

Mediating the Effect of the Parent-Child Relationship in the Relationship Between Self-concept and Career Maturity in Children and Adolescents

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Abstract

The objective of this study is to determine whether the parent-child relationship exerts a mediating effect on the influencing relationship of the self-concept of children and adolescents with career maturity. To this end, we processed data from 5621 students who participated in the first through fifth rounds of the survey in the 2013 Korea Education Longitudinal Study. We performed a paired sample t-test to verify differences between the groups of children and adolescents. To verify the mediating effect of the parent-child relationship on the influencing relationship of self-concept among children and adolescents with career maturity. The results showed that there was a difference depending on gender and city size in terms of self-concept, career maturity, and relationship. This study also revealed a significant discrepancy in the self-concept and parent-child relationship based on the developmental stages. In addition, the study also verified the mediating effect of the parent-child relationship in the relationship between the self-concept of children and adolescents and their career maturity. Based on these findings, it is necessary to implement a systematic education program for parents because the parent-child relationship is highly important in improving students' career maturity.

Keywords:

Self-Concept, Career Maturity, Parent-Child Relationship, Mediating Effect, Longitudinal Study Data

Introduction

Our ego is constantly developing, and our self-concept, our perception of who we are, develops as we interact with our social environment and the people around us. As the home is the first social environment a person experiences after birth, human beings learn basic lifestyles while socializing through family relationships at home and become greatly influenced in the development of linguistic, emotional and social skills. In particular, the relationship with one's parents is an influencing factor for a person's psychological characteristics such as self-concept and career maturity.

Self-concept refers to ideas, appraisals, and evaluations that individuals have regarding their talents or abilities



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(Moschner & Dickhäuser, 2018). Self-concept refers to a person's opinion of oneself and is roughly classified into positive and negative self-concepts (Glossary of Educational Psychology, 2000). Through interaction between the perception of the situation and various environments during the development process, self-concept is shaped into one's own specific self-concept as it is continuously specified and changed (Lee & Koh, 2003; Craven et al., 1991). Adolescence is a time when self-identity and self-concept are established, and it is especially important because it is a time of physical and mental changes, as well as many conflicts and choices, and the self-concept that develops during this time will influence adulthood (Kang, 2012). Adolescence is a time of experiencing various developmental changes as it is a preparation period for the transition from childhood to adulthood.

Starting in middle school, adolescents experience conflicts regarding career development while exploring and selecting a future career. This process is closely related to self-concept formation in adolescence. In terms of studies that have supported this, research has been conducted on the relationship between adolescents' self-concept and career maturity (Heo, 2012; Koo et al., 2016) and on the relationship between self-concept and academic performance and career education. Previous studies have highlighted that adolescents should explore their future careers and occupations, understand their talents and aptitudes, and think about the path to take in the future. In this vein, career maturity is defined as affective attitude, cognitive ability, and the degree of preparedness necessary to proactively explore and plan one's future career in relation to career development (Lim et al., 2001).

Although various factors influence career maturity during adolescence, previous studies have primarily explored internal and environmental factors. These scholars advocated that self-concept must be positively formed for the development of career maturity for adolescents to view themselves positively, to decide on a career based on their experience and aptitude, and to conscientiously prepare for that career (Lim et al., 2015; Koo et al., 2016). In addition, many studies have highlighted the significance of home environment among environmental factors, particularly parental influence. It has been reported that parents' educational support, which can be described in terms of parents' academic and emotional support, affects children's level of career maturity (Lee & Song, 2017).

Because self-concept, career maturity, and parent-child relationship constantly change over time based on the surrounding environment, it is imperative to conduct continual research on the relationship between them by considering the developmental

attributes and development cycle. From this perspective, it is necessary to examine the relationship between the related variables of the self-concept of children and adolescents, who need to explore careers and systematic career guidance. Therefore, this study aims to determine how self-concept affects career maturity from childhood (fifth and sixth grades of elementary school) to adolescence (first to third grades of middle school), when "career exploration" begins, and whether the parent-child relationship functions as a parameter and influences career maturity in these relationships.

