital, cultural capital, social capital, academic achievement, and the mediating effect of learning engagement. By summarizing the literature, this study adopts the model shown in figure 1.

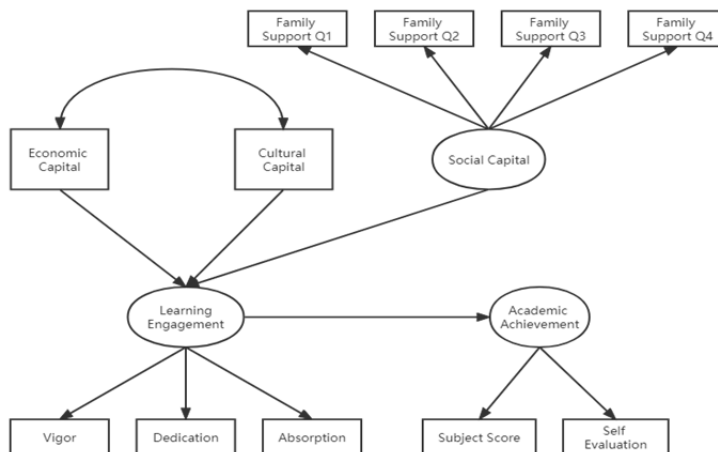


Figure 1: Schematic diagram of the research model

3.2 Participants

According to the principle of cluster sampling, samples were taken from senior third graders of the high school in Henan Province, China. In 24 senior three classes, 10 students were selected as samples from each class, with a total of 240 students. The survey was conducted in the form of a questionnaire distributed by the teachers of each class. Incomplete or missing data were deleted, and 215 valid questionnaires were recovered. The effective recovery rate of the questionnaire was 89.58%. Participant-specific demographics are shown in Table 1 below.

Table 1: General Characteristics of Participants

Variables	Items	Number of Samples	Percentage (%)
Gender	Male	111	51.6
	Female	104	48.4
Father's education level	Junior high school and below	79	36.7
	High school	60	27.9
	Junior college	35	16.3
	Undergraduate and above	41	19.1
Mother's education level	Junior high school and below	105	48.8
	High school	50	23.3
	Junior college	29	13.5
	Undergraduate and above	31	14.5
Household income (China Yuan)	Below 5W	85	39.5
	5-10W	83	38.6
	10-20W	38	17.7
	20W or more	9	4.2
Place of residence	City	118	54.9
	Town	33	15.3
	Rural area	64	29.8
Total		215	100.0

3.3 Measures

The data collection for this study includes economic capital, cultural capital, social capital, learning engagement, and academic achievement. Among them, Teachman (1987) found that parents' family income can affect the academic achievement of children in high school. Therefore, the annual household income is used as an indicator of economic capital in this study.

Bourdieu (1986) regarded academic qualification as institutionalized cultural capital, and McEwan (2003) found that parents' education level positively affects students' academic performance. Therefore, in this study, the father's education level is used to indicate cultural capital. This variable is divided into four levels, from junior high school to undergraduate and above.

Schaufeli et al. (2002) pointed out that learning engagement is a positive psychological state related to learning, so they revised the Utrecht Work Engagement Scale-Student (UWES-S) based on the Utrecht Work Engagement Scale (UWES). The scale is divided into three dimensions, vigor, dedication, and absorption. The overall Cronbach's alpha coefficient of the scale is .957, and the three dimensions of Vigor, Dedication, and Absorption are .984, .901, and .895, respectively. Confirmatory factor analysis results were $\chi^2/df=3.413$, RMSEA=.106, IFI=.902, CFI=.901, SRMR=.050. The results confirmed that the scale has acceptable reliability and validity.

The academic achievement has adopted the Language, mathematics, and English grades of the most recent final exam. The total score of the three subjects is used as one of the indicators of academic achievement. At the same time, students are required to make self-evaluations on their Language, mathematics, and English scores. Studies have shown that students' self-reports of

academic achievement are correlated with test scores (Crocket et al., 1987). Therefore, this study used self-evaluation as another indicator of academic achievement.

In this study, SPSS and AMOS 26.0 statistical software were used to analyze and process the data. Firstly, descriptive statistical analysis was carried out on the personal background of the research subjects. Next, the structural equation model is used to analyze the path pattern of economic capital, cultural capital, social capital, and learning engagement in academic achievement. Finally, the multi-group structural equation model was used to analyze the results further.

4. Result

In this study, there was the theoretical assumption that the three types of capital acquired by parents are correlated as an independent variable. Table 2 shows that the correlation between economic capital and cultural capital is significant. However, compared to the discussions on the correlation among the capitals, the relationship between social capital and other types of capital was not significant.

