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Improving Elementary After-school Program for Child Development

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* Summarized from Kim, Inkyung, *Improving Elementary Education to Build Social Capital: Focusing on Afterschool Program*, Policy Study 2021-04, Korea Development Institute, 2021 (in Korean).

Summary

- As the COVID-19 pandemic highlighted the need to further strengthen education and childcare, this study looks at the correlation between the participation of elementary school students in after-school programs and their child development and then offers recommendations for developmental outcomes among elementary school children through after-school activities.
 - After-school programs are educational and caring activities that schools offer for a certain period apart from the regular school curriculum, tailored to the needs of students and parents. Students choose a course from a list of diverse program options, encompassing school subjects and special talent and aptitude programs.
- The analysis finds no consistent correlation between participation in after-school activities and the development of elementary school students.
 - As for the after-school program, less than one hour of participation led to better health status assessments, and for two to three hours, there were improvements in academic vigor, grit, and body mass index (BMI) but decreased aggressiveness, depression, and peer relationship. In contrast, physical symptoms worsened when participating for two or more hours.
 - Such results may be attributed to the differences between the programs, such as varying content composition depending on operating hours, teaching methods, and instructor characteristics.
- For after-school programs to shore up student competencies, they should share student guidance information with regular classes, form a close link with the regular curriculum, and provide sufficient care backed by positive interactions.
 - Provided that student information such as interests, experiences, developmental characteristics, learning history, etc., is exchanged between elementary school courses and after-school programs, the extracurricular activities may provide in-depth stimulation for learning based on the data.
 - Affectionate and nurturing care is a prerequisite to bringing out students' potential.
- It is necessary to expand the instructor pool competent in achieving the well-rounded development of children, widen the scope of after-school program providers to local communities, and have local governments take a managing role over the programs for efficient and effective management.
 - In addition to providing compulsory training courses for prospective after-school instructors, the instructor selection process should adopt multi-faceted personality interviews to find out candidates' responses about a given classroom situation for a comprehensive assessment.
 - Local governments should play a managing role in planning, promoting, and overseeing after-school activities in the region, including after-school programs at schools. Meanwhile, schools should actively engage and cooperate within this framework by informing after-school program registration details and providing a venue.

1

Background

- As the COVID-19 pandemic changed educational circumstances, there is a growing notion that schools should play a more substantial role in providing education and care for students' well-rounded development.
 - Before the pandemic, parents rarely had the chance to observe regular school activities except through one-off events like a school open house. However, as the pandemic emergency disclosed multiple virtual classes, the notion that privation education excels in teaching through knowledge transfer deepened.
 - Since the pandemic, students from the vulnerable groups experienced sudden weight changes due to irregular daily routines and nutritionally unbalanced meals. They also felt loneliness, anxiety, and depression resulting from the weaker ties with friends and the lack of care.
- Against this backdrop, this study analyzes the correlation between elementary students' participation in after-school programs, which are educational and care activities offered by schools, and their development. It then provides recommendations for further child development through after-school programs.

2

Analysis of the correlation between elementary students' participation in after-school activities and child development

- The after-school program refers to educational and caring activities that schools offer for a certain period apart from the regular school curriculum, tailored to the needs of students and parents. Students choose a course from a list of diverse program options, encompassing school subjects and special talent and aptitude programs.
 - In addition to regular school subjects like Korean, math, and science, after-school programs cover essay writing, abacus calculation, robot, Lego block building, computer, cooking, history, basketball, jumping rope, musical instruments, musical comedy, dancing, handcraft, etc.
- This study focuses on after-school program policy for elementary school students, considering the program participation rate is much higher among them than those in middle and high schools and that early childhood development serves as the basis for later development processes.
- To better manage after-school programs, the goal should be school education enrichment by promoting enhanced academic performance and social-emotional and physical development of children through forming a close link between regular education and after-school activities.