To confirm the overall tendency of Korean children and adolescents, it is highly significant and valid to utilize longitudinal research data collected based on reliable procedures at the national level. Therefore, this study aims to utilize longitudinal data from the 2013 Korea Education Longitudinal Study (KELS) to determine the difference between the group of children (fifth and sixth graders in elementary school) and the group of adolescents (first, second, and third graders in middle school) in terms of self-concept, career maturity, and parent-child relationship. This study also aimed to verify the effect of self-concept on career maturity and the mediating effect of the parent-child relationship. To this end, the hypothesis that there would be differences in self-concept, career maturity, and parent-child relationship according to the gender and city size, and also children and adolescents. And there would be a mediating effect of parent-child relationship on the relationship between self-concept and career maturity in children and adolescents are established.

Hypothesize 1. There would be differences in self-concept, career maturity, and parent-child relationship depending on gender and city size.

Hypothesize 2. There would be a mediating effect of parent-child relationship on the relationship between self-concept and career maturity in children.

Hypothesize 3. There would be a mediating effect of parent-child relationship on the relationship between self-concept and career maturity in adolescents.

Hypothesize 4. There would be differences between groups of children and adolescents in self-concept, career maturity and parent-child relationship.

Method

Subjects

To analyze the relationship between self-concept, career maturity, and parent-child relationship perceived by children and adolescents, we conducted this study using data from the 2013 KELS. Out of the longitudinal data from the first through seventh years,

we used the first-fifth year data, which was deemed to be free of problems for analyzing or deriving results despite the changes made in some measurement items. Specifically, we utilized data collected for five years from fifth to ninth graders (or third graders in middle school) in terms of their academic year.

This study utilized the data of 5,261 students (fifth and sixth graders in elementary school and first, second, and third graders in middle school) as the research subjects. A total of 5261 responses from 6451 participants were used for data analysis after insincere or incomplete data were excluded.

Measurement Tools

Self-Concept. Questions regarding self-concept in the 2013 KELS were derived from the 2005 KELS. The tool consists of four subfactors for self-concept and five questions for each subfactor: social self-concept (e.g., I do well in a group), family self-concept (e.g., I enjoy being with my parents), physical self-concept (e.g., I am content with my body shape), and academic self-concept (e.g., I enjoy going to school). Each item was self-reported on a 5-point Likert scale, with a higher score indicating a higher level of self-concept. The reliability of each factor, indicated by Cronbach's α coefficient, was as follows: .944 for social self-concept, .953 for family self-concept, .939 for physical self-concept, and .939 for academic self-concept. Thus, the measurement tool was reliable.

Career Maturity. The questions regarding career maturity were taken from the first round of survey for the 'Gyeonggi Education Longitudinal Study', which consisted of five questions regarding self-understanding, five questions regarding career planning, and five questions regarding attitude toward work. Of these, we excluded questions related to attitudes towards work as they were not included in the first and second surveys, and analyzed the data based on responses to questions related to self-understanding (e.g. I know my strengths) and career planning (e.g. I want to broaden my experience for the future). Each item was self-reported on a 5-point Likert scale, and a higher score indicated a higher level of career maturity. The reliability of each factor indicated by Cronbach's α coefficient, was .943 for self-understanding and .914 for career planning.

Parent-child Relationship. As a tool for measuring the parent-child relationship to investigate the type of experience each participating student has with their parents at home, we used questions regarding parental support and parent-child interaction. Parental support is divided into academic and emotional support. As emotional support was not included in the first and second rounds of the survey, we excluded emotional support and analyzed only academic support. The measurement items for parents' academic support

included six questions, for example, "My parents create an academic atmosphere at home" and "My parents ask me about my schoolwork and homework." The measurement items for parent-child interaction include four questions, for example, "My parents enjoy hobbies or leisure activities with me." Measured on a 5-point Likert scale, the reliability of each factor was .932 for parental academic support and .909 for parent-child interaction.