Among social capital, only the dimensions as the emotional support of the family had a significant relationship with academic achievement. Specifically, the *r*-values for the relationship between social capital 2 and academic achievement, which correspond to the emotional support of the family, were .180, .227, and were significant at the significance level of .001. In addition, in the case of social capital 4, the social capital of a willing family assistant, the *r*-values were statistically significant as .236, .223.

All three learning engagement dimensions are positively associated with academic achievement at *r*-level 0.2 (*r*=.220~.295).

Table 2: Statistics and Correlations among Variables

Variable	EC	CC	SC1	SC2	SC3	SC4	LEA	LED	LEV	AASS	AASE
Economic Capital	1										
Cultural Capital	.325***	1									
Social Capital1	.081	.091	1								
Social Capital2	.062	-.011	.737***	1							
Social Capital3	.000	.079	.629***	.572***	1						
Social Capital4	-.030	.046	.560***	.638***	.574***	1					
LE (Absorption)	.018	-.011	.413***	.462***	.425***	.464***	1				
LE (Dedication)	-.012	-.050	.306***	.408***	.405***	.383***	.811***	1			
LE (Vigor)	.053	.020	.406***	.475***	.392***	.459***	.832***	.808***	1		
AA (Subject Score)	.004	-.083	.093	.180**	.048	.236**	.232**	.265**	.220**	1	
AA (Self Evaluation)	.017	-.035	.121	.227**	-.002	.223**	.295***	.280***	.289***	.583***	1
Mean	1.87	2.18	5.51	5.56	5.04	5.28	5.00	5.23	4.83	308.63	3.30
SD	.85	1.14	1.41	1.43	1.60	1.45	1.11	1.20	1.15	37.17	.79

Note: *** $p < .001$, ** $p < .01$

The main results of this study are in Table 3, but various statistical attempts have been made before and after then, and meaningful results have been confirmed. First, the relationship with the three independent variables (three capital) prevented the fitness of the structural model. This is because social capital had nothing relationship with the other capital, but only a significant correlation between economic capital and cultural capital was confirmed in a structural model, as shown in Figure 1.

And then, as shown in Table 3, only the significance of social capital among the three capital was found. The result in Table 3 shows a strong positive association ($\beta=.625$, $p<.001$) between social capital and learning engagement. Learning engagement strongly significantly related to academic achievement ($\beta=.393$, $p<.001$). However, unlike the designed model, economic capital and cultural

capital had a non-significant with learning engagement. The fit index for the model for the full responses was confirmed to be suitable for the acceptance criterion (CFI .970, TLI .960, GFI .942, AGFI .907).

Table 3: Path Coefficient of Structural Model

Path	B	β	S.E.	C.R.
Economic capital→Learning engagement	.907	.049	.125	.775
Social capital→Learning engagement	.517	.625	.062	8.328***
Cultural capital→Learning engagement	-.035	-.037	.057	-.613
Learning engagement→Academic achievement	9.758	.393	2.486	3.925***

Notes: Model Fit Index of Structural model (CFI .970, TLI .960, GFI .942, AGFI .907) *** p < .001

We judged these Table 3's results as individual differences for the participant students. Therefore, as a second step, a control model of the structural equation model was further designed using non-significant two types of capital.

Firstly, there was no significance according to the level of cultural capital. In detail, whether it is a cohort with high cultural capital or a small cohort, only the statistical significance of social capital as an independent variable was confirmed. In addition, a control model for gender was analyzed in consideration of the difference in the family background's influence according to gender claimed by Jencks and Tach (2006). Nevertheless, there was no difference in tendency between male and female students.

On the other hand, significant changes according to the level of economic capital showed different trends between cohorts, as shown in Table 4. Fit indices for the control model about economic capital are presented in Table 4. All indexes met the acceptance criteria (RMSEA .051, CFI .961, TLI .947), which confirms that the modified model was supported.

The low economic capital cohort had a stronger significant relationship between learning engagement and academic achievement ($\beta=.396$, $p<.001$) than the high cohort ($\beta=.379$, $p<.05$). The relationship between types of capital and learning engagement differed considerably between the two cohorts except for social capital. Social capital had a similar positive effect on learning engagement ($\beta=.650$, $p<.001$). Whereas the impact of economic capital on learning engagement needed to be intensively examined. The relationship between the low economic capital cohort was statistically positive ($\beta=.137$, $p<.05$), but the high economic capital cohort was found to be a significant negative relationship ($\beta=-.530$, $p<.001$). It meant that students with economic capital above-average increased their learning engagement as the economic capital decreased.