- The study uses data from the first and second years of the 2018 Korean Children and Youth Panel Survey to analyze the correlation between after-school program participation and developmental outcomes among elementary school children.
 - OECD (2020; 2021) found that after-school activities such as physical exercise, creativity development, art appreciation, and community engagement are helpful for academic performance and persistence as well as classroom atmosphere, highlighting the benefits of after-school activities.
 - Previous studies conducted in Korea on the correlation mainly concentrated on academic achievement, but their findings were not consistent depending on when and where the survey was compiled and what it inquired.
 - The data for analysis tracks fourth-graders in 2018 until their first year of high school in 2025 on a yearly basis, and this study uses materials covering 2018-2019.
- The status of child development is understood using multi-faceted measurements on satisfaction with school transcripts, stimulating factors for cognitive development, social-emotional development, and physical development.
 - Stimulating factors for cognitive development are academic enthusiasm measured by dedication, vigor, efficacy, and immersion. Social-emotional development is about emotional issues measured by life satisfaction, happiness, self-esteem, cooperative consciousness, grit, and peer relationship, whereas physical development by health status assessment and body mass index (BMI). (Refer to Kim (2021), pp.19~22, for the related survey questions)
 - Dedication is to value learning and be enthusiastic about academic challenges. Vigor is the energy for academic persistence. Efficacy is confidence in academic performance. Immersion is a state of focusing entirely on learning.
 - Self-esteem means positive evaluation of self-worth. The higher the self-esteem, the easier it is to shake off negative emotions and focus on strengths, even if faced with failure.
 - Cooperative consciousness refers to an inclusive concept of both communication and collaboration out of four key competencies for the future, which are the two aforementioned, critical thinking, and creativity. It is also a precondition for the manifestation of critical thinking,* and creativity**.
 - * Critical thinking: The ability to define problems and explore new approaches to solving them.
 - ** Creativity: The ability to form something new by combining existing ideas, manifested through exercising critical thinking based on expertise and skills.
 - Grit refers to perseverance and passion for a long-term goal. Talents need to put in with efforts based on grit to produce desired results in a particular field.
 - Social-emotional competence stimulates the development of cognitive competence. The greater the cognitive competence, the greater economic benefits are from enhanced social-emotional competence.
 - These criteria for child development are recognized as embodying the educational goal of helping students lead a fulfilling life by pursuing learning focused on their strengths and interests and communicating and cooperating with others in a healthy way.

- As students have common objectives for attending after-school programs and private education, which are developing talents and aptitudes and supplementing the regular curriculum, this study conducts an empirical analysis to compare and contrast the two in relation to the development of elementary school children.
- The empirical analysis employs the least square method, in which the developmental level of elementary school students observed in the second survey is regressed on the participation in after-school and private education over the same period.
 - Besides participation in after-school programs and private education in the second survey, the following are control variables concerning the same period: students' socioeconomic background, parenting attitude, relationship with teachers, and school fixed effects.
 - Socioeconomic background of students: students' gender and the number of siblings, education level and employment status of parents (or guardians in the absence of parents), and average monthly income of households.
 - School fixed effect: The effect of unobservable inputs shared and experienced by students attending the same school.
 - Moreover, the analysis controls the level of development of elementary school students and their participation in after-school programs and private education in the first survey in order to ensure that all educational input and genetic factors from birth to just before the second survey are not included in the estimated coefficients for participation in after-school programs and private education of the second survey.
- Examining the correlation between after-school/private education participation and the developmental level of elementary school students reveals that only attending private education led to improved satisfaction with school transcripts with more vigor, efficacy, and immersion under the category of academic enthusiasm and less aggressiveness (Table 1).
 - Students participating in private education displayed a 0.206 increase in standard deviation (SD) in satisfaction with school transcripts, along with increasing SDs in vigor (0.175), efficacy (0.256), immersion (0.211) under the category of academic enthusiasm, while SD of aggressiveness decreased by 0.19.