Method of analysis

The collected data calculated Cronbach's α coefficient using the SPSS 26.0 program and performed a paired-sample t-test to examine the differences between the group of children and the group of adolescents. Then, to investigate whether the parent-child relationship has a mediating effect on career maturity, the relationship between the self-concept of children and that of adolescents was measured using SPSS PROCESS macro-3.6. To this end, we applied SPSS PROCESS model 4 (for mediation effect verification) proposed by Hayes (2018).

Results

Differences by background variables

Gender differences. To examine the gender-related differences among children and adolescents in terms of self-concept, career maturity, and parent-child relationship, we conducted two independent sample t-tests. As shown in Table 1, the results of statistical analysis showed that the difference by gender was statistically significant, except for career maturity among elementary school students ($p < .05$). However, the fact that male students scored higher than female students for all variables may reflect the social circumstances in Korea in which male students in childhood and adolescence are given a more positive valuation.

Table 1.
Gender difference

(N=5261)					
	gender	N	M	SD	t
childhood self-concept	male	2540	4.003	.526	2.695**
	female	2721	3.964	.515	
childhood career maturity	male	2540	3.892	.601	1.261
	female	2721	3.872	.589	
childhood parent-child relationship	male	2540	3.448	.620	5.428***
	female	2721	3.353	.650	
adolescence self-concept	male	2540	3.986	.527	8.468***
	female	2721	3.864	.515	
adolescence career maturity	male	2540	3.902	.589	2.528*
	female	2721	3.862	.581	
adolescence parent-child relationship	male	2540	3.520	.634	7.549***
	female	2721	3.384	.665	

* $p < .05$ ** $p < .01$ *** $p < .001$

City size differences. In this study, using city size as a criterion, we examined differences in self-concept, career maturity, and parent-child relationship among children and adolescents by conducting a one-way ANOVA. As shown in Table 2, the differences in city size were statistically significant ($p < .05$).

Examination of the differences by city size showed that there were statistically significant differences in all variables ($p < .001$), and the mean of metropolitan cities and major cities was significantly higher than that of small and medium-sized cities and rural areas. As for the parent-child relationship among elementary school students, the mean of metropolitan cities was significantly higher than that of major cities, small and medium-sized cities, and rural areas. As such, students' self-concept, career maturity, and parent-child relationship showed statistically significant differences depending on city size, which indicates differences in conditions based on city size and region in Korea. Therefore, Hypothesis 1 was confirmed.

Mediating effect of parent-child relationship in the relationship between self-concept and career maturity of children

To test the mediating effect of the parent-child relationship in the relationship between the self-concept and career maturity of children, we applied the fourth model of SPSS PROCESS Macro Models. As shown in Table 3 and Figure 1, self-concept exerted a significant positive effect on the parent-child relationship ($\beta = .706, p < .001$), and the parent-child relationship also exerted a significant positive effect on career maturity ($\beta = .412, p < .001$); thus, it can be said that parent-child relationship mediates the effect of self-concept on career maturity. In other words, the total effect of self-concept on career maturity was $\beta = .747 (p < .001)$, and even when the mediator variable (parent-child relationship) was applied, the direct effect of self-concept on career maturity was significant, $\beta = .457 (p < .001)$, which showed that the parent-child relationship partially mediated the relationship between self-concept and career maturity.