Table 4: Path Coefficient of Multi-group Structural Model

Path	Low economic capital cohort			High economic capital cohort		
	β	S.E.	C.R.	β	S.E.	C.R.
Economic capital→Learning engagement	.137	.132	2.132*	-.530	.319	-4.515***
Social capital→Learning engagement	.650	.070	8.104***	.416	.126	3.361***
Cultural capital→Learning engagement	-.032	.063	-.497	-.081	.109	-.711
Learning engagement→Academic achievement	.396	2.744	3.452***	.379	5.492*	2.015*

Notes: Model Fit Index of Control model (χ^2/df 1.565, RMSEA .051, CFI .961, TLI .947) *** p < .001, * p < .05

5. Conclusion

Factors influencing students' academic achievement have long been discussed (Blau & Duncan, 1967; Bronstein et al., 2005; Conger & Donnellan, 2007). However, considering the rapid societal changes, it

is not reasonable to explain the present with the results of previous discussions. Opportunity inequality, the longest challenge of mankind, continues to change in a different aspect, and the outcomes have also evolved accordingly

Firstly, this study confirmed that high school students' academic achievement was significantly influenced by social capital among the various capital acquired from their families. Social capital is an influencing factor that surpasses gender or individual characteristics, and in particular, social capital accompanied by emotional support was a mechanism that could improve academic achievement. Economic capital, cultural capital, and family external support were proven to be effects of academic achievement in previous studies (Bradley & Corwyn, 2002; Demir & Küntay, 2014; Dumais, 2022; Tsang, 2010; Waldfogel & Washbrook, 2011), were not directly related to the outcome of high school students. In this regard, Aman et al. (2019) suggested that emotional relationships be pointed out rather than relying solely on absolute resources for children's academic achievement. Describing results of the structural model leading to the growth of academic achievement, such social capital encourages learning engagement and, as a result, obtains high academic achievement. Students' personal will and efforts can improve academic achievement through active engagement in learning, but great advantages are provided to the children when family social capital is intervened.

Secondly, the difference of the relationship with learning engagement by the level of economic capital is related to the perspective of Osborne (2005), Duncan et al. (2005). Osborne (2005) found that those who perceived effort as more important than luck had higher incomes. Such studies explained only the research results of the low economic capital cohort. Those below-average income students increased their learning engagement as a non-cognitive habit, leading to an improvement in academic achievement. However, in the case of students with economic capital above average, the relationship between economic capital and non-cognitive habits for learning was not explained. In relation, Duncan et al. (2005) also could not measure the contribution of non-cognitive characteristics in the relationship between income and educational achievement. In other words, in specific groups, individual efforts to learning engagement cannot surpass the family background. They were able to exert a powerful effect on the family resources and had more opportunities to obtain the desired level of academic achievement.

Overall, it was demonstrated that spending time with children has more value than family economic capital. This is because the most significant influence was confirmed social capital formed in the process of emotionally sharing with children under any conditions. Therein, for emotional social capital to be formed, the temporal exchange has to be premised. In this regard, Coleman (1988) expressed a special interest in social capital after dividing the family background affecting academic achievement into economic capital, human capital, and social capital. Because Coleman recognized that social capital could actually contribute to narrowing the academic achievement gap caused by inequality in economic capital and human capital. However, it is necessary to criticize that economically successful parents can further help their children using social network resources (Bourdieu & Passeron, 2002; Perna & Titus, 2005). Jencks and Tach (2006) explained that successful adults make better use of the times together so that their children can develop the capabilities required by the labor market.

As the role of public education has been reduced due to COVID-19, it is time to focus on social capital in the emotional dimension along with the influence of economic capital. Nevertheless, most parents are still obsessed with shadow education in terms of physical support. Therefore, the gap in shadow education costs between social classes is widening over time. Of course, the effects of parental support using income are powerful. Although there are different perspectives on whether shadow education directly helps academic achievement, there are many agreements that lead to a gap in educational opportunities (Lynch & Moran, 2006; Zwier et al., 2020).

Accordingly, the government and society should pay attention to alternatives to overcome economic capital in terms of opportunity equality. At the government level, it is necessary to closely diagnose differences and aspects between social classes by income. A counterplan needs to be prepared for those below average income to acquire resources, including social capital, through personal efforts

or wills. Moreover, public efforts to recognize the emotional relationship between families and the values of networking time can be exemplified. Therefore, it should be considered that sincere networks between members are becoming a driving force for social maintenance, and sufficient emotional exchanges within a family, as small network units of society, have diffuse potential influences.

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