<Table 1> Correlation between Participation in After-school/Private Education and Child Development at Elementary Schools

	Stimulating factors for cognitive development					Social-emotional development				
	Satisfaction with school transcripts	Academic enthusiasm				Emotional issues				
		Dedication	Vigor	Efficacy	Immersion	Attention	Aggressiveness	Physical symptom	Social withdrawal	Depression
After-school program	0.033 (0.057)	0.003 (0.048)	0.091* (0.053)	-0.023 (0.046)	-0.021 (0.047)	0.029 (0.046)	0.072 (0.049)	0.064 (0.052)	-0.022 (0.048)	0.075 (0.046)
Private education	0.206** (0.091)	0.046 (0.093)	0.175** (0.089)	0.256*** (0.084)	0.211** (0.104)	-0.133 (0.082)	-0.198** (0.079)	-0.133 (0.082)	-0.08 (0.098)	-0.058 (0.089)
	Social-emotional development								Physical development	
	Life satisfaction	Happiness	Self-esteem	Cooperative consciousness			Grit	Peer relationship	Health status assessment	BMI
				Group promotion	Follower ship	Conflict resolution				
After-school program	0.025 (0.048)	0.053 (0.051)	-0.005 (0.043)	-0.001 (0.045)	-0.046 (0.044)	-0.042 (0.045)	0.07 (0.045)	-0.082* (0.048)	0.032 (0.047)	-0.077 (0.202)
Private education	0.005 (0.074)	0.005 (0.095)	-0.011 (0.078)	0.121 (0.096)	0.089 (0.072)	0.143 (0.094)	0.147* (0.080)	0.149* (0.089)	0.042 (0.084)	0.063 (0.297)

Note: 1) Figures for the measurements of child development are the sum of scores assigned to the categories of questions respondents (children) directly answered to. All figures, excluding BMI, are standardized using average and standard deviation.

2) () denotes the clustered standard error by school. *, **, *** mean statistical significance at the levels of 10%, 5%, and 1%, respectively.

3) It is preferable to have higher scores in student satisfaction with school transcripts and academic enthusiasm, save in emotional issues meaning undesirable. Also, as for life satisfaction, happiness, self-esteem, cooperative consciousness, grit, peer relationship, and health status assessment, the higher, the better.

Source: National Youth Policy Institute, Korean Children and Youth Panel Survey, 2018~2019.

- Furthermore, the child development measurements exhibited no consistent relationship with elementary school students' participation in after-school programs but a positive one with participation in private education (Table 2).
- As for after-school programs, participating for less than one hour led to better health status assessments and two to three hours improved academic vigor, grit, and BMI. In contrast, two to three hours of participation deteriorated aggressiveness, depression, and peer relationship, and two or more hours worsened physical symptoms.
- Regarding private education, attending for one to two hours led to improved grit, one or more hours to higher efficacy and less aggressiveness, two or more hours to better satisfaction with school transcripts, and three or more hours to enhanced academic dedication, vigor, immersion, attention, cooperative consciousness, peer relationship, and health status assessment.
- These results may be attributed to the differences between after-school programs and private education, including program compositions depending on participating hours, teaching methods, and instructor characteristics.
- It should be noted that the 2018 Korean Children and Youth Panel Survey does not allow a more detailed comparison of the said differences between after-school programs and private education.
- However, the analysis also reveals that the positive relationship between child development measurements and household income can be neutralized as parental attitude towards a child and students' relationship with teachers improve.

<Table 2> Correlation between Hours of Participation in After-school/Private Education and Child Development at Elementary Schools