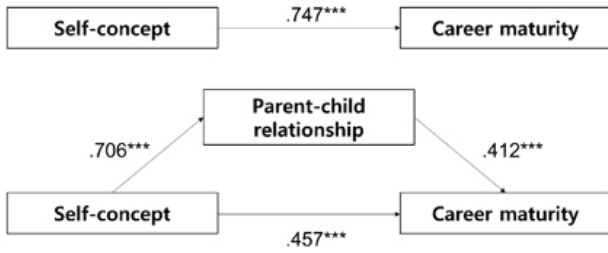
Table 2.
City size differences

	city size	N	M	SD	F	Scheffé
childhood self-concept	metropolitan city	917	4.117	0.510	62.594***	metropolitan city, major city > small and medium-sized city, rural area
	major city	1282	4.081	0.497		
	small and medium-sized city	1996	3.904	0.519		
	rural area	1066	3.896	0.517		
childhood career maturity	metropolitan city	917	4.004	0.582	42.715***	metropolitan city, major city > small and medium-sized city, rural area
	major city	1282	3.979	0.586		
	small and medium-sized city	1996	3.812	0.595		
	rural area	1066	3.789	0.582		
childhood parent-child relationship	metropolitan city	917	3.537	0.663	30.382***	metropolitan city > major city, small and medium-sized city, rural area major city > small and medium-sized city, rural area
	major city	1282	3.46	0.656		
	small and medium-sized city	1996	3.34	0.622		
	rural area	1066	3.318	0.593		
adolescence self-concept	metropolitan city	917	3.987	0.530	43.113***	metropolitan city, major city > small and medium-sized city, rural area
	major city	1282	4.038	0.524		
	small and medium-sized city	1996	3.853	0.510		
	rural area	1066	3.86	0.515		
adolescence career maturity	metropolitan city	917	3.975	0.601	30.09***	metropolitan city, major city > small and medium-sized city, rural area
	major city	1282	3.968	0.581		
	small and medium-sized city	1996	3.822	0.581		
	rural area	1066	3.808	0.563		
adolescence parent-child relationship	metropolitan city	917	3.545	0.682	26.883***	metropolitan city, major city > small and medium-sized city, rural area
	major city	1282	3.544	0.675		
	small and medium-sized city	1996	3.383	0.625		
	rural area	1066	3.38	0.631		

Table 3.
Mediating effect of parent-child relationship in the relationship between the self-concept and career maturity of children

variable	β	se	t	p	LLCI	ULCI
mediator variable model (criterion variable: parent-child relationship)						
constant	.587	.055	10.603	.000	.479	.696
self-concept	.706	.014	51.212	.000	.679	.733
criterion variable model (criterion variable: career maturity)						
constant	.664	.043	15.611	.000	.581	.747
self-concept	.457	.013	35.597	.000	.432	.482
parent-child relationship	.412	.01	39.262	.000	.391	.432

Figure 1.
The structural model (children)



To determine whether the mediating effect of the parent-child relationship is statistically significant in terms of the effect size in the relationship between the self-concept and career maturity of children, we repeated bootstrapping 5,000 times. Table 4 presents the results. It was found that the mediating effect of the parent-child relationship was significant because it did not include 0 between the upper and lower limits of bootstrapping ($\beta = .291$, CI [.271-.310]).

effect	β	se	t	p	LLCI	ULCI
total effect	.747	.012	62.709	.000	.724	.771
direct effect	.457	.013	35.597	.000	.432	.482
	β	BootSE			BootLLCI	BootULCI
indirect effect	.291	.010			.271	.310

Even though the results show that the influential relationship is significant, the direct effect of a child's self-concept on career maturity is greater when the parent-child relationship is a mediator. This indicates the need for a thorough analysis of what type of parent-child relationship should be formed and how a child's self-concept regarding parents should look. Therefore, Hypothesis 2 was confirmed.

Mediating effect of the parent-child relationship in the relationship between self-concept and career maturity in adolescents

We verified the mediating effect of the parent-child relationship in the relationship between self-concept and career maturity of adolescents. As shown in Table 5 and Figure 2, self-concept exerted a significant positive effect on the parent-child relationship ($\beta = .760$, $p < .001$), and the parent-child relationship also exerted a statistically significant effect on career maturity ($\beta = .178$, $p < .001$); thus, it can be said that the parent-child relationship mediates the relationship between self-concept and career maturity.

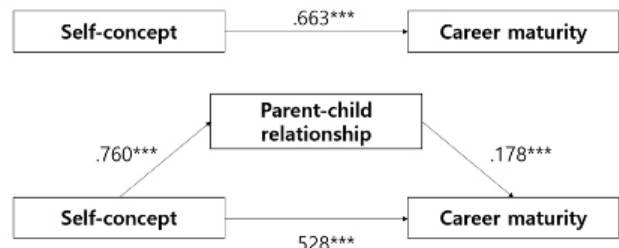
The total effect of self-concept on the career maturity of adolescents was $\beta = .663$ ($p < .001$), and even when the mediator variable (parent-child relationship) was applied, the direct effect of self-concept on career maturity was significant, $\beta = .528$ ($p < .001$), which showed that the parent-child relationship partially

mediated the relationship between self-concept and career maturity.