		Cognitive-enhancing stimulation						Social-emotional development				
		Satisfaction with school transcripts	Academic enthusiasm					Emotional issues				
			Dedication	Vigor	Efficacy	Immersion	Attention	Aggressiveness	Physical symptom	Social withdrawal	Depression	
After-school program	<1hr	0.073 (0.072)	-0.023 (0.058)	0.127* (0.066)	-0.001 (0.060)	-0.057 (0.062)	-0.024 (0.057)	-0.031 (0.060)	-0.039 (0.068)	-0.069 (0.061)	-0.033 (0.059)	
	1~2hr	0.071 (0.062)	0.036 (0.068)	0.052 (0.066)	-0.001 (0.058)	0.003 (0.061)	0.021 (0.062)	0.09 (0.060)	0.086 (0.063)	-0.053 (0.064)	0.071 (0.059)	
	2~3hr	0.012 (0.132)	0.157* (0.087)	0.221** (0.111)	0.072 (0.098)	0.066 (0.113)	0.134 (0.099)	0.355*** (0.116)	0.290*** (0.109)	0.163 (0.123)	0.425*** (0.101)	
	3hr<	-0.304* (0.162)	-0.181 (0.135)	-0.09 (0.180)	-0.267* (0.149)	0.083 (0.153)	0.227 (0.138)	0.279 (0.183)	0.331** (0.163)	0.114 (0.175)	0.227 (0.177)	
Private education	<1hr	0.022 (0.113)	0.054 (0.105)	0.121 (0.111)	0.113 (0.107)	0.179 (0.121)	-0.018 (0.099)	-0.159 (0.097)	-0.059 (0.108)	-0.08 (0.112)	0.067 (0.104)	
	1~2hr	0.182* (0.098)	-0.04 (0.096)	0.161* (0.088)	0.208** (0.089)	0.17 (0.105)	-0.121 (0.084)	-0.216** (0.086)	-0.166* (0.090)	-0.029 (0.104)	-0.069 (0.090)	
	2~3hr	0.201** (0.102)	0.024 (0.102)	0.132 (0.103)	0.238** (0.092)	0.19 (0.116)	-0.152* (0.090)	-0.182** (0.086)	-0.134 (0.085)	-0.11 (0.104)	-0.089 (0.092)	
	3hr<	0.432*** (0.101)	0.277*** (0.095)	0.307*** (0.103)	0.489*** (0.104)	0.362*** (0.116)	-0.227** (0.090)	-0.216** (0.090)	-0.145 (0.094)	-0.155 (0.109)	-0.098 (0.104)	
		Social-emotional development							Physical development			
		Life satisfaction	Happiness	Self-esteem	Cooperative consciousness			Grit	Peer relationship	Health status assessment	BMI	
					Group promotion	Follower ship	Conflict resolution					
After-school program	<1hr	-0.005 (0.057)	0.086 (0.062)	0.024 (0.055)	0.034 (0.060)	-0.05 (0.059)	0.014 (0.061)	0.026 (0.055)	-0.065 (0.056)	0.165*** (0.061)	-0.205 (0.270)	
	1~2hr	0.018 (0.059)	0.036 (0.060)	0.014 (0.055)	-0.011 (0.058)	-0.048 (0.064)	-0.048 (0.055)	0.079 (0.062)	-0.027 (0.061)	-0.053 (0.069)	0.179 (0.234)	
	2~3hr	0.14 (0.110)	0.05 (0.097)	-0.139 (0.090)	0.004 (0.092)	-0.015 (0.085)	-0.194* (0.103)	0.218** (0.103)	-0.365*** (0.109)	0.05 (0.079)	-1.005*** (0.368)	
	3hr<	0.152 (0.146)	0.1 (0.138)	-0.056 (0.152)	-0.071 (0.192)	-0.144 (0.157)	-0.026 (0.166)	0.046 (0.129)	-0.151 (0.146)	-0.143 (0.175)	1.059* (0.541)	
Private education	<1hr	-0.028 (0.095)	-0.119 (0.117)	-0.062 (0.096)	0.103 (0.102)	0.11 (0.093)	0.086 (0.100)	0.11 (0.100)	0.165 (0.108)	0.052 (0.101)	-0.543 (0.332)	
	1~2hr	-0.004 (0.082)	0.022 (0.097)	-0.03 (0.080)	0.075 (0.098)	0.083 (0.079)	0.123 (0.098)	0.179** (0.087)	0.138 (0.090)	-0.032 (0.091)	0.292 (0.340)	

Note and Source: Same as in <Table 1>.

3

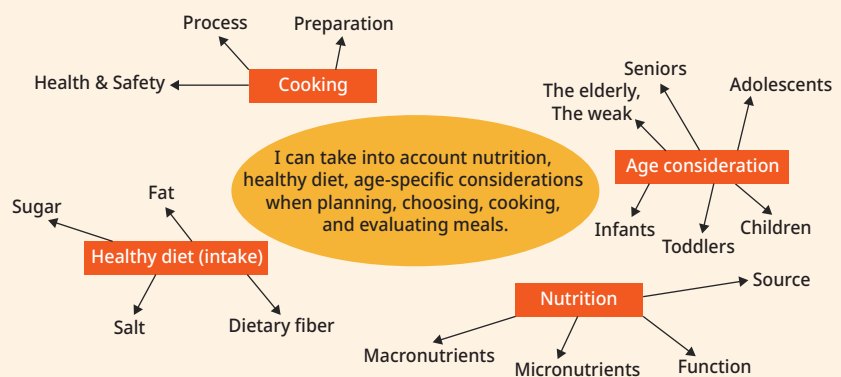
Policy Suggestions

- For after-school programs to further develop students' cognitive skills, it is necessary to create connections with curricula of individual schools by sharing information on regular classes and student guidance.
 - After-school programs can reinforce academic enthusiasm in students, provided that schools and after-school programs share information on students' interests, experiences, developmental characteristics, and learning history.
 - Students can build intrinsic motivation to learn through obtaining accumulated academic knowledge and systems in regular classes and experiencing the utility of learning by adding real-world applications in after-school programs.
 - Collaboration between school teachers and after-school instructors is needed to make sure the instructors sufficiently understand individual school curricula.
 - [Box 1] shows an example of bridging after-school programs to school to promote students' physical development.
 - Intrinsic motivation is a foundation of self-directed and lifelong learning capacities.
 - Provided that after-school programs and regular curricula operate under an integrated framework, public education can differentiate itself from private education, which pays little attention to the details of regular classes.
 - For after-school programs to serve students from different classes and reflect the regular curriculum, the class structure of school teachers needs to resemble that of after-school instructors, which means that such integration counts on active professional learning communities among educators.

[Box 1] Example of how to build a link between schools and after-school programs

- Suppose students learn about nutrition, healthy diet, age-specific considerations in a regular practical arts class in line with an achievement standard of "I can take into account nutrition, healthy diet, age-specific considerations when planning, choosing, cooking, and evaluating meals." In an after-school program for cooking, they plan and safely prepare a healthy meal with appropriate amounts of sugar, fat, salt, dietary fiber, and more according to age-specific needs. Afterward, students can anticipate which part of the body will benefit from the food they have prepared.

[Box Figure 1] Practical arts class: achievement standards, contents



Source: Recited from Lim (2016), p.159 (Henderson, 2010, p.44).

- To cultivate social-emotional skills in students, after-class instructors should provide sufficient care combined with positive interactions.
 - Because elementary students need a positive and supportive role model and an instructor who recognizes, encourages, and reinforces their prosocial behaviors, instructors should help them reach an agreement in specific situations of interacting with others based on collaboration and compromise.

- Warm interest and caring are prerequisites to bringing out the potential in students (Box 2).
- After-school programs can create such educational settings, and physical activities can simultaneously enhance students' physical and social-emotional development.

[Box 2] Interview with a teacher in Denmark: Importance of a warm and caring environment for students' academic achievements.

"I have a student in my class who is excellent at gymnastics but academically poor. In a project class on health, I had that student actively engaged in it. [...] In my opinion, if a student is good at singing or public speaking, the teacher has a duty to help reach the full potential. Even though talents are not related to school subjects, giving students a chance to demonstrate what they can do in front of their friends is meaningful. This way, students can feel good that they contribute to the class. They will be more confident, thinking, 'Yes, I am valuable, too.'

They may not be straight-A students but should have a positive mindset that 'I can contribute to society.' This kind of attitude gives them a sense of purpose and creates a more positive classroom. [...] For them to feel belongingness in the school community, I often greet them with a handshake or hug when they arrive at school. [...] Of course, only if they let me."

"Without feeling secure and confident, it is hard for students to successfully manage both studying and school. I am sure that the time spent personally engaging with students to maintain a good relationship is an investment. Bonding with students helps reduce rebellious or confrontational behaviors. I can notice in the classroom the difference that solid bonds make. Because children know that I look after them, they earnestly try to pay attention in class. If close with teachers, wouldn't they feel less afraid of making mistakes or comfortable asking questions? I hope so. I want my students to be creative, engaging, and confident. Isn't being with these students something most teachers truly want? Treating students with care as independent individuals means the teacher is ready to look at their different sides. It is to give attention to talents other than academic performance, like math or memorizing historical events. Children are good at many things."