Table 5.
Mediating effect of parent-child relationship in the relationship between the self-concept and career maturity of adolescents

variable	β	se	t	p	LLCI	ULCI
mediator variable model (criterion variable: parent-child relationship)						
constant	.467	.054	8.663	.000	.361	.573
self-concept	.760	.014	55.818	.000	.734	.787
criterion variable model (criterion variable: career maturity)						
constant	1.198	.048	24.736	.000	1.103	1.293
self-concept	.528	.015	34.424	.000	.498	.558
parent-child relationship	.178	.012	14.432	.000	.153	.202

Figure 2.
The structural model (adolescents)



To determine whether the mediating effect of the parent-child relationship is statistically significant in terms of effect size in the relationship between self-concept and career maturity of adolescents, we repeated bootstrapping 5,000 times. Table 6 presents the results. The results showed that the mediating effect of the parent-child relationship was significant because it did not include 0 between the upper and lower limits of bootstrapping ($\beta = .135$, CI [.114-.157]).

Table 6.
The tests of mediating effects(adolescents)

effect	β	se	t	p	LLCI	ULCI
total effect	.663	.012	53.505	.000	.639	.687
direct effect	.528	.015	34.424	.000	.498	.558
	β	BootSE			BootLLCI	BootULCI
indirect effect	.135	.011			.114	.157

Although the direct effect of an adolescent's self-concept on career maturity was as significant as the mediating effect, the direct effect was greater than the mediating effect. This poses the need for a thorough analysis of qualitative issues regarding parent-child relationships among adolescents. Therefore, Hypothesis 3 was confirmed.

Differences between the group of children and adolescents in terms of self-concept, career maturity, and parent-child relationship

To examine the differences between the groups of children and adolescents in terms of self-concept, career maturity, and parent-child relationship, we conducted a paired *t*-test. The results showed a statistically significant difference ($p < .001$) in terms of self-concept ($t = 9.946$) and parent-child relationship ($t = -6.565$). There were no statistically significant results for career maturity ($t = .029, p > .05$), as shown in Table 7. However, there were statistically significant differences in the subfactors, such as self-understanding ($t = 11.176$) and career planning ($t = -10.286$) ($p < .001$). This is because the average scores for self-understanding and career planning showed contradictory results. Based on this, we can infer that self-concept, career maturity, and parent-child relationships change over time as children become adolescents. Therefore, Hypothesis 4 was confirmed.

Discussion and Conclusion

Discussion

In this study, the mediating effect of the parent-child relationship on the relationship between self-concept and career maturity was identified. Therefore, discuss the results as follows. First, based on background variables (gender and city size), the groups differed in terms of self-concept, career maturity, and parent-child relationship. Students from major cities scored higher than those from small cities, and male students had higher average scores than female students did. This result is like the findings of previous research that explored gender differences in self-concept, such as Kang (2012) and Kim and Lee (2015). Because there is statistical deviation in self-concept depending on the area of the adolescent's residence, it is necessary

to provide career guidance that takes differences in region and gender into consideration.

Second, the parent-child relationship functioned as a mediator in the relationship between children's self-concept and career maturity was identified in this study. In other words, a clear understanding of social, familial, physical, and academic self-concepts in childhood can influence career maturity in terms of self-understanding and career planning through positive parent-child interaction and academic support. This finding is also supported by Lee and Song (2017) and Liable et al. (2004), who found that the role of parents as social beings can play a key role in the effective formation of self-concepts among individual students. The finding that parents' academic support and interaction with their child can exert a positive effect on career maturity is similar to that of Lim (2016). Thus, parents play a crucial role in improving career maturity by providing their children with academic support and spending sufficient time interacting with them.