Source: Markus Bernsen, 2020, pp.149~152 (in Korean).

- **One way is to provide compulsory training courses for prospective instructors and, from those who completed them, select instructors suitable for helping children achieve well-rounded development.**
 - For after-school instructor candidates, theoretical and practical education should be provided, which is mandatory and includes child development stages by age, teaching and learning methods, communication and relation buildup between educators, student guidance, etc.
 - As of 2019, 94% of after-school instructors at elementary schools are recruited externally, and EBS e-Learning Center offers a voluntary training course.
 - In selecting instructors, adopting multi-faceted personality interviews with inquiries about hypothetical teaching situations can give a comprehensive assessment as an educator.
 - As of now, individual schools operate after-school programs by selecting qualified persons or service providers with relevant licenses or training through document screening, interviews, and class demonstrations.
- **It is necessary to broaden the scope of after-school program providers from schools to local communities and have local governments holistically manage the program to enhance its system and effectiveness.**
 - Critics have pointed out problems with current after-school programs like students repeating the same courses even after moving up to the next grade level, losing program continuity in case of change of an instructor, and limited capacity to provide various enriching experiences in culture, art, and career due to constrained material and human resources.
 - It is desirable that local governments oversee the planning, promoting, and managing overall after-school programs conducted at schools and in their communities (libraries, community centers, universities, and welfare centers), and schools actively engage and cooperate within the framework by informing registration details and providing a venue.
 - Currently, school teachers tend to be time-constrained in their main job, which is studying for teaching and class activities, due to bookkeeping, instructor selection, and parental opinion gathering for after-school classes.

- Local governments should supervise, deploy, evaluate, retrain instructors, open courses, and link after-school programs to community resources (ex. after-school program in Dobong-gu, Lee *et al.* (2020), p.72). On the other hand, education offices ought to play a leading role in selecting instructors and developing educational content.
- Provided that schools first run basic-level courses, followed by local communities operating advanced versions of those programs and simultaneously managing students' developmental characteristics and learning history, students can benefit from more structured and intensive learning.
 - For instance, a professional person visits a class and conducts career education. Then, students go on a workplace tour in the nearby area to observe or have hands-on experience.
 - Community members with a certain level of professional expertise can be trained at lifelong education centers and work as after-school instructors as an occupation or in their free time, using flexible working hours.
- Remaking after-school programs in line with the findings of this study would improve students' academic performance and broaden their social-emotional support base, contributing to mitigating the vulnerabilities in education and childcare exposed by COVID-19.

References

- Lee, Heeyeon, Junseong Hwang, EunKyung Kim, Jung Hyun Kim, and Hyunsoon Bae, *A Study on How to Stimulate Afterschool Program through the Establishment of an Educational Ecosystem Linked with Schools and Local Communities*, CR 2020-09, Ministry of Education and Korean Educational Development Institute, 2020 (in Korean).
- Bernsen, Markus, *Secrets to Nurturing Confident, Creative and Motivated Students*, Translated by Oh Yeon-ho, Oh My Book Publishing, 2020 (in Korean).
- Kim, Inkyung, *Improving Elementary Education to Build Social Capital: Focusing on Afterschool Program*, Policy Study 2021-04, Korea Development Institute, 2021 (in Korean).
- Lim, Yoo-na, "A Study on Ways of Presenting Key Competencies in the 2015 Revised National Curriculum and the Implications from the Scotland's 'Curriculum for Excellence'," *The Journal of Learner-Centered Curriculum and Instruction*, 2016, vol.16, no.5, pp.143-167 (in Korean).
- OECD, *PISA 2018 Results (Volume V): Effective Policies, Successful Schools, PISA*, OECD Publishing, Paris, 2020.
- _____, *Positive, High-achieving Students?: What Schools and Teachers Can Do*, TALIS, OECD Publishing, Paris, 2021.