Third, it was found that the parent-child relationship partially mediated the relationship between adolescents' self-concept and career maturity. This finding indicates that self-concept and parent-child relationships during adolescence affect career maturity and that self-concept or general perception of self affects career maturity or career preparedness and decision-making through parents' academic and emotional support. This finding is similar to An and Chung's (2015) finding that self-concept affects career maturity, as well as to the findings of other studies (Ju et al., 2020; Kim & Na, 2020; Lee & Song, 2017) that parent-child relationships affect career maturity.

Fourth, there was a significant difference between the group of children (fifth and sixth graders) and the group of adolescents (seventh through ninth graders)

Table 7.

Paired sample t test of the two groups

variable	children <i>M</i> (<i>SD</i>)	adolescents <i>M</i> (<i>SD</i>)	paired difference <i>M</i> (<i>SD</i>)	<i>t</i>	<i>p</i>
social self-concept	4.194(.562)	4.173(.558)	.021(.492)	3.103	.002
family self-concept	4.388(.606)	4.311(.618)	.077(.545)	10.238	.000
physical self-concept	3.507(.713)	3.535(.702)	-.028(.621)	-3.250	.001
academic self-concept	3.841(.693)	3.672(.698)	.169(.632)	19.443	.000
self-concept	3.983(.521)	3.923(.524)	.060(.437)	9.946	.000
self-understanding	4.041(.635)	3.945(.618)	.096(.620)	11.176	.000
career planning	3.722(.661)	3.817(.627)	-.095(.670)	-10.286	.000
career maturity	3.882(.595)	3.881(.585)	.000(.567)	.029	.977
interaction	3.450(.753)	3.619(.726)	-.168(.697)	-17.523	.000
academic support	3.348(.713)	3.281(.730)	.067(.627)	7.799	.000
parent-child relationship	3.399(.637)	3.450(.654)	-.051(.558)	-6.565	.000

in terms of self-concept and parent-child relationship. The finding that the group of children had a higher average score in self-concept than the group of adolescents is similar to Cho and Lee's (2018) finding that academic self-concept steadily decreased from fifth to eighth grade. Students manifest a tendency toward a lower level of self-concept as they transition from childhood to adolescence. This can be seen as a phenomenon that occurs in the process of building more relationships and adjusting in a new environment as they become members of a larger social group. Unlike Cho and Lee (2018), who indicated that career maturity decreased the most between the sixth and seventh grades, the present study did not find any changes in career maturity. The group of children had a higher average score for self-understanding than the group of adolescents, while they had a lower average score for career planning. Nonetheless, the differences were found to be insignificant for career maturity because the results were contradictory.

Conclusion

The findings of this study suggest that during childhood, positive parent-child interactions influence self-concept and career maturity. In adolescence, it is possible that parents can increase their understanding of the social, family, physical, and academic world around them, and support them through their interactions with their children and academic support, which in turn can increase adolescents' self-concept and career planning for their careers. On the other hand, the finding of a direct effect that does not account for the parent-child relationship suggests that careful consideration should be given to how parents interact with and support their children. This is especially important in adolescence.

In the field of child and adolescent education, it is necessary to introduce educational programs to increase students' perceived self-concept to improve career maturity so that students can understand themselves and plan for their careers. In addition, in order to improve the parent-child relationship, which has been shown to mediate the relationship between self-concept and career maturity, parent education should be provided to facilitate parent-child interaction and develop parents' perceptions and behaviors to support their children academically.

Limitations and Recommendations

The results of this study revealed the following research limitations, so recommendations are suggested based on each limitation.

First, the study found differences in self-concept based on where adolescents lived. This suggests that the living environment has an important influence on the development of self-concept. Nevertheless, since

this study was not able to cover all areas of Korea, it would be more meaningful to conduct a nationwide survey in the next study to find out more specifically the differences between regions and the reasons for the differences.

Second, the study found that the parent-child relationship mediated self-concept and career maturity. However, it was not possible to determine how parent-child relationships differentially mediate these effects for children and adolescents, and it would be valuable for future research to focus on this aspect of developmental research.

The results of this study are expected to contribute to the development of educational programs to cultivate children and adolescents' self-concept and career maturity and improve parent-child relationships.

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